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Seismological Institute
Uppsala

SEISMOLOGICAL BULLETIN

UPPSALA, KIRUNA, SKALSTUGAN, GÖTEBORG,
UMEÅ, KARLSKRONA and UDDEHOLM

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m

A P R I L 1 - 30, 1968
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1968

Apr. 1	Up	iP1	00 53 33.4 C
		i	00 53 37
		iP2	00 53 41.7
		iPP	00 56 19
		iPa	00 58 08
		iS2	01 03 08
			micr sec
		P2 E	21 16
		P2 N	24 16
		P2 Z	67 17
		P1 Z'	0.5 1.3
		P2 Z'	1.7 1.1
		PP E	19 18
		PP N	18 18
		PP Z	48 21
		S2 E	94 24
		Mx E	430 16
		Mx N	440 18
		Mx Z	630 18
			D = 8100 km = 73°.
	Ki	iP1	00 52 59.8 C
		iP2	00 53 07.6
		iPP	00 55 39
		iPa	00 57 01
		i	00 57 20
		iS1	01 02 01
		iS2	01 02 08
			micr sec
		P2 E	24 14
		P2 N	13 15
		P2 Z	55 14
		P1 Z'	1.5 1.8
		P2 Z'	2.5 1.3
		PP E	22 18
		S2 E	64 15
		S2 N	28 17

(cont.)

1968

Apr. 1	Ki	(cont.)		
			micr	sec
		S2 Z	71	21
		Mx E	460	18
		Mx N	380	17
		Mx Z	670	17
			D = 7550 km = 68°.	
	Sk	eP1	00 53 31	
		iP2	00 53 40.5	
	Gb	iP1	00 53 53.9 C	
		iP2	00 54 01.5	
	Um	iP1	00 53 13.6 C	
		iP2	00 53 21.0	
	Ka	iP1	00 53 50.6 C	
		iP2	00 53 58.1	
	Ud	iP1	00 53 41.7 C	
		iP2	00 53 49.4	
		Japan (h = 30 km).		
		m = 7.5, M = 8.0 (Up, Ki).		
		Multiple P (denoted P1 and P2) with P2 of larger amplitude and higher frequency than P1; in average P2 - P1 = 7.7 sec (excluding Sk). Corresponding multiplicity of S, particularly clear at Ki, with S2 - S1 = 7 sec. The probable reason is a double shock.		
"	1	Um	iP	02 13 44.9
		Japan (h = 60 km).		
"	1	Um	iP	05 36 23.4
		Japan (h = 30 km).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
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1968				1968			
Apr.	1	Sk eP	06 32 57	Apr.	1	Um iP	09 16 15.6
		Um iP	06 32 52.8			Ud iP	09 16 40.5
		Ud iP	06 32 22.5			China (h = 70 km).	
		Greece (h = 30 km).					
"	1	Ki iP	06 49 39.2	"	1	Ki iP	11 45 11.6
		Um iP	06 49 42.2			Sk iP	11 44 43.9
		Ud iP	06 50 02.1			Um iP	11 44 36.9
		New Guinea (h = 30 km).				Ud iP	11 44 13.4
						i	11 44 19.1
						Crete (h = 30 km).	
"	1	Up iP	07 24 47.7 C	"	1	Ki eP	15 25 32
		iS	07 34 15			i	15 25 41.8
		iPS	07 34 43				
		iSS	07 38 48				
			micr sec	"	1	Up iP	16 33 52.3 C
		P Z'	0.4 1.5			Ki iP	16 33 24.0
		S E	3.6 15			Um iP	16 33 33.2
		Mx E	21 14			Ud iP	16 34 01.2 C
		Mx N	38 14			Ryukyu Islands (h = 30 km).	
		Mx Z	36 14				
		D = 8150 km = 73 1/2°.		"	1	Ki iP	16 50 02.1
		Ki iP	07 24 14.6 C	"	2	Up iP	04 04 25.3
		iPa	07 28 43			Ki iP	04 04 12.4 C
		iS	07 33 14			Sk iP	04 04 06.1 C
		i	07 33 24			Um iP	04 04 21.2
			micr sec			Ud iP	04 04 16.1
		P Z	4.6 12			Mexico (h = 120 km).	
		P Z'	0.5 1.3	"	2	Ki iPKP	08 32 35.7
		S E	3.1 14				micr sec
		Mx E	38 20			PKP Z'	0.1 1.0
		Mx N	20 15			Um iPKP	08 32 40.7
		Mx Z	39 16			i	08 32 49.7
		D = 7550 km = 68°.				Ud iPKP2	08 33 22.1
		Sk iP	07 24 45.9 C			New Zealand (h = 15 km).	
		iPP	07 27 28.0	"	2	Um iPKP	11 00 03.7
		Gb iP	07 25 08.7 C			Ud iSKP	11 03 21.0
		iPcP	07 25 23.5			New Hebrides Islands (h = 200 km).	
		Um iP	07 24 28.2 C	"	2	Um iP	12 00 09.5
		iPP	07 27 04			Japan (h = 30 km).	
		iPa	07 28 52	"	2	Um i(Sg)	13 07 49.6
		i	07 33 18	"	2	Ki iP	14 06 16.5
		iS	07 33 40	"	2	Ki iPKP	15 17 36.6
		iSS	07 38 09			Sk iPKP	15 17 46.8
		Ka iP	07 25 05.1 C			Um iPKP	15 17 42.2
		Ud iP	07 24 56.5 C			Ud iPKP	15 17 51.8
		ipP	07 25 07.5			Santa Cruz Islands (h = 290 km).	
		Japan. h = 40 km (Ud).					
		m = 6.4, M = 6.8 (Up, Ki).					
		P on Z' has unusually					
		long periods, like P1 for					
		Apr 1, 00 53.					
"	1	Up i(P)	09 12 43.8				
		i	09 13 01.3				

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1968					1968				
Apr.	2	Ki iSg	18 06 19.5		Apr.	3	Ki eSg	13 26 32	
		Sk iSg	18 06 23.4				Um iSg	13 24 24.3	
		Um iSg	18 06 46.2				Esthonia - Gulf of Finland. Explosion?		
		Nordlands Fylke, Norway, 66.4°N, 14.8°E.							
		Origin time = 18 04 50.			"	3	Up iP	13 45 32.2	
							Ud iP	13 45 47.3	
"	2	Ki iPKP	18 21 11.0				Iran (h = 30 km).		
			micr sec						
		PKP Z'	0.1 1.0		"	3	Up iP	16 35 36.3	
		Um iPKP	18 21 16.0 C				ipP	16 35 46.6	
		Ud iPKP2	18 21 49.1				isP	16 35 53.1	
		New Zealand (h = 10 km).						micr sec	
"	2	Up iP	19 44 13.4				P Z'	0.3 1.0	
		Sk iP	19 44 53.0			Ki iP	16 34 43.4		
		Um iP	19 44 44.3				micr sec		
		Ud iP	19 44 20.3				P Z'	0.2 1.0	
		Greece.					Mx E	0.9 18	
"	2	Um iP	21 16 25.2				Mx N	1.0 15	
		Ud iP	21 15 45.1 C				Mx Z	1.8 15	
"	3	Up e(P)	01 41 23			Sk iP	16 35 18.1		
		Sk eP	01 41 54			i	16 35 25.3		
		Um eP	01 41 50			Gb iP	16 35 55.1		
		Ud iP	01 41 21.3			Um iP	16 35 08.8 C		
		Greece.				i	16 35 21.0		
"	3	Sk i(Sg)	07 19 10.1			i	16 35 54.6		
		Ud i	07 19 54.6			iS	16 43 38		
"	3	Ud e(P)	07 24 01			Ka iP	16 35 59.5		
"	3	Ud i(P)	07 27 45.2			ipP	16 36 09.5		
"	3	Ud e(P)	07 37 59			Ud iP	16 35 38.2 C		
"	3	Ud e(P)	08 04 59			ipP	16 35 48.2		
"	3	Um iP	08 15 46.0			Aleutian Islands. h = 40 km (Up,Ka,Ud). m = 6.3 (Up,Ki).			
"	3	Um i(PKP)	11 09 27.6		"	3	Up iP	21 08 02.6	
		Macquarie Islands (h = 15 km).					Ud iP	21 08 33.0	
"	3	Ki iPn	13 02 50.1		"	4	Up iP	01 53 07.1	
		iSn	13 03 38.7				Ki iP	01 53 28.3 C	
		iLg1	13 03 54.8				micr sec		
		D = 460 km = 4.1°.					Mx E	1.0 14	
		Um iSg	13 05 20.8				Mx N	1.1 16	
		Probably northwest Russia.					Mx Z	2.3 17	
		Origin time = 13 01 45.				Sk iP	01 53 36.1		
		Explosion?				Um iP	01 53 12.9 C		
						Ud iP	01 53 22.4		
						West Pakistan (h = 30 km).			
"	4	Ud iP	09 16 51.4		"	4	Ud iP	10 20 24.1	
"	4	Ki iPKP	10 20 24.1				South Sandwich Islands (h = 80 km).		

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1968				1968			
Apr.	4	Up	i(P)	12 47 55.9	Apr.	5	(cont.)
			i	12 49 47.8			Um iP 15 59 51.6
		Um	i(P)	12 47 38.9			Ud iP 15 59 25.4
							Aegean Sea (h = 20 km).
"	4	Um	e	14 24 41	"	5	Ud i(P) 16 01 43.4
			i	14 25 19.9			
			i(Sg)	14 26 00.9			
"	4	Up	i(Sg)	15 18 37.6	"	5	Up iP 17 03 43.6 C
				micr sec			P Z' 0.1 0.6
			(Sg) Z'	0.1 0.5			Ki iP 17 02 55.0
		Sk	e(Sg)	15 18 38			Sk iP 17 03 31.4
		Um	i(Sg)	15 18 19.9			Um iP 17 03 17.8
"	4	Ud	iP	19 16 20.4			Ud iP 17 03 49.0 C
							Kurile Islands (h = 50 km).
"	4	Ud	iP	20 28 28.6	"	5	Um iP 18 17 13.3
"	4	Ki	iPn	20 46 26.5			South of Japan
			iPx	20 46 35.1			(h = 290 km).
			iSn	20 47 13.0	"	5	Up iP 19 02 47.9 D
			iLg ¹	20 47 25.6	"	5	Up iP 19 41 51.9
			D = 420 km = 3.8°.				Ki iP 19 40 57.8 C
		Um	eSg	20 49 06			micr sec
			Probably northwest Russia.				P Z' 0.1 1.0
			Origin time = 20 45 27.				Um iP 19 41 25.9 C
			Explosion?				ipP 19 41 32.4
"	4	Um	iP	23 23 47.9 C			Ud iP 19 41 49.3
			South of Japan				ipP 19 41 57.4
			(h = 340 km).				Kodiak Island. h = 25 km
"	5	Um	iP	08 16 35.9			(Um,Ud).
"	5	Ki	iP	11 50 16.1	"	5	Up iP 22 16 50.2 C
				micr sec			P Z' 0.1 0.6
			P Z'	0.1 1.2			Ki iP 22 16 18.0
		Sk	iP	11 50 44.6			Sk eP 22 16 48
		Um	iP	11 50 45.7			Um iP 22 16 31.9 C
			Alaska (h = 130 km).				Ud iP 22 16 57.3 C
"	5	Ki	iP	13 03 15.5 C			South of Japan
							(h = 500 km).
"	5	Up	iSg	13 46 19.2	"	5	Um iP 22 52 51.9
		Um	iSg	13 46 53.1			Ka iP 22 53 01.9
		Ud	iSg	13 47 23.6			Pamir.
			Esthonia. Explosion?				
"	5	Um	iP	13 55 44.6	"	6	Ki e 02 42 41
		Ud	iP	13 55 55.7			i(Sg) 02 43 10.1
"	5	Up	iP	15 59 14.7	"	6	Um e(P) 02 55 15
			iPP	15 59 38.3			i 02 56 03.9
		Sk	iP	15 59 57.4	"	6	Um eP 05 28 16
			(cont.)				i 05 29 08.3

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1968

Apr. 6 Ki ePn 07 21 51
iSn 07 22 46.3
i(Lg1) 07 23 06.7
D = 510 km = 4.6°
Um iSn 07 23 33.0
iSg 07 24 09.8
Probably northwest Russia.
Origin time = 07 20 39.
Explosion?

" 6 Ki iPg 08 41 05.2
iSg 08 41 09.4
Probably mining blast.

" 6 Ki iSn 10 10 46.7
iLg1 10 11 04.3
Um eSn 10 11 32
iSg 10 12 10.5
Probably northwest Russia.
Explosion?

" 6 Um iP 11 16 44.4

" 6 Up^P iSg 11 36 33.9
Sk^A iSg 11 36 46.7
Gb^S iSg 11 35 58.2
Ud^D iPg 11 35 13.1 C
iSg 11 35 32.0
iRg 11 35 37.9
Oslo region, south Norway,
60.0°N, 10.7°E.
Origin time = 11 34 43.

" 6 Um iP 14 02 30.0 C

" 6 Ki^K iSg 14 33 52.2
Sk^A iSg 14 33 55.8
Um^E iSg 14 34 20.0
i 14 34 26.8
Nordlands Fylke, Norway,
66.4°N, 14.8°E.
Origin time = 14 32 23.

" 6 Um i 17 42 10.0
i(Sg) 17 42 23.6

" 6 Ud iP 18 56 26.9 D

" 6 Ki eP 21 54 17
Um eP 21 54 15
i 21 54 21.0
Ud iP 21 54 32.9
Mindanao (h = 15 km).

" 6 Up iP 22 59 00.4
(cont.)

1968

Apr. 6 (cont.)
Up micr sec
P Z' 0.1 0.9
Ki iP 22 58 07.8
micr sec
P Z' 0.1 1.0
Um iP 22 58 33.6
Ud iP 22 59 01.9
Aleutian Islands
(h = 40 km).
m = 5.9 (Up, Ki).

" 7 Up iP 02 59 00.5
Ki iP 02 58 20.1
Um iP 02 58 38.0 C
Ud iP 02 59 07.8
Japan (h = 30 km).

" 7 Um eP 03 47 25
Ud iP 03 46 59.8
Aegean Sea (h = 30 km).

" 7 Up iP 04 51 14.0 C
ipP 04 51 29.9
i 04 51 54.6
micr sec
P Z' 0.2 0.8
Mx E 1.4 18
Mx N 2.0 17
Mx Z 2.9 18
Ki iP 04 50 20.9
ipP 04 50 36.1
micr sec
P Z' 0.1 1.0
Mx E 2.5 16
Mx N 2.5 15
Mx Z 5.3 16

Sk iP 04 50 56.0
Gb iP 04 51 31.4
Um iP 04 50 46.9 C
iS 04 59 22
Ka iP 04 51 36.2
ipP 04 51 52.7
Ud iP 04 51 15.4
ipP 04 51 30.5

Aleutian Islands. h = 60 km
(Up, Ki, Ka, Ud).
m = 6.1, M = 5.7 (Up, Ki).

" 7 Up iP 05 21 20.8
i 05 21 24.3
i 05 24 14.8
micr sec
P Z' 0.2 1.0
Ki iP 05 19 53.2 D
(cont.)

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1968				*1968					
Apr.	7	(cont.)		Apr.	8	Up	i(P)	06 20 22.6	
		Ki	micr sec			Ud	i(P)	06 20 08.9	
		P	Z' 0.5 1.7			"	8 Ud	iP 07 42 37.7	
		Sk	iP 05 20 39.1			"	8 Ud	iP 08 33 09.4	
		Gb	iP 05 21 39.9				Albania.		
			i 05 21 55.6			"	8 Sk	iP 09 04 35.4	
		Um	iP 05 20 41.4				Ud	iP 09 04 01.1	
		Ka	iP 05 21 54.9				Aegean Sea (h = 30 km).		
		Ud	iP 05 21 16.8			"	8 Ud	i(P) 13 10 54.4	
			i 05 21 29.5				"	8 Ud	iP 13 19 20.4 C
		Greenland Sea (h = 30 km).					8 Up	iP 14 07 45.7	
		m = 5.5 (Up,Ki).					Ud	iP 14 07 11.8 D	
"	7	Up	i(P) 07 01 04.2			"	8 Ud	iP 14 40 51.9	
		Um	i(P) 07 02 49.0			"	8 Um	iP 15 04 08.2	
			i 07 02 55.5				Banda Sea (h = 130 km).		
			i 07 04 13.6			"	8 Um	eP 22 31 25	
"	7	Up	iP 07 45 09.2			"	9 Um	iP 00 50 15.1	
		Ki	iP 07 44 13.1			"	9 Up	iP 01 22 50.9	
		Um	iP 07 44 41.8 C				Ki	eP 01 22 57	
		Ud	iP 07 45 10.4				Um	iP 01 22 48.6	
"	7	Um	iP 10 24 33.0					i 01 22 56.3	
			i 10 24 41.1				Ud	iP 01 23 07.1	
		Alaska (h = 30 km).					Kashmir (h = 15 km).		
"	7	Um	iP 10 46 07.0			"	9 Ki	iP 01 34 30.6	
			i 10 47 21.5				Um	iP 01 34 20.1	
"	7	Ki	iP 10 56 36.1				Ud	iP 01 34 38.9	
		Um	iP 10 57 03.7				Kashmir.		
		Ud	iP 10 57 28.4			"	9 Up	iP 02 41 08.8 C	
"	7	Um	iP 11 10 35.3				i	02 41 11.9	
		Japan (h = 30 km).					iPP	02 44 14	
"	7	Up	iP 17 50 45.1				iS	02 51 15	
"	7	Ud	eP 18 55 14				micr sec		
"	8	Ud	iP 02 04 18.9				P N	0.7 3	
"	8	Um	iP 02 10 14.9				P Z	1.1 3	
"	8	Gb	iPKP 02 33 08.8				P Z'	1.4 2.0	
		Um	iPKP 02 32 52.4				PP N	0.5 3	
			iSKP 02 35 40.5				S E	5.5 12	
		Ud	iPKP 02 32 59.9 C				S N	12 13	
		Tonga-Kermadec Islands					Mx E	43 17	
		(h = 550 km).					Mx N	84 19	
"	8	Ki	iP 03 41 43.5				Mx Z	76 19	
			i 03 41 59.8				D = 8950 km = 80 1/2°.		
		Um	iP 03 42 13.0				(cont.)		
		Alaska (h = 50 km).							

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1968				1968			
Apr.	9	(cont.)		Apr.	9	Ud	i(Sg) 08 37 01.9
		Ki	iP 02 40 36.2	"	9	Um	iP 11 14 42.9
			i 02 40 40.1	"	9	Ki	iPg 11 13 21.6
			iPP 02 43 27.6				iSg 11 13 39.6
			e(Pa) 02 45 09				D = 160 km = 1.4°
			iS 02 50 15			Um	iSg 11 14 42.9
			i 02 50 21				Origin time = 11 12 54.
			micr sec				
		P	N 1.0 8				
		P	Z 2.6 7				
		P	Z' 2.2 2.3	"	9	Up	iPKP 11 45 41.9
		PP	Z' 1.0 2.5			Ki	iPKP 11 45 34.0
		S	E 5.4 8			Um	ePKP 11 45 37
		S	N 5.2 9				i 11 45 40.5
		Mx	E 51 15				iSKP 11 48 10.5
		Mx	N 49 15			Ka	iPKP 11 45 48.8
		Mx	Z 110 15			Ud	iPKP 11 45 40.0
			D = 8300 km = 74 1/2°.				Fiji Islands (h = 650 km).
		Gb	iP 02 41 11.6				
		Um	iP 02 40 55.3	"	9	Ki	i(P) 12 59 20.5
			i 02 40 58.9	"	9	Um	iP 13 11 34.1
			iPP 02 43 50	"	9	Ki	e(P) 18 12 34
			i(Pa) 02 45 41			Um	i(P) 18 12 46.5
			iS 02 50 49				i 18 13 00.9
			iSS 02 55 51				i 18 13 07.4
		Ka	iP 02 41 20.6			Ud	e(P) 18 14 11
			i 02 41 23.7	"	9	Ud	e(Sg) 19 41 36
		Ud	iP 02 41 00.7 c	"	9	Ud	e(Sg) 19 47 09
			i 02 41 04.4	"	9	Ud	iP 20 00 13.5 c
			California (h = 20 km).	"	9	Ud	iP 21 07 55.9
			m = 6.5, M = 7.1 (Up,Ki).	"	9	Up	iP 21 46 58.2
			Multiple P, in average 3.5	"	9	Ud	iP 21 51 08.3
			sec between the first	"	10	Um	eP 01 20 18
			smaller and the second			Ud	iP 01 20 34.8
			larger P. Unusually long	"	10	Um	iP 02 04 58.4
			periods for P on Z'.	"	10	Ud	iP 04 41 31.3
				"	10	Ki	iPn 04 47 24.0
"	9	Up	iP 02 41 41.1				iSn 04 48 02.8
		Ki	iP 02 41 05.7				iSg 04 48 15.5
		Um	iP 02 41 27.7				D = 360 km = 3.2°
		Ka	iP 02 41 50.7			Um	eSg 04 49 55
		Ud	iP 02 41 30.8				Origin time = 04 46 31.
			These phases occur about				
			31 sec after the preceding				
			P. One could suspect				
			another Californian shock,				
			but this gets no con-				
			firmation from other				
			bulletins.				
"	9	Up	iP 03 16 04.2				
		Ki	iP 03 15 35.2				
		Um	iP 03 15 53.0				
			i 03 16 00.5				
		Ka	iP 03 16 17.1				
			California (h = 15 km).				

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1968

Apr. 10 Gb iPKP 05 19 49.9
Ud iPKP 05 19 41.2
Tonga-Kermadec Islands
(h = 440 km).

" 10 Up iP 08 57 45.9
Ki iP 08 56 51.2
Um iP 08 57 19.2
Ud iP 08 57 42.1
Kodiak Island (h = 30 km).

" 10 Um iP 09 00 16.5

" 10 Ud iP 10 56 40.5

~~" 10 Ki iPn 13 26 19.3
iSn 13 27 08.9
iLg1 13 27 23.8
D = 470 km = 4.2
Um iSg 13 27 55.8
Probably northwest Russia.
Origin time = 13 25 12.
Explosion?~~

" 10 Up iP 13 36 26.7
Ki iP 13 36 05.4
Sk e(P) 13 36 36
Um iP 13 36 12.5
Ud iP 13 36 37.1
i 13 36 49.3
Formosa (h = 60 km).

" 10 Um iP 14 11 34.5
Ud iP 14 11 40.8
Nevada.
Origin time = 14 00 00.
Underground explosion.

" 10 Up iP 17 12 17.9
Sk iP 17 13 00.9
Um iP 17 12 55.9
Greece.

" 10 Up ---
micr sec
Mx E 0.8 20
Mx N 0.9 21
Mx Z 1.3 20
Um iPKP 18 51 41.0
iPP 18 53 48
ePKS 18 54 46
Ka ePKP 18 51 54
Loyalty Islands
(h = 60 km).

1968

Apr. 10 Up iP 23 30 23.9
Ud iP 23 30 13.3

" 10 Um eP 23 45 25

" 11 Up iP 00 10 57.4 C

" 11 Ki iP 00 33 32.4 D
micr sec
P Z' 0.1 1.0
Um iP 00 33 37.0
i 00 33 44.5
Ud iP 00 33 54.6
Banda Sea (h = 60 km).

" 11 Up iP 01 47 13.8
Ki iP 01 46 45.7
Sk iP 01 47 11.6
Um iP 01 46 58.5
Ud iP 01 47 20.5
Mariana Islands
(h = 190 km).

" 11 Um i(P) 03 47 13.6

" 11 Ki iP 06 08 29.0
Sk eP 06 08 58
Um iP 06 08 42.6
Ud iP 06 09 07.9
Bonin Islands (h = 360 km).

" 11 Ki iP 06 55 33.9
Sk iP 06 56 08.4
Um iP 06 55 49.9 D
Ud iP 06 56 20.8
Russia-China (h = 510 km).

" 11 Up i(P) 09 30 43.6
Ki i(P) 09 30 46.8

" 11 Um iP 12 37 42.1

" 11 Up i(P) 12 51 38.6
micr sec
(P) Z' 0.1 0.5
Ki iP 12 50 44.1

" 11 Ki iPn 16 42 47.1
iSn 16 43 38.5
iLg1 16 43 55.1
D = 490 km = 4.4
Possibly northwest Russia.
Origin time = 16 41 37.
Explosion?

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

Apr. 11 Ki eSg 17 14 07
Sk iSg 17 14 32.2
Um iSg 17 12 43.9
i 17 12 45.8

Probably southeast
Finland. Explosion?

" 12 Ki ePP 06 32 33
i 06 34 17.8
Flores Island
(h = 25 km).

" 12 Um iPKP 06 35 11.3
iSKP 06 37 53.1
Fiji Islands
(h = 470 km).

" 12 Ud iP 08 11 25.4

" 12 Ki iPn 10 10 26.7
iSn 10 11 24.8
~~iLg1 10 11 45.2~~
D = ~~530~~ km = 4.8°
Sk eSg 10 14 11
Um iSX 10 12 20.0
iSg 10 12 34.6
Northwest Russia,
67.2°N, 32.8°E.
Origin time = 10 09 13.
Explosion?

" 12 Up iP 10 41 27.0
Sk eP 10 41 55
Um iP 10 41 25.1
Ka iP 10 41 32.3
Ud iP 10 41 44.5
iPP 10 43 28.7
Hindu Kush (h = 70 km).

" 12 Up iP 13 38 28.8

" 12 Up iSg 14 16 02.8
Ki eSg 14 18 35
Um iSg 14 16 33.1
Esthonia. Explosion?

" 12 Up iP 14 31 38.3

" 12 Um iPKP 16 54 03.6
Ud iPKP 16 54 05.0
Fiji Islands
(h = 460 km).

" 12 Up iP 17 46 46.6
(cont.)

1968

Apr. 12 (cont.)
Um iP 17 46 22.0
Ud iP 17 46 53.0
Kurile Islands.

" 12 Up eP 19 59 04
i 19 59 18.4
Ki eP 19 58 56
Um iP 19 58 58.1
i 19 59 04.0
Ud iP 19 59 13.8

" 13 Um iP 00 50 33.6
iPP 00 52 21.4
Ud iP 00 50 52.4
China.

" 13 Up iP 01 26 49.4
iS 01 36 00
micr sec
Mx E 1.2 21
Mx Z 1.6 20
D = 7900 km = 71°.

Ki iP 01 26 51.6
Sk iP 01 26 31.1
Gb iP 01 26 30.7
Um iP 01 26 52.1
iS 01 36 08
Ud iP 01 26 35.6
Puerto Rico (h = 50 km).

" 13 Ud i(Sg) 03 55 24.3

" 13 Up i 05 04 38.4
iSg 05 04 54.4
Ki iSg 05 07 26.3
Sk eSg 05 06 45
Gb iSg 05 06 33.5
Um iSg 05 05 24.6
Ud i 05 05 26.2
iSg 05 05 53.6
Esthonia. Explosion?

" 13 Um iP 10 08 38.7
i 10 08 52.6

" 13 Sk iP 18 02 56.5

" 13 Up iP 18 41 35.3
Ki iP 18 41 16.7 C
micr sec
P Z' 0.1 1.0
Sk iP 18 41 38.2
Gb iP 18 41 50.6
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

Apr. 13 (cont.)

Um iP 18 41 22.4 C
Ud iP 18 41 42.2 C
Mindanao (h = 120 km).

" 13 Up iSg 20 37 04.0
Sk eLg1 20 38 02
Gb iPg 20 34 50.6
iSg 20 35 06.4
Ka iSg 20 35 55.7
Ud iPg 20 35 34.0
iSn 20 36 07.2
iSg 20 36 22.2
Kattegatt, 56.7°N, 10.8°E.
Origin time = 20 34 26.

" 13 Up iP 23 41 44.4 C
ipP 23 42 09.8
Ki iP 23 41 37.4 C
Sk iP 23 41 59.9
ipP 23 42 30.6
Gb iP 23 42 04.6
Um iP 23 41 36.5 C
ipP 23 42 04.0
Ka iP 23 41 53.1
Ud iP 23 41 57.3 C
ipP 23 42 25.7
Burma-India. h = 120 km
(Up,Sk,Um,Ud).

" 14 Up iP 05 16 02.8
Ud iP 05 16 40.0

" 14 Up iP 08 48 56.9 C
ipP 08 49 06.8
iS 08 58 39
micr sec
P Z' 0.2 0.9
Mx E 0.7 16
Mx N 1.6 16
Mx Z 1.3 16
D = 8450 km = 76°.
Ki iP 08 48 20.5 C
ipP 08 48 31.1
eS 08 57 27
micr sec
P Z' 0.1 1.3
S E 0.5 7
S N 0.5 9
Mx E 1.5 18
Mx N 1.4 18
Mx Z 2.0 16
D = 7800 km = 70°.
Sk iP 08 48 51.8 C
(cont.)

1968

Apr. 14 (cont.)

Sk i(PP) 08 51 29.1
Gb iP 08 49 16.7 C
Um iP 08 48 36.5 C
i 08 48 51.7
iS 08 58 01
iSS 09 02 29
Ka iP 08 49 15.2
Ud iP 08 49 04.2 C
Japan. h = 40 km (Up,Ki).
m = 5.9, M = 5.5 (Up,Ki).

" 14 Ki ePn 10 05 15
iSn 10 05 59.6
iLg1 10 06 14.3
D = 410 km = 3.7°.
Sk iSg 10 08 41.5
Um eSn 10 06 40
iSg 10 07 12.1
Russia-Finland border
region, 67.5°N, 30.0°E.
Origin time = 10 04 15.
Explosion?

" 14 Up iP 13 16 53.0 C
ipP 13 17 04.4
iS 13 26 34
micr sec
P Z' 0.1 0.9
S E 0.7 9
Mx E 0.8 17
Mx N 1.8 15
Mx Z 2.2 17
D = 8450 km = 76°.
Ki iP 13 16 16.2 C
ipP 13 16 27.2
iS 13 25 32
micr sec
S N 0.6 7
Mx E 1.9 17
Mx N 1.7 15
Mx Z 3.6 16
D = 7800 km = 70°.
Sk eP 13 16 48 C
ipP 13 16 58.5
Gb iP 13 17 12.2 C
ipP 13 17 23.6
Um iP 13 16 32.1 C
i 13 16 34.6
ipP 13 16 43.1
iS 13 25 53
iSS 13 30 26
Ka iP 13 17 11.6
ipP 13 17 22.3
Ud iP 13 16 59.3
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

Apr. 14 (cont.)
Ud ipP 13 17 10.7
Japan. h = 40 km (Up,Ki,
Sk,Gb,Um,Ka,Ud).
m = 5.8, M = 5.6 (Up,Ki).

" 14 Up iP 14 37 10.9
i 14 37 18.0
ipP 14 37 56.7
Ki iP 14 37 14.7
ipP 14 37 52.9
P Z^t 0.1 1.3
Sk iP 14 36 58.7
ipP 14 37 38.3
Gb iP 14 36 57.3
Um iP 14 37 15.0
ipP 14 38 00.8
Ka iP 14 37 07.1
Ud iP 14 37 01.0
ipP 14 37 46.4
Colombia. h = 170 km
(Up,Ki,Sk,Um,Ud).

" 14 Gb ePKP 15 05 33
Um iPKP 15 05 25.0
Ud ePKP 15 05 26
Fiji Islands
(h = 550 km).

" 14 Up iPKP 15 31 53.7
i 15 31 56.8
Sk iPKP 15 31 47.0
Um iPKP 15 31 41.1
Ka iPKP 15 32 04.4
Ud iPKP 15 31 53.4

" 15 Up iP 01 31 13.5
Sk eP 01 31 57
Ka eP 01 30 34
Ud iP 01 31 21.8
Crete.

" 15 Ud eP 02 23 19

" 15 Up iPKP 02 43 52.7
Sk ePKP 02 43 43
Um iPKP 02 43 36.0 C
i 02 43 46.8
Ud ePKP 02 43 51

" 15 Ki i(Sg) 04 12 12.6

" 15 Up i(PKP) 05 39 44.9
iPKP2 05 40 01.1
(cont.)

1968

Apr. 15 (cont.)
Ki iPKP 05 39 17.7
Sk i(PKP) 05 39 40.0
Um iPKP 05 39 21.4
i 05 39 30.9
Ud e(PKP) 05 39 49
iPKP2 05 40 05.1
New Zealand (h = 50 km).

" 15 Ud eP 07 43 29
Aleutian Islands
(h = 60 km).

" 15 Up iP 08 01 19.1
Um iP 08 01 22.7
Ud iP 08 01 10.3
ipP 08 01 21.3
Peru. h = 40 km (Ud).

" 15 Up iP 11 14 29.6

" 15 Um e 12 32 14
i(Sg) 12 32 31.6

" 15 Up iP 17 35 31.9
Ki eP 17 34 38
Sk iP 17 35 15.9
Gb iP 17 35 52.7
Um eP 17 35 06
Ka iP 17 35 56.6
Ud iP 17 35 35.2
Kamchatka (h = 30 km).

" 15 Ud iP 18 27 18.7
i 18 27 21.2
Aegean Sea (h = 25 km).

" 16 Up iP 00 05 12.5 C

" 16 Up iP 03 01 42.0
Sk eP 03 02 07
Um iP 03 01 51.2
Ud iP 03 01 52.4
i 03 01 59.5
Chagos Islands.
Origin time = 02 49 57.
The epicenters of the
series of Chagos Islands
earthquakes, which starts
here, are all located
close to 5.1°S, 68.4°E.

" 16 Up iP 03 20 31.0
i 03 20 38.0
Sk iP 03 20 54.7
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Apr. 16 (cont.)				Apr. 16 (cont.)			
	Um	iP	03 20 39.5		Um	iP	05 40 54.3
		i	03 20 45.8			i	05 40 58.6
	Ud	iP	03 20 41.1 C		Ud	iP	05 40 55.6
		i	03 20 47.4		Chagos Islands.		
	Chagos Islands.				Origin time = 05 29 00.		
	Origin time = 03 08 46.						
"	16	Ud	iP 03 43 56.1	"	16	Um	iP 05 43 04.2
						Ud	iP 05 43 06.0
					Chagos Islands.		
					Origin time = 05 31 11.		
"	16	Um	iP 03 46 14.5	"	16	Ud	iP 06 19 54.0
		Ud	iP 03 46 16.0				
	Chagos Islands.						
	Origin time = 03 34 21.			"	16	Ki	iPg 06 47 27.4
						iSg	06 48 02.5
"	16	Sk	iP 04 15 33.8	"	16	Sk	eP 06 57 55
		Um	iP 04 15 18.9			Um	iP 06 57 35.1
		i	04 15 27.7			Ud	iP 06 57 37.8 C
	Ud	iP	04 15 20.6		Chagos Islands.		
		i	04 15 33.3		Origin time = 06 45 43.		
		i	04 15 37.1				
	Chagos Islands.			"	16	Um	iP 07 00 42.5
	Origin time = 04 03 25.					Ud	iP 07 00 45.0 C
"	16	Up	iP 04 17 35.0		Chagos Islands.		
		Um	iP 04 17 43.6		Origin time = 06 48 50.		
		Ud	iP 04 17 45.5 C	"	16	Um	iP 07 52 21.9
		i	04 17 49.6			Ud	iP 07 52 26.1
	Chagos Islands.					i	07 52 32.7
	Origin time = 04 05 50.				Chagos Islands.		
"	16	Ud	eP 04 48 27		Origin time = 07 40.5.		
		i	04 48 29.4	"	16	Ud	iP 08 01 05.4
	Chagos Islands.					i	08 01 10.7
	Origin time = 04 36 32.			"	16	Um	iP 08 02 12.5
"	16	Sk	iP 04 57 33.5			Ud	iP 08 02 14.4
		Um	iP 04 57 18.1 C		Chagos Islands.		
		Ud	iP 04 57 20.0 C		Origin time = 07 50 19.		
	Chagos Islands.			"	16	Sk	eP 08 30 23
	Origin time = 04 45 25.					Um	iP 08 30 07.4
"	16	Um	iP 05 03 07.0 C			Ud	iP 08 30 09.5
		Ud	iP 05 03 08.2		Chagos Islands.		
	Chagos Islands.				Origin time = 08 18 14.		
	Origin time = 04 51 13.			"	16	Sk	iP 09 33 33.0
"	16	Sk	iP 05 29 36.1			Um	iP 09 33 18.0
		Um	iP 05 29 21.4			Ud	iP 09 33 19.8 C
		Ud	iP 05 29 22.9 C			i	09 33 27.4
		i	05 29 29.8		Chagos Islands.		
	Chagos Islands.				Origin time = 09 21 24.		
	Origin time = 05 17 27.						
"	16	Sk	iP 05 41 09.4				
	(cont.)						

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
Apr. 16	Sk	iP	09 38 26.4		Apr. 16	(cont.)			
	Um	iP	09 38 11.5			Ud	i	22 45 28.3	
	Ud	iP	09 38 13.1				i	22 45 46.1	
		i	09 38 19.3						
			Chagos Islands.					Chagos Islands.	
			Origin time = 09 26 18.					Origin time = 22 33 26.	
"	16	Ki ^R	iSn 09 45 05.5		"	16	Um	iP 23 58 43.2	
			iLg1 09 45 24.4				i	23 58 52.7	
		Sk ^A	eSg 09 47 52				Ud	iP 23 58 44.4	
		Um ^E	iSg 09 46 13.0				i	23 58 54.2	
			Northwest Russia,					Chagos Islands.	
			67.1°N, 32.9°E.					Origin time = 23 46 49.	
			Origin time = 09 42 51.		"	17	Up	iP 00 56 33.2	
			Explosion?		"	17	Ud	eP 05 49 11	
"	16	Sk	iP 09 54 11.8		"	17	Ud	iP 06 47 13.5	
		Ud	iP 09 54 05.4		"	17	Up	iP 09 17 58.8	
"	16	Ud	iP 09 59 26.3				iS	09 22 46	
		i	09 59 35.3					micr sec	
"	16	Ud	iP 10 34 48.5				Mx	E 1.5 16	
"	16	Ud	iP 12 16 31.9				Mx	N 1.4 14	
"	16	Sk	iP 13 04 04.2				Mx	Z 1.1 18	
"	16	Sk	iP 13 38 21.1				D = 3150 km = 28 1/2°.		
		Um	iP 13 38 05.5			Ki	iP 09 19 03.4		
		Ud	iP 13 38 07.2				eS 09 24 36		
		i	13 38 13.5					micr sec	
		i	13 38 24.8				P	Z' 0.1 1.2	
			Chagos Islands.				S	E 0.3 7	
			Origin time = 13 26 12.				S	N 0.3 7	
"	16	Up	iP 14 10 25.8				Mx	E 2.5 15	
		Ki	iP 14 10 48.1				Mx	N 1.8 16	
		Sk	iP 14 10 49.3				Mx	Z 1.0 14	
		Um	iP 14 10 33.9 C				D = 4000 km = 36°.		
		Ud	iP 14 10 35.4			Sk	eP 09 18 13		
			Chagos Islands (h = 30 km).			Gb	iP 09 17 26.7		
"	16	Up	iP 15 25 37.3				i	09 17 33.7	
"	16	Ud	eP 19 14 28			Um	iP 09 18 31.1		
"	16	Ud	iP 19 34 52.6				iS	09 23 39	
		i	19 35 14.5			Ka	iP 09 17 32.8		
"	16	Up	iP 22 45 11.3				iPP	09 18 25.1	
		i	22 45 18.3			Ud	eP 09 17 50		
		Sk	eP 22 45 35				i	09 17 51.8	
		Um	iP 22 45 19.9					Gibraltar (h = 15 km).	
		Ud	iP 22 45 21.7					m = 5.4, M = 5.0 (Up, Ki).	
			(cont.)		"	17	Up	iP 09 58 17.6	
							Ki	iP 09 58 26.2	
								micr sec	
							P	Z' 0.1 1.2	
							Sk	iP 09 58 43.0	
							Gb	iP 09 58 39.5	
							Um	iP 09 58 15.0	
								(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

Apr. 17 (cont.)
Um iPP 09 59 49.1
Ka iP 09 58 22.5 C
Ud iP 09 58 34.3
Hindu Kush (h = 90 km).

" 17 Up iP 12 03 02.7
Sk iP 12 03 26.4
Um iP 12 03 11.0
Ud iP 12 03 13.0
Chagos Islands
(h = 30 km).

" 17 Up iSg 12 16 47.4
Sk eSg 12 18 37
Um iSg 12 17 20.5
Ud iSg 12 17 46.2
Southwest Finland, near
59.9°N, 23.5°E.
Origin time = 12 15 04.

" 17 Sk iP 12 47 18.7
Um iP 12 47 03.0
Ud iP 12 47 04.1
Chagos Islands
(h = 30 km).

" 17 Ki e 12 57 17
i(Sg) 12 58 04.6

" 17 Ki iP 13 18 53.9
Sk iP 13 19 22.9
Um iP 13 19 07.5
South of Japan
(h = 530 km).

" 17 Up iP 13 19 02.5
iPP 13 20 37.5
micr sec
P Z' 0.2 0.5
Ki iP 13 19 10.6
Sk iP 13 19 27.4
iPP 13 21 11.2
Gb iP 13 19 23.7
iPP 13 21 03.6
Um iP 13 19 00.0 D
Ka iP 13 19 07.3
i 13 19 11.9
iPP 13 20 49.3
Ud iP 13 19 18.9 D
iPP 13 21 02.0
Hindu Kush (h = 110 km).

" 17 Up ---
micr sec
Mx E 0.6 21
(cont.)

1968

Apr. 17 (cont.)
Up micr sec
Mx N 1.1 21
Ki ---
micr sec
Mx E 0.6 15
Mx N 0.9 21
Mx Z 0.8 16
Um iP 15 24 00.9
Ud iP 15 24 21.3
Mindoro (h = 60 km).
M = 5.3 (Up, Ki).

" 18 Up iP 02 11 03.5
i 02 11 10.9
i 02 11 16.4
Sk iP 02 11 27.4
Um iP 02 11 11.9
Ud iP 02 11 14.2
i 02 11 21.1
Chagos Islands.
Origin time = 01 59 18.

" 18 Up iP 03 12 18.9 C
Ki iP 03 13 38.7 C
Sk iP 03 13 03.2
Gb iP 03 12 02.4
Um iP 03 13 00.7
i 03 13 06.0
Ka iP 03 11 39.5
Ud iP 03 12 25.2 C
Albania (h = 30 km).

" 18 Sk iP 03 57 27.4
Ud iP 03 57 14.7 C
i 03 57 21.1
Chagos Islands.
Origin time = 03 45 19.

" 18 Up iPKP 04 53 28.7
micr sec
PKP Z' 0.3 0.6
Ki iSKP 04 56 09.4
Sk iPKP 04 53 22.1
Gb iPKP 04 53 38.1 C
Um iPKP 04 53 17.2 C
iSKP 04 56 19.2
Ka iPKP 04 53 39.5
Ud iPKP 04 53 30.7 C
Tonga-Kermadec Islands
(h = 380 km).

" 18 Um iP 09 47 28.7

" 18 Up iPKP 10 17 59.7 C
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

Apr. 18 (cont.)

Up	i	10 18 06.7
		micr sec
	PKP Z'	0.2 0.7
Sk	i(PKP)	10 18 00.2
Gb	iPKP	10 18 09.2
	ipPKP	10 19 08.9
Um	iPKP	10 17 48.6
	i	10 17 55.7
Ka	iPKP	10 18 11.0 C
	i	10 18 17.2
	ipPKP	10 19 10.6
Ud	iPKP	10 18 01.3
	i	10 18 06.9
	ipPKP	10 19 00.0

Tonga-Kermadec Islands.
h = 230 km (Gb,Ka,Ud).

"	18	Up	P	iPg	11 55 54.7
				iSg	11 56 10.7
		Sk	A	iSn	11 58 06.5
				iLg1	11 58 34.0
		Um		i	11 58 06.0
				iLg1	11 58 11.1
		Ka	KL	iSn	11 56 58.9
				iSg	11 57 14.4
		Ud	D	ePg	11 56 25
				iSg	11 56 58.4

The Baltic Sea, near
58.7°N, 18.6°E.
Origin time = 11 55 31.
Probably underwater
explosion.

"	18	Sk	iSg	12 31 14.1
		Gb	iSg	12 30 59.9
		Um	iSg	12 29 54.0
		Ka	i(Sg)	12 30 27.2
			i	12 30 37.1

Esthonia. Explosion?

"	18	Up	ePKP	12 53 15
		Sk	iPKP	12 53 07.1
		Gb	iPKP	12 53 25.2
		Um	iPKP	12 53 03.0
		Ud	iPKP	12 53 17.0

Kermadec Islands
(h = 30 km).

"	18	Ud	iP	13 04 31.7
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Solomon Islands
(h = 170 km).

"	18	Up	iP	13 46 01.2 D
---	----	----	----	--------------

(cont.)

1968

Apr. 18 (cont.)

Up	i	13 46 07.3
Sk	iP	13 46 18.5
	i	13 46 24.3
Um	iP	13 45 53.9
	i	13 46 00.5
Ka	iP	13 46 09.0
	i	13 46 14.9
Ud	iP	13 46 14.8
	i	13 46 20.8

"	18	Sk	iP	14 16 22.2
		Gb	eP	14 16 48
		Um	iP	14 16 33.6 C
		Ka	iP	14 17 01.4
		Ud	iP	14 16 40.6

Nevada.

Origin time = 14 05 00.
Underground explosion.

"	18	Um	eP	17 03 40
			i	17 03 59.5

"	18	Ud	iP	17 13 42.0
---	----	----	----	------------

"	18	Sk	eP	19 42 58
		Um	eP	19 42 59
		Ud	iP	19 42 06.3

Italy.

"	18	Ud	iP	20 12 35.5
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"	18	Up	iP	20 33 44.0 C
			i	20 33 47.4

"	19	Sk	iP	02 38 33.7
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"	19	Um	iP	02 51 15.3
			i	02 52 44.4

"	19	Up	iP	05 51 35.2
			ipP	05 51 43.0
		Ki	eP	05 51 07
		Sk	iP	05 51 35.8
		Um	iP	05 51 17.6
		Ud	iP	05 51 44.5
			ipP	05 51 52.4

Ryukyu Islands, h = 30 km
(Up,Ud).

"	19	Up		---
				micr sec
		Mx	E	0.6 17
		Mx	N	1.0 20
		Mx	Z	1.6 20

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968						1968						
Apr. 19	(cont.)					Apr. 19	(cont.)					
	Ki		---				Um	i	23 53	21.4		
				micr	sec			i	23 53	28.8		
	Mx	N	1.0	20			Ud	iP	23 53	43.9		
	Mx	Z	1.7	19			Mariana Islands					
	Sk	e	09 23	10			(h = 40 km).					
		iPP	09 23	20.7			"	20	Ud	eP	01 13 21	
	Um	ePP	09 23	31					i	01 13	24.4	
	Ka	iPP	09 22	31.5			"	20	Up	iPKP	01 20 00.7 C	
	South Atlantic Ocean								Ki	iPKP	01 20 16.2	
	(h = 30 km).										micr sec	
	M = 5.5 (Up,Ki).									PKP	Z' 0.1 1.1	
"	19	Ud	iP	09 33	19.4				Um	iPKP	01 20 09.0 C	
"	19	Ki	iPn	10 44	47.2				South Sandwich Islands			
		eSn	10 45	45					(h = 190 km).			
		iSg	10 46	10.4			"	20	Ud	iP	02 11 52.4	
		D = 530 km = 4.8 ^o .					"	20	Ud	iP	02 17 19.7	
	Sk	eSg	10 48	34			"	20	Ud	iP	02 23 30.3	
	Um	iSg	10 47	03.2			"	20	Um	iP	07 29 25.6 C	
	Northwest Russia.								Ud	iP	07 29 27.3	
	Origin time = 10 43 32.						"	20	Up	iP	09 19 40.7	
	Explosion?						"	20	Ki	iP	09 51 35.9	
"	19	Ki	iP	12 31	19.0				Um	iP	09 51 22.4 C	
		Um	iP	12 31	05.4 C				i	09 51	33.7	
	Azores Islands								iPP	09 52	50	
	(h = 30 km).								iS	09 57	19	
"	19	Sk	eSg	13 27	40				Azores Islands (h = 30 km).			
		Um	iSg	13 26	22.1			"	20	Up	iP	10 24 53.3
	Probably Esthonia.									iPP	10 26	11
	Explosion?									iX	10 29	59
"	19	Um	iP	14 57	29.2					iS	10 30	27
"	19	Ud	iP	20 07	14.7							micr sec
	Hindu Kush (h = 220 km).									P	Z' 0.1 1.2	
"	19	Up	iP	23 17	49.9					Mx	E 1.4 15	
"	19	Up	eP	23 39	12					Mx	N 2.5 18	
		Ki	iP	23 38	48.7					Mx	Z 1.5 16	
		Sk	eP	23 39	13					D = 3900 km = 35 ^o .		
		Um	iP	23 38	55.7				Ki	iP	10 25 28.1	
			i	23 38	59.6					i	10 25 31.2	
		Ud	eP	23 39	18					iS	10 31 24	
			i	23 39	21.3						micr sec	
			i	23 39	28.8					P	Z' 0.2 1.5	
	Mariana Islands									S	E 0.8 11	
	(h = 15 km).									S	N 0.4 11	
"	19	Um	eP	23 53	19					Mx	E 3.0 19	
	(cont.)									Mx	N 0.9 14	
										(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Apr. 20	(cont.)			Apr. 20	Ki	e(P)	19 34 28
	Ki		micr sec		Sk	e(P)	19 35 03
	Mx	Z	5.1 20		Um	i(P)	19 34 26.3
	D = 4400 km = 39 1/2°.				Ud	e(P)	19 34 32
	Sk	eP	10 24 47	"	20	Gb	iP 20 02 42.9
	Gb	iP	10 24 27.3			Um	iP 20 03 14.8
	Um	iP	10 25 14.3 C			Ud	iP 20 02 50.1
		iPP	10 26 45	South Atlantic Ocean			
		iX	10 30 45	(h = 30 km).			
		iS	10 31 05	"	21	Up	iPKP 05 43 03.7 D
	Ka	iP	10 24 35.4			Sk	iPKP 05 42 58.2
	Azores Islands (h = 30 km).					Um	iPKP 05 42 52.7
	m = 5.5, M = 5.2 (Up,Ki).						i 05 43 03.6
"	20	Up	iPKP 12 44 27.7			Ud	iPKP 05 43 05.0
		i	12 47 19.5	(Kermadec Islands).			
		iPKS	12 47 51	"	21	Up	iPKP 06 30 05.4
		eSS	13 04 49			Ki	ePKP 06 29 44
			micr sec			Sk	iPKP 06 29 58.4
	PKS	E	0.4 6				i 06 30 06.2
	PKS	N	0.7 7			Gb	iPKP2 06 30 29.3
	Mx	E	1.6 21			Um	iPKP 06 29 49.6
	Mx	N	3.3 23				i 06 30 00.6
	Mx	Z	3.8 23			Ka	iPKP 06 30 16.8
	Ki	ePKP	12 44 11			Ud	iPKP 06 30 08.9
		i	12 44 25.1				i 06 30 15.9
		i	12 44 32.4	Kermadec Islands			
		iX	12 46 07	(h = 60 km).			
		iPKS	12 47 27	"	21	Um	eP 08 36 06
		eSS	13 03 32			Ud	iP 08 36 27.5
			micr sec	Tadzhik SSR.			
	PKS	E	0.6 5	"	21	Up	iP 08 45 23.9 C /
	PKS	N	0.6 7				iPP 08 48 02.9
	Mx	E	2.5 21				iS 08 54 44
	Mx	N	3.3 21				iPS 08 55 18
	Mx	Z	5.1 20				eSS 08 59 16
	Sk	iPKP	12 44 23.4				micr sec
		i	12 44 46.6			P	N 0.2 4
	Gb	iPKP	12 44 35.3			P	Z 0.5 4
	Um	iPKP	12 44 19.9 D			P	Z' 0.2 1.0
		i	12 44 31.1			S	E 0.6 6
		iX	12 46 30			Mx	E 4.7 19
		iPP	12 46 46.7			Mx	N 7.2 18
		iPKS	12 47 41			Mx	Z 6.5 20
		iSS	13 04 23			D = 7950 km = 71 1/2°.	
	Ka	iPKP	12 44 36.5	(Ki	iP	08 44 43.3 C	
	Samoa Islands (h = 30 km).				eS	08 53 27	
	M = 6.1 (Up,Ki).				iScS	08 54 34	
	The phase X (Ki,Um) may					micr sec	
	belong to the group of				P	Z 0.8 7	
	phases arriving ahead of				P	Z' 0.2 1.0	
	the proper PP.				(cont.)		
"	20	Um	iP 14 06 35.2 C				
		Tanzania (h = 30 km).					

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

Apr. 21 (cont.)

Ki			micr	sec
	S	E	1.9	8
	S	N	0.7	10
	Mx	E	15	21
	Mx	N	8.8	23
	Mx	Z	9.5	20
	D = 7200 km = 65°.			
Sk	iP		08 45	16.7
	iPP		08 47	55.8
Gb	iP		08 45	44.9 C
	iPP		08 48	34.9
Um	iP		08 45	01.4 C
	i		08 45	10.1
	iPP		08 47	27
	iS		08 54	00
Ka	iP		08 45	44.2 C
	i		08 46	13.4
	iPP		08 48	33.1
Ud	iP		08 45	31.3 C
Japan (h = 40 km).				
m = 6.1, M = 6.1 (Up, Ki).				

"	21	Up	iP	08 46 14.4
			i	08 46 29.9
		Ki	iP	08 45 33.6
		Sk	iP	08 46 07.0
		Gb	iP	08 46 35.4
		Um	iP	08 45 51.5
		Ka	iP	08 46 34.6
		Ud	iP	08 46 21.6
Japan.				
Origin time = 08 34 53.8.				
Same hypocenter as for the preceding shock.				

"	21	Um	iP	12 46 04.1
		Ud	iP	12 46 29.1
Japan.				

"	21	Um	iP	13 51 10.2
		Ud	eP	13 51 40
			i	13 52 15.5

"	21	Ki	ePn	15 00 39
			iSn	15 01 26.0
			iSg	15 01 41.7
		Um	eSg	15 03 09
Probably northwest Russia. Explosion?				

"	21	Um	iP	16 52 41.3
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"	21	Ki	iPKP2	17 03 43.1
(cont.)				

1968

Apr. 21 (cont.)

Ki	i		17 04 05.8
			micr sec
	PKP2	Z'	0.1 1.3
Um	iPKP		17 03 19
	iPKP2		17 03 44.5
	iPP		17 07 25
	iSS		17 27 27
Ud	iPKP2		17 03 57.8
Macquarie Islands			
(h = 25 km).			

"	21	Up	iP	17 53 17.0
		Ki	eP	17 52 37
		Um	iP	17 52 53.8
		Ud	iP	17 53 23.8
Japan (h = 30 km).				

"	21	Up	iP	21 13 57.8
		Sk	iP	21 14 32.7
		Gb	iP	21 13 37.0
		Um	eP	21 14 38
		Ka	iP	21 13 18.7
		Ud	iP	21 13 59.5
Tyrrhenian Sea				
(h = 310 km).				

"	21	Up		---
				micr sec
		Mx	E	0.7 24
		Mx	Z	1.2 24
		Ki	iP	23 15 35.9
		Um	eP	23 15 41

"	22	Um	e(Sg)	05 16 05
---	----	----	-------	----------

"	22	Sk	eSg	10 25 50
		Gb	iSg	10 24 00.1
		Ka	iSg	10 22 45.9
Coast of Baltic States. Explosion?				

"	22	Ki	eP	12 55 17
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"	22	Sk	eSg	13 34 42
		Gb	iSg	13 34 28.1
		Um	iSg	13 33 19.3
Esthonia. Explosion?				

"	22	Sk	eSg	14 35 08
		Ud	iPg	14 33 31.6
			iSg	14 33 51.8
Oslo region, south Norway, 60.0°N, 10.7°E.				
Origin time = 14 33 03.				
Compare Apr. 6, 11 36.				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Apr. 22	Ud	iP	14 35 58.8	Apr. 23	(cont.)		
		ipP	14 36 30.9		Gb	iPKP	04 47 06.5
		Talaud Islands.			Um	iPKP	04 46 55.0
		h = 130 km (Ud).			Ud	ePKP	04 47 05
" 22	Um	iP	15 53 13.2 D	" 23	Ki	iP	05 29 36.0
		i	15 53 17.1		Um	iP	05 29 45.2
" 22	Sk	iP	16 27 42.2		Ud	eP	05 30 10
						Formosa (h = 30 km).	
" 22	Ki	iPn	20 47 47.3	" 23	Up	iP	06 52 46.8 D
		iSn	20 48 33.8				micr sec
		iLg1	20 48 46.3			P	Z' 0.1 0.6
		D = 430 km = 3.9°.			Ki	iP	06 52 55.0 D
	Sk	iSg	20 51 32.9			eSn	07 02 11
			20 51 44.0				micr sec
	Um	iSn	20 49 43.7			P	Z' 0.1 1.0
		iSg	20 50 21.6		Sk	iP	06 53 12.3
	Ud	e(Sg)	20 52 48			eSn	07 03 05
		Northwest Russia,			Gb	iP	06 53 08.5
		69.1°N, 30.6°E.			Um	iP	06 52 44.7 D
		Origin time = 20 46 44.				i	06 52 58.7
		Explosion?				ipP	06 53 10.2
" 22	Um	iP	21 51 43.7 C			i	06 53 41.0
	Ud	iP	21 52 12.7		Ka	iP	06 52 51.5 D
		Japan.			Ud	iP	06 53 03.2 D
" 22	Ki	iP	22 12 42.9			ipP	06 53 28.8
	Um	iP	22 12 47.1			i(Sn)	07 02 08.7
" 22	Um	eP	23 10 38			Hindu Kush. h = 120 km	
						(Um,Ud).	
" 23	Up	iP	01 39 20.6			m = 5.6 (Up,Ki).	
	Ki	iP	01 38 27.5	" 23	Sk	eP	07 20 54
	Um	eP	01 38 52		Um	iP	07 20 56.0
	Ud	iP	01 39 21.8 C		Ka	iP	07 19 29.3
		Aleutian Islands			Ud	eP	07 20 16
		(h = 30 km).		" 23	Ki	iPn	11 05 54.0
" 23	Up	iP	02 51 11.2			iSn	11 06 52.7
	Ki	eP	02 51 17			iLg1	11 07 12.3
		iPP	02 52 40.7			D = 560 km = 5.0°.	
	Um	iP	02 51 07.7		Sk	e	11 09 03
		iPP	02 52 34.3			iSg	11 09 40.0
	Ka	iP	02 51 16.5 C		Um	iSn	11 07 30.9
		i	02 51 24.0			iSg	11 08 06.7
	Ud	iP	02 51 27.7			Northwest Russia,	
		Tadzhik SSR.				67.3°N, 33.4°E.	
" 23	Ki	ePKP	04 46 50	" 23	Up	iP	12 46 45.3
		i	04 46 55.7		Ki	iP	12 47 17.2
	Sk	iPKP	04 46 58.2		Sk	iP	12 47 18.6
		i	04 47 04.9		Gb	iP	12 46 58.2
		(cont.)				(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

Apr. 23 (cont.)

Um iP 12 46 56.5
Ka iP 12 46 38.0
Ud iP 12 47 00.2
Iran.
Origin time = 12 39 00.8
Same hypocenter as for
the following shock.

" 23 Up iP 12 47 31.5 C
iS 12 53 47
micr sec
P Z' 0.2 0.7
Mx E 0.8 17
Mx N 0.9 17
Mx Z 1.2 15
D = 4600 km = 41 1/2°.
Ki iP 12 48 03.8 C
iPP 12 49 45.0
iSS 12 58 08
micr sec
P Z' 0.2 1.5
Mx E 2.5 14
Mx N 1.2 15
Mx Z 4.0 15
Sk iP 12 48 05.3 C
Gb iP 12 47 44.5 C
Um iP 12 47 42.9 C
iPP 12 49 29.2
iS 12 54 07
iSS 12 57 17
Ka iP 12 47 24.0
Ud iP 12 47 47.3 C
i 12 47 53.3
Iran (h = 50 km).
m = 6.0, M = 5.2 (Up,Ki).

" 23 Sk eP 17 10 04
Um iP 17 09 44.2
i 17 09 57.7
Ud iP 17 09 58.2

" 23 Um iP 17 17 43.3

" 23 Up iP 20 39 29.3 D
ipP 20 39 35.0
iS 20 47 47
iScS 20 49 16
iP'P' 21 08 44.3
micr sec
P E 0.2 3
P N 1.2 3
P Z 1.5 3
P Z' 1.8 1.7
(cont.)

1968

Apr. 23 (cont.)

Up micr sec
S E 0.3 6
S N 2.2 11
P'P' Z 0.5 3
P'P' Z' 0.6 1.8
Mx E 2.7 20
Mx N 4.1 20
Mx Z 5.7 18
D = 6800 km = 61°.
Ki iP 20 38 34.3 D
ipP 20 38 39.5
iPP 20 40 39
iS 20 46 05
micr sec
P N 0.9 8
P Z 2.1 8
P Z' 1.4 1.6
S E 1.3 7
S N 1.9 8
S Z 1.8 11
Mx E 3.1 17
Mx N 5.7 20
Mx Z 10 20
D = 5950 km = 53 1/2°.
Sk iP 20 39 01.2 D
ipP 20 39 07.8
iPcP 20 39 55.9
iP'P' 21 08 55.7
Gb iP 20 39 41.1 D
ipP 20 39 46.7
e(P'P') 21 08 26
iP'P' 21 08 34.5
Um iP 20 39 02.8 D
ipP 20 39 08.2
iS 20 46 56
i(P'P') 21 08 38.7
iP'P' 21 08 55.5
Ka iP 20 39 52.6 D
ipP 20 39 58.1
iP'P' 21 08 32.0
Ud iP 20 39 25.7 D
ipP 20 39 31.2
iS 20 47 45.9
iP'P' 21 08 45.7
Alaska. h = 20 km (Up,Ki,
Sk,Gb,Um,Ka,Ud).
m = 6.4, M = 5.7 (Up,Ki).
pP is somewhat bigger than
P on the Z' records.
" 23 Ka iP 22 35 13.7
Ud iP 22 35 50.9
i 22 36 11.7
Tunisia (h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Apr. 24	Ud	eP	02 27 11	Apr. 24	(cont.)		
"	24	Up	iP 03 16 02.0	Ud	eP	08 22 55	
		Ki	iP 03 16 24.3		i	08 22 58.7	
		Sk	iP 03 16 25.4	Aegean Sea (h = 15 km).			
		Um	iP 03 16 09.3	m = 5.5, M = 5.5 (Up,Ki).			
		Ud	iP 03 16 11.8	PZ' gives m = 6.0, the			
		Chagos Islands		other body waves give			
		(h = 30 km).		m = 5.2 (Up,Ki). Multiple			
"	24	Ki	iP 05 21 08.0	P: a first small and a			
"	24	Up	iP 08 22 45.2	second larger onset.			
			i 08 22 50.3	"	24	Ki	iPn 10 08 41.2
			iS 08 26 35				iSn 10 09 40.4
			eLg2 08 29 38				iSg 10 10 05.2
			micr sec				D = 560 km = 5.0°
		P	N 0.3 3	Sk	eSg	10 12 32	
		P	Z 0.4 3	Um	iS ^x	10 10 35.2	
		P	Z' 0.4 0.9		iSg	10 10 55.2	
		S	E 0.8 9	Northwest Russia, 67.3°N,			
		S	N 1.4 10	33.4°E.			
		S	Z 1.4 9	Origin time = 10 07 22.			
		Mx	E 6.0 13	Explosion?			
		Mx	N 5.9 10	"	24	Ki	iP 10 42 36.4 C
		Mx	Z 6.2 10			Sk	iP 10 43 07.9
		D = 2350 km = 21°				Um	iP 10 42 37.2
		Ki	iP 08 23 59.1			Ka	iP 10 43 09.5
			i 08 24 03.5			Ud	iP 10 43 08.5
			i(Pn) 08 24 30.5				i 10 43 14.7
			iS 08 28 47	Kazakh SSR. Underground			
			iLg1 08 33 05	explosion.			
			micr sec	"	24	Ki	iPn 12 22 44.4
		P	Z' 0.3 1.0				iSn 12 23 32.5
		S	E 0.7 8				iLg1 12 23 46.2
		S	N 0.7 10				D = 460 km = 4.1°
		Mx	E 8.5 14	Sk	eSg	12 26 33	
		Mx	N 11 12	Um	iSg	12 25 14.7	
		Mx	Z 16 13	Northwest Russia,			
		D = 3200 km = 29°		68.9°N, 31.2°E.			
		Sk	iP 08 23 29.4	Origin time = 12 21 38.			
			i 08 23 33.3	Explosion?			
			i 08 23 46.7	"	24	Um	iPKP 14 16 42.5
			iPP 08 24 03.5	Bismarck Sea (h = 570 km).			
			iLg2 08 32 16.3	"	24	Um	iP 17 01 48.2
		Gb	iP 08 22 40.2	"	24	Ud	eP 18 25 00
			i 08 22 43.9	"	24	Up	iP 18 34 38.2 C
		Um	iP 08 23 22.7 D	"	24	Up	iP 19 43 34.2
			i 08 23 25.4				micr sec
			i 08 23 28.7				P Z' 0.1 1.5
			iS 08 27 42	(cont.)			
			iLg2 08 31 28.8				
		Ka	iP 08 22 10.4				
			i 08 22 15.0				
		(cont.)					

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Apr. 24	(cont.)			Apr. 25	Sk	eP	10 39 40
	Ki	iP	19 43 56.9			i	10 40 01.0
			micr sec		Ka	iP	10 38 14.1
		P	Z' 0.1 1.5		Ud	iP	10 39 02.6
	Sk	eP	19 43 58		Greece (h = 100 km).		
	Gb	iP	19 43 40.7	" 25	Ki	i(P)	19 45 14.2
	Um	iP	19 43 42.0	" 25	Up	iPKP	21 44 51.2
	Ud	iP	19 43 43.6				micr sec
	Chagos Islands (h = 30 km). m = 5.7 (Up,Ki).					Mx	E 0.8 18
" 24	Ka	iPKP	22 54 12.9			Mx	N 1.7 21
	Ud	iPKP	22 54 02.7			Mx	Z 1.5 19
	Fiji Islands (h = 640 km).				Ki		---
" 24	Ud	iP	23 02 28.3				micr sec
" 24	Up	iP	23 48 09.6			Mx	E 1.9 20
	Ki	iP	23 47 35.8			Mx	N 1.2 19
			micr sec			Mx	Z 2.8 19
		Mx	E 0.4 14		Um	iPKS	21 48 07
		Mx	N 0.3 15		Ud	iPKP	21 44 54.8
	Um	iP	23 47 50.4		Tonga Islands (h = 30 km). M = 5.9 (Up,Ki).		
	Ud	iP	23 48 16.7	" 26	Up	iPKS	01 05 21
	South of Japan (h = 190 km).					iSS	01 22 15
" 24	Ki	iPn	23 51 54.4				micr sec
		iSn	23 52 40.9			Mx	E 1.1 19
		iLg1	23 52 53.0			Mx	N 1.5 19
		D = 430 km = 3.9°				Mx	Z 1.9 20
	Um	iSg	23 54 30.1		Ki	i(PKS)	01 04 52
	Probably northwest Russia. Origin time = 23 50 51. Explosion?					eSS	01 20 34
" 24	Ki	iP	23 58 42.4				micr sec
			micr sec			Mx	E 2.2 20
		Mx	E 0.7 19			Mx	N 1.9 18
		Mx	N 0.5 17			Mx	Z 5.1 19
		Mx	Z 0.8 18		Um	iPKP	01 01 50.3
	Um	iP	23 58 47.2			iPP	01 03 56
		i	23 59 49.4			iPKS	01 05 07
		iSKS	00 09 25			iSS	01 21 23
		iS	00 10 39		Ud	ePKP	01 01 52
	Banda Sea (h = 50 km).				Tonga Islands (h = 30 km). M = 5.9 (Up,Ki).		
" 25	Sk	iP	03 42 20.8	" 26	Um	iP	01 35 04.3
	Ud	iP	03 41 23.3		Mona Passage (h = 100 km).		
" 25	Up	iP	04 32 08.1	" 26	Up	iP	03 04 52.5 C
	Sk	eP	04 32 52			iPP	03 05 50.9
	Um	eP	04 32 53				micr sec
		i	04 33 00.4			P	Z' 0.1 0.7
	Ud	iP	04 32 15.6		Ki	iP	03 05 31.3 C
	Ionian Sea.					iPP	03 06 59.1
						iPcP	03 07 51.0
							micr sec
						P	Z' 0.4 1.0
						PP	Z' 0.2 1.2
					(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

Apr. 26 (cont.)

Gb iP 03 05 05.5 C
Um iP 03 05 06.3 C
iPP 03 06 15.1
Ka iP 03 04 43.3 C
Ud iP 03 05 08.9 C
iPP 03 06 16.4
Iran (h = 20 km).
m = 6.0 (Up,Ki).

" 26 Um iP 08 18 26.8

" 26 Ki iPn 10 12 56.4
iSn 10 13 54.8
iLg1 10 14 14.6
D = 560 km = 5.0
Um iSg 10 15 09.8
Probably northwest Russia.
Origin time = 10 11 38.
Explosion?

" 26 Um iP 12 50 26.8

" 26 Up iP 13 26 10.0
i 13 26 16.2
micr sec
Mx E 1.4 19
Mx N 1.6 20
Mx Z 2.0 21
Ki iP 13 26 50.4
micr sec
P Z' 0.3 2.0
Mx E 1.1 17
Mx N 1.1 18
Um iP 13 26 32.3
i 13 27 14.9
iS 13 35 39
Ka iP 13 25 44.6 C
Ud iP 13 26 00.9 C
i 13 26 07.9
Atlantic Ocean (h = 30 km).
M = 5.3 (Up,Ki).

" 26 Up iP 13 32 34.2
ipP 13 32 46.7
micr sec
P Z' 0.1 1.2
Ki iP 13 31 54.9
ipP 13 32 07.1
micr sec
P Z' 0.1 1.2
Gb iP 13 32 54.9
Um iP 13 32 12.3 C
i 13 32 20.3
ipP 13 32 24.5
(cont.)

1968

Apr. 26 (cont.)

Ka iP 13 32 54.2
ipP 13 33 06.5
Ud iP 13 32 41.1
ipP 13 32 54.4
Japan. h = 50 km (Up,Ki,
Um,Ka,Ud).
m = 5.9 (Up,Ki).

" 26 Um iP 15 06 31.8
i 15 06 38.1

" 26 Up iP 15 11 48.1 C
iPP 15 14 37
micr sec
P N 0.4 3
P Z 0.6 3
P Z' 0.3 0.8
Mx E 1.3 14
Mx N 2.7 17
Mx Z 2.2 17

Ki iP 15 11 13.8 C
micr sec
P Z' 0.6 1.5
Mx E 2.3 14
Mx N 1.9 18
Mx Z 4.5 17

Um iP 15 11 33.4 C
Ka iP 15 12 01.4 C
i 15 12 07.1
iPP 15 14 56.8
Ud iP 15 11 40.2 C

Nevada.
m = 6.4, M = 5.7 (Up,Ki).
Underground nuclear
explosion, followed by
a series of "aftershocks",
according to USCGS lists.
Note that m is consider-
ably smaller but M some-
what larger than for the
Nevada event on Jan. 19,
1968, which gave m = 7.0,
M = 5.6 (Up,Ki).

" 26 Up iP 18 00 47.0
i 18 01 16.8
eS 18 11 27
micr sec

P Z' 0.1 0.7
S E 0.8 7
Mx E 4.1 18
Mx N 5.8 17
Mx Z 8.1 17

D = 9700 km = 87 1/2°.
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
Apr. 26	(cont.)				Apr. 27	(cont.)			
	Ki	iP	18 00 31.5			Um	i(Sn)	12 34 33.4	
			micr sec				i(Sg)	12 35 09.8	
		P	Z' 0.1 1.0				Probably northwest Russia.		
	Mx	E	8.3 17				Origin time = 12 31 17.		
	Mx	N	6.9 18				Explosion?		
	Mx	Z	15 17						
	Um	iP	18 00 40.3 C		" 27	Up	i(P)	13 38 40.9	
		iS	18 11 18						
		iPS	18 12 21		" 27	Ki	iPKP	14 15 50.3	
	Ka	iP	18 00 53.5				iSKP	14 18 18.8	
		i	18 01 05.3			Gb	iPKP	14 16 07.2	
	Ud	iP	18 00 38.3			Um	iPKP	14 15 55.0	
		Mexico (h = 70 km).					iSKP	14 18 26.3	
		m = 6.1, M = 6.2 (Up, Ki).				Ka	iPKP	14 16 09.4 D	
		M has not been corrected				Ud	iPKP	14 15 58.4	
		for focal depth.					Fiji Islands (h = 670 km).		
" 26	Ki	iPn	18 28 36.3		" 27	Up	i(P)	14 44 40.7	
		iSn	18 29 22.5						
		iLg1	18 29 37.8		" 27	Up	i(P)	16 34 41.4 C	
		D = 430 km = 3.9°.							
	Um	eSg	18 31 13		" 27	Up	iSg	17 51 54.4	
		Probably northwest Russia.				Ki	iPn	17 47 48.6	
		Origin time = 18 27 34.					iSn	17 48 33.8	
		Explosion?					iSg	17 48 49.8	
							D = 410 km = 3.7°.		
" 26	Up	iP	21 33 14.1			Um	iSn	17 49 14.7	
		i	21 33 28.4				iSg	17 49 44.8	
	Ki	iP	21 33 44.2 C			Ud	iLg1	17 52 11.9	
	Um	iP	21 33 16.3				Russia-Finland border		
	Ud	iP	21 33 30.0				region, 67.4°N, 30.1°E.		
							Origin time = 17 46 49.		
" 27	Um	i(Sg)	05 50 48.0				Explosion?		
" 27	Ki	e(Sg)	10 31 29		" 28	Up	iP	04 29 47.8 C	
" 27	Um	i(P)	11 14 49.3				iPP	04 32 27.7	
							i	04 33 25.1	
							micr sec		
" 27	Um	iPKP	11 17 05.8				P	Z' 0.2 1.0	
		Santa Cruz Islands				Ki	iP	04 28 59.0	
		(h = 80 km).					i	04 29 10.2	
							micr sec		
" 27	Up	iP	11 39 10.9				P	Z' 0.1 1.0	
" 27	Up	e(P)	11 54 33			Gb	iP	04 30 04.6 C	
		i	11 55 58.9			Um	iP	04 29 22.5 C	
	Ka	i(P)	11 54 39.7				i	04 29 28.8	
							iP'P'	04 57 22.3	
" 27	Ki	iPn	12 32 20.6			Ka	iP	04 30 09.6	
		iPg	12 32 34.6			Ud	iP	04 29 50.0	
		iSn	12 33 09.0				i	04 29 52.5	
		iLg1	12 33 23.1				North Pacific Ocean		
		D = 440 km = 4.0°.					(h = 40 km).		
		(cont.)					m = 6.1 (Up, Ki).		
							Remarkable location within		
							the Pacific "stable mass"		
							(cf Gutenberg-Richter,		
							Seismicity of the Earth).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968
Apr. 28 Up P iSn 06 27 03.5
iS^x 06 27 37.9
iSg 06 28 09.3
Ki R iPn 06 23 56.5
iSn 06 24 55.0
~~iLg1 06 25 14.1~~
iSg 06 25 21.9
D = 530 km = 4.8°
Um E iSn 06 25 32.8
i 06 25 44.6
i 06 26 04.8
iSg 06 26 08.9
Ud D iSn 06 27 31.4
iLg1 06 28 35.1

Northwest Russia,
67.4°N, 32.9°E.
Origin time = 06 22 43.
Explosion?
This event is considerably larger than the average in this series.

" 28 Up iP 06 34 35.1
Ki iP 06 33 45.9
Ud iP 06 34 36.7
North Pacific Ocean
(h = 30 km).

" 28 Up iP 07 19 15.0 C

" 28 Up iP 07 50 38.8

" 28 Up iP 09 30 56.4
Ki iP 09 29 42.3
Gb i(P) 09 31 17.6
Um iP 09 30 20.8
Ud iP 09 30 42.9
Jan Mayen (h = 30 km).

" 28 Ki iP 10 16 12.4
micr sec
P Z' 0.1 1.5
Um iP 10 16 18.7
iSKS 10 26 47
Central America
(h = 40 km).

~~" 28 Up iP 11 05 40.4
Ki iP 11 04 25.8
i 11 04 40.3
Gb iP 11 05 59.1
Um iP 11 05 04.6
Ud eP 11 05 25
Jan Mayen.
Origin time = 11 02 21.
Same hypocenter as for
Apr. 28, 09 30.~~

1968
Apr. 28 Um iP 12 25 19.1
" 28 Up iP 16 49 02.1
" 28 Ki iP 20 20 13.7
North Atlantic Ocean
(h = 30 km).

~~" 28 Ki iP 20 51 24.3
i 20 51 39.2
Um iP 20 52 03.3
Ud iP 20 52 24.7
Jan Mayen.
Origin time = 20 49 19.
Same hypocenter as for
Apr. 28, 09 30.~~

" 28 Ki iP 23 01 08.9

" 29 Up iP 00 33 18.9
ipP 00 33 27.3
Ki iP 00 32 42.2
Gb iP 00 33 21.4
ipP 00 33 29.5
Um iP 00 33 02.5
ipP 00 33 10.9
Ud iP 00 33 11.9
ipP 00 33 19.7
California, h = 30 km
(Up, Gb, Um, Ud).

" 29 Um iP 00 56 01.9
i 00 56 08.4
Ud iP 00 56 25.3
Mariana Islands
(h = 160 km).

" 29 Up iP 05 02 04.0 C
Um iP 05 01 47.5
Ud iP 05 02 06.7

" 29 Ki iSKP 09 53 27.8
micr sec
SKP Z' 0.1 1.5
Gb iPKP 09 51 16.7
Um iSKP 09 53 41.7
Ka iPKP 09 51 18.8
Ud iPKP 09 51 07.7
Fiji Islands (h = 640 km).

" 29 Sk i(Sg) 13 15 59
Ud ePg 13 13 43
iSg 13 14 02.2

" 29 Ud iP 16 51 18.2

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968					
Apr. 29	Up	iP	17 07 32.8		Apr. 29	(cont.)				
		iPn	17 07 49.1			Ki	iLg1	22 05 18.0		
		iS	17 12 09			Sk	iSn	22 02 06		
		iSa	17 12 22				iSg	22 02 42		
			micr sec			Gb	iPn	21 59 54.7		
		P	E 0.3 6				iSg	22 00 23.5		
		P	Z 0.7 7				iRg	22 00 29.7		
		P	Z' 0.1 1.0			Um	iSn	22 02 47.9		
		Pn	Z' 0.4 0.9				iLg1	22 03 38.4		
		S	N 1.7 12			Ka	iPn	22 00 28.0		
		Mx	E 8.0 17				iSg	22 01 42.4		
		Mx	N 15 22			Ud	ePn	22 00 14		
		Mx	Z 9.2 18				iSn	22 00 53.5		
			D = 2950 km = 26 1/2°.				iSg	22 01 12.7		
	Ki	iP	17 08 17.1 C					Skagerrak, 57.9°N, 8.4°E.		
		iPa	17 09 05					Origin time = 21 59 22.		
		iPP	17 09 16.0					Solution checked with		
		iS	17 13 19					readings from Norwegian		
		iSa	17 14 06					stations.		
		iLg1	17 18 18							
			micr sec		"	29	Um	i(pP)	22 40 36.5	
		P	E 0.3 7				Ud	i(pP)	22 40 21.6	
		P	N 0.2 7					Peru-Ecuador (h = 130 km).		
		P	Z 0.5 7							
		P	Z' 0.4 1.2		"	30	Up	iP	01 53 08.2	
		PP	Z' 0.4 1.5					ipP	01 53 39.7	
		S	N 1.0 15						micr sec	
		Mx	E 6.7 11					pP	Z' 0.1 1.1	
		Mx	N 6.0 12			Ki	iP	01 52 14.0 C		
		Mx	Z 9.0 14				epP	01 52 44		
			D = 3500 km = 31 1/2°.			Um	iP	01 52 39.0		
	Gb	iP	17 07 44.9 C				ipP	01 53 10.5		
		i	17 08 01.0			Ka	iP	01 53 32.9		
		iPn	17 08 08.1			Ud	eP	01 53 11		
	Um	iP	17 07 49.4 C				ipP	01 53 42.8		
		iPn	17 08 16.9					Kamchatka. h = 130 km		
		i	17 10 35.9					(Up, Ki, Um, Ud).		
		iS	17 12 35		"	30	Ud	eP	04 12 21	
		iSa	17 13 03					Greece.		
	Ka	iP	17 07 21.4							
		i	17 07 23.3		"	30	Ki	i(Sg)	11 13 28.6	
	Ud	iP	17 07 49.1 C				Um	i(Sg)	11 14 45.6	
		i	17 07 53.7							
			Iran-USSR (h = 30 km).		"	30	Ki	i(Sg)	11 53 26.2	
			m = 5.5, M = 5.6 (Up, Ki).							
			Well developed higher-		"	30	Um	iP	12 37 06.8	
			mode surface waves.					i	12 37 08.4	
"	29	Up	iP	18 02 09.1			Ud	iP	12 37 43.9	
"	29	Up	iPn	22 00 39.6		"	30	Ki	iP	13 03 34.4
			iSn	22 01 34.2						
			iSx	22 01 48.2		"	30	Ki	eP	14 04 36
			iSg	22 02 00.0					Volcano Islands (h = 50 km).	
			(cont.)							

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
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1968

Apr. 30 Gb i(S_g) 15 01 49.7
Ka i(P) 15 01 08.0
i 15 01 19.4

" 30 Ki iP 16 46 57.2
Um iP 16 47 23.6
Ud eP 16 47 50
Aleutian Islands
(h = 60 km).

" 30 Up iP 18 07 09.3
i 18 07 14.6
Ka e(P) 18 07 39

" 30 Ud eP 22 56 04

Markus Båth
September 27, 1968

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968					
Jan.	2	(cont.)		Jan.	3	(cont.)			
		Ki	iP	12 07 29.7		Um	iP	04 12 09.3 ←	
			i	12 07 33.2			iS	04 14 12.8	
		Sk	iP	12 07 28.2			iT	04 19 02.4	
		Um	iP	12 07 06.1 C		Ka	eP	04 13 41	
		Ud	iP	12 07 07.7		Ud	iP	04 12 43.8	
			i	12 07 11.2			i	04 13 01.2	
		Iran (h = 25 km).				Norwegian Sea (h = 30 km).			
		Multiple P.				Multiple P, (P) being a			
						small forerunner. Strong			
"	2	Ud	i	12 35 59.1	"	3	Up	iP	07 41 08.1
			i	12 36 15.4				i	07 41 19.9
			iSg	12 36 26.1				micr	sec
"	2	Up	eP	19 41 13			P	Z'	0.1 1.0
			i	19 41 21.1			Mx	E	1.1 20
"	2	Ki	eP	23 55 09			Mx	N	2.0 20
"	3	Ki	iP	02 31 32.0			Mx	Z	1.8 19
"	3	Up	iP	02 35 53.9		Ki	iP	07 39 45.7	
		Ki	eP	02 35 01			i	07 39 55.3	
			i	02 35 11.2			iS	07 41 12.7	
		Um	iP	02 35 38.3			eT	07 45 14	
			i	02 37 37.9			i	07 45 29.4	
		Ud	iP	02 35 52.5			i	07 46 04.9	
			i	02 36 05.1			micr	sec	
		Aleutian Islands					P	Z'	0.3 1.0
		(h = 40 km).					Mx	E	2.5 16
"	3	Up	i(P)	04 12 40.7			Mx	N	1.7 18
			iP	04 12 52.9 —			Mx	Z	3.2 17
				micr sec		Sk	iP	07 40 10.2	
		Mx	E	2.5 19			iS	07 41 52.1	
		Mx	N	5.0 19		Gb	iP	07 41 29.0	
		Mx	Z	6.1 19			i	07 41 33.6	
		Ki	i(P)	04 11 09.3		Um	iP	07 40 28.7	
			iP	04 11 22.7 —			iS	07 42 10.7	
			eT	04 16 14		Ka	iP	07 41 50.5	
			i	04 16 40.9			i	07 41 54.1	
			i	04 16 56.5		Ud	iP	07 40 57.9	
				micr sec			i	07 41 10.9	
		P	E	1.1 8			iS	07 43 47.8	
		P	N	0.9 9			Norwegian Sea (h = 30 km).		
		Mx	E	4.6 13	"	3	Ki	iP	10 27 13.9
		Mx	N	2.8 18			Um	eP	10 27 42
		Mx	Z	11 18			Ud	eP	10 28 05
		Sk	e(P)	04 11 37			Alaska (h = 20 km).		
			iP	04 11 56.3	"	3	Up	iPKP	19 50 59.9 C
			iS	04 13 35.0			Um	iSKP	19 53 42.6
		Gb	iP	04 13 14.3			Ud	iPKP	19 51 02.5
			i	04 13 25.1			Tonga-Kermadec Islands		
		Um	i(P)	04 11 54.3			(h = 610 km).		
		(cont.)							

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
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1968				1968			
Jan.	3	Ud	eP	20 12 17	Jan.	4	(cont.)
			i	20 12 28.7			Ki iP 09 56 09.5
							Um iP 09 56 23.4
"	4	Up	iP	01 08 41.0			Ud iP 09 56 51.1 C
			iPcP	01 09 13.6			South of Japan
			iP'P'	01 36 48.8			(h = 370 km).
			i	01 36 57.4			
				micr sec	"	4	Sk iP 10 17 41.5
			P	Z' 0.2 1.0			
			Mx	E 3.8 20	"	4	Ud eP 10 32 42
			Mx	N 8.1 23			
			Mx	Z 5.2 20	"	4	Ki iPKP 10 46 14.7
		Ki	iP	01 07 48.2			Sk ePKP 10 46 25
			iPcS	01 12 31.2			Um iPKP 10 46 18.9
			iS	01 15 58			i 10 46 27.7
				micr sec			iSS 11 03 20
			P	Z' 0.3 1.5			New Guinea (h = 20 km).
			Mx	E 4.7 19	"	4	Up iPKP 12 53 40.8
			Mx	N 2.4 19			i 12 53 44.9
			Mx	Z 4.5 17			Sk iPKP 12 53 32.8
				D = 6650 km = 60°.			Um iPKP 12 53 29.4
		Sk	iP	01 08 19.4			Ud iPKP 12 53 43.4
			iPcP	01 08 50.2			i 12 53 52.2
			i	01 09 47.2			Kermadec Islands
		Gb	iP	01 08 57.4			(h = 25 km).
			i	01 09 02.4	"	4	Ud iP 14 32 16.3
		Um	iP	01 08 14.5 C	"	4	Ki iP 19 47 21.0
			i	01 08 35.3			Ud iP 19 46 21.5
			iPcS	01 12 50.6			Crete.
			iS	01 16 42	"	4	Um iP 22 27 45.3
			iP'P'	01 37 07.0			Ryukyu Islands (h = 30 km).
		Ka	iP	01 09 05.9	"	5	Sk iP 02 38 45.4 C
		Ud	iP	01 08 42.2	"	5	Ki iP 04 35 45.3
			i	01 08 49.2			Ud eP 04 35 11
				Aleutian Islands			North Atlantic Ocean
				(h = 40 km). m = 6.2,			(h = 30 km).
				M = 5.9 (Up,Ki).	"	5	Sk eP 05 44 57
"	4	Sk	iP	06 17 29.4	"	5	Up iP 06 51 41.5
			i	06 17 37.3			Ki iP 06 51 44.9
"	4	Ki	eP	06 41 22			Sk iP 06 52 11.2
			i	06 41 31.9			Um iP 06 51 35.5
		Sk	iP	06 41 37.3			Ka iP 06 51 45.7
		Um	iP	06 42 00.0			Ud iP 06 51 57.4
		Ud	iP	06 42 24.5			Tibet-India (h = 5 km).
				Norwegian Sea.	"	5	Up iP 09 28 44.2
				Origin time = 06 39.4.			(cont.)
"	4	Sk	iP	09 41 47.6			
"	4	Um	eP	09 55 17			
"	4	Up	iP	09 56 43.5			
			(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Jan.		(cont.)		Jan.		(cont.)	
5	Ki	iP	09 27 50.8	6	Um	i(Sg)	14 13 40.5
		ipP	09 28 00.6			Probably northwest Russia.	
	Sk	iP	09 28 18.3			Origin time = 14 09 57.	
		ipP	09 28 28.2			Explosion?	
	Ud	eP	09 28 42	"	6	Up	iP
		South of Alaska.				Um	iP
		h = 35 km (Ki,Sk).				Ud	iP
"	5	Ki	eSg	12 19 53			15 14 49.5
			i	12 20 05.3			15 15 30.3
		Sk	eSg	12 19 19			15 14 55.9
		Um	iSg	12 17 52.5	"	6	Up
		North coast of Esthonia.				Ki	iP
		Explosion?				ipP	15 24 27.1
"	5	Um	iP	12 23 41.0			15 24 26.6
"	5	Sk	iP	12 38 33.6			15 24 35.5
"	5	Ki	eP	15 59 05			15 24 45.0
"	6	Up	iP	08 26 53.1			15 24 45.0
		Um	eP	08 26 40			15 24 22.8
		Ud	eP	08 26 56			15 24 31.2
"	6	Up	iP	10 27 13.7			15 24 48.5
		i	10 27 27.8			Ud	iP
		iS	10 29 52.4			ipP	15 24 48.5
			micr sec			Bay of Bengal.	
		P	Z' 0.2 0.9			h = 30 km (Ki,Um,Ud).	
	Ki	iP	10 28 35.1	"	6	Ki	eP
		i	10 28 41.6			Um	iP
		ipP	10 29 02.2			Ud	iP
			micr sec			20 14 14	
		P	Z' 0.1 1.2			20 14 49.0	
	Sk	iP	10 28 05.2			20 15 29.0 C	
	Gb	iP	10 27 15.8 C			Greenland Sea (h = 30 km).	
	Um	iP	10 27 53.2	"	6	Up	iPP
		iS	10 31 25.4			iPS	23 46 41
		i	10 32 01.7				23 56 16
	Ka	eP	10 26 38				micr sec
	Ud	iP	10 27 27.7 C			Mx	E 8.5 22
		Rumania (h = 160 km).				Mx	N 8.1 22
		m = 5.4 (Up,Ki).				Mx	Z 13 22
"	6	Um	iP	12 26 25.5		Ki	iPP
"	6	Ki	iPn	14 10 56.5		iSKS	23 47 04
			iSn	14 11 42.3		iPS	23 52 50
			iSg	14 11 58.0			23 56 53
			D = 410 km = 3.7°.				micr sec
	Um	i	14 12 24.3			PP	Z 1.0 8
		i	14 12 49.0			SKS	E 1.1 9
		(cont.)				Mx	E 5.2 20
						Mx	N 2.1 19
						Mx	Z 7.8 21
						Um	iP
						ePKP	23 42 13
						i	23 46 00
						iPP	23 46 08.5
						iPPP	23 46 55
						iSKS	23 49 21
						iS	23 52 46
						iPS	23 54 47
						Ud	iPP
						i	23 46 39.8
							23 47 00.2
						Chile (h = 30 km).	
						M = 6.2 (Up,Ki).	

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1968				1968				
Jan.	7	Up	iP	03 53 52.5	C	Jan.	7	(cont.)
			iPn	03 54 59.0				Ki
		Ki	iP	03 53 37.4	C			Mx E 7.4 20
			iPn	03 54 36.9				Mx N 4.1 15
		Sk	iP	03 54 08.4	C			Mx Z 12 16
		Gb	iP	03 54 23.0				D = 7850 km = 70 1/2°.
		Um	iP	03 53 37.4	C	Gb	eP	11 24 43
			i	03 54 27.4		Um	iP	11 23 57.5
			iPn	03 54 38.9			i	11 24 22.4
		Ka	iP	03 54 08.9	C		iS	11 33 16
		Ud	iP	03 54 09.1	C	Ud	eP	11 24 31
			ePn	03 55 23				Japan (h = 50 km).
		Kazakh SSR. Underground explosion.						M = 6.0 (Up, Ki).
"	7	Ud	eP	04 14 40		"	7	Up
								iP
								Um
								iP
								Ud
								iP
								21 49 39.0
								21 49 13.4
								21 49 44.7
								Kurile Islands
								(h = 30 km).
"	7	Up	iP	04 15 54.1		"	8	Up
			i	04 15 57.2				iPKP
		Ki	iP	04 15 28.2				iSKP
		Sk	iP	04 16 03.9				03 35 13.0
		Um	iP	04 15 36.3				03 37 41.1
			i	04 15 38.9				micr sec
		Ud	iP	04 16 06.1				SKP Z' 0.2 0.8
		China (h = 30 km).						Ki
								iPKP
								03 34 58.0
								Sk
								iPKP
								03 35 09.2
								iSKP
								03 37 34.4
"	7	Ud	iP	04 30 29.3				Gb
								iPKP
								03 35 20.1
"	7	Up	i(P)	06 31 28.9				iSKP
				micr sec				03 37 51.5
			(P)	Z' 0.1 0.5				Um
								iPKP
								03 35 05.0
								iSKP
								03 37 24.8
"	7	Up	iP	07 52 01.3				Ka
		Ki	iP	07 51 20.6				ePKP
		Um	iP	07 51 38.2	D			03 35 24
		Ud	iP	07 52 09.6				iSKP
		Sikhota-Alin (h = 380 km).						03 37 53.2
								Ud
								iPKP
								03 35 15.6
								iSKP
								03 37 44.1
		New Hebrides Islands (h = 630 km).						
"	7	Um	ePKP	10 15 02		"	8	Ki
			iPP	10 15 55				e
			iSS	10 31 19				i
		New Ireland (h = 120 km).						i(Sg)
								10 08 19
								10 08 39.3
								10 08 46.7
"	7	Up	iP	11 24 18.7		"	8	Um
			iPcP	11 24 32.8				eP
			iS	11 33 59		"	8	Sk
				micr sec				eP
			Mx E	5.1 18				13 09 09
			Mx N	5.9 22		"	8	Ki
			Mx Z	6.9 18				iP
			D = 8450 km = 76°.					14 00 04.9
		Ki	iP	11 23 45.5				Um
			iS	11 32 54				iP
				micr sec				14 00 27.3
			S N	1.0 5				Ud
		(cont.)						iP
								14 00 58.6
								Okhotsk Sea (h = 280 km).
						"	8	Um
								iSKS
								19 08 54
								iS
								19 10 14
								iPS
								19 11 56
								i
								19 12 38
								iSS
								19 17 40
		Chile (h = 120 km).						

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1968				1968			
Jan.	8	Up		Jan.	8	Up	
		iP2	20 33 03.2				---
		iP3	20 33 08.7				micr sec
		i	20 33 15			Mx E	2.0 21
		iS	20 41 53			Mx N	3.0 21
			micr sec			Mx Z	3.2 20
		P2 Z'	0.3 1.4			Ki	---
		P3 Z'	0.4 1.2			Mx E	1.9 20
		Mx E	1.4 18			Mx N	1.1 18
		Mx N	2.0 20			Mx Z	3.6 18
		Mx Z	2.7 21			Um	iPKP 22 13 32.3
		D = 7350 km = 66°					i(PKS) 22 17 21
		Ki	iP1 20 33 31.3				iSS 22 33 08
			iP2 20 33 33.1				Samoa Islands (h = 15 km).
			iP3 20 33 40.2				M = 6.1 (Up, Ki).
			micr sec				
		P2 Z'	0.2 1.3	"	9	Um	iP 01 14 23.8
		P3 Z'	0.4 1.4			Ud	iP 01 13 53.0
		Mx E	1.5 20				
		Mx N	0.9 19	"	9	Um	iP 12 33 17.6
		Mx Z	2.1 21				
		Sk	iP1 20 33 00.2	"	9	Um	iP 15 49 07.8
			iP2 20 33 01.7				Japan (h = 130 km).
			iP3 20 33 07.3				
		Gb	iP3 20 32 39.0	"	9	Up	iP 23 20 58.5
		Um	iP1 20 33 20.2				i 23 21 00.2
			iP2 20 33 21.6				i 23 21 07.2
			iP3 20 33 27.1				micr sec
			iS 20 42 26				P Z' 0.1 0.5
			iSS 20 46 50			Ki	eP 23 22 08
		Ka	i(P1) 20 32 45.9				i 23 22 17.9
			iP3 20 32 53.0			Sk	eP 23 21 38
		Ud	iP1 20 32 50.9			Gb	eP 23 20 46
			iP2 20 32 52.7			Um	iP 23 21 36.5
			iP3 20 33 00.6				i 23 21 42.3
			i 20 33 05.8			Ka	iP 23 20 23.9
			Atlantic Ocean (h = 30 km).			Ud	eP 23 21 07
			m = 6.5, M = 5.5 (Up, Ki).				West of Crete (h = 40 km).
			Multiple P with successive-	"	10	Ki	iSg 07 00 57.7
			ly larger amplitudes; the			Sk	iSg 06 58 19.5
			average time differences			Ud	iSg 06 59 14.1
			are: P2 - P1 = 1.6 sec,				West coast of Norway, near
			P3 - P1 = 7.9 sec.				Kristiansund and Molde.
"	8	Ki R	i(Pg) 20 43 13.1	"	10	Ud	iP 09 49 50.6
			iS ^x 20 44 26.0				
			iSg 20 44 45.2	"	10	Up	iPKP 09 51 16.6
		Sk A	iPg 20 42 29.1				micr sec
			iS ^x 20 43 14.2				PKP Z' 0.2 0.8
			iSg 20 43 23.0			Ki	ePKP 09 51 00
		Um E	iPg 20 43 25.7			Sk	iPKP 09 51 09.5
			iS ^x 20 44 32.7				ipPKP 09 51 27.0
			iSg 20 44 54.7			Gb	iPKP 09 51 24.8 C
		Ud D	iS ^x 20 44 29.9				i 09 51 39.8
			iSg 20 44 47.8			Um	iPKP 09 51 04.0
			Norwegian Sea, near 65.6° N,			Ka	iPKP 09 51 26.5
			4.0° E.				(cont.)
			Origin time = 20 41 04.				

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1968				1968			
Jan.	10	(cont.)		Jan.	11	(cont.)	
		Ud	iPKP 09 51 18.3 C			Um	iP 16 24 04.4
			ipPKP 09 51 35.4				i 16 24 07.0
			i 09 51 42.0				ipP 16 24 19.9
		Kermadec Islands. h = 60 km (Sk,Ud).				Ud	iP 16 24 35.3
							ipP 16 24 49.1
						Japan. h = 50 km (Up,Ki, Um,Ud).	
"	10	Ki	iP 10 52 04.9	"	11	Up	eP 17 08 31
		Ud	iP 10 51 47.0				i 17 08 34.7
		Iran (h = 60 km).					i 17 08 37.7
"	10	Ki	iPn 11 45 11.0			Ki	iP 17 08 12.7 C
			eSn 11 46 11				micr sec
			iSg 11 46 36.9				P Z' 0.1 1.2
			D = 560 km = 5.0°.			Sk	eP 17 08 35
		Sk	eSg 11 49 06			Um	iP 17 08 19.0
		Um	iSg 11 47 19.5				i 17 08 30.0
		Northwest Russia. Origin time = 11 43 53. Explosion?				Ud	iP 17 08 38.7
						Mindanao (h = 60 km).	
"	10	Up	iP 15 20 13.8	"	11	Up	iP 18 19 32.2 C
			ipP 15 20 59.1			Ki	iP 18 18 44.8
		Ki	iP 15 19 57.3			Sk	iP 18 19 20.0
			ipP 15 20 43.3			Um	iP 18 19 06.9 C
		Sk	eP 15 20 23			Ud	iP 18 19 37.9
		Um	iP 15 20 03.3			Kurile Islands (h = 50 km).	
		Ud	iP 15 20 23.9				
		Mindoro. h = 180 km (Up,Ki).		"	12	Up	eP 03 10 11
"	11	Ud	i(P) 04 25 22.6			Sk	iP 03 10 10.0
		Possibly Sg.				Um	iP 03 09 37.4
"	11	Ki	eP 04 53 02			Ud	iP 03 10 19.8
			i 04 53 18.6			Japan (h = 20 km).	
		Um	iP 04 53 14.7	"	12	Up	iPKP 03 24 46.1
		Talaud Islands (h = 30 km).					micr sec
"	11	Ki	iSg 16 11 14.8				PKP Z' 0.1 0.6
		Sk	iSg 16 11 19.1			Gb	iPKP 03 24 54.3
		Um	iPg 16 10 54.5			Um	ePKP 03 24 32
			iSn 16 11 29.1			Ud	iPKP 03 24 47.8
			iSg 16 11 43.1			Kermadec Islands (h = 90 km).	
			D = 390 km = 3.5°.	"	12	Up	iP 04 28 59.2 C
			Nordlands Fylke, Norway, 66.4°N, 14.8°E. Origin time = 16 09 47.				i 04 29 07.1
							micr sec
"	11	Up	iP 16 24 27.7				P Z' 0.2 1.0
			ipP 16 24 42.2			Ki	iP 04 28 59.2 C
		Ki	iP 16 23 48.0				micr sec
			ipP 16 24 03.2				P Z' 0.1 1.0
		Sk	iP 16 24 25.2			Sk	iP 04 29 16.7
		(cont.)				Um	iP 04 28 55.6 C
						Ud	iP 04 29 10.8
						Andaman Islands (h = 30 km). m = 6.1 (Up,Ki).	

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1968

Jan.	13	(cont.)			
		Um	iSKS	16 31 39	
			i	16 32 31	
			iS	16 33 13	
			iSP	16 34 49	
			iPKKP	16 36 16.6	
			iSS	16 40 49	
		Ud	ePP	16 25 14	
			i	16 25 21.1	
			iPKKP	16 36 27.7	
			i	16 36 44.4	
		Argentina (h = 190 km).			
		Double onsets of PKKP (Up, Ki, Ud), the later with the larger amplitudes.			
"	13	Um	iP	17 10 01.7	
			i	17 10 07.2	
"	13	Ki	eP	20 57 30	
		Um	iP	20 57 45.8	
		Japan (h = 60 km).			
"	14	Ki	iPKP	05 14 56.7	
		Bolivia (h = 170 km).			
"	14	Up	iP	06 24 35.7	
			i	06 24 38.4	
"	14	Ki	iP	08 07 52.2	
"	14	Up	iPKP	08 19 43.2	
			iSKP	08 22 30.9	
				micr sec	
			PKP	Z' 0.1 0.5	
		Ki	ePKP	08 19 35	
			iSKP	08 22 08.0	
		Sk	iPKP	08 19 38.0	
			iSKP	08 22 24.9	
		Gb	iPKP	08 19 54.0	
		Um	e(PKP)	08 19 29	
			iPKP	08 19 38.0	
			iSKP	08 22 19.0	
		Ka	iPKP	08 19 56.6	
		Ud	iPKP	08 19 45.0	
			iSKP	08 22 32.7	
		Tonga-Kermadec Islands (h = 610 km).			
"	14	Sk	eSg	09 57 44	
		Ud	iSg	09 57 19.9	
		Explosion?			
"	14	Up	iP	10 49 05.3	
		(cont.)			

1968

Jan.	14	(cont.)			
		Up	ipP	10 49 14.0	
		Um	iP	10 49 22.8	
			ipP	10 49 30.6	
		Ud	iP	10 49 17.1	
		Mozambique.			
		h = 30 km (Up, Um).			
"	14	Ki	iPn	12 28 29.4	
			iSn	12 29 18.4	
			iLg1	12 29 31.9	
			D = 460 km = 4.1°		
		Um	iSn	12 30 27.5	
			iSg	12 31 06.6	
		Probably northwest Russia, 69.2°N, 31.2°E.			
		Origin time = 12 27 23.			
"	14	Up	iP	12 33 20.9	
		Ki	iP	12 34 34.9	C
		Um	eP	12 33 59	
			i	12 34 02.0	
		Ud	iP	12 33 20.9	
		Sicily (h = 30 km).			
"	14	Up	iP	12 39 12.5	
			iPKP	12 43 28.3	
			iPP	12 43 42	
			iPS	12 53 21	
				micr sec	
			PP	Z 3.7 10	
			Mx	E 6.1 21	
			Mx	N 9.4 25	
			Mx	Z 10 25	
		Ki	iP	12 38 57.6	
			iPKP	12 43 14.0	
				micr sec	
			P	Z' 0.2 1.1	
			PKP	Z 2.2 4	
			Mx	E 5.2 18	
			Mx	N 2.8 18	
			Mx	Z 13 18	
		Sk	iP	12 39 18.1	
			iPKP	12 43 29.3	
			iPP	12 44 03.7	
		Gb	iPP	12 44 32.8	
			i	12 44 39.7	
		Um	iP	12 39 00.7	
			ipP	12 39 30.5	
			iPKP	12 43 22.6	
			iSKS	12 49 30	
			iPS	12 52 33	
		Ka	iPP	12 44 14.3	
		Ud	iP	12 39 18.3	
		(cont.)			

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1968				1968			
Jan.	14	(cont.)		Jan.	14	(cont.)	
			Ud i 12 42 51.5 Banda Sea. h = 120 km (Um). m = 7.0 (Up,Ki).				Up micr sec P Z' 0.1 1.0 Mx E 5.0 20 Mx N 12 23 Mx Z 9.8 23
"	14	Up iP 12 51 40.6 Ki iP 12 50 48.2 i 12 50 52.2 micr sec P Z' 0.1 1.0 Um iP 12 51 15.8 iPcP 12 51 49.1 i 12 54 48.8 Ud iP 12 51 40.9 Aleutian Islands (h = 40 km).					Ki iP 17 53 10.0 C i 17 53 15.8 i 17 54 28.2 iS 18 01 17 i 18 01 53 micr sec P Z' 0.2 1.3 S N 1.2 8 Mx E 5.8 18 Mx N 3.0 16 Mx Z 9.1 19 D = 6550 km = 59°.
"	14	Up iP 13 20 43.6 Ki eP 13 21 57 i 13 22 00.0 micr sec P Z' 0.2 1.5 Sk eP 13 21 15 Um iP 13 21 20.6 Ka iP 13 20 04.9 Ud iP 13 20 43.0 Sicily (h = 2 km).					Sk eP 17 53 47 Um iP 17 53 37.6 i 17 53 42.1 iS 18 02 02 iSS 18 06 15 eSSS 18 09 11 Ud iP 17 54 03.0 Aleutian Islands (h = 30 km). m = 6.0, M = 5.9 (Up,Ki). Multiple P (Ki,Um).
"	14	Um iP 13 46 34.2 Ud iP 13 46 30.7 i 13 46 35.3		"	14	Ki iP 22 34 38.0 Um iP 22 34 42.8 Ud iP 22 35 02.2 Celebes Sea.	
"	14	Up iP 15 53 25.4 micr sec Mx E 3.1 18 Mx N 2.4 15 Mx Z 1.9 15 Ki iP 15 54 40.9 micr sec P Z' 0.1 1.1 Mx E 3.4 18 Mx N 0.9 11 Mx Z 2.2 15 Sk iP 15 54 00.6 Gb iP 15 53 02.6 Um iP 15 54 06.5 i 15 59 15 i(ScS) 16 05 03 Ud iP 15 53 27.9 i 15 53 40.1 Sicily (h = 30 km). M = 5.2 (Up,Ki).		"	15	Up iP 01 37 54.1 i 01 37 55.8 iS 01 41 49 i 01 41 59 i 01 42 17 micr sec P N 0.5 4 P Z' 0.2 1.3 Mx E 11 18 Mx N 11 15 Mx Z 9.0 15 D = 2450 km = 22°. Ki iP 01 39 10.6 i 01 39 22.2 micr sec P Z' 0.6 1.4 Mx E 12 18 Mx N 4.3 12 Mx Z 6.9 16	
"	14	Up eP 17 54 04 (cont.)				(cont.)	

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Ka = Karlskrona, Ud = Uddeholm

1968				1968					
Jan.	16	Um	iSg	11 58 59.2	Jan.	16	(cont.)		
		Ud	iSg	11 59 30.4			Gb	iP	16 47 16.6
		Gulf of Finland. Explosion?					Um	iP	16 48 20.4
"	16	Ki	eP	13 16 42				iS	16 52 50
				micr sec			Ka	iP	16 46 59.8
			Mx	E 0.9 18			Ud	iP	16 47 41.4
		Sk	eP	13 16 03				i	16 47 50.2
		Ud	iP	13 15 27.7			Sicily (h = 15 km).		
			i	13 15 35.2			m = 5.7, M = 5.7 (Up,Ki).		
		Sicily (h = 30 km).			"	16	Ki	eSg	17 35 06
"	16	Up	iSn	13 17 22.1			Sk	iSg	17 35 10.2
			iSg	13 17 50.5			Um	iSg	17 35 32.4
		Sk	eSn	13 17 45			Nordlands Fylke, Norway.		
			iSg	13 18 19.4	"	17	Up	iP	03 09 44.3
		Gb	iPg	13 15 41.9			Ki	iP	03 09 21.1 C
			i	13 15 49.0				i	03 09 31.1
			iSg	13 16 10.6			Sk	iP	03 09 52.2
			i	13 16 16.9				i	03 10 06.5
		Um	iLg1	13 19 25.6			Um	iP	03 09 27.3 C
		Ka	eSg	13 17 24			Ka	iP	03 10 00.2
		Ud	iPg	13 16 10.7			Ud	iP	03 09 58.2
			iSn	13 16 41.0			Kansu, China (h = 30 km).		
			iSg	13 17 00.3	"	17	Um	iPKP	10 09 41.4
		South coast of Norway,					West of Macquarie Islands		
		58.0°N, 8.0°E.					(h = 30 km).		
		Origin time = 13 15 00.			"	17	Ki	ePn	10 53 37
"	16	Ud	iPg	14 31 31.4				iSn	10 54 18.3
			iSg	14 31 48.8				iSg	10 54 38.1
"	16	Up	iP	16 47 39.7 D	"	17	Ud	iPg	13 18 46.7
			iS	16 51 42				iSn	13 19 06.8
			i	16 52 01				iSg	13 19 09.6
				micr sec					D = 200 km = 1.8°.
		P	N	0.6 4			Origin time = 13 18 11.		
		P	Z	0.6 4	"	17	Um	iP	13 57 19.4
		P	Z'	0.2 0.9	"	17	Up	iP	14 08 40.4
		S	N	1.6 4				i	14 08 55.5
		Mx	E	14 19			Um	iP	14 08 28.3
		Mx	N	13 15			Ud	iP	14 08 41.3
		Mx	Z	12 16			These phases could possibly be PKP instead of P.		
		D = 2500 km = 22 1/2°.			"	17	Up	iP	19 53 55.2
		Ki	iP	16 48 55.4			Um	iP	19 53 38.0
			i	16 50 12.8			Ud	iP	19 54 04.1
			iS	16 53 55	"	18	Ki	iPKP	02 15 53.1
				micr sec			Gb	iPKP	02 16 12.0
		P	Z'	0.9 1.6			Um	iPKP	02 15 54.5
		S	E	1.0 5				i	02 16 01.6
		S	N	0.5 8			(cont.)		
		Mx	E	12 16					
		Mx	N	4.5 11					
		Mx	Z	10 15					
		D = 3400 km = 30 1/2°.							
		Sk	iP	16 48 14.2					
		(cont.)							

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1968				1968			
Jan.	18	(cont.)		Jan.	18	(cont.)	
		Ud	iPKP 02 16 03.0 C			Ud	iP 20 07 36.6
		Tonga-Kermadec Islands				Burma-India (h = 100 km).	
		(h = 470 km).			"	18	Um iP 20 42 19.0
"	18	Ki	iSn 10 25 56.4	"	18	Ki	eP 22 02 20
			i(Lg1) 10 26 18.6			Arctic Ocean (h = 30 km).	
		Sk	eSg 10 28 50		18	Um	iP 23 47 04.4
		Um	eSg 10 27 16				i 23 47 31.2
		Northwest Russia. Explosion?"				Ud	iP 23 47 35.3
"	18	Ki	iP 10 51 34.6				i 23 47 42.2
		Um	iP 10 51 30.4			Japan (h = 50 km).	
		Sumatra.			"	19	Ud iP 02 08 25.8
"	18	Up	---			Greece.	
			micr sec		"	19	Ki iPn 04 36 23.1
		Mx	E 1.0 21				iSn 04 37 09.5
		Mx	N 1.3 21				iLg1 04 37 24.7
		Mx	Z 1.9 23				D = 430 km = 3.9°.
		Ki	---			Um	eSg 04 38 57
			micr sec			Northwest Russia. Origin	
		Mx	E 1.1 22			time = 04 35 20. Explosion?"	
		Mx	Z 1.3 18		"	19	Up ePKP 06 23 32
		Um	ePKP 12 22 38				iPP 06 24 59
			eSS 12 42 15				iPKS 06 27 04
		Fiji Islands (h = 30 km).					micr sec
		M = 5.8 (Up,Ki).				Mx	E 8.5 22
"	18	Ki	e(P) 12 34 03			Mx	N 17 20
			i(Sg) 12 34 39.9			Mx	Z 17 21
		Sk	e(P) 12 35 50			Ki	ePKP 06 23 22
		Um	i(P) 12 34 37.1				eX 06 23 53
"	18	Sk	eSg 12 58 13				iPP 06 24 16.5
		Gb	iPg 12 55 42.3				iSKSP 06 34 06
		Ud	iSg 12 56 17.0				micr sec
			ePg 12 56 07			PP	E 0.4 7
			iSn 12 56 42.7			PP	N 0.6 11
			iSg 12 57 02.0			PP	Z 1.8 12
		South coast of Norway,				Mx	E 12 17
		57.9°N, 6.9°E.				Mx	N 7.3 19
		Origin time = 12 54 48.				Mx	Z 22 18
"	18	Ud	iPg 14 08 34.4			Sk	iPKP 06 23 29.7
			iSg 14 08 54.0			Gb	iPKP 06 23 36.8
"	18	Um	eP 15 01 21				i 06 23 48.7
"	18	Ki	iP 15 26 28.9				iPP 06 25 34.3
		Japan (h = 80 km).				Um	iPKP 06 23 24.2
"	18	Sk	i(Sg) 17 59 19.2				iX 06 24 20
		Ud	i(Sg) 17 58 17.5				iPP 06 24 38.0
"	18	Up	iP 20 07 24.5				iSKS 06 30 15
		Sk	eP 20 07 40				iPKKP 06 33 54.0
		Um	iP 20 07 16.5				i 06 34 08
		(cont.)					iSKSP 06 34 27
"	18	Up	iP 20 07 24.5			Ka	iPKP 06 23 43.3
		Sk	eP 20 07 40			Ud	iPKP 06 23 33.0
		Um	iP 20 07 16.5			Solomon Islands (h = 30 km).	
		(cont.)				m = 6.8, M = 6.7 (Up,Ki).	
		(cont.)				(cont.)	

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1968			1968		
Jan.	19	(cont.)	Jan.	19	(cont.)
		The phases marked X (Ki, Um) are probably the unidentified phases, arriving before PP in this distance range, which have been mentioned repeatedly in earlier bulletins.			
"	19	Ud i(Pg) 07 06 48.6 iSg 07 07 07.8			
"	19	Up iP 08 38 20.9 Ki iP 08 38 11.8 Um iP 08 38 12.1 Ud iP 08 38 34.2			
"	19	Up i 09 35 54.1 iSg 09 35 58.2 Sg Z' 0.1 0.7 Sk eSg 09 38 20 Ud iPg 09 36 12.2 iSg 09 36 41.2 Södermanland, Sweden, 58.9° N, 17.4° E. Origin time = 09 35 28.			
"	19	Ki iPKP 14 58 47.2 PKP Z' 0.1 1.2 Ud iPKP 14 58 35.6 Chile (h = 20 km).			
"	19	Ud iP 16 16 09.7			
"	19	Up iP 18 26 41.0 C iPcP 18 26 58 i 18 27 54 micr sec P E 0.4 2 P N 1.0 2 P Z 2.3 2 P Z' 3.4 1.5 Mx E 1.3 17 Mx N 2.2 16 Mx Z 3.0 16 Ki iP 18 26 06.3 C iPcP 18 26 27.5 iPP 18 28 33.0 micr sec P Z 1.3 3 P Z' 1.6 1.3 (cont.)			
					Ki micr sec Mx E 1.9 14 Mx N 0.8 17 Mx Z 2.7 17 Sk iP 18 26 14.8 C Gb iP 18 26 41.0 C iPcP 18 26 54.7 i 18 27 06.7 Um iP 18 26 26.1 C iPcP 18 26 44.1 iPP 18 29 04.0 Ka iP 18 26 54.6 C iPcP 18 27 06.3 i 18 27 15.6 iPP 18 29 45.2 Ud iP 18 26 32.6 C iPcP 18 26 53.4 Nevada. Origin time = 18 15 00. m = 7.0, M = 5.6 (Up,Ki). Underground nuclear explosion.
"	19	Up iPKP 20 41 32.4 Sk iPKP 20 41 27.8 Um iPKP 20 41 21.6 Ud iPKP 20 41 33.7			
"	20	Up i(P) 02 03 11.5 i 02 03 39.4			
"	20	Ki iPn 06 42 49.1 iSn 06 43 47.7 iSg 06 44 09.6 D = 540 km = 4.9° Um iSg 06 45 32.4 Probably northwest Russia. Origin time = 06 41 32. Explosion?			
"	20	Gb iP 07 46 42.2			
"	20	Um iP 12 35 57.9			
"	20	Ki iPn 12 54 28.5 iSn 12 55 15.8 iLg1 12 55 30.0 D = 430 km = 3.9° Um iSg 12 57 04.0 Probably northwest Russia. Origin time = 12 53 27. Explosion?			
"	20	Um iP 15 16 28.5			

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1968				1968			
Jan.	21	(cont.)		Jan.	22	(cont.)	
		Um	iS 17 02 42			Um	iP 02 36 29.3
			iPS 17 03 09			Ud	iP 02 36 55.1
		Ka	iP1 16 52 47.0			South of Japan (h = 390 km).	
			iP2 16 52 51.0				
			iP3 16 53 01.3				
		Ud	iP1 16 53 01.7	"	22	Up	iP 07 25 04.4
			iP2 16 53 08.7			Ki	iP 07 26 05.8 D
			iP3 16 53 19.4			Um	iP 07 25 38.7 D
		North of Ascension Island (h = 30 km). m = 6.6, M = 6.1 (Up,Ki).				Ud	iP 07 24 54.4
		A clear case of multiple P phases, with three phases distinguishable; average time differences are P2 - P1 = 6.1 sec and P3 - P2 = 9.4 sec. The USCGS so- lution corresponds ap- parently to the P2 phases.		"	22	Morocco (h = 20 km).	
						Up	iP 10 43 18.5 C
						i	10 43 24.4
							micr sec
						P	Z' 0.1 0.7
						Ki	iP 10 43 19.6 C
						ipP	10 43 52.1
							micr sec
						P	Z' 0.1 0.7
						Sk	iP 10 43 40.8 C
						Gb	iP 10 43 41.6
						Um	iP 10 43 13.2
						Ka	iP 10 43 26.1
						Ud	iP 10 43 35.1 C
						ipP	10 44 07.7
						Sinkiang, China. h = 160 km (Ki,Ud). m = 5.7 (Up,Ki).	
"	21	Um	iP 21 30 59.3	"	22	Um	iP 13 09 23.1
"	21	Up	iPKP 23 13 54.5			Leeward Islands (h = 30 km).	
		Ki	iPKP 23 13 44.0				
		Um	iPKP 23 13 48.1 D				
		Ud	ePKP 23 13 57				
		New Britain (h = 190 km).					
"	21	Sk	iP 23 56 52.5	"	22		
		Um	eP 23 57 07				
		Ud	iP 23 56 59.9				
		Mexico-Guatemala (h = 170 km).		"	22	Ki ^R	iSg 16 19 22.0
"	21	Up	iP 23 57 47.5 -			Sk ^A	i 16 19 25.3
		Ki	iP 23 57 35.7 -				iSg 16 19 26.6
			micr sec			Um ^E	iSn 16 19 35.8
			P Z' 0.4 2.0				iSg 16 19 49.3
		Sk	iP 23 57 31.7			Nordlands Fylke, Norway, 66.4°N, 14.8°E. Origin time = 16 17 55.	
		Um	iP 23 57 45.5	"	22	Um	iP 18 46 38.3
		Ud	iP 23 57 37.7			Ud	iP 18 47 04.4
		Mexico (h = 80 km). These phases may be con- fused with pP of the pre- ceding shock.				South of Japan (h = 410 km).	
"	21	Up	iP 23 58 24.4 -	"	22	Up	iP 20 40 37.4 C
		Ki	iP 23 58 06.8 -				micr sec
"	22	Ud	iP 00 24 57.4			P	Z' 0.1 0.5
		South of Greece.				Ki	iP 20 41 20.7
						i	20 41 26.4
"	22	Up	iP 02 36 47.9			Sk	iP 20 41 15.7
		Ki	eP 02 36 15			Gb	iP 20 40 46.9
		(cont.)				(cont.)	

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1968				1968			
Jan.	22	(cont.)		Jan.	23	(cont.)	
		Um	iP 20 40 54.7			Ki	micr sec
		Ka	iP 20 40 26.2			Mx	E 0.9 20
			i 20 40 40.7			Mx	N 1.1 18
		Ud	iP 20 40 53.0 C			Mx	Z 2.8 19
		Iran-Iraq (h = 30 km).				Sk	eP 16 17 22
							iPcP 16 17 56.3
"	22	Up	iP 21 27 08.4			Um	iP 16 17 18.1
		Ki	iP 21 27 52.3				eS 16 25 40
		Sk	iP 21 27 46.4			Ka	iP 16 18 07.7
		Gb	iP 21 27 17.2			Aleutian Islands	
		Um	iP 21 27 26.2			(h = 50 km).	
		Ka	eP 21 27 02			M = 5.4 (Up, Ki).	
		Ud	iP 21 27 24.4 C				
		Iran-Iraq (h = 10 km).		"	23	Sk	eP 19 27 32
						Um	iP 19 27 14.9
							ipP 19 27 26.1
						Japan. h = 40 km (Um).	
"	22	Um	iP 23 52 52.9				
		Ud	eP 23 53 17				
			i 23 53 54.4				
		Alaska (h = 10 km).		"	23	Up	iP 19 27 29.5
							i 19 27 33.1
"	23	Up	iP 03 32 56.0 C			Ki	eP 19 28 20
			i 03 33 05.8			Gb	iP 19 27 28.2
			ipP 03 33 19.5			Um	iP 19 27 52.6
			micr sec			Ethiopia (h = 30 km).	
			P Z' 0.1 0.5				
		Ki	iP 03 32 47.6	"	23	Um	eP 21 51 32
		Um	iP 03 32 47.1 C			Talaud Islands	
			i 03 32 56.4			(h = 80 km).	
		Ka	iP 03 33 05.8	"	24	Up	iP 01 10 08.2 C
		Ud	iP 03 33 09.3 C			Ki	iP 01 10 37.5
			ipP 03 33 33.0			Sk	iP 01 10 06.7
		Burma-India.				Um	iP 01 10 26.6 C
		h = 90 km (Up, Ud).				Atlantic Ocean	
						(h = 30 km).	
"	23	Um	iP 05 10 37.8 C	"	24	Ki	iP 03 35 43.2
		Ud	iP 05 10 57.5			Alaska (h = 100 km).	
"	23	Ki	iP 11 56 02.9	"	24	Ki	iP 08 00 42.0
		Um	iP 11 56 19.1	"			
			ipP 11 56 39.7	"	24	Ki	ePn 09 49 14
		Japan. h = 80 km (Um).					eSn 09 50 01
"	23	Um	i(P) 13 09 45.3				iSg 09 50 19
			i 13 10 04.1				D = 430 km = 3.9°.
"	23	Up	iP 16 17 44.6			Um	eSX 09 50 56
			micr sec				iSg 09 51 10.2
		Mx	E 1.8 29			Probably northwest Russia.	
		Mx	N 3.8 23			Origin time = 09 48 11.	
		Mx	Z 3.0 23			Explosion?	
		Ki	iP 16 16 51.2	"	24	Ki	iP 10 12 45.5 C
			i 16 17 02.3	"	24	Um	iP 13 50 14.0
		(cont.)					

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1968				1968			
Jan.	27	(cont.)		Jan.	29	(cont.)	
		Up	micr sec			Sk	iP 05 07 56.5
		Mx	E 4.2 20			i	05 08 09.8
		Mx	N 6.6 23			ipP	05 08 38.2
		Mx	Z 6.1 19			Gb	iP 05 07 52.0 C
		Ki	iP 14 07 47.9			ipP	05 08 36.9
			ipP 14 07 58.2			Um	iP 05 07 29.5 C
			micr sec			i	05 07 35.7
		pP	Z' 0.3 1.5			ipP	05 08 13.4
		Mx	E 5.3 13			Hindu Kush. h = 210 km	
		Mx	N 1.5 14			(Up,Ki,Sk,Gb,Um).	
		Mx	Z 6.6 13			m = 5.9 (Up,Ki).	
		Sk	eP 14 08 17				
			i 14 08 19.8	"	29	Up	iP 10 30 06.2 C
		Gb	iP 14 08 31.3			i	10 30 26
			ipP 14 08 42.3			iS	10 39 01
		Um	iP 14 07 55.5			iPS	10 39 40
			ipP 14 08 06.4				micr sec
		Formosa. h = 40 km (Up,Ki, Gb,Um). m = 6.1, M = 6.1 (Up,Ki).				P	N 4.0 5
						P	Z 7.1 5
						P	Z' 2.1 1.0
						S	E 14 12
"	27	Ki	iSg 15 03 46.0			S	N 13 16
		Sk	iSg 15 03 50.5			Mx	E 100 18
		Um	i 15 03 25.1			Mx	N 150 18
			iSg 15 04 14.1			Mx	Z 190 18
		Nordlands Fylke, Norway.				D = 7600 km = 68 1/2°.	
		Origin time = 15 02 19.				Ki	iP 10 29 20.3
						i	10 29 40
"	28	Um	e 13 37 14			i	10 31 21
			e(Sg) 13 37 39			i	10 32 18.3
"	28	Up	iSg 14 04 25.6			i(Pa)	10 33 24
		Ki	i 14 01 09.2			iS	10 37 37
			iS ^x 14 01 31.3			iPS	10 37 55
			iSg 14 01 48.2				micr sec
		Sk	iSg 14 04 00.1			P	E 2.8 10
		Um	eSn 14 01 50			P	N 2.9 10
			iSg 14 02 20.3			P	Z 9.3 10
		Northwest Russia, 66.9° N, 31.2° E.				P	Z' 1.0 1.0
		Origin time = 13 59 22.				S	N 4.7 12
		Explosion?				Mx	E 150 18
						Mx	N 140 18
						Mx	Z 350 17
						D = 6800 km = 61°.	
"	29	Up	iP 05 07 30.8			Sk	iP 10 29 55.4
			i! 05 07 56.7			i	10 32 46.7
			ipP 05 08 17.3			Gb	iP 10 30 27.2 C
			micr sec			Um	iP 10 29 40.1 C
		P	Z' 0.3 0.8			i	10 58 13.4
		pP	Z' 0.4 1.0			ip'P'	10 58 30.9
		Ki	iP 05 07 40.7 C			Ka	iP 10 30 27.3
			epP 05 08 20			Kurile Islands	
			isP 05 08 48.2			(h = 40 km).	
			micr sec			m = 7.0, M = 7.3 (Up,Ki).	
		P	Z' 0.7 1.1				
		(cont.)		"	29	Up	iP 10 53 12.2
						(cont.)	

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1968				1968			
Jan.	29	(cont.)		Jan.	29	(cont.)	
		Up	ipP 10 53 23.5			Up	ipP 14 55 05.7
			micr sec			Ki	iP 14 54 10.2
			P Z' 0.1 0.6			Um	iP 14 54 30.4 C
		Ki	iP 10 52 27.0			Kurile Islands.	
			micr sec			h = 40 km (Up).	
			P Z' 0.1 1.2		"	29	Up
		Sk	iP 10 53 02.3				iPKP 16 03 08.5 C
		Gb	iP 10 53 33.0				i 16 03 11.9
			ipP 10 53 41.9				micr sec
		Um	iP 10 52 46.9				PKP Z' 0.1 0.5
		Ka	iP 10 53 33.4 C			Ki	ePKP 16 02 53
		Kurile Islands.					i 16 03 09.3
		h = 40 km (Up,Gb).				Sk	iPKP 16 03 03.6
		m = 6.1 (Up,Ki).					i 16 03 19.3
"	29	Up	iP 11 36 27.3			Um	i(PKP) 16 02 55.9
		Um	iP 11 36 02.4 D				iPKP 16 02 57.9
		Kurile Islands					i 16 03 11.4
		(h = 30 km).				South of Kermadec Islands	
						(h = 30 km).	
"	29	Up	iP 11 55 02.7	"	29	Up	iP 16 12 53.1
			micr sec			Ki	iP 16 12 35.7 D
			P Z' 0.2 1.0			Um	iP 16 12 40.9
		Ki	iP 11 54 17.5				ipP 16 12 52.5
		Sk	iP 11 54 53.4			Samar. h = 40 km (Um).	
		Gb	iP 11 55 24.3	"	29	Up	iP 16 53 52.9 C
			ipP 11 55 34.0				micr sec
		Um	iP 11 54 37.9				P Z' 0.8 1.0
		Ka	iP 11 55 25.3			Mx	E 4.7 19
		Kurile Islands.				Mx	N 5.1 17
		h = 35 km (Gb).				Mx	Z 7.3 19
"	29	Up	iP 12 00 15.7			Ki	iP 16 53 06.4 C
		Um	iP 11 59 46.4				micr sec
		Aleutian Islands					P Z' 0.4 1.0
		(h = 50 km).				Mx	E 6.3 16
						Mx	N 6.3 18
"	29	Up	iP 12 18 12.6			Mx	Z 13 16
			micr sec			Sk	iP 16 53 42.4
			P Z' 0.1 1.0				iPcP 16 54 08.7
		Ki	eP 12 17 27			Gb	iP 16 54 13.2 C
		Gb	iP 12 18 32.8			Um	iP 16 53 26.9 C
		Um	iP 12 17 46.9			Ka	iP 16 54 13.9
		Kurile Islands				Kurile Islands	
		(h = 30 km).				(h = 40 km).	
						m = 6.7, M = 6.0 (Up,Ki).	
"	29	Up	iP 14 21 35.3	"	29	Up	iP 17 25 09.9
		Ki	eP 14 20 51			Um	iP 17 24 44.9
		Um	iP 14 21 10.8			Kurile Islands	
		Kurile Islands				(h = 30 km).	
		(h = 30 km).					
"	29	Up	iP 14 54 55.1	"	29	Gb	iP 18 56 06.3
		(cont.)					

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1968				1968					
Jan.	29	Up	iP	19 50 21.8	Jan.	30	(cont.)		
		Ki	eP	19 49 37			Ki iP	01 40 34.3 C	
		Um	iP	19 49 57.0 C				micr sec	
			ipP	19 50 09.2			P Z'	0.1 1.0	
		Kurile Islands.					Sk iP	01 41 09.6	
		h = 45 km (Um).					Gb iP	01 41 40.3	
"	29	Up	iP	20 55 09.8			Um iP	01 40 54.0	
		Ki	iP	20 54 24.9 C			Ka iP	01 41 41.0	
		Um	iP	20 54 45.1			Kurile Islands		
		Kurile Islands					(h = 10 km).		
		(h = 30 km).					m = 6.1 (Up,Ki).		
"	29	Up	iP	21 02 56.2	"	30	Up	iP	01 59 33.9
		Ki	iP	21 02 01.7					micr sec
			i	21 02 08.3			P Z'	0.2 0.7	
				micr sec			Mx E	2.0 15	
			P Z'	0.1 1.0			Mx N	2.8 20	
		Sk	iP	21 02 29.0			Mx Z	3.0 19	
		Gb	iP	21 03 07.7			Ki iP	01 58 48.5	
			i	21 03 21.0				micr sec	
		Um	iP	21 02 29.2			P Z'	0.2 1.2	
		Kodiak Island (h = 5 km).					Mx E	5.4 19	
							Mx N	3.8 17	
"	29	Up	iP	21 22 07.1			Mx Z	5.9 17	
		Ki	iP	21 21 13.6			Sk iP	01 59 22.8	
				micr sec			Gb iP	01 59 52.0	
			P Z'	0.1 1.0			iPcP	02 00 10.1	
		Sk	iP	21 21 41.2			Um iP	01 59 08.6	
		Um	iP	21 21 41.2			Ka iP	01 59 55.7	
		Kodiak Island (h = 20 km).					Kurile Islands		
							(h = 30 km).		
							m = 6.3, M= 5.8 (Up,Ki).		
"	29	Up	iP	21 59 56.3	"	30	Up	iP	02 31 37.4
		Um	iP	21 59 29.5			Ki	iP	02 30 51.8
"	29	Gb	iP	22 02 04.4			Um	eP	02 31 12
"	29	Up	eP	22 38 40			Kurile Islands		
			ipP	22 38 50.7			(h = 25 km).		
		Um	iP	22 38 15.1 C	"	30	Up	iP	02 49 17.1
		Kurile Islands.							micr sec
		h = 40 km (Up).					P Z'	0.1 0.7	
"	29	Up	iP	22 49 13.8			Ki	iP	02 48 31.9
			ipP	22 49 25.0					micr sec
				micr sec			P Z'	0.1 1.0	
			P Z'	0.1 0.5			Gb	iP	02 49 38.2
		Ki	iP	22 48 28.8 C			Um	iP	02 48 52.0
		Um	iP	22 48 49.2			Kurile Islands		
		Kurile Islands.					(h = 30 km).		
		h = 40 km (Up).					m = 6.1 (Up,Ki).		
"	30	Up	iP	01 41 19.3	"	30	Up	iP	02 53 31.5
				micr sec			Ki	iP	02 52 46.3
			P Z'	0.2 1.0			Um	iP	02 53 06.6
		(cont.)					Kurile Islands		
							(h = 30 km).		

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1968						1968				
Jan.	30	Up	iP	03 04 51.7		Jan.	30	(cont.)		
		Ki	iP	03 04 06.0				Ki	iX	03 57 01.6
		Um	iP	03 04 26.8					ipP	03 59 00.4
		Kurile Islands							iY	03 59 40.0
		(h = 30 km).							iPKKP	04 13 31.6
										micr sec
"	30	Up	iP	03 12 49.7 C				P	Z'	0.2 0.9
				micr sec				Sk	iP	03 57 08.5
			P	Z' 0.3 0.8					ipP	03 59 21.1
			Mx	E 3.4 18					iPP	04 01 32.6
			Mx	N 4.7 18					iPKKP	04 13 22.1
			Mx	Z 6.3 18				Gb	iP	03 57 13.1
		Ki	iP	03 12 04.8					iPKKP	04 13 19.3
				micr sec				Um	iP	03 56 52.2 D
			P	Z' 0.4 1.2					i	03 58 49.2
			Mx	E 6.4 17					ipP	03 59 00.2
			Mx	N 5.4 16					isP	03 59 55.0
			Mx	Z 12 17					iPP	04 00 54.8
		Sk	iP	03 12 41.3					i	04 01 25.5
		Gb	iP	03 13 10.9					iPKKP	04 13 29.4
		Um	iP	03 12 25.2 C				Ka	iP	03 57 04.5
		Ka	iP	03 13 10.3					epP	03 59 10
		Kurile Islands							isP	04 00 05.3
		(h = 30 km).							iPKKP	04 13 25.3
		m = 6.5, M = 6.0 (Up,Ki).							Java. h = 590 km (Up,Ki, Sk,Um,Ka). m = 6.4 (Up,Ki).	
"	30	Up	iP	03 34 46.5 C		"	30	Up	iP	04 03 43.0
			P	Z' 0.2 1.0				Um	iP	04 03 18.3
		Ki	iP	03 34 01.1				Kurile Islands.		
			ipP	03 34 13.5				Origin time = 03 52 39.		
		Gb	iP	03 35 07.9		"	30	Um	iP	04 04 55.8
		Um	iP	03 34 21.6		"	30	Um	iP	04 05 45.9
		Kurile Islands.								
		h = 45 km (Ki).								
"	30	Up	iP	03 38 12.5		"	30	Up	iP	04 06 22.4 C
		Ki	iP	03 37 27.8				Ki	iP	04 05 37.0
		Um	iP	03 37 49.0				Um	iP	04 05 57.3
		Kurile Islands.						Kurile Islands.		
		Origin time = 03 27 09.						Origin time = 03 55 18.		
"	30	Um	iP	03 40 29.3		"	30	Ki	iP	04 06 32.2
"	30	Up	iP	03 56 58.5					i	04 06 54.4
			iX	03 57 10.0				Um	iP	04 06 30.8
			ipP	03 59 08.4		"	30	Gb	iP	04 09 33.0
			iY	03 59 44.5		"	30	Up	iP	04 13 09.4
			iPP	04 01 11.2				Ki	iP	04 12 23.4 D
			iPKKP	04 13 27.0				Sk	iP	04 12 59.4
				micr sec				Um	iP	04 12 43.4
			P	Z' 0.2 0.8				(cont.)		
			PP	Z' 0.3 1.5						
		Ki	iP	03 56 51.5 D						
		(cont.)								

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968					
Jan.	30	(cont.)			Jan.	30	(cont.)			
			Um	i	04 12 56.4			Um	iP	18 45 43.0 C
			Kurile Islands.					ipP	18 45 54.1	
			Origin time = 04 02 04.					Kurile Islands.		
			h = 40 km (Up,Ki,Um).					h = 40 km (Up,Ki,Um).		
"	30	Up	iP		04 21 42.6	"	30	Up	iP	19 12 29.4
			ipP		04 21 53.5					
		Ki	iP		04 20 57.6	"	30	Um	iP	20 42 05.8
		Sk	iP		04 21 32.3					
		Um	iP		04 21 17.8	"	30	Um	iP	22 38 46.1
			ipP		04 21 29.1					Caucasus.
		Kurile Islands.								
		h = 40 km (Up,Um).				"	30	Um	iP	22 44 09.8
"	30	Ki	iP		05 58 35.5				i	22 44 19.5
		Um	iP		05 58 42.6 C					
"	30	Up	iP		06 19 38.3 C	"	30	Um	iP	22 46 05.3
					micr sec					
			P	Z'	0.1 0.8	"	31	Um	iP	01 29 40.3
		Ki	iP		06 18 53.5					Volcano Islands
		Um	iP		06 19 12.3					(h = 170 km).
		Kurile Islands				"	31	Ki	iP	01 35 59.7
		(h = 30 km).						Um	iP	01 36 13.6
"	30	Up	iP		08 24 56.4 C					Lower California
					micr sec					(h = 30 km).
			P	Z'	0.1 0.6	"	31	Um	iPKP	01 38 44.2
		Ki	iP		08 25 05.2 C				i	01 38 48.7
					micr sec					Fiji Islands
			P	Z'	0.1 1.0					(h = 630 km).
		Sk	iP		08 25 21.9 C	"	31	Ki	iPg	03 18 31.9
		Um	iP		08 24 54.0				iSg	03 19 03.4
		Ka	iP		08 25 00.2 C			Um	iSg	03 20 16.2
		Hindu Kush (h = 210 km).								Lofoten, west coast of
		m = 5.4 (Up,Ki).								Norway.
"	30	Um	iP		11 45 19.0					Origin time = 03 17 41.
		Kurile Islands				"	31	Up	iP	05 06 47.5 C
		(h = 30 km).						Um	iP	05 06 22.7
"	30	Up	iP		15 05 21.7			Kurile Islands		
								(h = 30 km).		
"	30	Um	iP		18 37 41.8	"	31	Ki	iP	06 32 03.5
			ipP		18 37 54.3			Um	iP	06 32 23.5
		South of Japan.						Kurile Islands		
		h = 45 km (Um).						(h = 30 km).		
"	30	Up	iP		18 46 07.8 C	"	31	Up	iP	11 55 03.3 C
			ipP		18 46 18.7				ipP	11 55 08.6
		Ki	iP		18 45 23.2					micr sec
			ipP		18 45 34.5					P
					micr sec					Z'
			P	Z'	0.2 1.5					pP
		(cont.)								Z'
										0.2 0.9
									Ki	iP
										11 54 54.8
								(cont.)		

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1968

Jan. 31 (cont.)

Ki	ipP	11 54 59.9
		micr sec
	pP Z'	0.1 1.5
Sk	iP	11 55 19.0
	ipP	11 55 24.8
Gb	pP	11 55 29.8
Um	iP	11 54 53.7
	ipP	11 54 59.4
Ka	ipP	11 55 17.3
Tibet. h = 20 km (Up,Ki, Sk,Um). m = 5.9 (Up,Ki).		

" 31 Up iP 16 30 32.5

Ki	iP	16 29 48.1
Um	iP	16 30 08.2
Ud	iP	16 30 39.0
	ipP	16 30 49.4

Kurile Islands.
h = 40 km (Ud).

" 31 Um iP 20 15 10.4

Ud	iP	20 15 41.7
----	----	------------

Kurile Islands.
Origin time = 20 04 30.

" 31 Up iP 22 08 42.9

" 31 Up iP 22 09 31.2

	ipP	22 09 44.5
Ki	iP	22 08 46.3
	ipP	22 08 59.4
		micr sec
	P Z'	0.1 1.3
Gb	ipP	22 10 04.8
Um	iP	22 09 06.7
Ud	iP	22 09 37.4
	ipP	22 09 49.2

Kurile Islands.
h = 45 km (Up,Ki,Ud).

" 31 Up iP 23 15 46.6

Um	iP	23 15 21.7
Ud	eP	23 15 52

Kurile Islands
(h = 30 km).

Markus Båth
June 20, 1968



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U P P S A L A, K I R U N A, S K A L S T U G A N, G Ö T E B O R G,
U M E Å, K A R L S K R O N A and U D D E H O L M

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m

F E B R U A R Y 1 - 29, 1968

1968					1968				
Feb. 1	Sk	eP	08 08 33		Feb. 1	(cont.)			
	Um	eP	08 08 40			Ki	micr	sec	
	Ud	iP	08 08 51.8			P	Z'	0.2	1.0
	Vancouver Island					Mx	E	1.4	17
	(h = 15 km).					Mx	N	1.5	17
"	1	Up	iP	08 20 17.2 C		Mx	Z	3.6	18
"	1	Um	iP	09 05 26.5		Sk	iP	12 58 17.0 C	
		Ud	iP	09 06 20.1		i		12 58 33.8	
"	1	Up	i(P)	09 40 07.4		Gb	iP	12 58 47.9	
"	1	Ki	iP _x	12 35 01.2		i		12 59 03.1	
			iP _x	12 35 09.3		Um	iP	12 58 01.9 C	
			iSn	12 35 47.9		i		12 58 12.8	
			iLg1	12 36 00.4		i		12 58 18.0	
			D = 420 km = 3.8°			i		12 59 57.3	
		Sk	eSg	12 38 53		Ka	iP	12 58 48.4 C	
		Um	eSg	12 37 34		i		12 58 59.0	
		Ud	i(Lg1)	12 40 00.3		Ud	iP	12 58 33.1 C	
			i	12 40 35.7		i		12 58 48.4	
		Northwest Russia,				Kurile Islands.			
		68.9° N, 30.3° E.				m = 6.4, M = 5.5 (Up, Ki).			
		Origin time = 12 34 01.				Clear phases follow P after			
		Explosion?				11.0 sec (Ki, Um, Ka) and			
"	1	Up	iP	12 58 27.1 C		15.7 sec (Up, Sk, Gb, Um, Ud)			
		i		12 58 42.3		in average. One of these			
				micr sec	"	1	Up	iP	13 41 17.0
		P	Z'	0.3 1.0		"	1	Up	iP
		Mx	N	2.2 18				micr sec	
		Mx	Z	2.7 17			P	Z'	0.1 0.5
		Ki	iP	12 57 41.5 C	"	1	Up	ePKP	16 04 32
		i		12 57 52.9			(cont.)		
		i		12 58 12.2					
		(cont.)							
		Ud	iP	15 48 07.3					
		Kurile Islands (h = 50 km).					Ka	iP	03 37 31.8
							(cont.)		

(cont.)

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
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1968
 Feb. 3 (cont.)

Ki	iP	15 52 58.1	C
	ipP	15 53 28.7	
	eSKS	16 03 10	
		micr sec	
	P Z'	0.8 1.5	
	SKS E	1.0 10	
	SKS N	0.6 9	
Sk	iP	15 52 52.1	
	ipP	15 53 23.3	
Gb	iP	15 52 57.7	
Um	iP	15 53 06.5	C
	ipP	15 53 37.5	
	i	15 53 58.6	
	iPP	15 56 51.6	
	iSKS	16 03 19	
	ipS	16 04 09	
Ka	iP	15 53 13.3	
	ipP	15 53 44.4	
Ud	iP	15 53 01.2	C
	ipP	15 53 32.1	
	isP	15 53 44.1	
Mexico. h = 120 km (Up, Ki,Sk,Um,Ka,Ud). m = 6.0 (Up,Ki).			
"	3	Up	iPKP 16 08 23.5 i 16 08 27.5
		Um	iPKP 16 08 10.4 i 16 08 12.5
		Ud	ePKP 16 08 24 i 16 08 26.2
"	3	Um	eP 17 25 05 i 17 25 13.5
"	3	Ud	eP 19 04 15
"	4	Up	iP 05 19 06.5
		Um	iP 05 18 41.2
		Ud	iP 05 19 12.3
Kurile Islands.			
"	4	Um	iP 07 15 46.5
		Ud	iP 07 16 17.8
Japan (h = 140 km).			
"	4	Up	iP 09 21 30.1 C ipP 09 21 41.8 micr sec P Z' 0.2 0.9 Mx N 0.9 15 Mx Z 1.3 17
		Ki	iP 09 20 45.1 C
(cont.)			

1968
 Feb. 4 (cont.)

Ki	ipP	09 20 55.8	
		micr sec	
	P Z'	0.2 1.1	
	Mx E	1.1 15	
	Mx N	0.9 16	
	Mx Z	2.8 16	
Sk	iP	09 21 20.1	
	ipP	09 21 31.8	
Gb	iP	09 21 50.7	C
	ipP	09 22 03.3	
Um	iP	09 21 05.5	C
	ipP	09 21 16.2	
Ka	iP	09 21 51.4	C
	ipP	09 22 03.9	
Ud	iP	09 21 36.1	C
	ipP	09 21 47.9	
Kurile Islands. h = 40 km (Up,Ki,Sk,Gb,Um,Ka,Ud). m = 6.3, M = 5.3 (Up,Ki).			
"	4	Up	iP 11 11 54.9 C i 11 11 55.9 iS 11 20 57 micr sec P E 0.6 4 P N 0.5 4 P Z 1.9 4 P Z' 0.4 1.0 S E 1.8 12 S N 1.7 12 Mx E 6.7 17 Mx N 17 18 Mx Z 15 18 D = 7650 km = 69°.
		Ki	iP 11 11 10.8 C ipP 11 11 22.9 eS 11 19 31 micr sec P Z 1.9 8 P Z' 0.3 1.0 S E 2.1 14 Mx E 17 19 Mx N 12 17 Mx Z 48 17 D = 6950 km = 62 1/2°.
		Sk	eP 11 11 46 i 11 11 46.7
		Gb	iP 11 12 16.3 i 11 12 17.5 ipP 11 12 26.4
		Um	iP 11 11 29.8 C i 11 11 31.8 i 11 12 34.1
(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
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1968				1968			
Feb.		(cont.)		Feb.		(cont.)	
	5	Um iP	13 51 38.9		6	Up	micr sec
		i	13 51 47.5			Mx N	1.6 20
		Arctic Ocean (h = 30 km).				Mx Z	2.6 20
"	6	Up iP	00 53 23.2			Ki	---
		Ud iP	00 53 15.6				micr sec
		i	00 53 19.3			Mx E	2.5 23
		California-Nevada				Mx Z	3.5 21
		(h = 15 km).				Um i	23 17 48
"	6	Up iLg1	01 29 30.3			Off coast of Mexico	
		Sk eLg1	01 30 51			(h = 50 km).	
		Gb iPg	01 27 40.5	"	7	M = 5.7 (Up,Ki).	
		iSg	01 27 45.9			Um eP	00 05 39
		Um eLg1	01 31 28	"	7	Up iP	00 34 40.3
		Ka iLg1	01 28 36.3				micr sec
		Ud e	01 28 55			P Z'	0.1 0.5
		iLg1	01 28 59.7			Ki iP	00 34 11.9 C
		Halland-Västergötland,					micr sec
		southwest Sweden,				P Z'	0.1 0.8
		57.3 N, 12.4 E.				Sk iP	00 34 38.5
		Origin time = 01 27 33.				Gb iP	00 34 57.2
		Felt.				Um iP	00 34 24.2
"	6	Um iPKP	04 25 55.8			Ka iP	00 34 57.1
		New Hebrides Islands				Ud iP	00 34 46.7 C
		(h = 230 km).				Mariana Islands	
"	6	Ki iP	04 50 33.5			(h = 310 km).	
		Um iP	04 50 35.3 C			m = 5.9 (Up,Ki).	
		Ud iP	04 50 56.2	"	7	Up i(P)	08 12 30.0
		Molucca Sea (h = 40 km).					micr sec
"	6	Ki iPn	09 55 27.2			(P) Z'	0.1 0.5
		iSn	09 56 26.0	"	7	Ki iP	08 46 17.1
		iLg1	09 56 45.2			Um eP	08 46 40
		D = 560 km = 5.0°.				Ud iP	08 46 53.9
		Sk e(Sg)	09 59 06			Off coast of Oregon	
		Um eSn	09 57 04			(h = 30 km).	
		iSg	09 57 39.4	"	7	Up iP	12 26 25.2
		Northwest Russia.				Ki iP	12 25 38.4
		Origin time = 09 54 08.				Um iP	12 25 57.7
		Explosion?				Ud iP	12 26 27.9
"	6	Up iP	09 58 11.7			Kurile Islands	
		Ud iP	09 58 15.0			(h = 40 km).	
		Kamchatka (h = 30 km).		"	7	Up iP	12 30 33.3
"	6	Um iP	16 44 39.9			Ki iP	12 30 42.2
		Alaska (h = 30 km).				Um iP	12 30 31.5
"	6	Up	---			iPP	12 31 54.7
			micr sec			Ka iP	12 30 38.2
		Mx E	1.4 18			Ud iP	12 30 49.6 C
		(cont.)				Hindu Kush (h = 160 km).	

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1968				1968				
Feb.	7	Up	iPKP	13 29 27.2	D	Feb.	7	(cont.)
			i	13 29 30.3				Ud i 22 34 34.8
				micr sec				These phases are probably
			PKP Z'	0.1 0.5				ScP of the preceding
		Um	iPKP	13 29 14.8				shock, or, less likely,
			iSKP	13 32 11.3				PKP of another more
		Ud	iPKP	13 29 29.0	D			distant shock.
		Tonga-Kermadec Islands						
		(h = 490 km).						
"	7	Up	iP	14 30 46.3		"	8	Ki i 06 18 19.4
								i(Sg) 06 18 38.0
"	7	Ki	iSg	16 22 21.5		"	8	Ki iP 07 05 44.8
		Sk	eSg	16 22 26				Um iP 07 05 53.6
		Um	iSg	16 22 46.8				Mexico (h = 100 km).
		Nordlands Fylke, Norway,				"	8	Up iP 11 07 32.3
		66.4° N, 14.8° E.						Ki iP 11 08 08.4
		Origin time = 16 20 53.						Sk eP 11 08 05
"	7	Up	iP	22 27 19.4	C			Um iP 11 07 46.5
			ipP	22 27 47.1				Ud iP 11 07 45.0
			iS	22 31 26.9				Arabian Sea (h = 30 km).
				micr sec		"	8	Um iP 11 20 14.9
			P Z'	0.4 0.6				Japan (h = 50 km).
		Ki	iP	22 28 26.4	C	"	8	Up iP 12 15 16.3
			iPP	22 29 23.4				ipP 12 15 28.9
				micr sec				micr sec
			P Z'	0.2 1.0				P Z' 0.1 0.6
		Sk	iP	22 27 59.3	C			Ki iP 12 14 31.7
			isP	22 28 43.8				ipP 12 14 43.9
		Gb	iP	22 27 12.4				Sk iP 12 15 06.7
			ipP	22 27 42.5				Gb iP 12 15 37.3
		Um	iP	22 27 51.0				Um iP 12 14 51.9
			ipP	22 28 25.6				ipP 12 15 02.3
			isP	22 28 40.6				Ka iP 12 15 40.0
		Ka	iP	22 26 48.3	C			Ud iP 12 15 22.8
			iS	22 30 32.1				ipP 12 15 33.8
		Ud	iP	22 27 27.7	C			Kurile Islands. h = 45 km
			iS	22 31 40.6				(Up, Ki, Um, Ud).
			i	22 32 19.1		"	8	Up iP 12 37 30.4
			isS	22 32 37.3				ipP 12 37 36.1
		Dodecanese Islands.						iS 12 44 57
		h = 150 km (Up, Sk, Gb, Um,						micr sec
		Ud). m = 6.0 (Up, Ki).						P Z' 0.1 0.8
"	7	Up	iP	22 34 21.8	C			S E 2.0 8
				micr sec				S N 1.6 8
			P Z'	0.1 0.5				S Z 1.7 9
		Ki	iP	22 34 44.2				Mx E 4.0 19
				micr sec				Mx N 3.1 19
			P Z'	0.1 1.2				Mx Z 4.6 18
		Sk	iP	22 34 34.5				D = 5800 km = 52°
		Gb	iP	22 34 20.3				Ki iP 12 38 07.7
		Um	iP	22 34 31.9				ipP 12 38 12.2
		Ud	iP	22 34 22.7				(cont.)
		(cont.)						

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1968				1968				
Feb.	8	(cont.)		Feb.	8	Up	iP	23 11 36.7
		Ki	iS			Sk	eP	23 11 26
						Um	eP	23 11 11
						Ud	iP	23 11 42.3
							ipP	23 11 57.0
		S	E			Kurile Islands.		
		S	N			h = 50 km (Ud).		
		Mx	E					
		Mx	N					
		Mx	Z					
		D = 6400 km = 57 1/2°.						
		Sk	iP		9	Ki	iP	07 11 55.3
			i					
		Um	iP		9	Um	iP	12 54 07.0
			ipP					
			iS		9	Ud	iP	12 57 30.6
		Ka	iP					
		Ud	iP		9	Up	iP	13 26 20.4
			ipP				i(PP)	13 26 33.7
		Arabian Sea. h = 20 km					iS	13 29 03.7
		(Up,Ki,Um,Ud).						
		m = 5.9, M = 5.7 (Up,Ki).						
							P	Z' 0.2 0.6
						Ki	iP	13 27 45.5
							ipP	13 28 11.7
"	8	Um	iP			Sk	eP	13 27 14
							i	13 27 16.1
"	8	Um	iP				i	13 31 03.7
		Ud	iP			Gb	iP	13 26 16.9
			ipP				i	13 26 23.7
		Kurile Islands. h = 35 km				Um	iP	13 27 02.4 C
		(Ud).					i(PP)	13 27 18.9
							i	13 28 09.5
"	8	Um	iP			Ka	iP	13 25 45.7
		Ud	eP				i(PP)	13 25 54.9
		Congo (h = 30 km).				Ud	iP	13 26 35.0
							i	13 26 38.7
"	8	Up	iP				iS	13 29 50.6
			i				i	13 31 47.7
						Rumania. h = 130 km (Ki).		
"	8	Ki	iPn			Multiple P (Sk,Gb,Ud).		
			iP ^X					
			iSn		9	Up	iP	14 48 02.6
			iSg			Sk	iP	14 48 30.4
		D = 420 km = 3.8°.				Um	iP	14 48 05.2
		Sk	eSg			Ud	iP	14 48 18.7
		Um	eSn			West Pakistan (h = 30 km).		
			iSg					
		Russia-Norway border region,		"	9	Up	iP	14 58 58.2
		69.4° N, 30.0° E.						
		Origin time = 20 36 45.		"	9	Ki	eP	15 42 54
		Explosion?					i	15 43 02.2
"	8	Up	iP			Um	eP	15 43 13
			i			Ud	iP	15 43 45.1
						Komandorsky Islands		
						(h = 30 km).		
"	8	Sk	iP					
		Peru-Brazil (h = 590 km).		"	9	Gb	iPKP	18 25 58.5
						Tonga Islands		
						(h = 50 km).		

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1968				1968			
Feb.	9	Ud eP	20 59 50	Feb.	10	(cont.)	
		Indian Ocean (h = 30 km).				New Hebrides Islands (h = 15 km).	
"	10	Um iSKP	00 53 43.9	"	10	Um ePKP	22 11 11
		Ud iPKP	00 51 04.3			New Hebrides Islands (h = 40 km).	
		Fiji Islands.					
"	10	Ud iP	06 24 22.8	"	11	Ki iP	02 33 29.5
		Hindu Kush.				Ud iP	02 33 43.9
"	10	Up iP	07 29 41.9			Kashmir-Tibet (h = 30 km).	
		Ki eP	07 28 48	"	11	Ud iP	05 44 16.5
		Sk eP	07 29 23			Aleutian Islands (h = 60 km).	
		Um iP	07 29 14.4	"	11	Ki i(Sn)	07 01 05.5
		Ud iP	07 29 43.3 C			i(Sg)	07 01 27.3
		Aleutian Islands (h = 30 km).				Um i(Sg)	07 02 21.9
"	10	Up iP	10 10 56.9 C	"	11	Um iP	07 01 47.8
		ipP	10 11 21.9			Aleutian Islands (h = 40 km).	
			micr sec	"	11	Up iP	08 55 41.0
		P Z'	0.6 0.7			Ud iP	08 55 28.5
		Mx E	1.0 20	"	11	Up iP	12 25 25.9 D
		Mx N	2.0 24			ipP	12 27 21.1
		Mx Z	1.8 22				micr sec
		Ki iP	10 10 09.3 C			P Z'	0.1 0.5
			micr sec			Ki iP	12 24 54.0
		P Z'	0.5 1.0			Gb iP	12 25 44.1
		Mx N	1.2 22			ipP	12 27 40.6
		Mx Z	3.2 20			Um iP	12 25 08.0
		Sk eP	10 10 45			ipP	12 26 59.8
		Gb iP	10 11 17.7 C			Ka iP	12 25 42.2
		i	10 11 36.3			isP	12 28 23.3
		iPP	10 13 52.9			Ud iP	12 25 33.2 D
		Um iP	10 10 31.1 C			ipP	12 27 30.5
		iPcP	10 11 06.0			eS	12 35 09
		Ka iP	10 11 19.2 C			Bonin Islands. h = 530 km (Up, Gb, Um, Ud).	
		Ud iP	10 11 02.7 C	"	11	Up iP	20 46 55.2 C
		ipP	10 11 27.1				micr sec
		Kurile Islands. h = 100 km (Up, Ud).				P Z'	0.1 1.2
		m = 6.5 (Up, Ki).				Ki iP	20 46 56.1
"	10	Up iP	17 11 30.4 C			Sk iP	20 47 17.1 C
		Ki iP	17 11 32.0			Gb eP	20 47 17
		Sk eP	17 11 52			Um iP	20 46 50.3 C
		Um iP	17 11 25.5			Ka iP	20 47 02.0 C
		Ud iP	17 11 46.0			(cont.)	
		Kashmir-Tibet (h = 40 km).		"	11	Up iP	20 46 55.2 C
"	10	Up iPKS	20 31 21.5				micr sec
		Ki iPKP	20 27 40.6			P Z'	0.1 1.2
		Um ePKP	20 27 42			Ki iP	20 46 56.1
		Ud iPKP	20 27 56.7			Sk iP	20 47 17.1 C
		iPKS	20 31 26.2			Gb eP	20 47 17
		(cont.)				Um iP	20 46 50.3 C
						Ka iP	20 47 02.0 C
						(cont.)	

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1968				1968			
Feb. 12	Up	iP	20 59 53.6	Feb. 14	(cont.)		
			Samar (h = 80 km).		Um	iP	09 29 44.1
"	12	Up	eP 22 28 13			iS	09 31 42.6
		Ki	eP 22 28 05		Ud	iP	09 30 09.5
		Um	eP 22 28 02				East of Jan Mayen
		Ka	iP 22 28 21.5				(h = 30 km).
		Ud	iP 22 28 24.4	"	14	Up	iP 14 50 42.3
			Burma (h = 25 km).			Um	iP 14 50 26.9 C
"	13	Ki	ipP 02 26 53.1				Volcano Islands
		Um	iP 02 26 39.3				(h = 40 km).
			ipP 02 26 57.1	"	14	Up	i(Sg) 15 04 10.8
			Banda Sea. h = 70 km (Um).	"	14	Ka	iP 15 36 39.2
"	13	Ud	i(Sg) 07 54 34.8			i	15 36 46.0
"	13	Ki ^R	ePn 11 16 39	"	14	Ki	eP 18 43 26
			iSn 11 17 37.4			Ud	eP 18 43 33
			iLg1 11 17 57.2	"	14	Up	iP 20 44 32.2
			D = 530 km = 4.8°			i	20 44 36.1
		Sk ^A	iSg 11 20 29.4			i	20 44 47.5
		Um ^E	iSg 11 18 55.5	"	15	Ki	eP 00 21 56
			Northwest Russia, 67.6°N,			Um	iP 00 22 15.9
			33.0°E.				Kurile Islands.
			Origin time = 11 15 25.	"	15	Up	eP 00 36 07
			Explosion?	"	15	Um	eP 02 44 00
"	13	Up	iP 15 04 04.4	"	15	Up	iP 02 53 41.0
			micr sec			Ki	iP 02 52 48.2
		P	Z' 0.1 0.6			Um	iP 02 53 14.9
			Japan (h = 25 km).				ipP 02 53 28.9
"	13	Um	iP 15 37 35.6			Ka	iP 02 54 05.3
		Ud	iP 15 38 07.5			Ud	iP 02 53 40.4
			Kurile Islands				Aleutian Islands.
			(h = 40 km).				h = 50 km (Um).
"	13	Up	iP 21 52 15.9	"	15	Um	iPKP 06 13 26.8
"	14	Ki	iP 04 20 04.6			Ud	ePKP 06 13 38
		Um	iP 04 20 23.9				South of Kermadec Islands
			ipP 04 20 35.9				(h = 5 km).
		Ud	iP 04 20 55.3	"	15	Up	iP 11 31 13.3
			ipP 04 21 03.8	"	15	Um	i(P) 12 23 05.3
			Kurile Islands. h = 40 km			i	12 23 06.9
			(Um,Ud).	"	15	Up	i(P) 15 33 54.4
"	14	Ki	iP 09 29 04.2				micr sec
			iPP 09 29 14.0			(P)	Z' 0.1 0.8
			iS 09 30 34.1			Gb	i(P) 15 34 09.8
			iSS 09 30 47.3				
			eT 09 35 51				
		Sk	iP 09 29 22.8				
			iS 09 31 04.2				
			(cont.)				

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1968				1968			
Feb. 15	Up	iP	15 55 54.2	Feb. 16	(cont.)		
	Ki	iP	15 55 06.0		Sea of Okhotsk.		
		ipP	15 55 15.2		h = 620 km (Up,Um).		
	Sk	eP	15 55 43		m = 5.2 (Up,Ki).		
	Um	iP	15 55 29.9				
	Ud	iP	15 56 00.1	" 16	Ud	iP	20 15 42.0
		ipP	15 56 11.9				
	Kurile Islands. h = 40 km (Ki,Ud).			" 17	Um	iP	09 03 00.8
" 15	Um	i(P)	16 50 23.4		Mexico (h = 80 km).		
		i	16 50 24.9	" 17	Up	iP	11 50 00.8 D
" 15	Sk	iP	18 06 17.3	" 17	Um	iP	16 11 59.7
" 15	Ud	iP	23 03 32.9	" 17	Up	iP	17 32 48.6
	North of Ascension Island (h = 30 km).				Ki	eP	17 32 32
" 16	Ud	iP	01 20 39.3		Ud	iP	17 32 56.8
	Mindanao (h = 50 km).				Talaud Islands (h = 100 km).		
" 16	Ki	iP	02 51 36.1	" 17	Sk	eP	17 50 31
	Yukon (h = 30 km).			" 17	Ki	iPKP	20 04 16.8
" 16	Um	eP	02 59 56		New Hebrides Islands (h = 580 km).		
" 16	Up	iP	05 47 27.3	" 17	Ki	iPn	20 33 51.2
	Sk	iP	05 47 42.5			iSn	20 34 37.8
	Um	iP	05 47 13.2			iLg1	20 34 49.8
	Ud	iP	05 47 41.3			D = 430 km = 3.9°.	
	China (h = 30 km).				Um	eSg	20 36 26
" 16	Ki	eP	09 53 31		Probably northwest Russia. Origin time = 20 32 48. Explosion?		
" 16	Ki	iP	10 08 42.8	" 18	Up	iP	04 06 14.0
	Um	iP	10 09 06.8	" 18	Ki	eP	09 42 33
	Ud	iP	10 09 39.7		Banda Sea (h = 460 km).		
	Kamchatka (h = 420 km).			" 18	Ki	i(Sg)	10 20 46.2
" 16	Up	iP	14 17 44.2	" 18	Ki	iP	20 22 39.7
" 16	Up	iP	14 33 18.0 D		Um	iP	20 22 51.1
		iPcP	14 33 47.5		Ud	iP	20 23 12.1
		ipP	14 35 15.0		Mariana Islands (h = 100 km).		
			micr sec	" 18	Ki	iP	21 10 45.9
	P	Z'	0.1 0.6		Um	iP	21 10 44.1
	Ki	iP	14 32 30.9 D			i	21 10 52.4
			micr sec	" 18	Ud	iP	22 53 50.0
	P	Z'	0.1 1.0	" 18	Up	iPKP	23 42 15.6
	Sk	eP	14 33 06		(cont.)		
	Um	iP	14 32 52.3 D				
		ipP	14 34 48.8				
	Ka	iP	14 33 40.4				
	Ud	iP	14 33 23.2 D				
	(cont.)						

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1968				1968			
Feb. 18	(cont.)			Feb. 19	(cont.)		
	Ud	iPKP	23 42 17.4	Ki	iP	22 51 39.0	C
	Tonga-Kermadec Islands (h = 500 km).				i	22 51 42.7	
					i	22 51 45	
"	19	Ud	iPKP 00 44 20.9		i	22 55 39	
		Tonga Islands (h = 40 km).			iS	22 56 24	
					i	22 56 50	
						micr sec	
"	19	Ud	iP 01 45 12.2	P	E	3.6	10
				P	N	20	10
"	19	Up	i(P) 11 42 27.1	P	Z	36	10
			i(Sg) 11 42 55.1	P	Z'	0.9	1.0
				Mx	E	270	13
				Mx	N	250	14
"	19	Um	ePKP 14 13 43	Mx	Z	270	10
		Ud	iPP 14 14 53.2			D = 3200 km = 29°.	
		New Ireland (h = 70 km).		Sk	iP	22 51 08.8	
					i	22 51 11.0	
"	19	Ki	iP 14 59 03.8		iS	22 55 40.1	
		Sk	eP 14 59 34	Gb	iP	22 50 18.1	
		Um	iP 14 59 21.5		i	22 50 23.7	
		Ud	iP 14 59 51.3		iS	22 54 08.5	
		Japan (h = 50 km).		Um	iP	22 51 01.5	C
"	19	Ka	iP 15 17 53.3		i	22 51 03.4	
					i	22 51 06.4	
"	19	Up	iP 16 20 28.1	Ka	iP	22 49 48.8	
			ipP 16 20 35.9		i	22 49 52.7	
		Sk	iP 16 20 44.8	Ud	iP	22 50 33.8	
			ipP 16 20 52.8		i	22 50 38.1	
		Um	iP 16 20 21.1		i	22 50 41.8	
			ipP 16 20 29.0		Aegean Sea (h = 5 km).		
		Ud	iP 16 20 41.2		m = 7.0, M = 7.3 (Up, Ki).		
			ipP 16 20 49.6		Multiple P: in general		
"	19	Ud	iP 18 14 34.7		three distinct phases are		
		Off coast of Oregon (h = 30 km).			observed, with successive-		
					ly larger amplitudes; the		
"	19	Up	iP 20 41 08.9		amplitudes given above		
					refer to the maximum in		
"	19	Up	iP 22 50 24.9		each group. Uppsala		
			i 22 50 27		Wiechert has been meas-		
			i 22 50 32		ured for Mx instead of		
			iS 22 54 17		long-period Benioff,		
					which is used otherwise.		
			micr sec	"	19	Up	iP 23 14 33.2
		P	E 60 13			Um	iP 23 15 06.3
		P	N 120 14			Ud	iP 23 14 42.6
		P	Z 120 10			Aegean Sea.	
		P	Z' 1.1 0.6			Origin time = 23 09.8.	
		S	N 130 10	"	19	Up	iP 23 17 13.1
		S	Z 300 10			Sk	iP 23 18 01.1
		Mx	E 580 12			Gb	eP 23 17 09
		Mx	N 760 12			Um	iP 23 17 51.7
		D = 2350 km = 21°.				Ud	iP 23 17 22.6
		(cont.)				Aegean Sea.	
						Origin time = 23 12.5.	

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1968				1968			
Feb. 19	Ka	iP	23 17 05.0	Feb. 20	(cont.)		
"	19	Up	iP 23 25 58.5		Ki	eP	02 27 53
		Sk	iP 23 26 31.8			i	02 28 32.3
		Ud	iP 23 26 15.3				micr sec
		Aegean Sea.			Mx	E	5.1 13
					Mx	N	6.4 15
					Mx	Z	7.7 13
"	19	Ud	iP 23 36 57.4		Sk	iP	02 27 20.5
		Aegean Sea.				i	02 27 32.6
"	19	Ud	iP 23 39 12.0		Gb	iP	02 26 30.6
		(Aegean Sea).			Um	iP	02 27 12.9
"	19	Ud	iP 23 43 10.5		Ka	iP	02 26 00.4
					Ud	iP	02 26 44.8
"	19	Ud	iP 23 51 01.7		Aegean Sea (h = 15 km).		
					M = 5.5 (Up, Ki).		
"	19	Up	iP 23 58 30.5	"	20	Up	iP 02 30 41.4
		Sk	eP 23 59 21			Ki	iP 02 31 03.0
		Um	eP 23 59 10				micr sec
			i 23 59 23.9			P	Z' 0.2 1.2
		Ka	iP 23 57 56.3			Sk	iP 02 30 35.0
		Ud	iP 23 58 42.5			Gb	iP 02 30 19.1
		Aegean Sea (h = 30 km).				iPcP	02 30 55.8
"	20	Ud	iP 00 23 37.9			Um	iP 02 30 55.4
		Aegean Sea.				Ka	iP 02 30 28.1
"	20	Up	iP 00 28 36.7				i 02 30 39.1
						Ud	iP 02 30 29.2
"	20	Up	iP 00 29 27.6			North Atlantic Ocean	
						(h = 15 km).	
"	20	Up	iP 00 43 53.4	"	20	Ud	iP 02 34 21.4
			i 00 43 56.4			Aegean Sea.	
		Ki	eP 00 45 06	"	20	Um	eP 03 21 31
		Sk	iP 00 44 40.2			Ud	iP 03 21 05.0
		Gb	eP 00 43 48			Aegean Sea.	
		Um	iP 00 44 33.7			Origin time = 03 16.2.	
		Ka	iP 00 43 21.7	"	20	Ud	iP 04 36 20.4
		Ud	iP 00 44 05.5	"	20	Up	iP 04 46 00.5
		Aegean Sea (h = 30 km).					i 04 46 33.8
"	20	Um	eP 00 49 52	"	20	Up	iP 05 16 29.2
"	20	Ud	iP 01 33 20.6			Ki	iP 05 15 33.4
		Aegean Sea (h = 50 km).					i 05 15 40.8
"	20	Up	iP 02 26 35.9			Sk	iP 05 15 59.9
			eS 02 30 29				i 05 16 11.0
			micr sec			Gb	iP 05 16 41.9
		S	E 0.7 5			Um	iP 05 16 00.8
		Mx	E 5.1 12				i 05 16 03.8
		Mx	N 8.7 10				i 05 16 09.9
		Mx	Z 11 10			Ka	iP 05 16 51.3
		D = 2350 km = 21°.					i 05 17 06.2
		(cont.)				Ud	iP 05 16 25.0
						(cont.)	

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1968				1968			
Feb. 20 (cont.)				Feb. 20 (cont.)			
	Ud	i	05 16 32.9	Ki	D = 410 km = 3.7°		
	Kodiak Island (h = 30 km).			Um	iSg	12 42 45.2	
				Probably northwest Russia.			
"	20	Sk	iP 06 21 17.4	Origin time = 12 39 19.			
		Ud	iP 06 20 41.0	Explosion?			
	Aegean Sea (h = 30 km).			"	20	Ki	iPn 13 04 54.8
"	20	Ki	iP 06 34 12.9			iSn	13 05 42.5
						iLg1	13 05 58.3
						D = 440 km = 4.0°	
"	20	Up	iP 09 40 34.3	Possibly northwest Russia.			
			micr sec	Origin time = 13 03 52.			
		Mx	E 1.0 11	Explosion?			
		Mx	N 1.2 12				
		Mx	Z 1.1 9	"	20	Up	iPg 13 36 44.1
	Ki	iP	09 41 47.8			iSg	13 36 58.7
		i	09 42 10.9			i	13 37 06.9
			micr sec			Sk	iSg 13 39 21.3
		Mx	E 2.1 14			Ka	eSg 13 37 49
		Mx	N 1.3 14			Ud	iPg 13 37 09.1
		Mx	Z 1.7 13			iSg	13 37 46.3
	Sk	iP	09 41 18.4			i	13 37 56.2
		i	09 41 28.3	Off Baltic coast of Sweden, near 58.7° N, 17.8° E.			
	Gb	eP	09 40 30	Origin time = 13 36 22.			
	Um	iP	09 41 08.8	Probably underwater explosion.			
		iS	09 45 35				
	Ka	iP	09 39 54.8	"	20	Up	eSn 14 41 07
	Ud	iP	09 40 44.0 C			Ki	e 14 43 35
	Aegean Sea (h = 30 km).					iSg	14 43 52.4
	M = 4.8 (Up, Ki).					Sk	iSg 14 43 09.9
"	20	Up	iP 09 45 50.5			Gb	eSg 14 42 59
			micr sec			Um	iSg 14 41 59.8
		Mx	E 2.2 12			Ka	iSg 14 42 25.9
		Mx	N 2.8 13			Ud	iSn 14 41 52.7
		Mx	Z 3.0 12			iSg	14 42 17.8
	Ki	iP	09 47 03.6	Gulf of Finland.			
			micr sec	Origin time = 14 39 28.			
		Mx	E 2.9 14	Explosion?			
		Mx	N 2.6 13	"	20	Up	iP 14 45 16.6
		Mx	Z 3.9 14			Ud	eP 14 45 26
	Sk	iP	09 46 34.9	"	20	Ud	iP 15 02 38.1
	Gb	iP	09 45 43.7	"	20	Up	iP 16 55 57.3
		i	09 46 00.0				micr sec
	Um	iP	09 46 27.8			Mx	E 1.2 13
		i	09 47 11.3			Mx	N 2.4 13
		iS	09 50 58			Mx	Z 3.1 14
	Ka	iP	09 45 15.3			Ki	iP 16 57 05.3
	Ud	iP	09 46 00.2			(cont.)	
	Aegean Sea (h = 30 km).						
	M = 5.0 (Up, Ki).						
"	20	Ki	iPn 12 40 18.5				
			iSn 12 41 04.3				
			iSg 12 41 19.9				
	(cont.)						

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1968					1968						
Feb. 20 (cont.)					Feb. 21 (cont.)						
	Ki		micr	sec		Ki		micr	sec		
	Mx	E	1.1	17		Mx	N	4.7	20		
	Mx	N	0.4	12		Mx	Z	2.9	14		
	Mx	Z	1.0	14		Um	eP	00 02	56		
	Sk	iP	16 56	38.9 C			iSS	00 16	43		
	Gb	iP	16 55	52.2		Ud	iP	00 03	20.3		
	Um	iP	16 56	28.8			i	00 03	24.9		
		e	17 01	34		Japan (h = 30 km).					
	Ka	eP	16 55	29		M = 5.8 (Up,Ki).					
	Ud	iP	16 56	07.9 C		"	21	Up	iP	00 22	12.2
	Dodecanese Islands							Sk	iP	00 22	59.0
	(h = 50 km). M = 4.8							Ud	iP	00 22	21.5
	(Up,Ki).						Aegean Sea (h = 30 km).				
"	20	Um	iP	17 41	16.9	"	21	Up	eP	00 41	31
		Ud	iP	17 41	47.5	"	21	Um	eP	01 05	58
		Japan (h = 40 km).						Ud	iP	01 05	19.0
"	20	Sk	eP	18 29	10		Greece-Albania.				
"	20	Up	iP	18 58	37.0	"	21	Up	iP	01 56	23.6
"	20	Up	iP	19 14	34.7					micr	sec
"	20	Ka	iP	19 57	07.7			Mx	E	6.5	19
"	20	Um	iP	21 10	40.8			Mx	N	6.8	22
		Ud	eP	21 10	16			Mx	Z	4.0	18
		Aegean Sea (h = 30 km).					Ki	iP	01 55	50.6	
"	20	Ki	iP	21 28	11.4					micr	sec
		Um	iP	21 28	37.9			Mx	E	7.4	20
		Ud	iP	21 29	03.6			Mx	N	10	20
		Aleutian Islands						Mx	Z	5.0	17
		(h = 60 km).					Sk	iP	01 56	21.8	
"	20	Ki	iPP	21 57	34.6			Gb	iP	01 56	44.0
		Argentina (h = 160 km).					Um	iP	01 56	03.7	
"	20	Up	eP	22 44	39				iS	02 05	13
"	20	Um	eP	23 39	01				iSS	02 09	53
		Ud	iP	23 39	30.1			Ud	iP	01 56	31.9
		Sea of Japan					Japan (h = 5 km). M = 6.2				
		(h = 350 km).					(Up,Ki).				
"	21	Up	iP	00 03	22.3	"	21	Ud	iP	05 43	10.3
				micr	sec			Aegean Sea.			
		Mx	E	2.0	15	"	21	Up	iP	06 29	08.0
		Mx	N	3.2	16			Um	iP	06 28	41.0
		Mx	Z	2.0	13				ipP	06 29	05.3
	Ki		---					Ud	iP	06 29	07.9 C
				micr	sec				ipP	06 29	33.2
	Mx	E	2.6	20			Aleutian Islands.				
	(cont.)						h = 100 km (Um,Ud).				
"	21	Up	iP	06 31	49.2	"	21	Up	iP	06 31	49.2
				micr	sec				ipP	06 32	16.1
		(cont.)					(cont.)				

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Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Feb. 21	(cont.)			Feb. 21	Up	iP	13 57 59.2
	Up		micr sec				
	P	Z'	0.1 0.6	" 21	Up	iP	14 33 29.7
	Ki	iP	06 30 56.5 D		Um	iP	14 33 14.1
		ipP	06 31 21.5		Ud	iP	14 33 40.0 C
		i	06 31 27.1		Philippine Islands.		
	Sk	iP	06 31 28.4	" 21	Up	iP	15 41 48.5 C
	Gb	iP	06 32 05.5				micr sec
		ipP	06 32 30.9			P	Z' 0.2 0.9
	Um	iP	06 31 22.8 D		Ki	iP	15 41 14.6 C
		ipP	06 31 48.2				micr sec
	Ud	iP	06 31 49.8 D			P	Z' 0.4 1.5
		ipP	06 32 13.5		Sk	iP	15 41 22.5 C
	Aleutian Islands. h = 100 km				Gb	iP	15 41 48.6 C
	(Up, Ki, Gb, Um, Ud).				Um	iP	15 41 33.9 C
" 21	Um	eP	07 24 11			i	15 41 42.5
	Ud	iP	07 23 43.1		Ka	iP	15 42 01.9
	Aegean Sea.				Nevada.		
" 21	Ki	iP	09 11 33.5		Origin time = 15 30 00.		
	Ud	iP	09 11 58.7		m = 6.3 (Up, Ki).		
	Banda Sea (h = 20 km).				Underground nuclear explosion.		
" 21	Ud	iP	12 35 13.5	" 21	Sk	iP	16 18 02.7
" 21	Sk	iP	12 41 24.2			i	16 18 09.3
	Um	eP	12 41 18		Um	iP	16 18 23.6
	Ud	iP	12 40 52.4			i	16 18 31.2
	Aegean Sea.				Ud	e	16 19 55
" 21	Ki	iP	12 47 36.8 D	" 21	Up	iP	17 19 16.3
		i	12 47 57.0			iX	17 20 22.0
	Um	iP	12 47 42.2		Sk	eP	17 20 00
		iPP	12 51 35		Um	eP	17 19 55
	Ud	iP	12 48 02.2			iX	17 21 07.7
	Mindanao (h = 40 km).				Ud	iP	17 19 23.4
						iX	17 20 29.5
" 21	Ki	iP	12 59 56.4		Greece-Albania.		
		iPP	13 00 05.3		Phases marked X could be		
		iS	13 01 26.3		P of another shock in the		
		iSS	13 01 39.4		same area.		
	Sk	iP	13 00 15.3	" 21	Up	iP	19 19 36.7
		iS	13 01 54.7		Ki	ePcP	19 19 29
	Um	iP	13 00 36.3		Um	eP	19 19 10
	Ud	iP	13 01 01.9			iPcP	19 19 45.2
		i	13 01 13.2		Ud	eP	19 19 37
	East of Jan Mayen,					i	19 19 39.1
	71.4°N, 2.0°W.				Aleutian Islands		
	Origin time = 12 57 58.				(h = 50 km).		
" 21	Up	i(P)	13 16 50.1	" 21	Up	iP	19 41 01.6
	Um	iP	13 16 42.3		Ki	iPcP	19 40 53.2
" 21	Ud	iP	13 48 45.3		Um	iP	19 40 35.4
						iPcP	19 41 08.3
					(cont.)		

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1968						1968						
Feb. 21	(cont.)					Feb. 21	(cont.)					
	Ud	iP	19 41	01.6			Gb	iP	21 19	10.8		
	Aleutian Islands						Um	iP	21 18	27.8 C		
	(h = 60 km).							iPcP	21 19	02.7		
"	21	Up	iP	19 43	27.6			eS	21 26	58		
			i	19 43	45.1		Ka	iP	21 19	19.1		
		Ki	iPcP	19 43	19.6		Ud	iP	21 18	54.9		
		Sk	iP	19 43	07.8			i	21 18	56.7		
		Gb	iP	19 43	44.2		Aleutian Islands					
		Um	iP	19 43	01.0		(h = 50 km). M = 5.3					
			iPcP	19 43	35.7		(Up, Ki).					
		Ud	eP	19 43	27	"	21	Up	eP	21 26	05	
			i	19 43	29.4			Ki	iPcP	21 26	03.0	
	Aleutian Islands							Sk	iP	21 25	51.6	
	(h = 50 km).							Um	eP	21 25	39	
	In this and the two pre-							iPcP	21 26	11.7		
	ceding shocks, the PcP							i	21 26	19.3		
	is more pronounced						Ud	iP	21 26	03.1		
	(shorter period and							i	21 26	12.8		
	larger amplitude) than						Aleutian Islands					
	P at Um and Ki.						(h = 50 km).					
"	21	Up	iPKP	19 46	48.0 D	"	21	Up	iP	21 29	39.0	
			i	19 46	52.5				i	21 30	00.9	
								Ki	iPcP	21 29	30.5	
								Um	iP	21 29	11.2	
			PKP	Z'	0.3 0.7				iPcP	21 29	46.8	
		Ki	iPKP	19 46	27.0				i	21 30	07.7	
		Sk	iPKP	19 46	41.5 D		Ud	iP	21 29	38.8		
		Gb	iPKP	19 46	56.0 D			i	21 29	40.3		
			i	19 47	05.4			i	21 30	00.6		
		Um	iPKP	19 46	36.5 D		Aleutian Islands					
		Ka	iPKP	19 46	57.8		(h = 50 km). The remark					
			i	19 47	07.8		to Feb. 21, 19 43, applies					
		Ud	i(PKP)	19 46	45.3		also to this and the two					
			iPKP	19 46	49.8		preceding shocks.					
			i	19 46	54.7		"	21	Ud	iP	21 39	12.4
	Kermadec Islands						Aleutian Islands					
	(h = 230 km).						(h = 50 km).					
"	21	Up	iP	21 18	54.8							
			iPcP	21 19	19.9		"	21	Up	iP	23 41	12.2
									Sk	iP	23 41	29.6 C
									Gb	iP	23 41	37.1
			P	Z'	0.1 0.8				Um	iP	23 41	01.4
			Mx	E	0.9 19				Ka	iP	23 41	24.3
			Mx	N	1.4 18				Ud	iP	23 41	28.2
			Mx	Z	1.7 21			China (h = 30 km).				
		Ki	iP	21 18	01.8		"	22	Ud	iP	01 04	59.8
			iPcP	21 18	46.8			Aegean Sea.				
			Mx	E	1.5 18		"	22	Up	iP	02 21	24.2
			Mx	N	1.7 18			(cont.)				
			Mx	Z	1.8 17							
		Sk	iP	21 18	34.3							
			iPcP	21 19	06.2							
	(cont.)											

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1968					1968				
Feb. 22	(cont.)				Feb. 22	(cont.)			
	Up		micr	sec		Um	iPKP	09 32	03.6
	Mx	E	1.0	14			iSKP	09 34	41.0
	Mx	N	0.7	14		Ud	iPKP	09 32	07.4
	Mx	Z	0.8	10		Tonga-Kermadec Islands (h = 570 km).			
	Ki		----						
			micr	sec		"	22	Up	iP
	Mx	E	1.1	13				10 30	39.2
	Mx	N	0.5	10					micr sec
	Sk	iP	02 22	06.6			Mx	E	2.7 18
	Ud	iP	02 21	31.4			Mx	N	2.5 18
	Aegean Sea (h = 25 km).						Mx	Z	2.3 18
	M = 4.6 (Up,Ki).						Ki	eP	10 30 07
									micr sec
"	22	Up	iPKP	02 21 34.8			Mx	E	2.7 19
			iPKP2	02 22 06.1			Mx	N	3.6 19
				micr sec			Mx	Z	2.3 19
		Mx	E	1.0 21		Um	iP	10 30	18.5
		Mx	N	1.8 22				iS	10 39 25
		Mx	Z	1.9 23		Ud	iP	10 30	47.7
	Ki	iPKP	02 21	32.9		Japan (h = 10 km).			
				micr sec		M = 5.8 (Up,Ki).			
		PKP	Z'	0.6 1.8		"	22	Up	iP
		Mx	E	1.1 20				12 27	01.6
		Mx	N	1.0 20			Sk	iP	12 27 43.7
		Mx	Z	1.6 20			Um	iP	12 27 45.1
	Gb	iPKP2	02 22	19.1			Ud	iP	12 27 07.5
	Um	ePKP	02 21	29		Albania-Yugoslavia.			
		i	02 21	40.1		"	22	Up	iP
		iPKP2	02 21	52.2				13 04	32.9
	Ud	iPKP	02 21	37.6			Um	iP	13 04 03.5
		iPKP2	02 22	12.0				iPcP	13 04 39.3
	New Zealand (h = 30 km).						Ud	iP	13 04 32.7
	M = 5.9 (Up,Ki).					Aleutian Islands (h = 20 km).			
"	22	Up	iP	05 02 29.2		"	22	Ki	eSg
				micr sec				13 07	13
		Mx	E	0.6 12			Sk	eSg	13 06 39
		Mx	N	0.7 12			Um	iSg	13 05 20.1
		Mx	Z	0.9 12			Ud	eSg	13 05 50
	Ki	iP	05 03	43.2		Esthonia. Explosion?			
	Sk	iP	05 03	13.4		"	22	Up	iP
	Gb	iP	05 02	22.9				14 19	52.8
	Um	iP	05 03	06.7				i	14 19 55.8
		i	05 03	24.7		"	22	Ud	iP
	Ka	iP	05 01	55.4				14 54	42.1
	Ud	eP	05 02	39		Aleutian Islands (h = 70 km).			
		i	05 02	43.9		"	22	Up	iP
	Aegean Sea (h = 30 km).							16 42	50.3
"	22	Ud	iP	07 29 10.2			Ud	iP	16 42 32.3
	Aegean Sea.					"	22	Up	iP
"	22	Gb	iPKP	09 32 15.4				17 00	57.6
	(cont.)						Ki	ePcP	17 00 48
						(cont.)			

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1968				1968			
Feb.	22	(cont.)		Feb.	23	(cont.)	
		Um	iP 17 00 30.6			Ud	iP 00 21 35.7
			iPcP 17 01 04.0				i 00 21 37.5
		Ud	iP 17 00 55.8			Aleutian Islands	
			i 17 00 57.3			(h = 70 km). Cf remarks	
		Aleutian Islands				to Feb. 22, 17 00.	
		(h = 50 km).					
		Cf remark to Feb. 21,			"	23	Ud eP 01 51 09
		19 43. Another charac-					Aleutian Islands
		teristic feature of					(h = 50 km).
		these events is that Ud					
		exhibits a multiple P.				"	23 Ud iP 02 46 56.6
"	22	Ud	iP 17 16 14.7	"	23	Ki	iP 05 53 29.4
"	22	Um	eP 17 25 26			Um	iP 05 53 25.9
			iPP 17 26 31.0			Ud	iP 05 53 40.1
		Ud	eP 17 25 35			Sumatra (h = 40 km).	
			iPP 17 26 50.3	"	23	Up	iP 08 23 53.2 C
		Iran.				Ki	eP 08 22 59
"	22	Up	iP 17 57 55.1				iPcP 08 23 43.2
		Ki	iP 17 57 02.3			Um	iP 08 23 24.1
			iPcP 17 57 47.1				iPcP 08 23 59.5
		Sk	eP 17 57 35			Ud	iP 08 23 52.6 C
		Gb	iP 17 58 11.5			Aleutian Islands	
		Um	iP 17 57 27.9			(h = 60 km).	
			iPcP 17 58 03.2	"	23	Up	iP 09 43 24.7
		Ud	iP 17 57 56.1			Ki	iPcP 09 43 15.5
		Aleutian Islands				Um	iPcP 09 43 31.9
		(h = 50 km).				Ud	iP 09 43 24.3
"	22	Up	iP 18 24 56.4			Aleutian Islands (h = 50 km).	
		Ki	iPcP 18 24 47.2	"	23	Ud	iP 10 27 11.4
		Um	iPcP 18 25 03.6			Japan.	
		Ud	iP 18 24 57.1	"	23	Up	iP 11 12 58.3
		Aleutian Islands					micr sec
		(h = 70 km).					P Z' 0.1 0.6
"	22	Up	iP 18 25 18.4			Ki	iP 11 12 30.8 D
		Ki	iPcP 18 25 09.9				micr sec
		Um	iPcP 18 25 25.7				P Z' 0.1 0.9
		Ud	iP 18 25 19.1			Sk	iP 11 12 55.3
		Aleutian Islands.					isP 11 16 31.1
		Origin time = 18 14 22.				Um	iP 11 12 42.4 D
"	22	Up	iP 23 55 08.7			Ud	iP 11 13 04.5 D
							iPP 11 16 56.0
"	23	Up	iP 00 21 35.3			Mariana Islands	
			iPcP 00 22 00.6			(h = 620 km). m = 5.8	
		Ki	iP 00 20 42.5			(Up, Ki).	
			iPcP 00 21 27.8	"	23	Ki	iPn 11 31 05.2
		Sk	eP 00 21 15				eSn 11 32 04
		Um	eP 00 21 08				iLg1 11 32 24.3
			iPcP 00 21 43.5				D = 560 km = 5.0
		(cont.)				(cont.)	

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1968				1968	
Feb. 23	(cont.)	Sk eSg	11 34 52	Feb. 24	(cont.)
		Um eSg	11 33 14		Ud i(PKP) 00 07 44.4
		Northwest Russia, near 67.2° N, 33.3° E.			Tonga-Kermadec Islands.
		Origin time = 11 29 47.		" 24	Up iPKP 01 31 01.0
		Explosion?			i 01 31 09.2
" 23	Up iP		12 04 58.0		i 01 31 26.1
					micr sec
" 23	Up i(Pg)		14 07 48.5		PKP Z' 0.1 1.0
				Ki ePKP	01 30 40
				Sk iPKP	01 30 55.1
				i	01 31 10.2
				Gb iPKP	01 31 22.8
				Um e(PKP)	01 30 49
				iPKP	01 30 50.6
				i	01 31 03.4
				Ka iPKP	01 31 22.9
				Ud iPKP	01 31 03.7 C
				i	01 31 11.3
				South of Kermadec Islands (h = 20 km).	
				" 24	Up iP 03 57 43.9
				Ki eP	03 56 51
				i	03 57 02.0
" 23	Ki iPn		16 19 55.2	Um iP	03 57 18.0
				Ud iP	03 57 42.1
				Unimak Island (h = 20 km).	
				" 24	Um iP 04 55 11.0 C
				" 24	Ki iP 07 25 55.6
				Alaska (h = 5 km).	
" 23	Up iP		18 20 22.1	" 24	Ki iP 08 22 52.6
					i 08 23 15.6
" 23	Up iP		19 47 01.9	" 24	Ki iSg 10 04 26.4
				Sk iSg	10 04 30.9
				Um eSn	10 04 36
				iSg	10 04 53.9
				Ud e(Sg)	10 06 20
				Nordlands Fylke, Norway, 66.4° N, 14.8° E.	
				Origin time = 10 02 59.	
" 23	Up iP		20 40 27.8 D	" 24	Up iP 12 59 19.3
				i	12 59 21.9
				Sk iP	13 00 02.2
				Um iP	13 00 02.3
				Ka iP	12 58 38.4 C
				Ud iP	12 59 24.4
				Albania-Yugoslavia.	
" 24	Um i(SKP)		00 10 25.4	" 24	Up iP 13 05 28.3
	(cont.)			(cont.)	

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1968				1968			
Feb. 24	(cont.)			Feb. 24	Up	iP	15 22 44.7
	Ki	iP	13 05 29.9		Um	iP	15 22 24.0
	Um	iP	13 05 25.7		Ud	iP	15 22 52.1
	Ud	iP	13 05 40.0		Japan.		
	Nicobar Islands (h = 60 km).				Origin time = 15 11 07.		
" 24	Up	iP	13 27 19.1	" 24	Up	iP	15 23 21.6
		iPP	13 27 35.1		Um	iP	15 23 00.1
		iS	13 30 00.0		Japan.		
	Ki	iP	13 28 48.3		Origin time = 15 11 44.		
	Sk	e(P)	13 28 11	" 24	Um	iP	15 24 42.2 D
		iP	13 28 15.1		Japan (h = 30 km).		
		i(PcP)	13 32 13.0	" 24	Up	iP	15 36 10.6
		iLg1	13 34 05.3		Ki	iP	15 35 34.4
	Gb	iP	13 27 21.8		Sk	iP	15 36 09.0
	Um	eP	13 27 59		Gb	iP	15 36 29.7
		i	13 28 05.4		Um	iP	15 35 49.4
		iPP	13 28 32.8		Ud	iP	15 36 17.5
		iS	13 31 21.7		Japan (h = 5 km).		
		i	13 31 57.0	" 24	Up	iP	15 38 54.5
	Ka	iP	13 26 47.4	" 24	Up	i(Rg)	15 44 51.0
	Ud	iP	13 27 36.3		Ud	i(P)	15 44 23.7
	Rumania (h = 130 km).					i(Rg)	15 44 26.8
" 24	Ud	eP	14 16 32	" 24	Up	iP	15 45 59.6
" 24	Ki ^R	ePn	14 33 53				micr sec
		iSn	14 34 36.7		P	Z'	0.1 1.0
		iSg	14 34 51.8		Mx	E	0.6 16
		D = 400 km = 3.6°.			Mx	N	0.5 18
	Sk ^A	eSg	14 37 21		Ki	iP	15 45 22.8
	Um ^E	iSn	14 35 19.7				micr sec
		iSg	14 35 49.9		Mx	E	0.6 15
	Russia-Finland border region, 67.5°N, 29.8°E. Origin time = 14 32 55. Explosion?				Mx	N	0.6 14
					Mx	Z	0.7 13
" 24	Ki ^R	iPn	14 59 53.9		Sk	iP	15 45 55.0
		iSn	15 00 41.3		Um	iP	15 45 38.1
		iLg1	15 00 55.4		Ud	iP	15 46 06.5
		D = 430 km = 3.9°.				iPcP	15 46 24.1
	Sk ^A	e(Sg)	15 03 50		Japan (h = 30 km). M = 5.1 (Up, Ki).		
	Um ^E	iSg	15 02 23.2	" 24	Up	iP	16 13 12.7
	Northwest Russia, 68.8°N, 30.8°E. Origin time = 14 58 52. Explosion?						micr sec
					P	Z'	0.1 1.2
" 24	Up	iP	15 22 28.1		Mx	E	0.4 15
	Um	eP	15 22 04		Mx	N	0.8 16
		i	15 22 07.2		Ki	eP	16 12 39
	Japan (h = 30 km).						micr sec
					Mx	E	0.8 16
					Mx	N	0.8 18
					Mx	Z	0.6 14
					(cont.)		

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1968				1968			
Feb.	24	(cont.)		Feb.	25	(cont.)	
		Sk	iP 16 13 09.7			Up	iPcP 10 36 43.0
		Gb	iP 16 13 35.3				iPP 10 38 32.4
		Um	iP 16 12 49.4				micr sec
			i 16 12 52.5			Ki	P Z' 0.1 0.6
		Ud	iP 16 13 20.6				iP 10 35 29.1 D
		Japan (h = 30 km).					micr sec
		M = 5.2 (Up,Ki).					P Z' 0.2 1.0
"	24	Um	iP 16 19 37.7			Sk	iP 10 36 05.5
		Japan (h = 30 km).				Gb	iP 10 36 35.5
"	24	Ud	i(Sg) 16 37 13.2			Um	iP 10 35 48.8 D
"	24	Up	iP 17 01 27.3			Ka	iP 10 36 35.7
		Ki	---			Ud	iP 10 36 20.2
			micr sec				iPP 10 38 43.3
		Mx	E 0.8 18			Japan (h = 300 km).	
		Mx	N 0.6 14			m = 5.7 (Up,Ki).	
		Sk	eP 17 01 26	"	25	Ki	eP 12 56 01
		Um	iP 17 01 04.0			Um	iP 12 55 56.4
			i 17 01 06.4				ipP 12 56 07.9
		Ud	iP 17 01 33.2			Ud	iP 12 56 10.2
		Japan (h = 5 km).					ipP 12 56 21.6
						Sumatra. h = 40 km (Um,Ud).	
"	24	Up	iP 17 03 12.6	"	25	Up	iP 15 46 03.7
		Sk	iP 17 03 09.2				i 15 46 06.1
		Um	iP 17 02 51.9				micr sec
		Ud	iP 17 03 20.4				P Z' 0.1 0.8
		Japan (h = 30 km).				Ki	iP 15 47 16.2
"	24	Ki	iPn 17 36 49.3			Gb	iP 15 45 35.2
			iP ^X 17 36 58.0			Um	eP 15 46 42
			iSn 17 37 36.1			Ka	iP 15 45 26.2
			iLg1 17 37 50.6			Ud	iP 15 45 58.4
			D = 430 km = 3.9°.			Algeria (h = 20 km).	
		Um	i(Sn) 17 38 18.6	"	25	Up	iP 18 19 17.9 D
			i(Sg) 17 39 02.8				iPcP 18 19 45.1
		Probably northwest Russia.					micr sec
		Origin time = 17 35 47.					P Z' 0.1 0.6
		Explosion?				Ki	iP 18 18 25.4
"	24	Up	iP 19 49 00.2			Sk	iP 18 18 57.6
			i 19 49 09.4				iPcP 18 19 29.7
"	25	Up	iP 03 40 40.8			Gb	iP 18 19 33.0
		Ud	iP 03 40 46.1			Um	iP 18 18 50.6
"	25	Ud	iP 05 44 30.6				iPcP 18 19 26.0
"	25	Ud	eS 08 08 46			Ka	iP 18 19 41.8
		Austria.				Ud	iP 18 19 17.7
"	25	Up	iP 10 36 13.6 D			Aleutian Islands	
		(cont.)				(h = 50 km).	
				"	25	Up	iP 18 42 45.6
						Ud	iP 18 42 46.1
						Aleutian Islands	
						(h = 50 km).	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
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1968				1968			
Feb. 25	Ki	i	18 45 49.2	Feb. 26	(cont.)		
		i(Sg)	18 46 01.0		Up	iS	11 11 53
	Um	i	18 47 32.5				micr sec
		i(Sg)	18 47 35.9			P E	6.1 15
"	25	Up	iP	20 11 51.3		P N	2.6 13
			micr sec			P Z	13 12
		P	Z' 0.3 1.2			P Z'	2.2 1.2
	Ki	iP	20 11 11.0 C			S E	17 15
			micr sec			S N	14 12
		P	Z' 0.2 1.3			Mx E	96 22
	Sk	iP	20 11 44.6 C			Mx N	210 22
	Gb	iP	20 12 11.8 C			Mx Z	100 16
	Um	iP	20 11 28.9 C			D = 8550 km = 77°	
		i	20 11 45.2		Ki	iP	11 01 46.2 C
	Ka	iP	20 12 10.6 C			i	11 01 51.2
		iPP	20 15 00.7			i	11 03 05.6
	Ud	iP	20 11 57.9 C			iPa	11 06 24
		i	20 12 18.9			eS	11 11 12
			Japan (h = 70 km).				micr sec
			m = 6.0 (Up,Ki).			P E	5.2 14
						P N	1.0 13
"	25	Sk	eP	23 10 35		P Z	12 12
			i	23 10 45.9		P Z'	0.8 1.3
						S E	17 12
"	26	Ki	iPKP	06 17 16.3		S N	18 11
			New Zealand (h = 30 km).			Mx E	77 16
						Mx N	73 16
"	26	Ud	iPg	08 10 06.6		Mx Z	110 15
			iSg	08 10 07.7		D = 8100 km = 73°	
					Sk	iP	11 02 14.8 C
"	26	Up	iP	09 39 35.5		i	11 02 18.8
			micr sec		Gb	iP	11 02 28.6
		P	Z' 0.1 0.9			i	11 02 33.5
	Ki	iP	09 38 41.5			i	11 03 38.2
			micr sec			iPP	11 05 40.2
		P	Z' 0.1 1.1		Um	iP	11 01 54.3 C
	Gb	iP	09 39 53.6			i	11 01 59.1
	Um	iP	09 39 07.5 C			iPP	11 04 40
	Ka	iP	09 39 59.1			iS	11 11 27
	Ud	iP	09 39 37.1 C		Ka	iP	11 02 24.3
			Aleutian Islands			i	11 02 37.5
			(h = 60 km).		Ud	iP	11 02 18.7 C
			m = 5.9 (Up,Ki).			i	11 02 23.6
						iPP	11 05 23.3
"	26	Ki	iP	10 49 08.4		Formosa (h = 25 km).	
		Ud	iP	10 50 03.1		m = 6.9, M = 7.2 (Up,Ki).	
			Aleutian Islands			Multiple P: the first	
			(h = 30 km).			smaller phase is followed	
"	26	Up	iP	11 02 09.7 C		after 4.7 sec in average	
			i	11 02 14.0		by a much larger phase.	
			iPP	11 05 16.7		The N components at Up and	
			iPa	11 07 01		Ki exhibit a corresponding	
			(cont.)			multiplicity for S.	
"	26	Ki	iP	13 49 00.6			
			(cont.)				

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1968				1968			
Feb. 26	(cont.)			Feb. 27	(cont.)		
	Sk	iP	13 49 35.6		Ki	Mx N	1.8 21
	Um	iP	13 49 19.8 C			Mx Z	3.5 21
	Ud	iP	13 49 50.4		Sk	iP	11 07 53.4
	Japan (h = 70 km).				Um	iP	11 07 42.5
"	27	Up	iP 03 05 03.5			i	11 07 44.4
		Ki	eP 03 04 23		Ud	iP	11 08 05.6
		Um	iP 03 04 39.9		Caroline Islands		
			ipP 03 04 50.0		(h = 30 km).		
		Ud	iP 03 05 09.8		M = 5.6 (Up,Ki).		
	Japan. h = 35 km (Um).			"	27	Ud	iPg 12 02 20.3
"	27	Ud	iP 03 27 30.6			iSg	12 02 37.5
	Aegean Sea.			"	27	Up	eP 13 42 28
"	27	Up	eP 05 32 18				micr sec
			ipP 05 32 27.8			Mx N	1.1 11
			micr sec			Mx Z	1.0 11
		Mx	E 1.9 20		Sk	iP	13 43 10.5
		Mx	N 3.2 22		Um	iP	13 43 02.5
		Mx	Z 2.5 25			i	13 43 11.5
	Ki	iP	05 31 57.1		Ud	iP	13 42 35.0
			ipP 05 32 08.3		Aegean Sea (h = 30 km).		
			micr sec	"	27	Um	eP 14 08 40
		P	Z' 0.1 1.1	"	27	Up	iP 15 16 04.3
		pP	Z' 0.2 1.3			i	15 16 08.8
		Mx	E 2.7 22		Gb	i(P)	15 17 09.2
		Mx	N 2.7 20		Ud	i(P)	15 15 51.8
		Mx	Z 2.8 21			i	15 15 58.7
	Um	iP	05 32 07.1 D	"	28	Up	iPKP 03 06 10.9
			ipP 05 32 18.2			ipPKP	03 06 34.4
	Ud	iP	05 32 28.6		Sk	iPKP	03 06 03.2
	Caroline Islands.				Um	iPKP	03 06 00.3
	h = 40 km (Up,Ki,Um).				Ud	iPKP	03 06 12.4
	M = 5.8 (Up,Ki).				Kermadec Islands.		
"	27	Um	iP 06 38 11.9		h = 80 km (Up).		
		Ud	iP 06 37 41.0	"	28	Um	iP 03 40 51.5
		i	06 37 49.0		Mariana Islands		
	Aegean Sea.				(h = 70 km).		
"	27	Ud	iP 06 50 43.2	"	28	Ud	iP 04 41 22.2
	Vancouver Island				Greece.		
	(h = 30 km).			"	28	Up	iP 10 03 00.5
"	27	Up	iP 11 07 57.9			i	10 03 05.7
			micr sec		Sk	iP	10 03 33.9
		Mx	E 1.2 21		Um	iP	10 03 08.9
		Mx	N 1.6 20		Ud	iP	10 03 21.0 C
		Mx	Z 2.0 21		West Pakistan (h = 25 km).		
	Ki	iP	11 07 33.1	"	28	Up	iP 12 00 34.0
			micr sec				
		P	Z' 0.2 1.5				
		Mx	E 1.1 20				
	(cont.)						

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1968				1968			
Feb. 28	Up			Feb. 28	(cont.)		
		iP	12 19 07.2		Um	iP	13 12 34.4 C
		iX	12 19 37.6		Ud	iP	13 12 58.8 C
		ipP	12 20 26.4		Volcano Islands.		
		iS	12 28 14				
		isS	12 30 31				
			micr sec				
		P	Z' 0.2 0.5	"	29	Up	iP 04 09 01.9 C
		S	E 2.3 4				ipP 04 09 11.8
		S	N 1.7 4			Ki	eP 04 08 07
		Mx	E 2.4 18			Um	iP 04 08 34.5
		Mx	N 3.3 18				ipP 04 08 44.0
		Mx	Z 2.3 18			Ud	iP 04 09 03.9
	Ki	iP	12 18 32.7			Aleutian Islands.	
		ipP	12 19 49.5			h = 35 km (Up,Um).	
		iPP	12 21 09.7	"	29	Up	eP 05 23 24
		iS	12 27 10			Sk	eP 05 24 01
		iScS	12 27 55				i 05 24 21.0
		isS	12 29 28			Um	iP 05 24 05.9
		iSS	12 31 40				i 05 24 24.2
			micr sec			Ka	iP 05 22 47.1
		P	Z' 0.2 1.0			Ud	iP 05 23 28.3 C
		pP	Z' 0.4 1.0			Greece (h = 5 km).	
		S	E 8.0 6	"	29	Um	iPKP 09 28 03.1
		S	N 4.2 8			Fiji Islands (h = 540 km).	
		Mx	E 1.7 14	"	29	Ud	iPKP 10 39 57.2
		Mx	N 2.4 19				i 10 40 15.0
		Mx	Z 3.6 17			Solomon Islands	
	Sk	iP	12 19 04.0			(h = 80 km).	
		ipP	12 20 22.6	"	29	Up	iP 11 51 28.3
		iPP	12 21 53.1			Sk	iP 11 52 09.5
	Gb	iP	12 19 27.2			Um	eP 11 52 11
		iX	12 19 56.2			Ud	iP 11 51 33.9
		ipP	12 20 46.0			Aegean Sea.	
	Um	iP	12 18 47.4	"	29	Up	iP 12 52 20.8 C
		i	12 19 24.9				iPP 12 52 45.1
		i	12 19 48.4			Sk	iP 12 53 02.3
		ipP	12 20 05.4			Gb	eP 12 52 12
		iS	12 27 35.3			Um	iP 12 52 56.0
		isS	12 29 54			Ud	eP 12 52 26
		iSS	12 32 20				i 12 52 31.6
		isSS	12 34 32			Aegean Sea (h = 20 km).	
	Ka	iP	12 19 25.3	"	29	Ud	i(Sg) 14 08 13.2
		iPP	12 22 26.3	"	29	Up	i(P) 14 41 03.0
	Ud	iP	12 19 14.9			Um	i(P) 14 40 34.8
		ipP	12 20 34.1			Caribbean Sea.	
		iS	12 28 30.7	"	29	Ud	iP 14 53 18.7
		South of Japan.		"	29	Ud	iP 15 06 31.7 C
		h = 340 km (Up, Ki, Sk, Gb, Um, Ud).					
		m = 6.3 (Up, Ki).					
"	28	Um	iP 12 56 25.3				
"	28	Up	iP (cont.) 13 12 51.7				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
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1968					1968			
Feb. 29	Up	iP	15 56 30.9		Feb. 29	(cont.)		
		ipP	15 57 06.1			Ka	iPKP	23 55 04.0
			micr sec				iSKP	23 58 20.0
		pP	Z' 0.2 1.5			Ud	iPKP	23 54 58.5 C
	Ki	ipP	15 56 15.6				iSKP	23 58 10.8
			micr sec			New Hebrides Islands		
		pP	Z' 0.7 2.0			(h = 180 km).		
	Gb	iP	15 56 51.4					
		ipP	15 57 29.5					
	Um	iP	15 56 02.5					
		ipP	15 56 40.1					
	Ka	epP	15 57 32					
	Kamchatka, h = 150 km							
	(Up, Gb, Um).							
	pP considerably bigger							
	than P at most of our							
	stations.							
"	29	Up	eP 16 48 55					
		Um	iP 16 48 29.0					
		Ud	iP 16 49 00.8					
	Kurile Islands.							
"	29	Up	iP 17 20 18.3					
		Ki	iP 17 19 44.8					
		Um	iP 17 20 04.1					
		Ud	iP 17 20 10.6 C					
	Nevada.							
	Origin time = 17 08 30.							
	Underground explosion?							
"	29	Ud	iP 19 16 26.8					
"	29	Up	iP 20 13 48.3					
"	29	Up	iP 20 50 12.6					
		Um	iP 20 49 55.9					
		Ud	eP 20 50 08					
"	29	Up	iP 21 32 49.1					
"	29	Up	iPKP 23 54 56.1					
			iSKP 23 58 05.8					
	Ki	iPKP	23 54 42.4 C					
			micr sec					
		PKP	Z' 0.1 0.9					
	Sk	iPKP	23 54 54.5					
	Gb	iPKP	23 55 03.9					
	Um	iPKP	23 54 49.0					
	(cont.)							

Markus Båth
August 15, 1968

P.W.J.

9 SEP 1968

Seismological Institute
Uppsala

SEISMOLOGICAL BULLETIN
UPPSALA, KIRUNA, SKALSTUGAN, GÖTEBORG,
UMEÅ, KARLSKRONA and UDDEHOLM

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m

MARCH 1 - 31, 1968
.....

1968	Mar.	1	Ki ^R	iSn	10 06 21.1	1968	Mar.	2	Ud	iP	05 21 47.3
				iSg	10 06 44.5				Um	iP	06 41 57.7
			Sk ^A	eSg	10 09 10		"	2		i	06 42 06.2
			Um ^E	iSn	10 06 59.4				Ascension Island (h = 30 km).		
				iSg	10 07 29.5				Ud	iP	08 54 48.2
			Ud ^P	iSg	10 10 09.0				Up	ePKP	11 32 57
			Northwest Russia, 67.1°N, 31.2°E. Origin time = 10 04 25. Explosion?						i		11 33 05.4
"	1		Um	i(Sg)	16 29 49.3				Um	i(PKP)	11 32 59.6
"	1		Um	iP	16 47 05.8				iPKP		11 33 05.7
			Ud	iP	16 46 55.7				Ud	ePKP	11 32 56
			Nicaragua (h = 190 km).						i		11 33 15.1
"	1		Ud	iP	22 17 01.5				South Sandwich Islands (h = 30 km).		
				ipP	22 17 08.4		"	2	Up	iP	16 27 42.3 C
			North Atlantic Ocean. h = 30 km (Ud).								micr sec
"	1		Um	e	22 28 39				P	Z'	0.1 0.5
				i(Sg)	22 29 18.9				Mx	E	1.0 18
			Ud	i(Sg)	22 29 47.9				Mx	N	3.6 18
"	1		Um	iP	23 11 13.3			Ki	iP		16 27 27.2
			Ud	iP	23 10 44.2						micr sec
				ipP	23 10 50.8				Mx	N	4.1 18
			North Atlantic Ocean. h = 25 km (Ud).					Sk	iP		16 27 54.4
"	2		Up	iP	03 25 42.2			Gb	iP		16 28 07.8
			Ud	iP	03 25 38.4			Um	iP		16 27 31.5
			Vancouver Island (h = 30 km).					Ka	eP		16 27 54
								Ud	iP		16 27 54.7 C
								China (h = 25 km). M = 5.7 (Up,Ki).			
"	2		Um	iP	19 41 03.6		"	2	Um	iP	19 41 03.6
			Ud	iP	19 41 25.0				Ud	iP	19 41 25.0

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1968				1968					
Mar.	2	Ud	iP	20 36 32.7	Mar.	3	Up	iP	09 39 17.8
"	2	Up	iP	22 14 20.9			i	09 40 18.2	
			iS	22 24 15			Ki	iP	09 39 26.6
				micr sec			Sk	iP	09 39 44.7
			P	Z' 0.1 1.0			Um	iP	09 39 16.7
			Mx	E 1.8 16			iPP	09 40 58.6	
			Mx	N 1.7 17			Ka	iP	09 39 23.6
			Mx	Z 2.0 16			Ud	iP	09 39 34.3 C
				D = 8650 km = 78°			iPP	09 41 19.6	
							West Pakistan (h = 30 km).		
		Ki	iP	22 14 42.1	"	3	Up	iPKP	12 21 52.8
			i	22 14 44.2			iSKP	12 24 44.0	
			ipP	22 14 49.9			Gb	iPKP	12 22 04.1
				micr sec			Um	iSKP	12 24 33.1
			P	Z' 0.4 1.3			Ud	iPKP	12 21 54.3
		Sk	iP	22 14 43.7			i	12 22 05.2	
			ipP	22 14 52.3			iSKP	12 24 45.9	
		Gb	iP	22 14 29.3			Tonga-Kermadec Islands		
		Um	iP	22 14 29.2			(h = 560 km).		
			iS	22 24 28					
		Ka	iP	22 14 16.5	"	3	Up	iP	23 08 18.3
		Ud	iP	22 14 31.3			ipP	23 09 59.4	
			ipP	22 14 39.7				micr sec	
			iPP	22 17 33.4			Mx	E	2.0 18
		Chagos Islands. h = 30 km					Mx	N	2.0 17
		(Ki,Sk,Ud).					Mx	Z	2.7 17
		m = 6.2 (Up,Ki).					Ki	iP	23 08 04.4
"	2	Up	iP	23 50 29.9			ipP	23 09 52.4	
		Ki	iP	23 50 13.1			i	23 10 05.0	
		Um	iP	23 50 18.1			iPS	23 20 31	
		Ud	iP	23 50 38.3				micr sec	
		North of Halmahera					P	Z' 0.2 1.5	
		(h = 130 km).					Mx	E 3.3 20	
"	3	Up	iLg1	03 39 51.7			Mx	N 3.7 20	
			iSg	03 40 08.0			Mx	Z 4.4 20	
		Ki	eSn	03 36 47			Um	iP	23 08 06.5
			iSg	03 37 09.6			i	23 09 42.1	
		Sk	eSg	03 39 37			ipP	23 09 50.2	
		Um	iSn	03 37 28.6			i	23 14 02	
			iSg	03 38 01.9			iS	23 18 34	
		Northwest Russia,					iSP	23 19 54	
		67.5°N, 31.0°E.					iPS	23 20 44	
		Origin time = 03 34 54.					Ka	iP	23 08 26.3
		Explosion?					Ud	iP	23 08 24.1
"	3	Um	iPKP	03 51 43.1			ipP	23 10 02.5	
		New Hebrides Islands					Celebes. h = 450 km		
		(h = 210 km).					(Up,Ki,Um,Ud).		
"	3	Up	iP	06 48 17.5 C	"	3	Up	iPKP	23 15 58.3
"	3	Up	iP	07 20 49.8				micr sec	
							PKP	Z' 0.1 0.5	
							Ki	iPKP	23 15 39.3
							Sk	iPKP	23 15 54.4
							Um	iPKP	23 15 48.5

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Mar. 3	(cont.)			Mar. 5	Um	iP	12 44 47.3
	Um	i	23 15 50.3		Ud	iP	12 45 12.5
	Ka	iPKP	23 16 10.9	" 5	Ud	e(P)	13 01 53
	Ud	iPKP	23 16 00.8			i(Sg)	13 02 43.9
	South of Kermadec Islands (h = 130 km).			" 5	Gb	iPKP	14 55 56.2
" 4	Up	i(Sg)	13 01 59.2			ipPKP	14 56 31.0
" 4	Um	i(Sg)	13 59 24.2		Ud	iPKP	14 55 50.2
" 4	Up	iP	16 11 37.6		Tonga Islands. h = 130 km (Gb).		
" 4	Ki	eP	16 59 16	" 5	Ud	iP	17 57 56.6
	Sk	iP	16 59 27.7			iSg	17 58 50.8
	Um	iP	16 59 49.4	" 5	Sk	i(Sg)	18 04 25.6
" 4	Um	iP	17 12 13.0 C		Um	i(Sg)	18 04 46.0
	Ud	iP	17 11 41.8 C	" 5	Up	iP	18 29 36.8
	North of Ascension Island (h = 25 km).					iS	18 40 39
" 4	Ud	iP	20 57 40.4				micr sec
" 4	Up	iP	23 47 38.0			P	Z' 0.1 0.6
	Um	iP	23 47 11.7			S	E 2.0 7
	Ud	iP	23 47 36.3			Mx	E 6.1 20
	Unimak Island (h = 30 km).					Mx	N 5.4 19
" 5	Ki	e(Sg)	00 00 02			Mx	Z 9.7 20
" 5	Up	iP	00 33 00.0			D = 10100 km = 91°.	
	Ki	iP	00 32 06.7	Ki	iP	18 29 17.8	
	Sk	iP	00 32 37.0		iS	18 39 57	
	Gb	iP	00 33 13.6				micr sec
	Um	iP	00 32 34.0			P	Z' 0.1 1.0
		i	00 32 45.8			S	E 3.6 7
	Ud	iP	00 32 58.4			S	N 2.5 10
		i	00 33 13.0			Mx	E 4.0 18
	Unimak Island (h = 2 km).					Mx	N 4.4 18
" 5	Up	iP	00 41 45.8			Mx	Z 13 20
		i	00 41 58.9			D = 9650 km = 87°.	
	Ki	iP	00 40 54.7	Sk	iP	18 29 39.9	
	Sk	eP	00 41 22	Gb	iP	18 29 54.8	
	Um	iP	00 41 19.9	Um	iP	18 29 23.8	
	Ud	eP	00 41 45		i	18 33 32.5	
	Unimak Island (h = 30 km).				iS	18 39 59	
" 5	Um	iP	01 56 26.7	Ka	iP	18 29 48.3	
	Ud	iP	01 56 51.3	Ud	iP	18 29 43.9	
	Unimak Island (h = 30 km).				Mindanao (h = 60 km). m = 6.3, M = 6.1 (Up, Ki).		
" 5	Ud	iP	10 34 55.1	" 5	Up	iP	18 44 00.6
	Alaska (h = 30 km).				Ki	iP	18 43 42.5
" 5	Up	iP	11 14 34.1		Sk	iP	18 44 04.4 C
					Um	iP	18 43 48.3
					Ud	iP	18 44 08.9
					Mindanao (h = 90 km).		
				" 5	Up	iP	18 51 03.6 C
					(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Mar. 5 (cont.)				Mar. 6 (cont.)			
	Up		micr sec	Ud	ipPKP	16 32 36.2	
	P	Z'	0.1 0.6	Tonga-Kermadec Islands.			
	Mx	E	4.0 19	h = 120 km (Ud).			
	Mx	N	4.9 20				
	Mx	Z	4.3 19	"	6	Up	iP 17 01 00.6 D
	Ki	iP	18 50 45.2 C			i	17 01 29.4
			micr sec				micr sec
	P	Z'	0.1 0.9			P	Z' 0.1 0.5
	Mx	E	2.8 17			Ki	iP 17 00 14.3 D
	Mx	N	2.8 18				micr sec
	Mx	Z	4.5 17			P	Z' 0.1 0.8
	Sk	iP	18 51 07.4 C			Sk	iP 17 00 49.6
	Gb	iP	18 51 20.2			Um	iP 17 00 35.1
	Um	iP	18 50 51.4 C			Ud	iP 17 01 06.5 D
	Ka	iP	18 51 14.0 C			Sea of Okhotsk (h = 460 km).	
	Ud	iP	18 51 11.2			m = 5.5 (Up,Ki).	
		i	18 51 19.9				
	Mindanao (h = 60 km).			"	7	Up	iP 03 06 12.4 C
	m = 6.2, M = 6.0 (Up,Ki).					Ki	iP 03 05 34.2
"	5	Ud	eP 19 01 44			Sk	iP 03 06 07.2
"	5	Ud	iP 19 02 44.9			Um	iP 03 05 50.7 C
"	5	Ki	eSKP 21 43 03			Ka	iP 03 06 31.7
		Um	iSKP 21 43 14.7			Ud	iP 03 06 19.6 C
		Ud	iSKP 21 43 29.5			Japan (h = 50 km).	
	Loyalty Islands			"	7	Ki	iP 04 47 32.9
	(h = 90 km).					i	04 47 42.4
"	6	Up	iP 00 23 58.8			Sk	iP 04 47 39.0
		ipP	00 24 15.7			Um	iP 04 48 10.5
	Ki	iP	00 23 21.6			Ud	iP 04 48 30.6
	Sk	eP	00 23 55			i	04 48 42.6
	Um	iP	00 23 37.0			Jan Mayen.	
		ipP	00 23 55.2			Origin time = 04 45 15.	
	Ud	iP	00 24 05.7	"	7	Ud	iP 05 29 29.6 C
	Japan. h = 70 km (Up,Um).			"	7	Up	iP 07 24 35
"	6	Up	iP 05 19 36.7			Ki	iP 07 23 17.0
		Um	eP 05 20 13				micr sec
		Ud	iP 05 19 47.3			P	Z' 0.2 1.3
	Aegean Sea (h = 30 km).					Sk	iP 07 23 28.7
"	6	Ud	iP 05 34 39.7			Gb	iP 07 24 48.8
"	6	Ud	iP 11 10 56.9			Um	iP 07 23 54.9 C
"	6	Ud	iP 13 53 39.5			Ka	iP 07 25 10.6
"	6	Up	iPKP 16 32 02.7			Ud	iP 07 24 15.4
		Ud	iPKP 16 32 04.9			Jan Mayen (h = 25 km).	
		i	16 32 11.6	"	7	Up	iP 07 24 44.6
	(cont.)					i	07 24 52.4
						iS	07 27 37
							micr sec
						P	N 1.6 9
						P	Z 1.2 8
	(cont.)					(cont.)	

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Ka = Karlskrona, Ud = Uddeholm

1968					1968				
Mar. 7	(cont.)				Mar. 7	Ki	iP	13 07 25.0	
	Up		micr sec			Sk	iP	13 07 35.3	
	P	Z'	0.1 0.5				iS	13 09 23.6	
	S	E	0.8 4			Gb	eP	13 08 54	
	S	N	1.0 4			Um	iP	13 08 04.0	
	Mx	E	9.3 17			Ka	iP	13 09 20.9	
	Mx	N	13 16			Ud	iP	13 08 23.5	
	Mx	Z	15 17				i	13 08 27.2	
	D =	1650 km =	15°				i	13 08 39.0	
	Ki	iP	07 23 31.9			Jan Mayen (h = 30 km).			
		iS	07 25 19						
			micr sec		" 7	Up	iPP	13 42 00	
	P	E	2.7 8					micr sec	
	P	N	2.1 10				Mx E	5.4 19	
	P	Z	2.9 10				Mx N	4.5 20	
	P	Z'	0.5 1.0				Mx Z	5.5 19	
	Mx	E	22 14			Ki	e(SS)	13 56 58	
	Mx	N	25 14					micr sec	
	Mx	Z	42 15				Mx E	6.2 21	
	D =	1050 km =	9 1/2°				Mx N	7.7 20	
	Sk	iP	07 23 42.7				Mx Z	12 21	
	Gb	iP	07 25 01.9			Gb	iPKP	13 41 13.8	
		eS	07 28 05			Um	iPKP	13 40 52.5	
	Um	iP	07 24 08.5				iPP	13 41 37	
	Ka	iP	07 25 22.8				iPS	13 50 59	
	Ud	iP	07 24 28.3				iSS	13 57 28	
		iS	07 26 59.4			Ud	iPKP	13 40 59.2	
	Jan Mayen.					New Britain (h = 40 km).			
	m = 5.2 (Up), M = 5.3					M = 6.3 (Up, Ki).			
	(Up, Ki).								
" 7	Up	iP	07 31 20.6		" 7	Up	iP	14 38 59.3	
	Ki	iP	07 29 53.7			Sk	iP	14 39 37.9	
			micr sec			Um	iP	14 39 31.2	
	P	Z'	0.2 1.0			Ud	iP	14 39 06.1	
	Sk	iP	07 30 05.3			Crete (h = 80 km).			
		iS	07 31 51.9		" 7	Up	i(P)	14 50 51.3	
	Gb	iP	07 31 23.5			Ud	e(P)	14 50 56	
		i	07 31 28.5		" 7	Up	iP	17 54 06.9	
	Um	iP	07 30 27.1			Ud	eP	17 54 12	
		iS	07 32 35.1			Greece-Albania.			
		iSS	07 33 05.4		" 7	Ki	iP	18 16 14.9	
	Ka	iP	07 31 45.7		" 7	Ki	eP	18 30 48	
		i	07 31 49.8		" 8	Ki	iP	08 31 12.7	
	Ud	iP	07 30 50.9			Mindanao (h = 50 km).			
		i	07 31 03.4		" 7				
		i	07 33 11.3		" 8	Um	i(PP)	12 10 47.0	
		iS	07 33 29.7				i	12 11 05.8	
		iSS	07 33 43.1				i(PKS)	12 11 50.2	
	Jan Mayen (h = 30 km).					Australia (h = 5 km).			
" 7	Up	iP	08 45 42.8						
	Um	iP	08 45 25.9						
	Ud	iP	08 45 51.4 C						
	Formosa.								

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1968				1968					
Mar. 8	Ud	iP	12 59 12.2	Mar. 10	(cont.)				
"	8	Ki	ePn	13 20 51	Up	i	04 01 20.3		
			i	13 21 19.5		P	Z' 0.2 0.8		
			iSn	13 21 52.8	Ki	iP	03 59 29.3		
			iLg1	13 22 10.8			micr sec		
			D = 580 km = 5.2°			P	Z' 0.2 1.0		
	Sk	iSg	13 24 38.5	Sk	eP		04 00 04		
	Um	i	13 22 38.5	Gb	iP		04 00 42.6		
		iSg	13 23 08.4	Um	iP		03 59 55.5		
			Northwest Russia,	Ud	iP		04 00 23.3		
			67.4 N, 34.0 E.				Aleutian Islands		
			Origin time = 13 19 29.				(h = 5 km).		
			Explosion?				m = 6.3 (Up,Ki).		
"	8	Up	iP	17 27 36.4	"	10	Up	iP	06 53 01.8
		Ud	iP	17 27 46.6			Ki	iP	06 54 16.5
				Ryukyu Islands			Sk	iP	06 53 43.5
				(h = 25 km).			Gb	iP	06 52 51.7
"	8	Ki	iP	17 43 33.8			Um	iP	06 53 36.4 C
		Ud	iP	17 43 57.6			Ud	iP	06 53 07.7
				Mindanao (h = 60 km).			i		06 53 12.0
									Aegean Sea (h = 30 km).
"	8	Ki	iP	20 00 10.5	"	10	Up	iP	07 15 45.5
		Ud	iP	20 00 35.8			i		07 15 49.5
				Mindanao (h = 50 km).			iS		07 19 35
									micr sec
"	8	Um	iP	23 20 06.9			P	Z' 0.1 0.6	
				Nicobar Islands			Mx	E 7.3 17	
				(h = 30 km).			Mx	N 3.9 9	
							Mx	Z 5.0 9	
"	9	Up	iP	00 57 44.4 D			D = 2350 km = 21°		
				micr sec					
			P	Z' 0.1 1.0					
		Ki	iP	00 57 47.4			Ki	iP	07 17 03.0
			i	00 57 52.5					micr sec
		Gb	iP	00 58 04.7			P	Z' 0.1 1.0	
		Um	iP	00 57 38.0			Mx	E 8.5 15	
		Ka	eP	00 57 49			Mx	N 4.3 13	
		Ud	iP	00 57 58.2			Mx	Z 4.0 13	
				Nicobar Islands			Sk	iP	07 16 29.5
				(h = 30 km).			Gb	iP	07 15 37.3
"	9	Um	iPKP	03 37 53.6			Um	iP	07 16 23.1
				Solomon Islands			iS		07 20 48
				(h = 90 km).			i		07 22 29
"	9	Um	iP	06 38 28.4			Ka	eP	07 15 10
				Mariana Islands			Ud	iP	07 15 55.1
				(h = 40 km).			i		07 16 01.2
									Aegean Sea.
									m = 5.5, M = 5.4 (Up,Ki).
"	10	Up	iP	03 12 04.4	"	10	Up	iP	07 22 28.6
							Sk	eP	07 23 12
"	10	Up	iP	04 00 23.1			Um	iP	07 23 05.3 D
				(cont.)					(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Mar.	10	(cont.)		Mar.	11		
		Ud	iP 07 22 36.6			Sk	iP 17 38 19.6
			Aegean Sea.			Um	eP 17 38 14
			Origin time = 07 17 44.			Ud	iP 17 37 48
							Aegean Sea.
"	10	Up	iPKP 07 31 10.7 C	"	11	Up	iP 18 35 56.0
			i 07 31 22.9				ipP 18 36 33.5
			micr sec			Ki	iP 18 35 04.8
			PKP Z' 0.3 1.0				ipP 18 35 38.8
		Ki	iPKP 07 30 50.8 C			Sk	iP 18 35 36.4
			micr sec			Um	iP 18 35 29.6
			PKP Z' 1.6 1.4				ipP 18 36 05.0
		Sk	iPKP 07 31 07.0 C			Ud	iP 18 36 01
		Gb	iPKP 07 31 18.1				i 18 36 57
		Um	i(PKP) 07 30 57.2				Aleutian Islands.
			iPKP 07 31 01.8				h = 140 km (Up,Ki,Um).
			ipPKP 07 31 21.1			"	12
		Ud	iPKP 07 31 12.5			Ud	iP 05 50 37 C
			New Zealand. h = 70 km				Iran.
			(Um).			"	12
		"	10			Ki	iP 06 51 33.9
			Ud iP 08 10 24.7				i 06 51 39.5
			Aegean Sea.			Um	iP 06 51 49.3
		"	10				i 06 51 52.8
			Ud iP 08 56 23.7				Volcano Islands (h = 5 km).
			Aegean Sea.			"	12
		"	10			Up	iPg 07 33 18.9
			Ki iP 20 26 15.7				iSn 07 33 44.7
			Ud iP 20 26 44				iSg 07 33 49.2
			Mindanao (h = 70 km).				micr sec
		"	11				Sg Z' 0.1 0.5
			Up				D = 260 km = 2.3
			i(PKP) 08 45 28.9			Sk	i(Pg) 07 34 04.6
			iPKP 08 45 37.7				iLg1 07 35 04.3
			ePP 08 48 11			Gb	iPg 07 32 59.9
			iSKP 08 49 05				i 07 33 13.2
			micr sec				iSg 07 33 15.0
			PKP Z' 0.1 1.0				D = 140 km = 1.3
		Ki	iPKP 08 45 24.5			Um	iSx 07 35 35.0
			micr sec				iLg1 07 35 40.6
			PKP Z' 0.2 1.2			Ud	iPg 07 33 01
		Sk	iPKP 08 45 35.1				i 07 33 05
		Gb	iPKP 08 45 47.1				iSg 07 33 19
			ipPKP 08 46 19.1				D = 140 km = 1.3
			iPP 08 48 44.5				Västergötland, near Marie-
		Um	i(PKP) 08 45 27.2				stad, Sweden, 58.7° N,
			iPKP 08 45 31.7				13.7° E.
			ipPKP 08 46 01.1				Origin time = 07 32 34.
			iPP 08 47 46				Felt.
			iPKS 08 48 44			"	12
			ipPKS 08 49 32			Ki	iP 09 44 14.6
			iSKS 08 52 27				i 09 44 33.7
		Ka	iPKP 08 45 48.9			Sk	iP 09 43 58.3
		Ud	i(PKP) 08 45 34			Um	iP 09 44 16.4
			ipPKP 08 45 46				(cont.)
			Tonga Islands. h = 110 km				
			(Gb,Um).				

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Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Mar. 12	(cont.)			Mar. 13	Ki	iSg	16 33 49.9
	Um	i	09 44 32.2		Sk	iSg	16 32 22.8
	Caribbean Sea (h = 10 km).				Um	iSg	16 33 30.7
"	12	Ki	iSg 18 26 22.5		Ud	iSg	16 34 20
		Sk	eSg 18 26 30		Central Norway, near 65.1°N, 12.7°E.		
		Um	iSg 18 26 50.5		Origin time = 16 31 35.		
	Nordlands Fylke, Norway, 66.4°N, 14.8°E. Origin time = 18 24 55.			"	13	Ki	iP 19 27 29.6
						i	19 27 49.2
"	12	Um	iPKP 18 42 45.7	"	13	Up	iPKP 20 43 52.3
	Fiji Islands (h = 30 km).					Um	i(PKP) 20 43 44.1
"	12	Gb	iPKP 19 18 00.4				iPKP 20 43 52.6
		Ud	iPKP 19 17 54			Ud	iPKP 20 43 59
	Tonga-Kermadec Islands (h = 470 km).				Fiji Islands (h = 520 km).		
"	13	Up	iP 00 58 58.1	"	13	Up	iP 22 45 22.5
		Um	iP 00 59 21.8			ipP	22 45 26.5
		Ud	iP 00 59 20			i	22 46 13.1
	Turkey.						micr sec
"	13	Um	iPKP 03 58 31.6			P	Z' 0.1 0.9
	South of Kermadec Islands (h = 40 km).				Ki	eP	22 45 36
"	13	Ki	i(P) 07 52 18.5			ipP	22 46 33.8
		Um	iP 07 52 00.1			iPP	22 46 44.4
			i 07 52 06.2				micr sec
"	13	Ki	iPKP 09 50 51.0 C			PP	Z' 0.1 1.2
			micr sec		Gb	iP	22 45 45.9
			PKP Z' 0.1 1.0			ipP	22 45 49.7
		Um	iPKP 09 50 43.2		Um	iP	22 45 20.2
		Ud	iPKP 09 50 38			ipP	22 45 24.3
	South Sandwich Islands (h = 30 km).				Ka	iP	22 45 28.8
"	13	Um	iP 10 39 38.8		Ud	iP	22 45 45
	Bonin Islands (h = 520 km).					ipP	22 45 48
"	13	Ki	e 11 16 26		Kazakh SSR, h = 20 km (Up, Ki, Gb, Um, Ud). m = 5.7 (Up, Ki).		
			i(Sg) 11 16 53.8	"	14	Up	iP 02 15 20.4 C
"	13	Um	iP 13 41 54.8			ipP	02 15 24.6
"	13	Up	iP 14 35 20.9			iPP	02 16 26.7
		Um	iP 14 34 53.9				micr sec
			iPcP 14 35 28.2			P	Z' 0.1 0.9
		Ud	iP 14 35 24			pP	Z' 0.3 1.0
	Aleutian Islands (h = 50 km).				Ki	iP	02 15 28.3 C
						ipP	02 15 32.9
							micr sec
						P	Z' 0.2 1.4
						Mx	E 2.4 10
						Mx	Z 3.1 10
					Sk	iP	02 15 48.1
						ipP	02 15 51.7
					Gb	iP	02 15 44.3 C
						ipP	02 15 48.5
					(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968					
Mar. 14	(cont.)				Mar. 15	Um	iP	02 00	30.6 C	
		Um	iP	02 15 17.1 C		"	15	Up	iP	
			ipP	02 15 22.1				Sk	eP	
		Ka	iP	02 15 25.9				Um	iP	
			ipP	02 15 31.1					i	
		Ud	iP	02 15 42 C				Ka	iP	
			ipP	02 15 46				Ud	iP	
		Kazakh SSR. h = 20 km						Albania-Yugoslavia.		
		(Up,Ki,Sk,Gb,Um,Ka,Ud).					"	15	Ki	iPKP
		m = 5.8 (Up,Ki).							Indian Ocean (h = 30 km).	
		Calculating the depth to					"	15	Up	iP
		the nearest km, we find							Um	iP
		h = 22 km in this case,							Ud	iP
		and h = 19 km in the pre-							Kurile Islands (h = 50 km).	
		ceding case. pP is con-								
		sistently larger than P								
		in both cases.					"	15	Um	iPKP
"	14	Up	iP	06 28 44.4				Loyalty Islands		
		Ud	i(P)	06 29 00				(h = 50 km).		
"	14	Um	i(Sg)	08 17 15.4			"	15	Sk	eP
"	14	Ki	iPn	10 19 43.9					i	10 01 16.7
			iSn	10 20 42.0				Ud	eP	09 59 45
			iLg1	10 21 01.6					i	10 00 53.6
				D = 530 km = 4.8°.			"	15	Um	iP
		Sk	eSg	10 23 29						12 37 28.9
		Um	iS ^x	10 21 35.6			"	15	Um	iP
			iSg	10 21 54.1						16 45 53.6
		Northwest Russia,					"	15	Up	iP
		67.3°N, 32.9°E.							i	21 48 50.1 C
		Origin time = 10 18 30.								21 48 54.4
		Explosion?					"	15	Um	iP
"	14	Up	iPKP	18 18 58.3				Yugoslavia (h = 30 km).		
		Tonga-Kermadec Islands					"	16	Ud	iP
		(h = 40 km).						North Atlantic Ocean		
"	14	Up	iPKP	19 04 50.2				(h = 30 km).		
				micr sec			"	16	Um	iP
			PKP	Z' 0.1 1.0						02 17 40.1 C
		Um	iPKP	19 04 38.9 C				Japan (h = 310 km).		
		Ud	iPKP	19 04 55			"	16	Ki	eP
			i	19 05 08					i	07 12 13
		Kermadec Islands								07 13 46.0
		(h = 30 km).					"	16	Up	iP
"	14	Up	iPKP	19 06 27.7					Ki	iP
		Ud	iPKP	19 06 32						12 37 04.1 C
			i	19 06 46						micr sec
		Kermadec Islands.							P	Z' 0.1 1.0
		Origin time = 18 46 50.						Sk	iP	12 37 28.6
"	14	Up	iP	23 45 15.5				Um	iP	12 37 05.8 C
								Ud	iP	12 37 28.9 C
								China (h = 50 km).		

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Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Mar.	16	Um	iP	13 09 24.2	Mar.	17	(cont.)
			i	13 09 55.9			Ki i 20 48 21.2
"	16	Um	iP	13 18 40.9			Sk eLg1 20 49 29
				Japan (h = 70 km).			Um eS 20 46 28
"	16	Up	iP	13 32 13.7			iLg1 20 47 40.6
"	16	Um	iP	14 33 38.4			Russia, near 58°N, 41°E.
"	16	Up	iP	18 15 45.8			Origin time = 20 41 45.
			i	18 15 49.3			Analysis made by the help
		Ki	iP	18 17 04.1 C	"	17	Up iP 23 46 36.4
		Sk	eP	18 16 31	"	18	Up eP 04 13 21
			i	18 16 35.2			Ud iP 04 13 38.2
		Gb	iP	18 15 40.2	"	18	Up iP 04 22 53.1
		Um	iP	18 16 23.1	"	18	Up iP 05 44 45.3
		Ud	iP	18 15 55.8			i 05 44 52.2
				Aegean Sea (h = 40 km).			Um iP 05 45 11.8
"	16	Ki	iPn	20 52 21.0			Turkey.
			iSn	20 53 07.6	"	18	Up iP 07 41 29.2
			iSg	20 53 24.6			Ki iSKP 07 43 57.1
		Um	iSg	20 54 51.1			Gb iP 07 41 38.8
				Northwest Russia.			Um iSKP 07 44 07.4
				Explosion?			Ud iP 07 41 29.8
"	17	Um	eP	00 44 23			iSKP 07 44 20.2
				Japan (h = 90 km).			Tonga-Kermadec Islands
"	17	Um	iP	07 41 30.4			(h = 520 km).
		Ud	iP	07 41 22.6	"	19	Ud iP 01 55 12.0
"	17	Ud	iP	14 01 54.6			Tonga Islands (h = 30 km).
				Kamchatka (h = 20 km).	"	19	Ki iP 02 30 37.1
"	17	Ki	iP	15 40 03.0 C			Sk iP 02 30 14.6
		Um	eP	15 40 11			Um iP 02 30 35.8
		Ud	iP	15 40 31.6			Ud iP 02 30 15.8
				Luzon (h = 60 km).			i 02 30 24.2
"	17	Um	iP	17 18 51.5			Leeward Islands
"	17	Um	iP	17 55 50.2			(h = 60 km).
"	17	Up	iP	20 27 58.9	"	19	Ud iP 03 35 14.1
		Ki	iP	20 27 41.4 C	"	19	Ki iP 07 51 30.6
			i	20 28 15.6			i 07 51 35.9
				micr sec			Um iP 07 51 19.6
		P	Z'	0.1 1.1			Azores Islands
		Um	iP	20 27 46.5			(h = 30 km).
		Ud	iP	20 28 06.2	"	19	Up iP 13 28 53.7 C
				Halmahera (h = 60 km).			Ud iP 13 28 55.3
"	17	Ki	iS	20 47 19.7	"	19	Um iP 13 37 29.8
			(cont.)				Mariana Islands (h = 50 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Mar. 19	Ki	eSg	14 02 09	Mar. 20	(cont.)		
	Sk	eSg	14 01 24		Up	iPP	08 03 45.2
	Um	iSg	14 00 06.6				micr sec
	Ud	e	14 00 09			Mx	E 2.0 12
		iSg	14 00 35.8			Mx	N 1.6 8
		Esthonia. Explosion?				Mx	Z 2.6 12
" 19	Up	iP	15 35 13.0 C		Ki	eP	08 02 07
						i	08 02 20.1
							micr sec
" 19	Ki	iP	17 14 59.9			Mx	E 1.3 8
	Sk	iP	17 15 11.5			Mx	N 0.7 8
	Um	iP	17 15 38.3			Mx	Z 2.2 8
	Ud	iP	17 15 58.2		Sk	iP	08 02 32.7
		i	17 16 09.6		Um	eP	08 02 02
		Jan Mayen, 71.7°N, 3.1°W.			Ud	iP	08 02 24.2
		Origin time = 17 12 50.				Kirghiz-Sinkiang	
						(h = 60 km).	
" 19	Up	iP	19 09 11.6			M = 5.5 (Up,Ki).	
	Ki	e(P)	19 09 09	" 20	Up	iP	12 24 03.5
	Um	iP	19 09 07.1			i	12 24 06.3
							micr sec
" 19	Up	iPKP	19 37 20.0 C			P	Z' 0.2 0.8
		i	19 37 50.7		Ki	iP	12 23 10.3
			micr sec				micr sec
		PKP	Z' 0.1 0.8			P	Z' 0.1 0.9
	Ud	iPKP	19 37 21.7		Gb	iP	12 24 22.1
		i	19 37 27.1		Um	iP	12 23 35.7
		Tonga-Kermadec Islands			Ud	iP	12 24 04.3
		(h = 25 km).				Aleutian Islands	
" 19	Um	iP	20 28 13.6			(h = 50 km).	
		Mexico (h = 40 km).				m = 6.1 (Up,Ki).	
" 19	Um	iP	20 37 32.4	" 20	Ki	i(P)	18 05 27.5
		i	20 37 36.8		Sk	iP	18 05 31.6
	Ud	e(P)	20 38 00		Um	iP	18 05 53.0
" 19	Up	iP	23 42 51.0	" 21	Sk	iP	00 52 20.6
	Um	eP	23 42 22		Um	iP	00 52 03.2 C
	Ud	iP	23 42 55.3			i	00 52 11.1
						Japan (h = 60 km).	
" 20	Up	iP	04 22 38.2	" 21	Up	iP	02 53 25.1
		ipP	04 22 50.7		Ki	iP	02 53 29.7
	Sk	eP	04 22 38		Ka	iP	02 53 31.9
		i(pP)	04 22 46.9		Ud	iP	02 53 41.5
	Um	iP	04 22 21.4			Tadzhik SSR (h = 130 km).	
		ipP	04 22 32.8	" 21	Ki	iP	07 31 11.4
		iPP	04 25 16.3			i	07 31 26.2
	Ud	iP	04 22 48.6	" 21	Ki	iP	11 42 12.5
		ipP	04 22 59.6		Ud	iP	11 43 06.4
		Ryukyu Islands.				Alaska (h = 70 km).	
		h = 40 km (Up,Um,Ud).					
" 20	Up	eP	08 02 11				
	(cont.)						

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<p>1968</p> <p>Mar. 21 Ki iPn 12 33 31.9 i 12 33 44.8 iSn 12 34 23.3 iLg1 12 34 35.7 D = 480 km = 4.3°. Sk eSn 12 36 29 eSg 12 37 29 Northwest Russia. Origin time = 12 32 23. Explosion?</p> <p>" 21 Ud iP 13 39 44.6</p> <p>" 21 Up iP 16 14 05.3 Ki --- micr sec Mx E 1.1 15 Mx N 0.8 12 Mx Z 1.0 12 Sk iP 16 14 48.6 Ud iP 16 14 11.2 Aegean Sea (h = 20 km).</p> <p>" 22 Up iP 09 28 34.2 Ki iP 09 28 07.4 micr sec P Z' 0.1 1.1 Ud iP 09 28 41.1 Mariana Islands (h = 50 km).</p> <p>" 22 Up iP 15 11 47.8 i 15 12 18.6 micr sec P Z' 0.1 0.6 Ki iP 15 11 13.5 C micr sec P Z' 0.1 1.1 Sk iP 15 11 21.8 C Gb iP 15 11 47.5 C Ka iP 15 12 01.2 C Ud iP 15 11 40.1 C Nevada. Origin time = 15 00 00. m = 6.0 (Up,Ki). Underground nuclear explosion.</p> <p>" 22 Ud iPg 15 36 16.3 iSg 15 36 38.7</p> <p>" 22 Up iP 17 08 28.1 iSg 17 08 43.2 Ki eSg 17 11 12 (cont.)</p>	<p>1968</p> <p>Mar. 22 (cont.) Sk eSg 17 10 31 i 17 10 33.3 Ud iSn 17 09 19.0 iS^x 17 09 36.2 iSg 17 09 48.0 South coast of Finland, 60.1° N, 24.4° E. Origin time = 17 06 51. Explosion?</p> <p>" 22 Ki iP 19 35 54.8 Sk iP 19 35 06.5 Ud iP 19 34 30.2 Italy.</p> <p>" 22 Up iP 20 39 28.7 Sk eP 20 39 28 Ud iP 20 39 38.5</p> <p>" 22 Up iP 20 46 14.5 ipP 20 46 20.2 micr sec P Z' 0.1 1.0 pP Z' 0.2 1.0 Mx E 1.3 17 Mx N 1.4 18 Mx Z 2.3 18 Ki iP 20 45 34.4 C ipP 20 45 40.4 iPcP 20 46 07.4 micr sec P Z' 0.1 1.2 pP Z' 0.1 1.0 Mx E 2.1 14 Mx N 1.6 16 Mx Z 4.1 16 Sk iP 20 46 07.3 Gb iP 20 46 35.8 i(pP) 20 46 40.7 Ka iP 20 46 34.0 i 20 46 37.5 Ud iP 20 46 21.5 ipP 20 46 27.4 Japan, h = 20 km (Up,Ki, Ud). m = 5.9, M = 5.5 (Up,Ki).</p> <p>" 23 Ud iP 00 10 47.6 Alaska (h = 190 km).</p> <p>" 23 Ki i 10 47 16.4 iSg 10 47 36.2 Sk iSg 10 47 40.8 Probably Nordlands Fylke, Norway.</p>
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Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Mar. 23	Ki	ePn	11 59 42	Mar. 23	(cont.)		
		iSn	12 00 27.5		Ki	micr	sec
		iSg	12 00 43.5		Mx	Z	6.1 16
		D = 420 km = 3.8°.			Sk	eP	17 31 19
	Sk	iSX	12 02 48.3		i		17 31 20.0
		iSg	12 03 12.5		Gb	iP	17 30 24.8
		Probably northwest Russia.			Ka	iP	17 29 59.3
		Origin time = 11 58 40.			Ud	iP	17 30 41.8
		Explosion?			i		17 30 42.9
"	23	Ki	iPn 12 59 43.5			Aegean Sea (h = 30 km).	
			iSn 13 00 32.0			M = 5.5 (Up,Ki).	
			iSg 13 00 48.8			The nature of the phase	
			D = 440 km = 4.0°.			marked X (Up,Ki) is	
			Probably northwest Russia.			unclear. It fits PP at Up,	
			Origin time = 12 58 39.			but not at Ki. If it were	
			Explosion?			P of another shock in the	
						Aegean Sea, this would	
						have an origin time =	
"	23	Ki	iPn 16 06 01.0			17 26 13.	
			iSn 16 06 48.6	"	23	Up	iP 20 05 28.8
			iLg1 16 07 02.3			Ud	iP 20 05 40.0
			D = 440 km = 4.0°.			i	20 05 50.4
			Sk eSg 16 09 55	"	23	Up	iP 21 18 23.0
			Probably northwest Russia.			Sk	iP 21 19 09.1 C
			Origin time = 16 04 57.			Ud	iP 21 18 33.4
			Explosion?			Aegean Sea (h = 30 km).	
"	23	Up	iP 17 21 20.0	"	24	Ud	eP 00 18 26
		Sk	iP 17 22 05.0			Pamir.	
		Ud	iP 17 21 29.5	"	24	Ud	iP 06 34 53.4
		Aegean Sea.		"	24	Up	eP 07 23 52
		Origin time = 17 16 40.				Ki	iP 07 24 32.0
"	23	Up	iP 17 27 45.5				micr sec
		Sk	iP 17 28 31.1			P	Z' 0.1 1.5
		Ud	iP 17 27 55.9			Mx	N 1.0 20
		Aegean Sea.				Mx	Z 1.4 17
		Origin time = 17 23 06.				Sk	eP 07 24 01
"	23	Up	eP 17 30 33			Ka	iP 07 23 31.6
		i	17 30 34.2			Ud	iP 07 23 44.3
		iX	17 30 51.7			i	07 23 54.6
		iS	17 34 15			Atlantic Ocean (h = 30 km).	
			micr sec	"	24	Up	iP 09 31 29.9
		P	Z' 0.1 0.9			Ud	iP 09 31 15.8
		Mx	E 6.5 14	"	24	Up	---
		Mx	N 3.9 13				micr sec
		Mx	Z 2.8 13			Mx	E 3.6 19
		D = 2300 km = 20 1/2°.				Mx	N 3.4 17
	Ki	iP	17 31 47.5 C	"	24	Mx	Z 2.9 22
		iX	17 32 08.4			(cont.)	
			micr sec				
		Mx	E 7.0 13				
		Mx	N 4.1 15				
		(cont.)					

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1968						1968				
Mar. 24	(cont.)					Mar. 25	(cont.)			
	Ki	iP	16 09	53.7			Um	iP	16 44	38.1
		i	16 10	02.8				i	16 45	18.8
							Ud	iP	16 44	31.0
		Mx	E	3.1 18			Mexico-Guatemala (h = 60 km).			
		Mx	N	5.0 20						
		Mx	Z	3.1 18						
	Ud	iP	16 10	38.9		"	25	Um	iP	18 06 06.0
		i	16 10	51.1				Off coast of Central America (h = 30 km).		
	Japan (h = 5 km).									
	M = 5.9 (Up,Ki).									
"	24	Ki	---			"	25	Ki	iP	19 57 20.4
		Mx	E	1.9 17		"	25	Up	iP	22 15 37.1
		Mx	N	1.8 19				Ki	iP	22 15 05.3
		Mx	Z	1.4 17				Sk	iP	22 15 34.2
	Ud	iP	16 32	42.9				Um	iP	22 15 18.8
	Japan (h = 30 km).							Ud	iP	22 15 44.1
								South of Japan (h = 480 km).		
"	24	Ud	iP	19 40 21.4		"	26	Um	iP	00 21 37.6
"	25	Ki	iPKP	03 15 42.5				Japan (h = 80 km).		
		Sk	iPKP	03 15 54.0		"	26	Um	iP	00 36 47.7
		Um	iPKP	03 15 46.3		"	26	Up	iP	00 54 45.3
			i	03 15 48.6						
		Ud	iPKP	03 15 58.8						
	Loyalty Islands (h = 20 km).									
"	25	Ki	ePn	11 29 47						
			iSn	11 30 45.9						
			iLg1	11 31 04.2						
				D = 560 km = 5.0°						
		Sk	iP	11 30 13.9						
			iS	11 31 34.0						
				D = 790 km = 7.1°						
		Um	iP	11 30 28.4						
			i	11 30 34.9						
			iS	11 32 01.9						
				D = 920 km = 8.3°						
		Ud	iP	11 31 01.3						
			iS	11 32 57.8						
			iSS	11 33 22.6						
				D = 1180 km = 10.6°						
	Norwegian Sea, 70.8°N, 8.7°E.									
	Origin time = 11 28 29.									
"	25	Ki	i(Sg)	13 26 35.5						
		Sk	i(Sg)	13 26 42.6						
"	25	Sk	i(Sg)	13 28 41.8		"	26	Ka	iP	01 10 59.0 D
"	25	Sk	iP	16 44 23.2		"	26	Um	iP	04 30 31.9
	(cont.)						(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
Mar. 26	(cont.)				Mar. 26	Ki	eP	19 44 25	
	Um	ipP	04 30 40.9			Sk	iP	19 44 04.9	
	Ud	eP	04 30 05			Um	iP	19 43 50.4	
		ipP	04 30 13.2			Ud	iP	19 43 37.1	
	Atlantic Ocean. h = 30 km (Um,Ud).					Lebanon (h = 30 km).			
"	26	Up	iP	04 49 33.3	"	26	Up	iP	19 53 42.9
		Ki	iP	04 50 12.5			ipP	19 54 06.3	
		Sk	eP	04 50 10			eS	20 04 30	
		Um	iP	04 49 48.9			D = 10200 km = 92°.		
			ipP	04 51 16.6		Ki	iP	19 53 24.9	
		Ka	iP	04 49 22.0			ipP	19 53 47.6	
		Ud	iP	04 49 48.9			i	19 54 04.7	
		i	04 49 53.5					micr sec	
	Iran (h = 30 km).					P	Z'	0.1 1.0	
		Sk	iP	19 53 46.8		Sk	ipP	19 54 10.4	
"	26	Um	iPKP	05 10 05.4		Um	iP	19 53 30.8	
		Ud	iPKP	05 10 16.0			i	19 53 31.9	
	New Hebrides Islands (h = 20 km).					ipP	19 53 54.7		
						iSKS	20 03 49		
"	26	Ud	iP	10 45 50.4			iS	20 04 11	
						isS	20 04 51		
"	26	Um	iP	10 53 25.0		Ka	iP	19 53 53.2	
		Ud	iP	10 53 51.9			ipP	19 54 16.7	
	South of Japan (h = 50 km).					Ud	iP	19 53 50.9	D
						ipP	19 54 14.0		
						Mindanao. h = 90 km (Up,Ki,Sk,Um,Ka,Ud).			
"	26	Um	iPKP	14 52 59.3	"	26	Up	iPKP	21 44 38.8
		i	14 53 05.8				i	21 44 42.6	
	Fiji Islands (h = 600 km).						i	21 44 46.5	
								micr sec	
"	26	Up	iP	15 10 36.0			PKP	Z'	0.1 0.6
		Ki	iP	15 10 44.6	C	Ki	iPKP	21 44 22.4	
		Sk	iP	15 11 00.9		Sk	iPKP	21 44 32.2	C
		Um	iP	15 10 33.5			i	21 44 35.5	
			ipP	15 11 12.0		Gb	iPKP	21 44 46.7	
		Ka	iP	15 10 39.1			i	21 44 50.5	
		Ud	iP	15 10 51.4		Um	iPKP	21 44 26.9	
	Hindu Kush. h = 180 km (Um).					i	21 44 29.9		
"	26	Sk	iP	17 14 58.5		Ka	iPKP	21 44 47.9	
		Ud	iP	17 14 21.2			i	21 44 59.0	
	Aegean Sea (h = 30 km).					Ud	iPKP	21 44 40.4	C
						i	21 44 44.1		
"	26	Ki	iSg	17 49 48.0		Kermadec Islands (h = 60 km).			
		Sk	iSg	17 49 52.9		Multiple PKP; average time difference between the two phases, which are about equally large, is 3.5 sec (Up,Sk,Gb,Um,Ud).			
		Um	eSg	17 50 16					
	Nordlands Fylke, Norway, 66.4°N, 14.8°E. Origin time = 17 48 19.								

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
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1968

Mar. 27 Ki iPKP 00 06 36.4
i 00 06 42.0
Um iPKP 00 06 42.5
i 00 06 44.0
i 00 06 49.7

" 27 Up eP 03 28 55

" 27 Um eP 04 07 22
Atlantic Ocean
(h = 30 km).

" 27 Up eP 05 03 35
Ki i(P) 05 02 57.4
Um iP 05 03 07.2
i 05 03 16.9
Ud iP 05 03 38.6
i 05 03 43.0
Kurile Islands
(h = 25 km).

" 27 Um iP 05 22 06.3

" 27 Ki iP 08 11 48.1

" 27 Ud iP 10 33 08.0

" 27 Ud iP 11 57 45.1

" 27 Um iP 17 17 13.7
i 17 17 28.4
Japan (h = 30 km).

" 27 Ki iP 19 03 49.7 C
Sk iP 19 04 24.8
Um iP 19 04 07.5
i 19 04 16.1
Ud iP 19 04 38.3
Sea of Japan (h = 25 km).

" 27 Up iP 19 56 57.5
i 19 57 05.1

" 27 Um iP 20 44 46.0

" 27 Up iPKP 21 29 32.9 C
i 21 29 38.2
micr sec
PKP Z' 0.1 0.5
Um iSKP 21 32 15.1
Ud iPKP 21 29 34.8 C
i 21 29 40.8
Tonga-Kermadec Islands
(h = 530 km).

1968

Mar. 27 Up iP 22 50 58.3
micr sec
P Z' 0.1 1.0
Mx E 3.0 22
Mx N 3.9 21
Mx Z 3.7 19

Ki ---
micr sec
Mx E 1.7 19
Mx N 2.3 20
Mx Z 3.6 18

Um iP 22 50 44.3
iSKS 23 01 29
iPS 23 04 14
Ud iP 22 51 05.9
New Guinea (h = 30 km).
M = 6.0 (Up, Ki).

" 27 Up iP 23 44 57.8

" 28 Up ---
micr sec
Mx E 1.6 21
Mx N 1.4 22
Mx Z 2.6 20

Ki eP 01 20 00
ipP 01 20 26.3
micr sec
pP Z' 0.1 1.4
Um iP 01 20 07.2
ipP 01 20 34.1
Mexico-Guatemala.
h = 100 km (Ki, Um).

" 28 Up iPg 03 42 19.6 D
iSg 03 42 34.2
iSn 03 42 37.1
~~micr sec~~
~~Pg Z' 0.1 0.5~~
~~Sg Z' 0.2 0.5~~
~~Sn Z' 0.5 0.5~~
D = 120 km = 1.1
Sk iPg 03 43 05.2
iSn 03 43 39.3
iSg 03 43 51.3
D = 380 km = 3.4
Um iLg1 03 43 49.5
Ka eLg1 03 44 16
Ud iPg 03 42 23.3
i 03 42 27.5
iSg 03 42 40.4
D = 140 km = 1.3
Dalegarlia, central Sweden,
60.7°N, 16.0°E.
Origin time = 03 41 58.
Felt.

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1968						1968					
Mar. 28	Um	iPKP	06 03	56.0		Mar. 28	Ki	iPKP	13 56	23.6	
	Ud	iPKP	06 04	05.9			Um	iPKP	13 56	20.6	
	Santa Cruz Islands						Ud	iPKP	13 56	12.5	
	(h = 40 km).						Chile-Argentina				
							(h = 170 km).				
" 28	Up	iP	07 44	54.1	C	" 28	Up	iP	16 42	23.6	
		iS	07 48	58				i	16 42	47.2	
								i	16 43	39.5	
		P	N	1.4	5						
		P	Z	2.0	5						
		P	Z'	0.4	0.6			P	Z'	0.2	0.7
		S	E	1.0	4			Mx	E	3.3	13
		S	N	2.8	7			Mx	N	4.2	14
		Mx	E	8.0	17			Mx	Z	5.6	16
		Mx	N	27	13		Ki	iP	16 43	46.4	
		Mx	Z	27	13						
		D = 2500 km = 22 1/2°.						Mx	E	8.2	15
	Ki	iP	07 46	07.9			Sk	iP	16 43	06.4	
								i	16 43	12.2	
		P	Z'	0.3	1.3			i	16 43	27.4	
		Mx	E	21	17		Gb	iP	16 42	11.8	
		Mx	N	13	15		Um	iP	16 43	04.9	
		Mx	Z	20	15			i	16 43	09.6	
	Sk	iP	07 45	33.6	C		Ka	iP	16 41	46.4	
	Gb	iP	07 44	40.1			Ud	iP	16 42	30.8	
	Um	iP	07 45	31.4			Greece-Albania (h = 20 km).				
		iS	07 50	08			M = 5.3 (Up,Ki).				
		i	07 50	24		" 28	Up	iP	17 17	11.7	
		i	07 51	44				i	17 17	22.3	
	Ud	iP	07 45	00.0	C		Um	iP	17 17	38.6	D
	Ionian Sea (h = 5 km).						Ud	iP	17 17	23.6	
	m = 5.9, M = 5.9 (Up,Ki).						Turkey (h = 5 km).				
" 28	Ki	iPn	10 22	42.1		" 28	Ka	iP	21 50	17.2	
		iSn	10 23	41.3							
		iLg1	10 24	00.2		" 29	Up	iP	07 13	08.0	
		D = 540 km = 4.9°.					Ud	i(P)	07 13	31.4	
	Sk	iSg	10 26	28.2			Greece.				
	Um	i(Sn)	10 24	20.3		" 29	Up	iP	14 41	20.6	
		iS ^x	10 24	35.6			Um	iP	14 40	57.6	
		iLg1	10 24	49.3			Ka	iP	14 41	41.3	
		iSg	10 24	55.0			Ud	iP	14 41	27.0	
	Ud	iPg	10 25	09.8			Japan (h = 40 km).				
		iLg1	10 27	29.3		" 29	Ud	iP	14 49	10.9	
	Northwest Russia,					" 29	Ki	ePn	14 55	17	
	67.5°N, 33.2°E.							iP ^x	14 55	24.4	
	Origin time = 10 21 26.							iSn	14 56	15.2	
	Explosion?							iSg	14 56	37.2	
	The phase Pg at Ud						D = 530 km = 4.8°.				
	(distance 11.3°) is						Probably northwest Russia.				
	probably identical with						Origin time = 14 54 00.				
	Pg.						Explosion?				
" 28	Um	iP	13 13	13.3							
	Luzon (h = 20 km).										

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1968				1968										
Mar.	29	Up	iP	19 07 54.8	D	Mar.	30	Um	iP	12 28 24.3				
		Ki	iP	19 08 04.2					i	12 28 29.0				
		Um	iP	19 07 54.5				"	30	Up	iP	12 37 33.7		
		Ka	iP	19 07 59.3						Ki	iP	12 36 40.4		
		Ud	iP	19 08 11.5						Sk	eP	12 37 11		
		Hindu Kush (h = 210 km).								Um	iP	12 37 07.2		
"	29	Um	iP	19 15 42.4						Ud	eP	12 37 33		
		Japan (h = 5 km).								Aleutian Islands (h = 40 km).				
"	29	Up	iP	20 43 09.1	C			"	30	Ki	iPn	13 19 20.9		
		Um	iP	20 43 16.1							iSn	13 19 57.5		
		Ud	iP	20 42 56.5							iSg	13 20 10.6		
		Virgin Islands (h = 60 km).									D = 330 km = 3.0°.			
"	29	Ki	R iP	22 49 03.7						Um	iSn	13 21 06.6		
			iP	22 54 36.9							iSg	13 21 40.1		
		Sk	A iP	22 49 43.0						Probably Russia-Finland border region.				
			iS	22 51 27.5						Origin time = 12 18 31. Explosion?				
		Um	E iP	22 49 54.8					"	30	Ud	iP	13 43 16.4	
		Ud	S iP	22 50 30.2										
		Norwegian Sea, 72.8°N, 7.0°E.								"	30	Up	P eLg1	15 06 56
		Origin time = 22 47 27. Checked with readings at stations in Finland.										Ki	R iSg	15 04 59.9
"	30	Up	iPKP	01 02 41.3								Sk	A iSg	15 05 03.3
		Um	iSKP	01 05 09.2								Um	E iSn	15 05 11.9
		Ud	iSKP	01 05 22.1									iSg	15 05 25.7
		Fiji Islands (h = 630 km).										Ud	D eSg	15 06 54
		Nordlands Fylke, Norway, 66.4°N, 14.8°E.										Origin time = 15 03 30.		
"	30	Up	eP	05 18 04					"	30	Ud	iP	15 26 25.0	
		Sk	iP	05 18 44.7										
		Gb	iP	05 17 53.0					"	30	Ud	iPKP	19 38 03.6	
		Um	iP	05 18 40.1						Tonga Islands (h = 70 km).				
		Ka	iP	05 17 28.8	C				"	31	Ki	iP	01 28 09.1	
		Ud	iP	05 18 11.9							Sk	iP	01 28 41.4	
		Greece.									Um	iP	01 28 02.9	
"	30	Ud	iP	05 20 32.0								i	01 28 09.9	
"	30	Up	iP	07 26 16.4							Ud	iP	01 28 35.5	
			i	07 26 47.2					"	31	Ud	iP	01 54 21.2	
"	30	Ki	ePn	10 15 12					"	31	Ki	iP	03 09 00.9	
			iSn	10 15 55.8							Um	iP	03 09 44.9	
			iSg	10 16 15.1						Arctic Ocean.				
			D = 400 km = 3.6°.						"	31	Up	iP	03 28 11.2	
		Um	iSg	10 17 17.1							Ki	iP	03 27 54.8	
		Probably Russia-Finland border region.										ipP	03 28 13.5	
		Origin time = 10 14 15. Explosion?									(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
Mar. 31	(cont.)				Mar. 31	Ki	iP	17 24	45.0
	Um	iP	03 27	50.4		Um	iP	17 24	42.0
		ipP	03 28	08.3					Sumatra (h = 30 km).
	Ud	iP	03 28	14.8					
	Andaman Sea.			h = 70 km	"	31	Ki	iSg	17 32 53.6
	(Ki,Um).						Um	iSg	17 31 23.9
"	31	Up	iP	03 31 28.5 D					Southeast Finland-Russia
		Ki	iP	03 30 55.8					border region. Explosion?
		Um	iP	03 31 09.8 D					By combination with
		Ud	iP	03 31 35.3 D					Lillehammer reading.
				South of Japan.	"	31	Sk	iP	17 44 05.5
"	31	Up	iLg1	04 33 40.7			Um	iP	17 44 03.2
			iSg	04 34 09.6			Ud	iP	17 44 29.2
		Ki	iPn	04 29 52.3					Alaska (h = 80 km).
			iPg	04 30 11.0	"	31	Up	iP	23 06 37.0
			iSn	04 30 50.8				i	23 06 41.5
			iLg1	04 31 13.8			Um	iP	23 06 31.3
				D = 600 km = 5.4°			Ud	iP	23 06 50.6
		Sk	iSg	04 33 36.9					
		Um	iSn	04 31 20.7	"	31	Ki	iP	23 47 24.1
			i	04 31 33.2			Um	iP	23 47 09.0
			iSg	04 32 04.4					Tanzania (h = 30 km).
		Ud	iLg1	04 34 22.7					
			iSg	04 34 46.1					
				Northwest Russia,					
				67.1°N, 34.3°E.					
				Origin time = 04 28 25.					
				Explosion?					
"	31	Ki	iSn	08 13 54.3					
			iSg	08 14 16.0					
		Sk	eSg	08 16 33					
		Um	iSn	08 14 33.0					
			iSg	08 15 09.4					
		Ud	eLg1	08 17 41					
				Northwest Russia.					
				Explosion?					
"	31	Up	iP	08 32 22.5					
		Ki	iP	08 32 04.6					
		Um	iP	08 32 10.1					
			i	08 32 19.5					
		Ka	iP	08 32 33.1					
		Ud	iP	08 32 30.5 C					
				Samar (h = 70 km).					
"	31	Up	iP	08 36 15.6					
			i	08 36 26.6					
"	31	Up	iSKP	14 12 26.4					
		Um	iPKP	14 09 13.2					
				New Hebrides Islands					
				(h = 240 km).					

Markus Båth
September 5, 1968



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Seismological Institute
Uppsala

SEISMOLOGICAL BULLETIN

UPPSALA, KIRUNA, SKALSTUGAN, GÖTEBORG,
UMEÅ, KARLSKRONA and UDDEHOLM

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m

M A Y 1 - 31, 1968
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1968					1968				
May 1	Up	iPKP	00 10 06.7		May 1	(cont.)			
		iPP	00 11 37.8			Um	iSKS	04 55 33	
		iPKKP	00 20 06.2				iS	04 56 23	
		i	00 20 09.8			Ud	iP	04 45 13.0	
	Ki	iPKP	00 10 14.4				Ceram Sea (h = 25 km).		
		i	00 11 25.6						
			micr sec		" 1	Up	i(P)	05 25 15.9	
		PKP	Z' 0.1 1.0			Ki	e(P)	05 21 56	
	Sk	iPKP	00 10 05.7			Sk	i(P)	05 24 51.0	
	Gb	iPKP	00 10 00.2			Um	i(P)	05 23 12.0	
	Um	iPKP	00 10 12.5			Ud	i(P)	05 25 47.3	
		iPKKP	00 19 56.7		" 1	Ka	e(Sg)	06 25 23	
	Ka	iPKP	00 10 02.6		" 1	Up	iP	08 55 09.0 C	
	Ud	iPKP	00 10 03.3				iS	09 04 32	
		iPP	00 11 25.5					micr sec	
		iPKKP	00 20 13.3				P	Z' 0.2 1.0	
	Chile-Argentina (h = 40 km).						Mx	E 1.5 20	
" 1	Up	iP	01 35 45.4				Mx	N 2.0 20	
		i	01 35 48.2				Mx	Z 1.8 19	
		i	01 36 03.1				D = 8000 km = 72°.		
" 1	Up	iP	01 58 10.8 ✓			Ki	iP	08 54 28.0 C	
" 1	Up	iPKP	02 00 05.6					micr sec	
		i	02 00 11.8				P	Z' 0.1 1.0	
	Sk	iPKP	02 00 01.0			Sk	iP	08 55 01.8 C	
	Gb	iPKP	02 00 13.9				iPP	08 57 39.0	
	Um	iPKP	01 59 55.3			Gb	iP	08 55 29.8	
		ipPKP	02 01 32.2			Um	iP	08 54 42.0 C	
	Ud	iPKP	02 00 08.1				i	08 54 46.3	
	Kermadec Islands. h = 400 km (Um).						iPcP	08 55 06.5	
" 1	Ki	iP	04 44 49.7 C				iS	09 03 45	
			micr sec				iScS	09 04 47	
		P	Z' 0.1 1.0			Ka	iP	08 55 29.2 C	
	Um	iP	04 44 54.6			Ud	iP	08 55 16.1 C	
	(cont.)					Japan (h = 40 km). m = 6.1 (Up,Ki).			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968						1968				
May	1	Ud	iP	14 49 12.4		May	2	(cont.)		
		Celebes (h = 180 km).						Ud	iP	00 36 18.6 C
									ipP	00 36 29.3
"	1	Up	iP	19 24 03.9				India. h = 40 km (Up,Sk, Um,Ka,Ud).		
			i	19 24 17.5				pP is bigger than P on all records. An alternative explanation would of course be in terms of two shocks, 10.7 sec apart, of which the second one is bigger.		
				micr sec						
			Mx	E 1.1 15						
			Mx	N 1.1 18						
			Mx	Z 1.3 17						
		Ki	iP	19 23 21.7						
			i	19 23 32.2						
				micr sec						
			Mx	E 1.5 18		"	2	Up	iP	05 40 57.5
			Mx	N 1.1 18					ipP	05 41 19.2
			Mx	Z 2.0 16					isP	05 41 28.7
		Gb	iP	19 24 23.8					iS	05 50 15
		Um	iP	19 23 40.6					isS	05 50 55
			i(PcP)	19 24 05.1						micr sec
			iS	19 32 27					P	Z' 0.2 1.3
		Ka	eP	19 24 22					pP	Z' 0.3 1.5
		Ud	iP	19 24 11.3				Ki	iP	05 40 59.8 D
		Japan (h = 20 km).							ipP	05 41 21.2
		M = 5.4 (Up,Ki).							isP	05 41 30.0
									iS	05 50 19
"	1	Ki	iP	19 27 04.6					isS	05 50 55
		Um	iP	19 27 23.5						micr sec
			i	19 27 32.4					P	Z' 0.5 1.7
		Ud	iP	19 27 54.8					pP	Z' 0.4 1.6
		Japan (h = 50 km).							S	E 0.7 5
									S	N 0.9 8
"	1	Up	iP	19 49 38.7					Mx	E 0.8 21
		Ki	iP	19 49 10.1					Mx	N 0.6 18
		Sk	iP	19 49 38.2					Mx	Z 2.1 25
		Gb	iP	19 49 59.1				Sk	iP	05 40 41.8 D
		Um	iP	19 49 20.8					ipP	05 41 03.2
		Ka	iP	19 49 53.8					isP	05 41 12.6
		Ud	eP	19 49 47				Gb	iP	05 40 42.4 D
		Ryukyu Islands (h = 40 km).							ipP	05 41 03.3
									isP	05 41 12.7
"	1	Um	iP	22 53 50.5				Um	iP	05 41 02.8 D
			i(Sg)	22 54 13.5					ipP	05 41 24.1
									isP	05 41 33.4
"	2	Up	iP	00 36 04.6					iS	05 50 25
			ipP	00 36 15.4				Ka	iP	05 40 54.9 D
				micr sec					ipP	05 41 15.6
			pP	Z' 0.1 0.6					isP	05 41 25.3
		Ki	ipP	00 36 10.6				Ud	iP	05 40 46.1 D
		Sk	iP	00 36 21.2					ipP	05 41 07.6
			ipP	00 36 32.2					isP	05 41 17.2
		Gb	ipP	00 36 35.4				Dominican Republic.		
		Um	iP	00 35 57.3				h = 80 km (Up,Ki,Sk,Gb,Um, Ka,Ud).		
			ipP	00 36 07.8				m = 5.7 (Up,Ki).		
		Ka	iP	00 36 13.5				There is some tendency for		
			ipP	00 36 23.9				(cont.)		
		(cont.)								

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1968						1968				
May	2	(cont.)				May	2	(cont.)		
		pP and sP to appear earlier on the long-period records than on the short-period ones (Up,Ki,Um), the average difference for pP being 0.7 sec and for sP 1.4 sec.						Ki iS	23 51 15	
									micr sec	
								P	Z'	0.1 1.2
								PP	Z'	0.1 1.5
								SKS	E	0.9 6
								S	N	0.6 8
								Mx	E	0.9 19
								Mx	N	1.0 22
								Mx	Z	1.5 18
"	2	Ki iP	07 48 10.3				Sk	iPKP		23 44 16.3
		Gb iP	07 47 15.5					iPP		23 44 52.4
		Um iP	07 48 01.0			Gb	iPP			23 45 00.6
		iS	07 54 29			Um	iP			23 39 53.2 C
		Ud iP	07 47 26.6				i			23 40 01.5
		Azores Islands (h = 30 km).					ePP			23 44 09
							iSKS			23 50 19
"	2	Up iP	08 05 41.3 C				iS			23 51 17
		i	08 05 46.4				iSP			23 53 09
		Ki iP	08 06 08.3 C				i			23 54 01
			micr sec				Ka	iPKP		23 44 19.2
		P	Z'	0.2 1.8			iPP			23 45 01.0
		Sk iP	08 05 30.0			Ud	iP			23 40 11.8 C
		Gb iP	08 05 13.7				iPP			23 44 44.7
		Um iP	08 05 58.6							
		Ka iP	08 05 26.6							
		Ud eP	08 05 25							
		Azores Islands (h = 30 km).								
"	2	Up iP	09 37 42.9			"	3	Ud eP		01 23 46
		Ki iP	09 37 19.8							
		Um iP	09 37 28.0			"	3	Sk iP		03 33 37.7
		Ud iP	09 37 52.2					Ud iP		03 33 05.0
		Formosa (h = 30 km).								
"	2	Ki eP	13 16 49			"	3	Um iP		04 02 08.7
								i		04 02 16.5
"	2	Ud iP	14 22 20.7					Ka iP		04 00 42.9
		i	14 22 44.9					i		04 00 50.7
"	2	Up iP	23 40 03.6 ✓					Ud iP		04 01 35.7
		ePKP	23 44 10			"	3	Up iP		05 44 26.2 D
		iPP	23 44 31.3					ipP		05 44 53.0
		ePS	23 54 19					ipS		05 54 23
		iSS	23 59 20							
			micr sec							
		PP	Z'	0.1 1.1				P	Z'	0.2 0.7
		Mx	E	1.0 20				Mx	E	1.0 20
		Mx	N	1.8 22				Mx	N	1.8 22
		Mx	Z	1.1 17				Mx	Z	2.7 21
		Ki iP	23 39 48.1 C				Ki	iP		05 43 59.8 D
		iPP	23 44 08.5					ipP		05 44 26.7
		iSKS	23 50 13					iPa		05 48 22
		(cont.)						iS		05 53 13
								ipS		05 53 47
								(cont.)		

Band Sea (h = 130 km).
m = 6.3, M = 5.7 (Up,Ki).
M has not been corrected for focal depth.

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 3 (cont.)				May 4 (cont.)			
	Ki		micr sec	Ki	iP	03 32	03.2 C
	P	Z	0.6 5		ipP	03 33	52.9
	P	Z'	0.7 1.7				micr sec
	S	E	0.7 8		P	Z'	0.1 0.9
	Mx	E	0.7 12	Sk	iP	03 32	32.5 C
	Mx	N	0.4 13		iPP	03 35	36.9
	Mx	Z	0.8 12	Um	iP	03 32	16.8 C
	Sk	iP	05 44 27.9		i	03 32	36.9
	Gb	iP	05 44 45.9 D		ipP	03 34	09.0
		ipP	05 45 13.1	Ka	iP	03 32	52.4
	Um	iP	05 44 09.0 D	Ud	iP	03 32	42.6 C
		ipP	05 44 36.8		ipP	03 34	28.1
		iPa	05 49 19		iPP	03 35	51.7
		iS	05 53 27	South of Japan. h = 510 km (Ki,Um,Ud). m = 5.5 (Up,Ki).			
	Ka	iP	05 44 40.0	"	4	Gb	iP 04 44 45.5
		ipP	05 45 08.1	"	4	Up	iSg 10 09 53.2
		iPP	05 47 40.6			Ka	iSg 10 09 17.8
	Ud	iP	05 44 34.6			Ud	eSg 10 10 24
		ipP	05 45 02.7	Probably underwater explosion in the Baltic Sea, between Öland and Got- land.			
	Formosa. h = 110 km (Up, Ki,Gb,Um,Ka,Ud). m = 5.9, M = 5.4 (Up,Ki). M has not been corrected for focal depth.						
"	3	Sk	iP 08 17 12.5				
"	3	Um	iP 12 39 43.0	"	4	Up	iP 10 30 16.2
			i(Sg) 12 39 52.3	"	4	Ki	iP 10 52 32.5
"	3	Up	iP 16 24 27.8	"	4	Ki	iP 11 08 15.5
		Ki	iP 16 23 34.5			Ud	iP 11 08 39.3
			micr sec	"	4	Up	iP 11 54 56.7
		P	Z' 0.1 1.0				i(Sg) 11 55 05.6
	Sk	iP	16 24 04.2	"	4	Up	iP 12 44 21.4
		ipP	16 24 12.2			Ud	iP 12 44 00.7
	Gb	iP	16 24 42.1	"	4	Ki	iSg 16 38 57.6
		ipP	16 24 52.4			Sk	iSg 16 39 02.2
	Um	iP	16 24 01.8			Um	iSg 16 39 25.0
		ipP	16 24 12.4	Nordlands Fylke, Norway, 66.4°N, 14.8°E. Origin time = 16 37 29.			
		iPcP	16 24 41.6	"	4	Ud	iP 18 02 27.5
	Ka	iP	16 24 51.0				i 18 02 37.0
	Ud	iP	16 24 26.7 C	"	4	Um	iPKS 18 15 34
	Unimak Island. h = 40 km (Sk,Gb,Um).						eSS 18 31 35
"	3	Ka	iP 16 39 09.8	Easter Island (h = 30 km).			
"	3	Sk	iP 23 51 42.7				
"	4	Up	iP 03 32 35.3 C				
			micr sec				
		P	Z' 0.2 0.6				
	(cont.)						

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
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1968				1968			
May	4	Ki	iP	18 20 15.3	May	5	(cont.)
		Um	eP	18 20 43			Ud iPKP 09 25 50.9 D
		Ud	eP	18 21 09			New Zealand. h = 220 km (Um).
"	4	Um	iP	20 24 20.3	"	5	Um iPKP 11 06 19.7
			i	20 24 31.9			Fiji Islands (h = 40 km).
"	4	Ud	iP	21 40 15.5	"	5	Um i(Sg) 12 07 44.7
"	4	Ki	iP	22 22 26.7	"	5	Ki i(Sg) 16 53 51.7
		Sk	eP	22 22 44	"	5	Ki iP 18 16 30.3
		Um	iP	22 22 33.0	"	5	Ki iP 21 16 05.0
		Ud	iP	22 22 52.1			Ud iP 21 16 39.9 C
		Talaud Islands (h = 50 km).					Formosa (h = 30 km).
"	4	Up	iP	23 06 20.4 C	"	5	Um iP 21 37 47.4
		Um	iP	23 06 02.5	"	6	Ki i(Sg) 03 09 01.2
		Ud	iP	23 06 27.6	"	6	Um iP 09 44 03.4
		Bonin Islands (h = 480 km).					Ka iP 09 42 56.3
"	5	Ud	iP	02 47 52.3			Turkey (h = 20 km).
"	5	Ki	iP	03 17 45.8	"	6	Ki iPn 10 16 25.7
		Mindanao (h = 15 km).					iSn 10 17 26.3
"	5	Up	i(P)	05 57 25.2			iLg1 10 17 45.8
		Sk	iP	05 55 10.9 C			D = 570 km = 5.1°
"	5	Ud	iP	07 02 06.2			Possibly northwest Russia.
"	5	Up	iP	07 32 38.4			Origin time = 10 15 06.
			ipP	07 32 48.7			Explosion?
		Ki	eP	07 32 04	"	6	Ki iP 11 12 18.5 C
		Um	iP	07 32 18.7			Venezuela (h = 30 km).
			ipP	07 32 28.0	"	6	Ki iP 11 22 07.2
		Ud	iP	07 32 47.6			Ud iP 11 22 59.6
		Japan. h = 40 km (Up,Um).					Aleutian Islands (h = 30 km).
"	5	Ud	iP	08 48 03.7	"	6	Ka iP 13 17 59.6
"	5	Up	iPKP	09 25 45.0 D	"	6	Ki iP 14 50 10.3
				micr sec			micr sec
			PKP	Z' 0.1 0.8			P Z' 0.1 1.5
		Ki	iPKP	09 25 12.6	Sk	iP	14 50 01.6
			i	09 25 17.5	Gb	iP	14 50 11.0 C
				micr sec	Um	iP	14 50 16.9
			PKP	Z' 0.2 1.5		ipP	14 50 46.5
		Sk	ePKP	09 25 27	Ka	iP	14 50 22.8
		Gb	iPKP	09 26 00.1	Ud	iP	14 50 09.9
		Um	iPKP	09 25 20.1			Guatemala. h = 120 km (Um).
			i	09 25 30.0			
			ipPKP	09 26 16.8			
			iSKP	09 28 50.4			
		(cont.)					

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1968				1968			
May 6	Up	iPKP	17 57 15.4	May 7	(cont.)		
	Ki	iPKP	17 56 43.0		Um	iP	09 12 49.8
			micr sec			ipP	09 13 32.7
		PKP	Z' 0.1 1.5			iS	09 23 03
	Sk	iPKP	17 57 05.1			isS	09 24 14
		i	17 57 13.1		Ka	eP	09 12 38
	Um	iPKP	17 56 53.1		Ud	iP	09 12 34.0
		i	17 57 09.6			ipP	09 13 21.7
	Ud	ePKP	17 57 09		Colombia. h = 170 km (Up, Ki, Gb, Um, Ud).		
	South of Kermadec Islands (h = 160 km).				m = 5.7 (Up, Ki).		
" 6	Um	iP	18 32 37.0	" 7	Up	eP	10 43 13
" 6	Um	iP	18 53 30.7			i	10 45 06.8
" 6	Up	iP	20 57 06.9 D	" 7	Ki	iP	10 51 01.6
			micr sec			i	10 51 51.4
		P	Z' 0.1 0.6		Um	iP	10 51 07.2
	Ki	iP	20 57 15.9			i	10 51 50.4
			micr sec			i	10 52 02.0
		P	Z' 0.1 0.6	" 7	Um	iP	11 30 33.7
	Sk	eP	20 57 32			i	11 30 47.2
	Gb	iP	20 57 28.9		Ud	iP	11 30 45.9
	Um	iP	20 57 05.0	" 7	Up	iP	13 24 43.2
		iPP	20 58 41.5			i	13 24 50.6
	Ka	iP	20 57 11.4			i	13 24 57.5
	Ud	iP	20 57 23.3	" 7	Ud	iP	23 51 44.1
	Hindu Kush (h = 230 km). m = 5.4 (Up, Ki).				EL Salvador (h = 90 km).		
" 7	Ki	iP	02 56 54.1	" 8	Up	iPKP2	11 20 39.6
" 7	Um	iP	04 35 16.0		Ki	iPKP2	11 20 35.0
" 7	Ud	iP	08 41 09.1			i	11 20 42.1
	Hindu Kush.						micr sec
" 7	Up	iP	09 12 43.6			PKP2	Z' 0.3 1.8
		i	09 12 49.9		Gb	iPKP2	11 20 50.5
		ipP	09 13 29.6			i	11 21 05.9
			micr sec		Um	iPKP2	11 20 37.3
		P	Z' 0.1 0.6			i	11 20 43.0
	Ki	iP	09 12 47.1 C		Ka	i(PKP2)	11 20 37.5
		iS	09 23 06		Ud	iPKP2	11 20 48.5
		isS	09 24 21		Macquarie Islands (h = 30 km).		
			micr sec	" 8	Um	iP	12 03 33.1
		P	Z' 0.3 1.5			i	12 03 46.3
		S	N 0.5 8	" 8	Up	iP1	12 28 42.6
	Sk	iP	09 12 31.4			iP2	12 28 44.9
		i	09 12 32.9			iP3	12 28 48.7
	Gb	iP	09 12 26.5			iS	12 38 10
		ipP	09 13 06.8		(cont.)		
	(cont.)				(cont.)		

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1968					1968					
May 8 (cont.)					May 8 (cont.)					
Up			micr	sec						
	P	N	0.5	3						
	P	Z'	0.4	1.0						
	S	E	4.0	10						
	S	N	3.9	10						
	Mx	E	6.1	21	"	8	Um	iP	12 48 54.5	
	Mx	N	4.3	18				i	12 48 59.0	
	Mx	Z	3.9	20						
	D = 8150 km = 73 1/2°.				"	8	Sk	eP	12 56 27	
Ki	iP1		12 28	01.1				i	12 56 35.2	
	iP2		12 28	03.2						
	iP3		12 28	07.4	"	8	Um	iP	13 29 24.7	
	iS		12 36	50				Ud	iP	13 29 30.0
	iSSS		12 44	04						
	iP'P'		12 56	34.5	"	8	Sk	iP	16 20 09.5	
			micr	sec						
	P	Z	1.3	4	"	8	Up	iP	22 05 03.0	
	P	Z'	1.2	1.9				Um	iP	22 04 57.1
	S	E	6.1	10				Ud	iP	22 05 17.1
	S	N	4.5	10						
	Mx	E	7.1	19	"	8	Up	iP	22 52 36.9	
	Mx	N	5.5	19				i	22 52 42.3	
	Mx	Z	13	19				iPP	22 54 09.2	
	D = 7400 km = 66 1/2°.									
Sk	iP1		12 28	16.0						
	iP2		12 28	18.4						
	iP3		12 28	22.2						
Gb	iP1		12 28	46.6						
	iP2		12 28	49.2						
	iP3		12 28	52.9						
Um	iP1		12 28	23.2						
	iP2		12 28	25.8						
	iP3		12 28	30.0						
	iS		12 37	36						
	iSSS		12 45	13						
	iP'P'		12 56	16.5						
	i		12 56	29.8						
Ka	iP1		12 28	58.8						
	iP2		12 29	01.7						
	iP3		12 29	05.5						
	i		12 29	10.4						
Ud	iP1		12 28	35.8						
	iP2		12 28	38.6						
	iP3		12 28	42.6						
	iPP		12 31	24.7						
Off coast of Oregon (h = 30 km). m = 6.6, M = 6.0 (Up,Ki). Multiple P-waves, denoted P1, P2 and P3 above. In average, P2 - P1 = 2.5 sec and P3 - P1 = 6.5 sec. P1 is smallest, P2 and P3 approximately equally large. (cont.)										
					"	9	Up	iPKP	00 05 22.7	
								i	00 05 34.1	
									micr sec	
								PKP	Z' 0.1 1.0	
	Ka	iPKP	00 05	36.9						
		i	00 05	43.5						
	Ud	iPKP	00 05	24.0						
		i	00 05	32.5						
Tonga-Kermadec Islands (h = 30 km).										

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1968				1968			
May 9	Up	iP	03 14 34.0	May 9	(cont.)		
			micr sec		Sk	iSg	10 42 43.5
		Mx	N 0.9 18		Um	iSn	10 40 34.9
	Ki	iP	03 13 50.8			iSg	10 41 12.8
			micr sec				Northwest Russia,
		Mx	E 0.9 20				67.3°N, 33.0°E.
		Mx	N 0.8 19				Origin time = 10 37 47.
		Mx	Z 1.3 18				Explosion?
	Sk	iP	03 14 05.3	" 9	Up	iPKP	10 45 54.4
		i	03 14 11.0		Ki	iPKP	10 45 33.7
	Gb	iP	03 14 35.8		Sk	iPKP	10 45 49.3
		i	03 14 41.9			i	10 45 53.3
	Um	iP	03 14 11.6		Um	iPKP	10 45 44.4
		i	03 14 17.7			i	10 45 55.0
		iS	03 23 23		Ud	iPKP	10 45 56.9 D
		iSSS	03 30 58				Probably south of Kermadec
	Ka	eP	03 14 48				Islands.
		i	03 14 52.0				Origin time = 10 26 04.
	Ud	iP	03 14 23.4	" 9	Um	iP	12 44 37.9
			Off coast of Oregon			i	12 44 53.5
			(h = 30 km).	" 9	Up	iPKP	12 48 20.7
			M = 5.1 (Up,Ki).		Sk	iPKP	12 48 16.5
			Multiplicity of P, to		Um	iPKP	12 48 10.6
			some extent resembling		Ka	iPKP	12 48 30.0
			the one mentioned for			i	12 48 45.3
			May 8, 12 28.		Ud	iPKP	12 48 23.0
" 9	Up	i(PKP)	07 39 42.1				South of Kermadec Islands
		iPKP	07 39 44.0				(h = 30 km).
		i	07 39 48.3	" 9	Ki	iPn	12 48 52.7
			micr sec			iSn	12 49 31.5
		PKP	Z' 0.1 0.5			iSg	12 49 46.1
	Ki	ePKP	07 39 23				D = 360 km = 3.2°.
	Sk	iPKP	07 39 38.7 C		Sk	eSg	12 52 34
		i	07 40 00.4		Um	iSg	12 51 21.8
	Gb	iPKP	07 39 52.1				Russia-Finland border
	Um	iPKP	07 39 31.4				region, 69.1°N, 28.5°E.
	Ka	iPKP	07 39 53.1 C				Origin time = 12 48 00.
		i	07 40 23.4				Explosion?
	Ud	i(PKP)	07 39 43.9	" 9	Ki	i(P)	12 51 41.5
		iPKP	07 39 46.3	" 9	Um	iP	13 04 54.1
			Kermadec Islands	" 9	Up	iP	14 33 42.1
			(h = 10 km).			micr sec	
" 9	Up	iPKP2	09 51 30.6			Mx	E 0.8 18
	Ki	iPKP	09 51 04.5			Mx	N 0.9 15
	Sk	iPKP	09 51 16.3			Mx	Z 1.1 14
	Um	iPKP	09 51 10.3		Ki	iP	14 33 05.9
			South of Kermadec Islands			(cont.)	
			(h = 40 km).				
" 9	Ki	iPn	10 39 00.7				
		iSn	10 39 58.8				
		iLg1	10 40 18.6				
			D = 530 km = 4.8°.				
			(cont.)				

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1968				1968			
May 9	(cont.)			May 9	(cont.)		
	Ki		micr sec		Sk iSg	18 05	15.5
	P	Z'	0.1 1.2		Um iSg	18 05	38.6
	Mx	E	1.8 18		i	18 05	43.9
	Mx	N	1.2 15		Nordlands Fylke, Norway, 66.4° N, 14.8° E.		
	Mx	Z	2.2 15		Origin time = 18 03 43.		
	Sk	iP	14 33 39.8 C				
	Gb	iP	14 34 02.0				
	Um	iP	14 33 21.3 C	" 9	Up	iP	18 15 40.4
	Ka	iP	14 34 00.2			ipP	18 16 08.5
	Ud	iP	14 33 50.1		Ki	iP	18 15 29.0 C
	Japan (h = 20 km).					ipP	18 15 55.7
	M = 5.4 (Up, Ki).						micr sec
" 9	Up	iPKP	15 13 00.3		P	Z'	0.1 1.0
	Sk	ePKP	15 12 54		Sk	iP	18 15 24.0
	Gb	iPKP	15 13 04.0		Gb	iP	18 15 32.9
	Um	iPKP	15 12 48.8		Um	iP	18 15 37.4
		i	15 12 57.4		Ka	iP	18 15 44.0
	Ka	i(PKP)	15 13 22.8		Ud	iP	18 15 32.8
	Ud	iPKP	15 13 01.7		Mexico. h = 100 km (Up, Ki).		
		i	15 13 16.0	" 9	Ki	iP	22 00 55.6
	South of Kermadec Islands (h = 30 km).			" 9	Um	iP	23 27 47.5
" 9	Um	iP	15 14 38.6			i	23 28 01.6
	Japan (h = 30 km).				Ud	eP	23 27 58
" 9	Up	iP	17 02 10.4 C	" 10	Um	iP	01 00 28.4
			micr sec			i	01 00 40.1
	P	Z'	0.1 0.6		Ud	iP	01 00 37.4
	Ki	iP	17 01 57.2	" 10	Up	iP	03 03 13.6
	Sk	iP	17 01 52.1 C		Ki	eP	03 03 10
	Gb	iP	17 02 02.5		Sk	iP	03 03 30.0
	Um	iP	17 02 06.6		Um	iP	03 03 08.9 D
	Ka	iP	17 02 13.6 C			i	03 03 28.1
	Ud	iP	17 02 01.5		Ud	iP	03 03 25.9
	Mexico (h = 140 km).			" 10	Up	iP	03 21 01.2
" 9	Ki	iPg	17 53 02.6		Ud	iP	03 21 02.1 C
		iSn	17 53 26.5		Aleutian Islands (h = 30 km).		
		iSg	17 53 39.6				
		D = 270 km = 2.4°.		" 10	Ki	iPn	04 35 04.2
	Sk	eSg	17 56 04			iP ^x	04 35 12.4
	Um	iSn	17 54 20.4			iSn	04 35 50.6
		iSg	17 54 51.4			iLg1	04 36 03.9
	North Finland, 67.5° N, 26.6° E.					D = 420 km = 3.8°.	
	Origin time = 17 52 17.				Sk	eSg	04 38 56
	Explosion?				Um	iSg	04 37 44.0
" 9	Ki	iSg	18 05 10.6		Russia-Norway border region, 69.5° N, 30.0° E.		
	(cont.)				Origin time = 04 34 04.		
					Explosion?		

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1968				1968			
May 10	Ud	eP	05 51 02	May 10	Um	iP	12 58 01.4
" 10	Ud	iP	09 18 24.3		Ud	iP	12 58 15.6
		i	09 18 30.7			i	12 58 21.3
" 10	Up	iP	09 35 18.8	" 10	Um	iP	13 41 01.0
		iS	09 44 58			i	13 41 07.0
			micr sec		Ka	iP	13 41 25.6
		S	E 0.4 4	" 10	Up	iPKP	13 43 49.3
		Mx	E 4.8 17		Sk	iPKP	13 43 44.0
		Mx	N 3.4 21		Ud	iPKP	13 43 53.8
		Mx	Z 5.7 18			i	13 43 56.8
			D = 8450 km = 76°				Kermadec Islands
	Ki	iP	09 34 53.9				(h = 60 km).
		i	09 35 50.1	" 10	Up	i(P)	13 59 38.4
			micr sec	" 10	Up	iP	15 21 07.0
		Mx	E 3.5 12			i	15 21 16.0
		Mx	N 1.6 12			iS	15 30 49
		Mx	Z 4.1 12				micr sec
	Gb	eP	09 35 44		Mx	E 3.5 17	
	Um	iP	09 35 01.9		Mx	N 3.4 21	
		iS	09 44 31		Mx	Z 5.7 18	
	Ud	iP	09 35 28.3				D = 8500 km = 76 1/2°
		i	09 35 35.9		Ki	iP	15 20 42.7
			Formosa (h = 20 km).				micr sec
			M = 5.9 (Up,Ki).		P	Z' 0.1 1.3	
" 10	Up	iP	09 37 59.9		Mx	E 3.5 12	
	Ki	iP	09 37 39.7		Mx	N 1.6 12	
	Sk	iP	09 37 37.1		Mx	Z 4.1 12	
	Um	iP	09 37 46.8		Sk	eP	15 21 12
		ipP	09 38 09.9		Gb	iP	15 21 38.5
			Mexico. h = 90 km (Um).		Um	iP	15 20 50.5
" 10	Ud	iP	10 30 29.2			iS	15 30 18
			Japan (h = 60 km).		Ud	iP	15 21 17.5
" 10	Um	iP	10 41 12.5				Formosa (h = 25 km).
		i	10 41 14.0				M = 5.9 (Up,Ki).
			Local?	" 10	Ki	iPKP	15 43 04.4
" 10	Ki	iPn	11 11 32.9 C				South Sandwich Islands
		iSn	11 12 32.3				(h = 30 km).
		iLg1	11 12 51.2	" 10	Up	iSg	15 56 37.4
			D = 560 km = 5.0°		Sk	iLg1	15 58 07.0
	Sk	iSg	11 15 19.4		Gb	iPn	15 55 44.6
	Um	iS ^x	11 13 28.5			iSg	15 56 06.7
		i	11 13 40.6		Um	iLg1	15 58 34.4
		iSg	11 13 46.0		Ud	iPg	15 55 52.4
			Northwest Russia, 67.3° N,			iSg	15 56 14.8
			33.4° E.				Västergötland, Sweden,
			Origin time = 11 10 14.				58.3° N, 14.1° E.
			Explosion?				Origin time = 15 55 19.

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1968				1968			
May 10	Sk	iP	16 46 57.8	May 11	(cont.)		
" 10	Up	iP	20 45 03.5		Sk	eP	02 00 10
		i	20 45 13.1		Um	iP	02 00 05.9
		iS	20 54 40		Ud	iP	02 00 17.4
			micr sec	" 11	Ud	eP	04 59 14
		P	Z' 0.1 1.2		Greenland Sea (h = 30 km).		
		Mx	E 3.6 16	" 11	Up	iP	12 18 26.5
		Mx	N 2.6 21			iX	12 18 42.9
		Mx	Z 5.4 17			iPn	12 19 02.3
		D = 8500 km = 76 1/2°.			Ki	iP	12 19 01.1
	Ki	iP	20 44 36.5			iPn	12 19 45.9
		i	20 44 43.2			iSn	12 25 26.8
			micr sec			i	12 27 01.0
		P	Z' 0.1 1.2				micr sec
		Mx	E 3.0 13			P	Z' 0.1 0.8
		Mx	N 1.3 12		Sk	iP	12 19 02.4
		Mx	Z 3.6 12		Um	iP	12 18 37.3
	Sk	iP	20 45 07.0			iX	12 18 53.9
		i	20 45 31.6		Ka	iP	12 18 24.7
	Gb	iP	20 45 33.9			i	12 18 36.8
		i	20 45 43.4		Ud	iP	12 18 44.2
	Um	iP	20 44 43.5			iX	12 19 01.2
		i	20 44 50.0		Caspian Sea (h = 15 km).		
		iS	20 54 11	" 11	Ki	iPKP	13 47 37.8
	Ud	iP	20 45 09.5		Um	iPKP	13 47 34.6
	Formosa (h = 20 km).				Argentina (h = 600 km).		
	m = 5.8, M = 5.9 (Up,Ki).			" 11	Ud	iP	14 48 06.2
" 10	Ud	iP	21 48 28.5			i	14 48 08.6
" 10	Up	iPKP	23 07 35.8 C	" 11	Up	iPKP	15 52 12.1 C
		i	23 07 39.8				micr sec
		iSKP	23 11 01.6			Mx	E 1.0 25
			micr sec			Mx	N 1.3 25
		PKP	Z' 0.1 0.5			Mx	Z 2.1 25
	Ki	iPKP	23 07 26.4		Ki	iPKP	15 52 02.8
		iSKP	23 10 37.5				micr sec
			micr sec			Mx	E 1.3 26
		SKP	Z' 0.1 1.2			Mx	N 0.7 20
	Sk	iSKP	23 10 53.2			Mx	Z 1.8 21
	Gb	iPKP	23 07 42.8 C		Sk	iPKP	15 52 12.1
	Um	iPKP	23 07 28.0		Um	iPKP	15 52 06.8 C
		i	23 07 35.2			ePS	16 02 14
		iSKP	23 10 48.9		Ud	iPKP	15 52 16.3 C
	Ka	iPKP	23 07 46.3		New Guinea (h = 80 km).		
	Ud	iPKP	23 07 34.9		M = 5.6 (Up,Ki).		
		iSKP	23 11 02.9		M not corrected for focal depth.		
	Fiji Islands (h = 200 km).			" 11	Ki	eSg	16 33 44
" 11	Up	iP	02 00 26.0	(cont.)	(cont.)		
	Ki	iP	01 59 56.2				
		i	02 00 07.3				
	(cont.)						

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1968				1968			
May 11 (cont.)				May 13 (cont.)			
	Ki	i	16 33 47.0		Ki		micr sec
	Sk	eSg	16 33 48		(S)	E	1.2 7
		i	16 33 57.0		Mx	E	2.9 13
	Um	iSg	16 34 11.1		Mx	N	2.2 12
	Probably Nordlands Fylke, Norway.				Mx	Z	3.3 12
	Origin time = 16 32 15.				D = 2950 km = 26 1/2°.		
"	11	Ki	iP 21 17 36.4		Sk	iP	02 52 07.8
		Sk	iP 21 17 50.4		i		02 52 18.9
		Sumatra (h = 110 km).			iSn		02 57 11.8
"	11	Um	iP 22 00 48.6		Gb	iP	02 51 41.6
"	12	Sk	iP 04 45 09.1		i		02 51 55.5
		Mexico (h = 60 km).			iX		02 52 46.8
"	12	Up	iP 05 30 27.4		Um	iP	02 51 45.5
		Ka	iP 05 30 32.2		iS		02 55 58.4
		Ud	iP 05 30 43.9		i		02 56 29
		Hindu Kush.			iLg2		02 59 35.6
"	12	Um	iPKP 07 13 43.5		Ka	iP	02 51 12.2
		i	07 13 55.5		i		02 51 27.3
		Ud	iPKP 07 13 31.8		iX		02 52 01.7
		Easter Island (h = 30 km).			iS		02 54 59.5
"	12	Sk	iP 16 51 18.2		iLi		02 56 08.5
		Panama (h = 160 km).			Ud	iP	02 51 40.3
"	13	Up	iP 02 51 24.5		i		02 51 44.5
		i	02 51 26.6		iSn		02 55 56.6
		iPP	02 51 44.3		Caucasus (h = 5 km).		
		iS	02 55 16		m = 5.6, M = 5.2 (Up, Ki).		
		iLg1	02 57 45		The phase X (Gb, Ka)		
		iLg2	02 58 11		corresponds to a group		
			micr sec		velocity of 6.85 km/sec.		
		P	Z' 0.2 0.7	"	13	Up	iPKP 03 13 02.5
		S	E 0.5 4				micr sec
		S	N 0.7 4			PKP	Z' 0.1 0.6
		S	Z' 0.8 2.0		Gb	iPKP	03 13 09.8
		Mx	E 3.6 19		Um	iPKP	03 12 58.6
		Mx	N 7.5 17		Ud	iPKP	03 13 04.4
		Mx	Z 4.3 17		Tonga-Kermadec Islands		
		D = 2350 km = 21°.			(h = 60 km).		
	Ki	iP	02 52 15.4	"	13	Ki	ePKP 04 15 13
		iPP	02 52 45.8			New Hebrides Islands	
		i(S)	02 57 06			(h = 15 km).	
		iSn	02 57 16.9	"	13	Up	eP 19 48 25
		iLg2	03 01 05.2			Ki	iP 19 48 23.8
			micr sec			i	19 48 30.4
		P	Z' 0.2 0.9			Sk	iP 19 48 10.2
		(cont.)				Um	iP 19 48 32.3
						i	19 48 36.6
						Ud	iP 19 48 11.8
						Venezuela (h = 50 km).	

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Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 13	Ki	iP	20 33 51.4	May 14	(cont.)		
	Ud	iP	20 34 47.3		Up	micr	sec
	Kamchatka (h = 30 km).				S	E	2.4 10
" 13	Up	iP	21 16 09.4		S	N	3.1 14
	Ki	iP	21 16 46.2		Mx	E	4.7 19
	Um	iP	21 16 32.6		Mx	N	5.7 19
	South Atlantic Ocean (h = 30 km).				Mx	Z	9.7 17
" 13	Ki	iP	23 18 38.5		D = 8200 km = 74°		
" 14	Um	iP	01 30 43.3	Ki	iP		14 15 55.2 C
" 14	Up	iP	02 48 49.9		iPP		14 18 29
	Ki	iP	02 48 58.6		iS		14 24 45
		i	02 49 21.5		ipS		14 25 35
	Sk	iP	02 49 16.0 C		isS		14 25 58
	Gb	iP	02 49 11.5		iP'P'		14 44 00.5
	Um	iP	02 48 48.2			micr	sec
	Ud	iP	02 49 06.9 C		P	E	1.6 8
	Hindu Kush (h = 130 km).				P	N	0.9 9
" 14	Up	iPKP	05 56 20.3 C		P	Z	5.1 8
	Ki	iPKP	05 56 07.2		P	Z'	0.8 0.9
	Sk	iPKP	05 56 14.0		PP	Z	2.8 9
	Gb	iPKP	05 56 29.1 C		S	E	4.4 12
	Um	iPKP	05 56 08.1		S	N	2.4 12
		i	05 56 18.1		P'P'	Z'	0.3 2.0
	Ka	iPKP	05 56 31.5		Mx	E	4.8 16
	Ud	iPKP	05 56 20.7		Mx	N	3.5 17
	Tonga-Kermadec Islands (h = 120 km).				Mx	Z	9.2 18
" 14	Ki	eSg	10 53 04		D = 7650 km = 69°		
	Sk	eSg	10 52 25	Sk	iP		14 16 25.8 C
		i	10 52 35.4	Gb	iP		14 16 45.0
	Um	iSg	10 51 05.8		i		14 16 47.2
	Esthonia. Explosion?				ipP		14 17 27.5
" 14	Ki	i(Sn)	11 28 35.0	Um	iP		14 16 07.5 C
		i(Lg1)	11 28 54.6		iPcP		14 16 26.9
	Possibly northwest Russia. Explosion?				ipP		14 16 49
" 14	Up	iP	14 16 26.2 C		iPP		14 18 46
		iS	14 25 45		iS		14 25 10
		i(sS)	14 26 47	Ka	iP		14 16 44.1 C
			micr sec		ipP		14 17 32.0
	P	E	0.8 3		i		14 18 32.9
	P	N	0.6 3	Ud	iP		14 16 34.6 C
	P	Z	3.0 3		Ryukyu Islands. h = 170 km (Ki,Gb,Um,Ka). m = 6.4, M = 6.0 (Up,Ki). M not corrected for focal depth.		
	P	Z'	0.7 0.6	" 14	Um	iP	16 46 51.4
	(cont.)			" 14	Gb	iP	17 13 01.5
				" 14	Ka	iP	17 34 57.5
					i		17 36 39.4

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 14	Up	eL	19 48	May 15	(cont.)		
			micr sec		Ki		micr sec
		Mx	N 0.8 19		P	N	0.3 5
	Ki	eL	19 46		P	Z	0.5 4
			micr sec		P	Z'	0.2 1.3
		Mx	N 0.3 10		pP	Z'	0.3 1.5
" 14	Up		----		S	E	0.5 7
			micr sec		S	N	0.8 5
		Mx	E 0.8 18		Mx	E	1.0 16
		Mx	N 1.5 19		Mx	N	1.1 16
		Mx	Z 1.1 17		Mx	Z	2.3 17
	Ki	iP	19 56 52.5		D = 9300 km = 83 1/2°.		
			micr sec	Gb	ipP		08 03 01.3
		Mx	E 0.5 14	Um	iP		08 03 22.3 D
		Mx	N 0.6 12		ipP		08 03 29.6
		Mx	Z 0.6 14		iS		08 13 24
	Um	eP	19 57 02	Ka	iP		08 02 40.9
	Ud	iP	19 57 30.4		ipP		08 02 49.4
	China (h = 30 km).			Ud	iP		08 03 02.7
	M = 5.2 (Up,Ki).				ipP		08 03 10.9
" 15	Ki	iP	00 37 12.6		Zambia. h = 30 km (Up,Ki, Um,Ka,Ud).		
	Um	iP	00 37 22.6		m = 6.0, M = 5.6 (Up,Ki).		
	Ud	iP	00 37 52.2	" 15	Ki	iPn	12 27 30.5 C
	China (h = 30 km).					iSn	12 28 19.5
" 15	Um	eP	03 16 22			iLg1	12 28 34.9
		i	03 16 31.0			D = 460 km = 4.1°.	
	Ud	iP	03 16 36.0		Um	iSg	12 30 05.2
" 15	Um	iP	05 51 35.5		Probably northwest Russia.		
" 15	Um	iP	06 21 02.5		Origin time = 12 26 26.		
		i	06 21 14.0		Explosion?		
	Ud	iP	06 21 15.1	" 15	Ka	iP	14 29 55.4
		i	06 21 32.7	" 15	Up	iP	15 18 02.1
" 15	Up	iP	08 03 00.7		Um	iP	15 17 44.6
		ipP	08 03 10.6	" 15	Up	iPKP	15 20 13.5
		iS	08 12 36			i(PP)	15 23 38
			micr sec			i(PKS)	15 23 48
		P	Z' 0.1 1.1				micr sec
		pP	Z' 0.1 0.5		PKP	N	0.5 6
		S	N 0.5 5		PKP	Z	1.7 7
		Mx	E 0.8 18		PKP	Z'	0.2 1.0
		Mx	N 2.0 17		(PP)	N	0.7 6
		Mx	Z 2.2 17		(PKS)	E	0.4 5
		D = 8450 km = 76°.			Mx	E	3.8 22
	Ki	iP	08 03 42.9 D		Mx	N	7.1 23
		ipP	08 03 52.5		Mx	Z	8.2 21
		iS	08 14 03	Ki	iPKP		15 19 56
	(cont.)				i		15 20 02.9
					ipP		15 23 00
					(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

May 15

(cont.)

Ki	ePKS		15	23	39
			micr	sec	
	PKP	Z	0.6	6	
	PP	N	0.3	7	
	PKS	E	0.7	6	
	Mx	E	7.0	21	
	Mx	N	7.0	21	
	Mx	Z	13	24	
Gb	iPKP		15	20	21.1
	i		15	20	27.7
	i		15	20	35.4
Um	iPKP		15	20	00.2
	iPP		15	23	28.0
	iSS		15	41	55
Ka	iPKP		15	20	23.2
	i		15	20	27.7
	i		15	20	38.1
Ud	iPKP		15	20	16.6
	i		15	20	21.3

Kermadec Islands

(h = 30 km).

m = 6.2, M = 6.6 (Up,Ki).

" 15 Ud iPKP 22 13 38.3
Tonga-Kermadec Islands
(h = 440 km).

" 16 Up iP 00 59 55.7 ✓

" 16 Up iP 01 00 09.1 ✓
iS 01 09 29
micr sec
P E 8.8 12
P N 14 14
P Z 40 16
P Z' 0.8 1.2
Ki iP 00 59 26.7 C
iS 01 08 06
micr sec
P E 13 16
P N 13 16
P Z 39 14
P Z' 1.3 1.5
S E 57 14
S N 48 13
Gb iP 01 00 31.4 C
Um iP 00 59 45.5 C
Ka iP 01 00 31.1
Ud iP 01 00 15.7 C
i 01 00 26.8

Japan (h = 5 km).

m = 7.3 (Up,Ki).

The origin time 00 48 55.4,
given by USCGS, refers to
this foreshock.

1968

May 16

Up	iP		01	00	45.0
	iPP		01	03	21
			micr	sec	
	P	E	19	7	
	P	N	21	6	
	P	Z	27	5	
	P	Z'	2.2	0.7	
	PP	N	22	5	
	PP	Z	26	5	
Ki	iP		01	00	03.1
	iS		01	08	39
			micr	sec	
	P	E	13	6	
	P	N	13	6	
	P	Z	36	5	
	P	Z'	8.5	1.0	
Gb	iP		01	01	06.6
	iPP		01	03	48.7
	iS		01	10	34.4
Um	iP		01	00	18.8
Ka	iP		01	01	05.1
Ud	iP		01	00	52.5

Japan.

Origin time = 00 49 30.

m = 7.8 (Up,Ki).

" 16 Up iP 01 01 04
iS 01 10 04
micr sec
P E 23 4
P N 40 6
P Z 42 4
Mx E 1700 20
Mx N 2500 20
Ki iP 01 00 31
micr sec
P E 41 6
P N 29 6
Um iS 01 09 39.2

Japan.

Origin time = 00 49.9.

m = 8.2, M = 8.6 (Up,Ki).

This great Japanese shock
was according to our
records a triple shock. We
have here separated the
phases into these three
shocks, the two preceding
ones being foreshocks and
this one the major shock.
There is some indication,
though not so clear, of
still another foreshock
(cont.)

16
30
31
32
33
34
35
36
37
38
39
40

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

May 16 (cont.)
with P about 11 sec after
the first P.
Mx(Up) has been measured
on Wiechert. The largest
shock could be read
reliably only on long-
period instruments,
thanks to their lower
magnification. Clear PL
waves are recorded all
through the body-wave
train.
Approximate origin times
are given below for those
shocks in this series
which have not been re-
ported by the USCGS.

" 16	Up	iP	01 16 06.0	
		i	01 16 15.7	
		i	01 16 25.9	
			micr sec	
		P	Z' 0.1 0.7	
	Ki	iP	01 15 21.9	
			micr sec	
		P	Z' 0.2 1.0	
	Gb	iP	01 16 25.6	
	Um	iP	01 15 39.4	
	Ud	iP	01 16 09.8	
			Japan (h = 30 km).	
			m = 6.2 (Up,Ki).	
" 16	Up	iP	01 23 31.5	D
	Um	iP	01 23 07.9	
	Ud	iP	01 23 38.5	
			Japan.	
			Origin time = 01 12 18.	
" 16	Up	iP	01 27 04.0	
			micr sec	
		P	Z' 0.1 1.2	
" 16	Up	iP	01 43 36.7	
	Ud	iP	01 43 44.1	
			Japan (h = 30 km).	
" 16	Ud	iP	01 52 45.1	
" 16	Up	iP	01 57 57.7	
" 16	Up	iP	02 00 37.8	

1968

May 16	Up	iP	02 02 52.8	
	Ki	iP	02 02 10.6	
	Um	iP	02 02 26.7	
	Ud	iP	02 02 59.7	
			Japan.	
			Origin time = 01 51 38.	
" 16	Up	iP	02 03 34.7	C
		i	02 03 56.6	
			micr sec	
		P	Z' 0.1 1.0	
	Ki	iP	02 02 52.8	
		i	02 03 05.7	
	Gb	eP	02 03 55	
	Um	iP	02 03 11.1	
	Ud	iP	02 03 41.1	
		i	02 03 53.7	
			Japan.	
			Origin time = 01 52 20.	
			The second phases (Up,Ki, Ud) could be P of new aftershocks.	
" 16	Up	iP	02 04 16.8	
" 16	Up	iP	02 04 45.6	
" 16	Up	iP	02 05 59.6	
" 16	Ud	eP	02 10 45	
" 16	Up	iP	02 11 36.0	
		i	02 11 44.5	
	Um	iP	02 11 12.0	
	Ud	iP	02 11 42.2	
			Japan.	
			Origin time = 02 00 21.	
" 16	Up	iP	02 12 29.3	
	Ki	iP	02 11 47.5	
	Um	iP	02 12 05.4	
	Ud	iP	02 12 36.4	
			Japan.	
			Origin time = 02 01 15.	
" 16	Ki	iP	02 12 02.6	
" 16	Ud	iP	02 30 02.5	
" 16	Um	iP	02 30 47.4	
" 16	Up	iP	02 37 34.7	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 16	Ki	i(P)	02 39 54.1	May 16	Up	eP	03 56 56
	Ud	iP	02 40 30.1		Ki	iP	03 56 14.5
" 16	Ki	eP	02 41 38		Ka	iP	03 57 19.4
	Ud	iP	02 42 28.0		Ud	iP	03 57 04.5
		i	02 42 42.2		Japan (h = 30 km).		
	Japan.			" 16	Ud	iP	04 13 02.7
	Origin time = 02 31 07.			" 16	Ki	iP	04 26 16.3
" 16	Um	iP	02 47 37.9		Ud	iP	04 27 13.0
		i	02 47 44.7		Japan (h = 30 km).		
	Ud	i(P)	02 48 25.4	" 16	Ud	iP	04 28 04.8
" 16	Ud	iP	03 00 10.6	" 16	Ud	iP	04 35 52.0
" 16	Ud	iP	03 01 38.6	" 16	Up	iP	04 46 08.8 D
		i	03 01 47.6				micr sec
" 16	Ki	eP	03 08 33		P	Z'	0.1 1.0
		i	03 08 44		Ki	iP	04 45 26.3
	Um	iP	03 08 50.5		Gb	iP	04 46 30.6
	Ud	iP	03 09 21.5		Um	iP	04 45 45.2
	Japan.					i	04 45 54.3
	Origin time = 02 58 01.				Ka	iP	04 46 29.8
" 16	Ki	eP	03 20 22		Ud	iP	04 46 16.3
	Ud	iP	03 21 17.9			i	04 46 29.2
	Japan.				Japan (h = 30 km).		
" 16	Ki	eP	03 25 31	" 16	Um	iP	04 49 31.7
	Ud	iP	03 26 19.0	" 16	Ki	i(P)	04 52 33.9
	Japan.				Um	i(P)	04 52 45.9 D
	Origin time = 03 14 58.				Ud	i(P)	04 53 30.9
" 16	Um	iP	03 27 43.3		Japan.		
" 16	Ki	iP	03 31 07.3	" 16	Ki	iP	04 54 41.2
" 16	Ki	eP	03 38 06	" 16	Um	iP	04 59 49.2
		i	03 38 23.1	" 16	Um	iP	05 00 19.8
	Um	iP	03 38 26.2		Ud	iP	05 00 52.8
	Ud	i(P)	03 39 05.0		Japan.		
	Japan.				Origin time = 04 49 31.		
" 16	Um	i(P)	03 47 15.3	" 16	Ki	iP	05 08 38.3
	Ud	iP	03 47 35.7		Ud	iP	05 09 27.5
	Japan.				Japan (h = 25 km).		
" 16	Ki	i(P)	03 49 33.7	" 16	Um	iP	05 11 33.2
	Ud	eP	03 50 33	" 16	Ud	iP	05 14 53.1
	Japan.			" 16	Ud	iP	05 17 12.5
" 16	Um	eP	03 55 11				

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968						
May 16	Ki	iP	05 22 06.9	May 16	Ki	iP	06 29 32.5			
		ipP	05 22 14.7		Japan (h = 40 km).					
	Um	iP	05 22 21.7		"	16	Up	iP	06 41 36.7	
	Ud	iP	05 22 55.7				Ki	eP	06 40 52	
		ipP	05 23 04.8				Gb	iP	06 41 55.5	
	Japan. h = 30 km (Ki,Ud).						Um	iP	06 41 13.2	
"	16	Up	iP	05 26 20.9			Ka	iP	06 41 56.8	
		Ki	iP	05 25 38.6			Ud	iP	06 41 43.2	
		Um	iP	05 25 55.6			Japan (h = 15 km).			
		Ud	iP	05 26 27.5		"	16	Up	iP	06 47 58.8 D
		i	05 26 38.5					ipP	06 48 20.5	
	Japan (h = 20 km).								micr sec	
"	16	Um	iP	05 26 33.4				P	Z'	0.2 1.0
"	16	Ud	iP	05 42 09.4				Mx	E	4.0 23
"	16	Ki	iP	05 42 18.4				Mx	N	3.2 20
		Um	iP	05 42 31.5				Mx	Z	4.3 22
		Ud	iP	05 43 07.1			Ki	iP	06 47 16.3 D	
	Japan (h = 15 km).						ipP	06 47 29.3		
"	16	Ki	eP	05 51 35			ipP	06 49 29		
"	16	Up	iP	05 55 54.2			iS	06 55 47		
		ipP	05 56 04.0					micr sec		
			micr sec				P	Z'	0.2 1.0	
		pP	Z'	0.1 0.9			PP	E	0.4 6	
	Ki	iP	05 55 11.3				S	E	0.7 9	
		ipP	05 55 21.4				Mx	E	5.9 22	
			micr sec				Mx	N	5.5 18	
		Mx	E	3.3 21			Mx	Z	9.5 17	
		Mx	N	1.8 17			D = 7000 km = 63°			
		Mx	Z	3.2 17			Gb	iP	06 48 20.0	
	Gb	iP	05 56 14.8				Um	iP	06 47 35.2 D	
		ipP	05 56 24.3				Ka	iP	06 48 19.5 D	
	Um	iP	05 55 31.2 C				ipP	06 48 34.2		
		ipP	05 55 40.0				i	06 50 04.7		
	Ka	eP	05 56 16				ipP	06 51 03.1		
		ipP	05 56 24.7				Ud	iP	06 48 05.2	
	Ud	iP	05 56 00.0				ipP	06 48 15.5		
		ipP	05 56 10.3				Japan. h = 45 km (Ki,Ka, Ud).			
	Japan. h = 35 km (Up,Ki, Gb,Um,Ka,Ud).						m = 6.1, M = 5.9 (Up,Ki).			
"	16	Ki	eP	06 08 42	"	16	Ki	iP	07 08 18.1	
		Ud	iP	06 09 24.2	"	16	Ud	iP	07 13 31.8	
	Japan.			"	16	Ki	iP	07 31 14.8		
"	16	Um	i(P)	06 28 21.0			Ud	iP	07 32 31.2	
		Ud	iP	06 28 31.0	"	16	Ud	iP	07 34 38.8	
				"	16	Ki	eP	07 38 34		
							ipP	07 38 44.0		
						(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968						
May 16 (cont.)				May 16 (cont.)						
	Gb	eP	07 39 37		Um	iP	08 30 41.8			
	Um	iP	07 38 48.7		Ka	iP	08 31 26.2			
		ipP	07 39 01.6		Ud	iP	08 31 12.5			
	Ud	iP	07 39 23.5			ipP	08 31 26.6			
		ipP	07 39 32.9		Japan. h = 45 km (Up,Ud).					
	Japan. h = 40 km (Ki,Um, Ud).				"	16	Up	iP	08 57 50.9	D
	Origin time = 07 28 01.						Gb	eP	08 58 11	
"	16	Ki	iP	07 48 40.3			Um	iP	08 57 26.9	
"	16	Ki	eP	07 53 07			Ka	iP	08 58 11.4	
		Ud	iP	07 53 56.0			Ud	iP	08 57 57.1	
	Japan.							ipP	08 58 09.6	
	Origin time = 07 42 35.				"	16	Up	iP	09 09 19.8	D
"	16	Ud	iP	07 57 25.5				iS	09 18 21	
"	16	Up	iP	08 00 06.6					micr	sec
		Ki	iP	07 59 24.4			P	Z	0.5	3
			ipP	07 59 36.9			P	Z'	0.2	1.0
				micr			S	E	0.6	8
				sec			Mx	E	3.4	20
		Mx	E	1.1			Mx	N	6.4	21
		Mx	N	1.1			Mx	Z	5.8	20
		Mx	Z	2.0					D = 7800	km = 70°
	Gb	iP	08 00 28.2			Ki	iP	09 08 36.3		
	Um	iP	07 59 43.2				ipP	09 08 48.7		
		i	07 59 49.0				eS	09 17 02		
	Ka	iP	08 00 27.8					micr	sec	
	Ud	iP	08 00 13.4				P	Z'	0.4	1.5
	Japan. h = 45 km (Ki).						S	E	1.0	9
"	16	Ki	eP	08 01 46			S	N	0.7	8
		Ud	iP	08 02 41.5			Mx	E	5.3	21
	Japan.						Mx	N	6.3	18
"	16	Ki	iP	08 12 11.0			Mx	Z	15	18
"	16	Ki	eP	08 13 09					D = 7000	km = 63°
		Ka	eP	08 14 07			Gb	iP	09 09 40.8	
	Japan (h = 30 km).						Um	iP	09 08 55.0	
"	16	Ud	iP	08 18 24.2				i	09 08 56.2	
"	16	Ki	iP	08 26 41.4				iPP	09 11 21.1	
		Ud	iP	08 27 42.1				iS	09 17 32	
"	16	Um	i(P)	08 29 05.5			Ka	iP	09 09 41.1	
"	16	Up	iP	08 31 05.5			Ud	iP	09 09 25.5	
			ipP	08 31 15.8			Japan. h = 45 km (Ki).			
	Ki	iP	08 30 23.3			m = 6.1, M = 6.1 (Up,Ki).				
	(cont.)			"	16	Ud	iP	09 46 46.2		
						Japan (h = 30 km).				
"	16	Ki	iP	09 48 11.6	"	16	Ud	iP	09 52 39.2	
"	16	Ud	iP	09 52 47.0				i	09 52 47.0	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 16	Ki	eP	10 23 11	May 16	(cont.)		
		Japan (h = 30 km).			Um	iP'P'	11 18 23.2
" 16	Up	iP	10 50 06.2 D		i		11 18 39.1
		i	10 50 08.3		Ka	iP	10 50 27.2
		iPP	10 52 35		i		10 50 31.3
		iS	10 59 08		iPP		10 53 06.2
		iPS	10 59 32		iS		10 59 50.0
		iP'P'	11 18 12.8		Ud	iP	10 50 12.5
		i	11 18 30.0		i		10 50 15.4
			micr sec		iS		10 59 27.6
	P	E	7.9 7		Japan (h = 30 km).		
	P	N	10 6		m = 7.5, M = 8.0 (Up,Ki).		
	P	Z	17 6		Multiple P. Note that our		
	P	Z'	1.1 0.5		stations recorded		
	PP	E	3.3 5		dilatation for P in this		
	PP	N	6.0 5		case, but a clear com-		
	PP	Z	7.5 6		pression for the major		
	S	E	12 7		shock.		
	S	N	9.1 5	" 16	Gb	iP	11 17 45.6
	S	Z	5.6 6		Ud	iP	11 17 30.1
	P'P'	Z'	0.5 1.7		Japan.		
	Mx	E	720 22		Origin time = 11 06 20.		
	Mx	N	500 20	" 16	Ki	iP	11 26 11.3
	Mx	Z	450 20		Japan (h = 30 km).		
	D = 7650	km = 69°.		" 16	Ki	iP	11 38 47.7 ✓
Ki	iP		10 49 23.5 D		Um	iP	11 39 04.8
	i		10 49 26.3		Ud	iP	11 39 37.4
	iPP		10 51 44		Japan.		
	iS		10 57 50		Origin time = 11 28 26.		
	iPS		10 58 12	" 16	Ki	iP	11 41 02.7
	iP'P'		11 18 39.4		Ud	iP	11 41 52.4
			micr sec		Japan.		
	P	E	11 6		Origin time = 11 30 41.		
	P	N	9.0 6	" 16	Ki	iP	11 51 19.8
	P	Z	22 3		Um	iP	11 51 35.5
	P	Z'	1.9 0.6		Ka	iP	11 52 22.1
	PP	Z	11 6		Ud	iP	11 52 06.4
	S	E	23 9		i		11 52 24.3
	S	N	18 6		Japan.		
	P'P'	Z'	0.7 2.0		Origin time = 11 40 57.		
	Mx	E	770 22	" 16	Gb	iP	11 57 18.6
	Mx	N	530 18		Ka	iP	11 56 39.1
	Mx	Z	360 19	" 16	Gb	iP	12 02 20.4
	D = 6950	km = 62 1/2°.		" 16	Ki	iP	12 07 52.8
Gb	iP		10 50 27.3		Ud	iP	12 08 42.8
	i		10 50 29.7		Japan (h = 30 km).		
	i		10 50 40.8				
	iPP		10 53 12.0				
	iS		10 59 52.9				
Um	iP		10 49 41.3 D				
	i		10 49 45.0				
	(cont.)						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
May 16	Up	iP	12 20 41.8		May 16	Ki	iP	13 59 50.8	
		ipP	12 20 50.7						
	Ki	iP	12 19 59.1		" 16	Up	iP	14 00 53.7	
		ipP	12 20 11.3			Ki	iP	14 00 12.4	
			micr sec				ipP	14 00 21.2	
		P	Z' 0.1 1.0			Gb	iP	14 01 14.9	
	Gb	iP	12 21 02.7			Um	iP	14 00 30.1	
	Um	iP	12 20 18.0			Ka	iP	14 01 14.6	
	Ka	iP	12 21 02.3				ipP	14 01 23.3	
	Ud	iP	12 20 48.1			Ud	iP	14 00 59.7	
		ipP	12 20 58.0				ipP	14 01 10.1	
	Japan. h = 40 km (Up,Ki, Ud).					Japan. h = 35 km (Ki,Ka,Ud).			
	Origin time = 12 24 23.					Origin time = 13 49 50.			
" 16	Ka	iP	12 23 45.9 C		" 16	Ki	eP	14 03 14	
							ipP	14 03 23.2	
" 16	Ki	iP	12 34 44.5			Gb	iP	14 04 17.2	
	Ud	iP	12 35 34.3			Um	iP	14 03 32.0	
	Japan.					Ud	iP	14 04 02.9	
	Origin time = 12 24 23.						ipP	14 04 11.8	
	Japan. h = 40 km (Ud).					Japan. h = 35 km (Ki,Ud).			
" 16	Ki	iP	12 44 47.2 D			Origin time = 13 52 52.			
	Gb	iP	12 45 51.4		" 16	Ki	eP	14 13 03	
	Um	iP	12 45 05.8				ipP	14 13 16.2	
	Ud	iP	12 45 36.6			Um	i(P)	14 13 26.8	
		ipP	12 45 47.6			Ud	iP	14 13 51.7	
	Japan. h = 40 km (Ud).						ipP	14 14 05.2	
" 16	Ki	iP	12 56 02.3			Japan. h = 50 km (Ki,Ud).			
		ipP	12 56 13.3		" 16	Up	iP	14 14 33.2	
	Um	iP	12 56 20.6			Ki	iP	14 13 52.5 C	
		ipP	12 56 33.1				ipP	14 14 05.0	
	Ud	iP	12 56 48.4					micr sec	
	Japan. h = 40 km (Ki,Um).					P	Z'	0.1 0.9	
	Origin time = 12 45 40.					Gb	iP	14 14 55.2	
" 16	Ki	iP	13 02 31.8			Um	iP	14 14 10.8 C	
" 16	Ka	iP	13 11 51.8 C			Ka	iP	14 14 54.4	
	Ud	iP	13 11 50.6			Ud	iP	14 14 40.7	
		i	13 12 22.4			Japan. h = 45 km (Ki).			
	Origin time = 14 03 30.				" 16	Ki	iP	14 26 41.5	
" 16	Ki	iP	13 27 20.0 C			Um	iP	14 27 02.3	
	Um	i(P)	13 27 29.8			Ud	iP	14 27 28.6	
	Japan (h = 30 km).						ipP	14 27 38.8	
" 16	Ki	eP	13 30 30			Japan. h = 40 km (Ud).			
	Ud	i(P)	13 30 24.0		" 16	Ud	i(P)	14 54 57.0	
" 16	Up	iP	13 37 03.4				i	14 55 08.8	
	Ki	iP	13 36 14.0		" 16	Ud	i(P)	14 58 03.5	
	Um	iP	13 36 34.5				i	14 58 12.9	
	Japan (h = 30 km).								

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 16	Up	iP	15 03 39.2	May 16	Up	iP	16 03 35.2
		ipP	15 03 48.9		Ki	iP	16 02 53.7
	Ki	iP	15 02 56.1 C		Gb	iP	16 03 57.9
		ipP	15 03 05.7		Um	iP	16 03 12.6 D
			micr sec		Ud	iP	16 03 43.5
		P	Z' 0.1 1.4		Japan.		
		Mx	E 1.5 20		Origin time = 15 52 33.		
		Mx	N 0.7 18	" 16	Ud	iP	16 16 36.6
		Mx	Z 1.6 16	" 16	Ki	iP	16 21 33.5
	Gb	iP	15 03 59.5		Ud	iP	16 22 30.9
	Um	iP	15 03 11.5		Japan.		
		i	15 03 29.5	" 16	Up	iP	16 25 01.2 C
	Ka	iP	15 03 59.7			ipP	16 25 11.3
		ipP	15 04 10.1			iPP	16 27 40.4
	Ud	iP	15 03 45.2			iS	16 34 14
		ipP	15 03 55.5				micr sec
	Japan. h = 35 km (Up, Ki, Ka, Ud).				P	Z' 0.6 1.5	
" 16	Ki	iP	15 06 22.4		pP	E 0.3 3	
	Ud	iP	15 07 11.3		pP	N 0.4 3	
	Japan (h = 25 km).				pP	Z 0.9 3	
" 16	Ka	iP	15 15 10.6		pP	Z' 1.0 1.8	
" 16	Ud	i(P)	15 23 44.5		PP	N 0.6 6	
		i	15 23 53.8		PP	Z 1.5 7	
" 16	Ud	i(P)	15 27 39.9		PP	Z' 0.6 2.5	
" 16	Up	iP	15 31 38.3		S	E 4.0 11	
	Ki	iP	15 30 48.5		S	N 2.2 11	
			micr sec		Mx	E 19 21	
		Mx	E 0.6 17		Mx	N 17 20	
		Mx	Z 1.4 17		Mx	Z 12 22	
	Um	iP	15 31 07.5		D = 7900 km = 71°.		
	Ud	iP	15 31 38.1	Ki	iP	16 24 21.2 C	
	Japan (h = 30 km).				ipP	16 24 30.2	
" 16	Ki	i(P)	15 43 26.4		iPP	16 26 50.0	
	Ud	i(P)	15 43 19.0		iS	16 32 59	
" 16	Ki	iP	15 47 30.1			micr sec	
" 16	Ki	iP	15 48 33.7		P	E 0.9 7	
" 16	Ki	iP	15 59 35.8		P	N 0.6 7	
		ipP	15 59 48.6		P	Z 2.4 7	
	Ud	iP	16 00 27.6		P	Z' 0.9 2.0	
		ipP	16 00 41.4		pP	Z' 1.7 2.5	
	Japan. h = 50 km (Ki, Ud).				PP	Z' 0.5 2.0	
	Origin time = 15 49 16.				S	E 4.3 9	
					S	N 3.0 10	
					Mx	E 42 18	
					Mx	N 26 17	
					Mx	Z 34 15	
					D = 7150 km = 64 1/2°.		
				Gb	iP	16 25 23.2 C	
					ipP	16 25 33.0	
					iPP	16 28 08.5	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
May 16	(cont.)				May 16	Um	i(P)	17 35	18.4
	Um	iP	16 24 39.6	C		"	16	Up	iP
		ipP	16 24 48.8						17 39 19.8
		iS	16 33 32						17 39 34.0
	Ka	iP	16 25 21.5						micr sec
		ipP	16 25 30.9						Z' 0.1 1.2
	Ud	iP	16 25 09.0	C		Ki	iP	17 38	36.2
		ipP	16 25 19.0			Gb	eP	17 39	38
	Japan. h = 35 km (Up,Ki,Gb, Um,Ka,Ud).					Um	iP	17 38	54.9
	m = 6.5, M = 6.5 (Up,Ki).						i	17 39	02.6
	Consistently relatively long periods on the Z' records.						i	17 39	18.5
						Ka	iP	17 39	41.0
							i	17 39	47.1
						Ud	iP	17 39	26.3
						Japan (h = 30 km).			
"	16	Up	iP	16 33 11.3		"	16	Ki	iP
		Ki	iP	16 32 28.5				Ud	iP
		Gb	iP	16 33 29.5				Japan.	
		Um	iP	16 32 47.2				Origin time = 17 41 17.	
		Ka	iP	16 33 30.9		"	16	Ki	iP
		Ud	iP	16 33 16.9					17 59 37.9
		ipP	16 33 28.5			"	16	Ki	iP
		Japan. h = 45 km (Ud).							18 00 48.7
"	16	Ki	iP	16 50 27.0		"	16	Ki	e(P)
"	16	Ki	iP	16 56 13.1				Ud	iP
									18 04 36
									18 05 37.1
"	16	Ki	iP	16 59 44.0		"	16	Ki	iP
		Ud	iP	17 00 32.0				Um	iP
		ipP	17 00 45.0					Ud	iP
		Japan. h = 50 km (Ud).							18 05 30.9
									18 05 48.8
									18 06 20.0
"	16	Ud	iP	17 05 25.0				Japan.	
			i	17 05 35.0				Origin time = 17 55 09.	
"	16	Um	i(P)	17 26 12.6		"	16	Ki	eP
								Ud	eP
								Japan (h = 40 km).	
"	16	Um	i(P)	17 27 19.4		"	16	Up	iP
			i	17 27 33.2					18 54 26.3
"	16	Ud	e(P)	17 28 29					18 54 46.1
									18 56 57
									eS 19 03 27
									iPS 19 03 56
"	16	Up	iP	17 33 00.7					micr sec
		Ki	iP	17 32 17.2				P	Z' 0.8 1.3
		ipP	17 32 26.9					X	Z' 0.4 1.0
		Gb	iP	17 33 19.1				PP	Z' 0.2 1.0
		ipP	17 33 27.7					Mx	E 1.7 22
		Um	iP	17 32 34.5				Mx	N 2.4 20
		ipP	17 32 45.5					Mx	Z 2.9 22
		Ud	iP	17 33 04.2				D = 7650 km = 69°.	
		ipP	17 33 16.6					Ki	iP
		Japan. h = 40 km (Ki,Gb, Um,Ud).							18 53 44.5
								ipP	18 53 57.7
								(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968
May 16

(cont.)

Ki	iX'	18 54 04.1
	iPP	18 56 02
	iS	19 02 12
		micr sec
	P N	0.3 6
	P Z	0.6 5
	P Z'	0.7 1.0
	PP Z'	0.2 1.0
	S E	0.4 8
	S N	0.4 8
	Mx E	1.1 17
	Mx N	1.4 18
	Mx Z	3.2 17
		D = 7000 km = 63°.

Gb iP 18 54 47.4 C

ipP 18 55 01.8

iX 18 55 07.4

iPP 18 57 31.2

Um iP 18 54 03.1 C

ipP 18 54 17.1

iX 18 54 23.3

iPP 18 56 20.6

Ka iP 18 54 47.0 C

iX 18 55 06.7

iPP 18 57 30.3

Ud iP 18 54 33.2 C

iX 18 54 52.3

Japan. h = 50 km (Ki, Gb, Um).
m = 6.3, M = 5.5 (Up, Ki).

The very clear and sharp phase X, appearing in average 19.7 sec after P, is not quite clear: 1) pP; then the depth is 70 km, and the assumed pP above becomes unexplained; 2) sP; this fits travel-time tables, but the extraordinary large amplitude remains unexplained; 3) P of a new shock; this is the most likely explanation. This new shock would then have an origin time = 18 43 41.

" 16 Um iP 19 04 13.4
Ud iP 19 04 43.6

Japan.
Origin time = 18 53 33.

" 16 Up iP 19 27 51.4
iS 19 36 51

(cont.)

1968

May 16

(cont.)

Up			micr	sec
	P	Z'	0.2	1.2
	S	E	0.9	7
	S	N	0.7	5
	Mx	E	4.6	20
	Mx	N	5.0	22
	Mx	Z	3.2	20
			D = 7650 km = 69°.	

Ki iP 19 27 09.5

ipP 19 27 17.8

iS 19 35 36

iPS 19 35 49

micr sec

P Z 0.5 5

P Z' 0.1 0.9

S N 1.3 9

Mx E 7.0 21

Mx N 7.3 20

Mx Z 6.3 19

D = 7000 km = 63°.

Gb iP 19 28 12.5

Um iP 19 27 26.7

iPS 19 36 24

Ka iP 19 28 12.9

ipP 19 28 23.7

Ud iP 19 27 57.8

Japan. h = 35 km (Ki, Ka).

m = 6.0, M = 6.0 (Up, Ki).

" 16 Ud iP 19 48 20.5

" 16 Ki iP 19 54 17.7

Um iP 19 54 36.3

Ud eP 19 55 06

Japan (h = 30 km).

" 16 Ki iP 19 58 01.5 C

micr sec

P Z' 0.1 1.1

Um iP 19 58 11.1

Ud iP 19 58 32.4

Mariana Islands (h = 170 km).

" 16 Ud i(P) 20 02 13.4

" 16 Ki iP 20 14 06.9

Um iP 20 14 24.9

Ud iP 20 14 56.4

Japan (h = 50 km).

" 16 Ki iP 20 22 55.1

Um iP 20 23 13.6

Japan.

Origin time = 20 12 34.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
May 16	Up	iP	20 33 20.5		May 16	(cont.)			
		iS	20 42 21			Ka ipP	21 15 03.3		
		iPS	20 42 42			Ud iP	21 14 37.5		
						ipP	21 14 45.4		
		P	Z' 0.1 1.0			Japan. h = 30 km (Ki,Gb, Um,Ud).			
		S	E 0.7 9						
		Mx	E 6.1 20						
		Mx	N 6.3 22		" 16	Ki iP	21 33 34.6		
		Mx	Z 7.5 21			Ud iP	21 34 23.4		
		D = 7650 km = 69°				Japan (h = 30 km).			
	Ki	iP	20 32 37.6		" 16	Up iP	21 37 06.1 C		
		iS	20 41 02				micr sec		
		iScS	20 42 26			Mx E	0.6 20		
						Mx N	1.0 20		
		P	Z 0.5 6			Mx Z	0.6 20		
		P	Z' 0.2 1.0			Ki iP	21 36 23.9 C		
		S	E 1.8 11				micr sec		
		S	N 1.4 9			Mx E	1.4 17		
		S	Z 0.5 8			Mx N	1.0 17		
		Mx	E 11 20			Mx Z	0.9 17		
		Mx	N 9.9 18			Gb iP	21 37 27.2		
		Mx	Z 20 17			Um iP	21 36 39.2		
		D = 7000 km = 63°				i	21 36 42.5		
	Gb	iP	20 33 42.3			Ka iP	21 37 27.0		
		i	20 33 48.9			Ud iP	21 37 13.0		
	Um	iP	20 32 55.4			Japan (h = 30 km).			
		i	20 32 56.8			M = 5.3 (Up,Ki).			
		iS	20 41 33		" 16	Ki eP	21 38 56		
		iPS	20 41 59			Um iP	21 39 14.6 C		
		iScS	20 42 47			Ud iP	21 39 44.9 C		
	Ka	eP	20 33 40			ipP	21 39 53.1		
		i	20 33 42.0			Japan. h = 30 km (Ud).			
		i	20 33 52.2			Origin time = 21 28 35.			
		iPP	20 36 22.8		" 16	Ud i(P)	21 45 45.3		
	Ud	iP	20 33 25.9		" 16	Ki iP	21 56 28.3		
		i	20 33 27.2		" 16	Ki iP	22 07 54.7		
		Japan (h = 40 km).			" 16	Ud iP	22 37 50.5		
		m = 6.0, M = 6.2 (Up,Ki).			" 16	Ud i(PKP)	23 03 34.8		
		Multiple P.				Chile (h = 100 km).			
" 16	Ki	i(P)	20 52 16.9		" 16	Ki eP	23 07 31		
	Ud	i(P)	20 52 08.5 C			ipP	23 07 38.9		
" 16	Ki	iP	20 56 23.3			Ud iP	23 08 19.1		
" 16	Up	ipP	21 14 41.9			ipP	23 08 27.4		
	Ki	iP	21 13 48.0			Japan. h = 30 km (Ki,Ud).			
		ipP	21 13 55.1		" 16	Ki eP	23 07 31		
	Gb	iP	21 14 51.4			ipP	23 07 38.9		
		ipP	21 15 03.5			Ud iP	23 08 19.1		
	Um	iP	21 14 06.8 C			ipP	23 08 27.4		
		ipP	21 14 16.2						
		iPcP	21 14 37.1						
		(cont.)							

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

May 16 Ki iP 23 13 36.6
Um eP 23 13 55
Ud eP 23 14 23

Japan.
Origin time = 23 03 14.

" 16 Up iP 23 16 08.6 C
i 23 16 10.7
i 23 16 13.7
iPP 23 18 46
iS 23 25 22

micr sec
P E 0.8 4
P N 1.2 4
P Z 6.1 7
P Z' 1.1 1.1
PP E 1.0 4
PP N 1.8 5
PP Z 2.5 5
PP Z' 1.4 2.0
S E 7.6 13
S N 4.7 12
Mx E 65 16
Mx N 83 19
Mx Z 82 19

$D = 7850 \text{ km} = 70 \frac{1}{2}^{\circ}$.

Ki iP 23 15 26.6 C
i 23 15 29.0
i 23 15 31.9
iPP 23 17 48.5
iS 23 24 03

micr sec
P E 2.0 7
P N 1.9 9
P Z 6.4 7
P Z' 1.3 1.3
PP N 1.6 6
PP Z 3.2 5
S E 7.8 9
S N 6.7 11
Mx E 92 15
Mx N 69 15
Mx Z 170 16

$D = 7100 \text{ km} = 64^{\circ}$.

Gb iP 23 16 31.6
i 23 16 34.7
iPP 23 19 15.0
iS 23 26 06.7
Um iP 23 15 45.0 C
i 23 15 47.5
i 23 15 50.1
iPP 23 18 14
iPa 23 20 02

(cont.)

1968

May 16 (cont.)
Um iS 23 24 41
Ka iP 23 16 31.2
i 23 16 34.2
iPP 23 19 12.1
Ud iP 23 16 15.0
i 23 16 18.0
i 23 16 20.6
iPP 23 18 54.0

Japan (h = 40 km).
m = 6.9, M = 7.2 (Up, Ki).
Multiple P: three onsets
on Z' with successively
larger amplitudes.

" 16 Ud i(P) 23 34 16.3

" 16 Ud iP 23 49 39.0
Japan (h = 30 km).

" 16 Um iP 23 51 10.4

" 17 Up iP 00 02 52.8
ipP 00 03 02.0
Ki iP 00 02 10.6
Um iP 00 02 29.5
ipP 00 02 38.7
Ka iP 00 03 10.9
ipP 00 03 19.7
Ud iP 00 02 59.1
ipP 00 03 09.0

Japan. h = 30 km (Up, Um,
Ka, Ud).
Origin time = 23 51 35 on
May 16.

" 17 Up iP 00 07 51.5
Ki iP 00 07 10.6 C
ipP 00 07 21.0
Um iP 00 07 29.1 C
ipP 00 07 40.0
Ud iP 00 07 59.1
ipP 00 08 10.0
Japan. h = 40 km (Ki, Um, Ud).

" 17 Ki iP 00 15 28.2
Um iP 00 15 46.9
Ud iP 00 16 18.3
Japan (h = 30 km).

" 17 Um iP 00 30 24.0

" 17 Ud eP 00 35 44
Japan (h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 17	Ki	e(P)	01 07 33	May 17	(cont.)		
	Gb	i(P)	01 08 39.9		Um	iP	05 14 39.2
	Ud	e(P)	01 08 40		Ud	iP	05 15 09.2
		(Japan).				Japan.	
" 17	Ud	iP	01 11 26.5			Origin time =	05 03 59.
" 17	Ud	iP	01 49 19.5	" 17	Ki	i(P)	05 17 50.4
		i	01 49 25.9	" 17	Up	iP	05 30 52.1
" 17	Ki	iP	02 38 49.1		Ki	iP	05 30 10.6
		ipP	02 39 05.6			ipP	05 30 21.2
	Um	iP	02 39 07.9				micr sec
		ipP	02 39 22.9		Mx	E	1.0 21
	Ud	iP	02 39 38.5		Mx	N	0.5 20
		ipP	02 39 55.7		Mx	Z	1.1 17
		Japan. h = 60 km (Ki,Um, Ud).			Um	iP	05 30 28.1
" 17	Ki	iP	02 53 14.7			ipP	05 30 35.6
		Japan (h = 30 km).			Ud	iP	05 30 59.0 D
" 17	Ki	eP	02 57 16			ipP	05 31 07.5
	Um	iP	02 57 33.2			Japan. h = 30 km (Ki,Um,Ud)	
	Ud	iP	02 58 04.8	" 17	Up	iP	06 35 54.8
		Japan (h = 30 km).					micr sec
" 17	Ki	iP	03 00 08.3			P	Z' 0.1 1.0
" 17	Ki	eP	04 13 41			Mx	E 0.8 17
		Japan (h = 30 km).				Mx	N 1.0 16
" 17	Ki	eP	04 17 48			Mx	Z 0.9 18
	Gb	iP	04 19 02.3		Ki	iP	06 35 13.2
	Um	iP	04 18 08.4			ipP	06 35 22.4
	Ud	iP	04 18 39.0			eS	06 43 54
		Japan (h = 30 km).					micr sec
" 17	Ki	i(P)	04 44 04.0			S	E 0.4 9
" 17	Ki	eP	04 47 04			Mx	E 1.9 20
		ipP	04 47 13.9			Mx	N 1.2 19
	Um	iP	04 47 23.1			Mx	Z 1.4 15
		ipP	04 47 35.7			D = 7200 km = 65°	
	Ud	eP	04 47 50		Um	iP	06 35 31.7 C
		Japan. h = 40 km (Ki,Um).				ipP	06 35 41.1
" 17	Ud	i(P)	05 07 28.1			iS	06 44 28
" 17	Ud	i(P)	05 08 36.2		Ud	iP	06 36 01.4
		i	05 08 41.8			ipP	06 36 10.9
" 17	Ki	iP	05 14 20.7			Japan. h = 35 km (Ki,Um,Ud).	
		(cont.)				m = 5.8, M = 5.4 (Up,Ki).	
				" 17	Ki	iP	07 22 57.3
						Japan (h = 30 km).	
				" 17	Ud	iP	07 47 14.0
				" 17	Up	---	
						micr sec	
					Mx	E	0.4 21
					Mx	N	1.1 22
					Mx	Z	0.6 20
					(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

May 17

(cont.)

Ki	iPKP	08 16	29.8
	eSKP	08 19	43
		micr	sec
	SKP	E 0.4	10
	SKP	N 0.3	9
	Mx	E 0.8	18
	Mx	N 0.6	17
	Mx	Z 1.3	18
Um	iPKP	08 16	32.7

Loyalty Islands (h = 90 km).
M = 5.7 (Up,Ki).
M not corrected for focal
depth.

" 17

Up	iP	09 13	03.6
Ki	iP	09 12	18.2
	i	09 12	24.1
Um	iP	09 12	37.6
	i	09 12	49.2
Ud	iP	09 13	07.8

Japan (h = 30 km).

" 17

Ki	i(P)	09 54	03.7
----	------	-------	------

" 17

Ki	iP	10 27	21.9
----	----	-------	------

Japan (h = 30 km).

" 17

Ki	i(Sn)	10 42	09.9
	i(Lg1)	10 42	28.7

" 17

Up	iP	10 54	02.6
	ipP	10 54	13.9
	iPP	10 56	40
	eS	11 03	15
		micr	sec
	P	Z' 0.2	1.2
	S	E 0.6	7
	S	N 0.3	5
	Mx	E 2.7	20
	Mx	N 4.7	21
	Mx	Z 3.7	19
		D = 7900 km = 71°	
Ki	iP	10 53	21.2 C
	iPP	10 55	43
	iS	11 02	00
		micr	sec
	P	E 0.3	7
	P	N 0.3	7
	P	Z 0.8	7
	P	Z' 0.1	1.0
	PP	Z 0.5	8
	S	E 1.0	9

(cont.)

1968

May 17

(cont.)

Ki			micr	sec
	S	N	0.8	9
	Mx	E	9.3	20
	Mx	N	6.1	19
	Mx	Z	7.0	20
			D = 7150 km = 64 1/2°	
Gb	iP		10 54	22.9
Um	iP		10 53	39.7 C
	ipP		10 53	48.6
	iPP		10 56	01
	iS		11 02	32
Ka	iP		10 54	23.0 C
Ud	iP		10 54	09.5 C
	ipP		10 54	20.9

Japan. h = 40 km (Up,Um,Ud).
m = 6.1, M = 6.0 (Up,Ki).

" 17

Ki	iP	12 53	51.7
----	----	-------	------

Japan (h = 30 km).

" 17

Um	iP	13 01	54.4
----	----	-------	------

" 17

Ki	i(P)	13 03	51.7
----	------	-------	------

" 17

Ki	eP	13 11	16
Um	iP	13 11	34.2
Ud	iP	13 11	40.3 C

Nevada.
Origin time = 13 00 00.
Underground nuclear
explosion.

" 17

Up	iP	13 13	41.7 C
	iPS	13 23	09
		micr	sec
	P	Z' 0.1	0.9
	Mx	E 1.0	18
	Mx	N 2.1	21
	Mx	Z 2.0	21
Ki	iP	13 12	59.0 C
	eS	13 21	23
	ePS	13 21	45
		micr	sec
	P	Z' 0.1	1.0
	S	E 0.3	8
	S	N 0.3	8
	Mx	E 1.5	18
	Mx	N 2.4	19
	Mx	Z 2.4	22
		D = 6950 km = 62 1/2°	
Sk	iP	13 13	34
	iPcP	13 13	59

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968					
May 17	(cont.)				May 17	(cont.)				
	Gb	iP	13 14 03.0	C		Up		micr	sec	
	Um	iP	13 13 18.0	C		S	E	1.0	8	
		ipP	13 13 31.9			S	N	0.4	6	
		iS	13 21 56			Mx	E	9.6	20	
		iPS	13 22 18			Mx	N	12	14	
	Ka	iP	13 14 04.8			Mx	Z	6.3	18	
		ipP	13 14 22.0			D = 7850	km = 70 1/2°.			
	Ud	iP	13 13 48.6	C		Ki	iP	16 12 54.7	C	
	Japan. h = 60 km (Um,Ka).						ipP	16 13 06.7		
	m = 5.8, M = 5.6 (Up,Ki).						iS	16 21 29		
								micr	sec	
"	17	Ki	iP	14 10 23.6			P	N	0.2	5
		Um	iP	14 10 42.7			P	Z	0.5	5
		Ud	iP	14 11 11.5			P	Z'	0.1	1.3
	Japan (h = 25 km).						S	E	1.5	10
							S	N	1.0	11
"	17	Up		----			Mx	E	12	18
							Mx	N	10	17
		Mx	E	1.0	21		Mx	Z	24	16
		Mx	N	0.8	20		D = 7100	km = 64°.		
	Ki	iP	15 03 46.7	C		Sk	iP	16 13 30		
		ipP	15 03 55.2			Gb	iP	16 13 56.0		
		iS	15 12 27			Um	iP	16 13 13.4	C	
							ipP	16 13 22.6		
		Mx	E	1.7	19		iS	16 22 06		
		Mx	N	0.9	19		Ka	iP	16 13 57.4	
		Mx	Z	1.1	15		ipP	16 14 08.6		
	D = 7150 km = 64 1/2°.						Ud	iP	16 13 44.2	
	Sk	eP	15 04 22			Japan. h = 40 km (Ki,Um,Ka).				
	Gb	iP	15 04 47.3			m = 6.0, M = 6.4 (Up,Ki).				
		i	15 05 20.8			"	17	Ud	iP	16 25 24.4
	Um	iP	15 04 05.2	C		Japan (h = 30 km).				
	Ka	iP	15 04 49.5			"	17	Ki	eP	17 32 43
	Ud	iP	15 04 35.3	C		"	17	Ki	iP	17 38 22.3
		ipP	15 04 44.1					Sk	eP	17 39 04
	Japan. h = 30 km (Ki,Ud).							i	17 39 23	
	M = 5.3 (Up,Ki).						Um	iP	17 38 46.2	
"	17	Ki	iP	15 27 54.6				i	17 38 52.2	
		Ud	iP	15 28 43.9			Ud	iP	17 39 15.5	
	Japan (h = 30 km).						Japan (h = 40 km).			
"	17	Ud	iP	15 37 15.1		"	17	Ud	i(P)	17 51 26.2
	Japan (h = 30 km).					"	17	Ki	iP	18 14 17.5
"	17	Ki	e(P)	16 09 32				i	18 14 25.9	
		i	16 09 37.8			Ud	iP	18 15 05.5		
"	17	Up	iP	16 13 37.5				i	18 15 21.9	
		iS	16 22 49			Japan (h = 15 km).				
								micr	sec	
		P	Z'	0.1	1.1					
	(cont.)									

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå, Ka = Karlskrona, Ud = Uddeholm

1968
 May 17 Ki iP 18 16 36.4
 " 17 Up eP 18 28 23
 ipP 18 28 37.2
 iS 18 37 36
 micr sec
 P Z 0.4 3
 P Z' 0.1 1.1
 S E 0.3 7
 Mx E 2.2 19
 Mx N 2.5 18
 Mx Z 4.3 19
 D = 7900 km = 71°
 Ki iP 18 27 42.2 C
 i 18 28 09.3
 iS 18 36 20
 micr sec
 P E 0.3 6
 P Z 0.7 8
 P Z' 0.1 1.4
 S E 0.8 8
 S N 0.6 8
 Mx E 5.3 21
 Mx N 3.7 21
 Mx Z 7.1 21
 D = 7150 km = 64 1/2°
 Sk iP 18 28 17
 Gb iP 18 28 44.5
 Um iP 18 28 00.6 C
 ipP 18 28 11.6
 iPP 18 30 24
 iS 18 36 55
 Ka iP 18 28 46.2
 i 18 29 08.1
 Ud iP 18 28 30.4 C
 ipP 18 28 43.9
 Japan. h = 50 km (Up,Um,Ud).
 m = 5.9, M = 5.8 (Up,Ki).
 " 17 Um iP 18 53 03.7
 Ud iP 18 53 34.9
 Japan (h = 30 km).
 " 17 Ud eP 19 25 24
 Japan (h = 30 km).
 " 17 Ki iP 19 59 32.3 C
 ipP 19 59 42.7
 Sk iP 20 00 07
 Gb iP 20 00 34.9
 Um iP 19 59 51.2 C
 ipP 19 59 58.7
 (cont.)

1968
 May 17 (cont.)
 Ka i(P) 20 00 38.4
 ipP 20 00 46.7
 Ud iP 20 00 20.6
 ipP 20 00 29.0
 Japan. h = 30 km (Ki,Um, Ka,Ud).
 " 17 Up ---
 micr sec
 Mx E 0.4 16
 Mx N 0.7 15
 Mx Z 0.5 15
 Ki eP 21 13 14
 i 21 14 10.7
 micr sec
 Mx E 0.7 17
 Mx N 0.6 16
 Mx Z 1.2 16
 Um eP 21 13 32
 Ud iP 21 14 03.8
 Japan.
 Origin time = 21 02 53.
 M = 5.2 (Up,Ki).
 " 17 Up iP 22 47 27.0
 ipP 22 47 36.8
 iS 22 56 38
 micr sec
 pP Z' 0.1 1.2
 Mx E 1.4 18
 Mx N 1.3 16
 Mx Z 1.3 16
 D = 7850 km = 70 1/2°
 Ki iP 22 46 44.5 C
 ipP 22 46 52.4
 iS 22 55 14
 iScS 22 56 31
 micr sec
 P Z' 0.1 1.4
 S E 0.5 11
 Mx E 3.6 22
 Mx N 1.1 18
 Mx Z 2.6 18
 D = 7050 km = 63 1/2°
 Sk eP 22 47 17
 ipP 22 47 28
 Gb eP 22 47 43
 i 22 47 57.1
 Um iP 22 47 03.4 C
 ipP 22 47 09.2
 eS 22 55 50
 Ka iP 22 47 48.3
 ipP 22 47 57.9
 (cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968						1968	
May 17	(cont.)			May 18	Ki	iP	06 59 26.8
	Ud	iP	22 47 33.7		Alaska (h = 30 km).		
		ipP	22 47 43.4	"	18	Gb	iP
		i(sP)	22 47 51.3		Japan (h = 30 km).		
	Japan. h = 30 km (Up,Ki, Sk,Um,Ka,Ud).			"	18	Ki	iP
	m = 5.6, M = 5.6 (Up,Ki).				08 08 24.7 C		
"	17	Ud	iP		08 08 52.0 C		
	Japan (h = 30 km).				08 09 17.1 C		
					Unimak Island (h = 60 km).		
"	17	Ki	ipP	"	18	Ki	i(Sg)
		Um	iP		08 13 56.6		
		Ud	iP	"	18	Um	iP
		ipP	23 28 42.9		08 41 27.3		
	Japan. h = 40 km (Ud).			"	18	Ki	iP
"	17	Up	---		09 18 16.3		
			micr sec		09 18 56		
		Mx	E 0.9 23		09 18 36.4 C		
		Mx	N 1.1 21		09 18 44.7		
		Mx	Z 1.4 21		09 27 24		
	Ki	iPKP	01 21 32.2		09 28 29		
		i	01 21 41.8		Ud	iP	09 19 06.4
		iSKP	01 24 49			ipP	09 19 15.4
			micr sec		Japan. h = 30 km (Um,Ud).		
		PKP	Z' 0.1 1.3	"	18	Up	i(pP)
		SKP	E 0.3 7		10 52 55.0		
		SKP	Z 0.4 7		Japan (h = 30 km).		
		Mx	E 0.6 20	"	18	Ki	iP
		Mx	N 0.7 18		13 05 47.0		
		Mx	Z 1.0 18		13 06 05.7 C		
	Um	iPKP	01 21 22.9		Japan (h = 30 km).		
		i	01 21 35.8	"	18	Ki	iP
		iPS	01 33 14		13 07 38.3		
	Ud	iPKP	01 21 16.0		13 08 14		
		i	01 21 23.9		13 07 57.0		
	South Sandwich Islands				Japan.		
	(h = 30 km).				Origin time = 12 57 16.		
	M = 5.6 (Up,Ki).			"	18	Ki	iP
"	18	Ki	iP		14 18 12.5		
		Sk	iP		14 18 48		
		Gb	iP		14 19 16.5		
		Um	iP		14 18 31.4		
		Ud	iP		14 18 50.7		
		Ud	iP		14 19 01		
		Ud	iP		Japan (h = 30 km).		
"	18	Ki	iP	"	18	Ki	iPn
		Sk	iP		14 25 52.6		
		Gb	iP		14 26 01.0		
		Um	iP		14 26 37.9		
		Ud	iP		14 26 51.7		
		Ud	iP		D = 410 km = 3.7°		
		Ud	iP		14 29 19		
	Aleutian Islands				14 27 20.2		
	(h = 130 km).				(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 18 (cont.)				May 19 (cont.)			
		iSg	14 27 50.1			Up	micr sec
		i	14 28 16.7			Mx N	3.8 19
		Russia-Finland border region, 67.5°N, 30.0°E.				Mx Z	3.7 19
		Origin time = 14 24 53.				Ki iP	04 23 34.7 C
		Explosion?				ipP	04 23 42.7
						iS	04 32 30
"	18	Ki eP	15 44 11				micr sec
		ipP	15 44 18.5			P Z	0.6 7
			micr sec			S E	1.6 10
		Mx E	0.6 20			S N	1.3 9
		Mx N	0.4 18			Mx E	7.8 21
		Sk eP	15 44 50			Mx N	5.3 17
		Um iP	15 44 31.0			Mx Z	10 16
		ipP	15 44 39.4			D = 7550 km = 68°.	
		Japan. h = 30 km (Ki,Um).				Sk iP	04 24 09
						ipP	04 24 17
"	18	Ki eP	17 37 57			Um iP	04 23 52.2 C
		Um iP	17 38 15.5 C			ipP	04 24 01.7
		Ud iP	17 38 46.7			iPP	04 26 24
		Japan (h = 40 km).				iS	04 33 05
						iSS	04 37 34
"	18	Ki iP	19 27 33.4			Ud iP	04 24 20.8
		i	19 27 45.9			ipP	04 24 27.4
		Um iP	19 27 51.7			Japan. h = 30 km (Ki,Sk,Um,Ud).	
		i	19 28 07.7			m = 6.1, M = 6.0 (Up,Ki).	
		Ud iP	19 28 23.1 C				
		Japan (h = 30 km).		"	19	Um iP	05 00 55.1
						Ud i(P)	05 00 37.5
"	19	Ki iP	01 28 46.8	"	19	Up	---
		ipP	01 28 54.5				micr sec
			micr sec			Mx E	1.2 21
		Mx E	0.9 19			Mx N	1.0 17
		Mx N	0.6 18			Mx Z	1.3 16
		Mx Z	0.5 18			Ki eP	06 05 07
		Um iP	01 29 04.6			eScS	06 15 02
		ipP	01 29 13.2				micr sec
		Ud iP	01 29 34.4			Mx E	2.8 18
		ipP	01 29 43.3			Mx N	1.3 17
		Japan. h = 30 km (Ki,Um,Ud).				Mx Z	2.4 16
"	19	Ki i(Sg)	01 44 18.8			Sk iP	06 05 42
		Sk i(Sg)	01 43 09			Um iP	06 05 22.9
						iS	06 14 30
"	19	Up ipP	04 24 22.9			Japan (h = 25 km).	
		i	04 24 29.3			M = 5.5 (Up,Ki).	
		iS	04 33 45				
			micr sec	"	19	Up iP	07 06 15.8
		S E	1.3 10			Sk iP	07 06 56
		S N	1.0 10			Ionian Islands.	
		Mx E	3.6 19	"	19	Up iP	09 42 17.8
		(cont.)				(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
May 19	(cont.)				May 19	(cont.)			
	Up	i	09 42 23.9			Ki		micr	sec
							Mx	E	0.9 20
		P	Z' 0.1 1.2				Mx	N	0.6 17
	Ki	iP	09 43 32.9 C				Mx	Z	0.9 19
						Um	iP	15 15	07.2 C
		P	Z' 0.1 1.2			Japan (h = 30 km).			
		Mx	E 0.4 12		"	19	Ki	eP	16 30 19
		Mx	N 0.5 14					ipP	16 30 29.0
		Mx	Z 0.5 12			Sk	iP		16 30 52
	Sk	iP	09 42 54					ipP	16 31 05
	Um	iP	09 42 57.9			Um	iP		16 30 35.8
		i	09 43 03.8			Ud	iP		16 31 05.1 C
		iSa	09 47 39			Japan. h = 40 km (Ki,Sk).			
		iScS	09 53 55		"	19	Ki	iP	16 56 54.0
	Ka	iP	09 41 47.1					i	16 56 57.3
	Ud	iP	09 42 19.4					iPP	16 58 15.8
		i	09 42 25.7						micr sec
	Sicily (h = 25 km).							P	Z' 0.1 1.0
	m = 5.3 (Up,Ki).					Sk	eP		16 56 58
"	19	Ki	iPn 09 50 25.7					i	16 58 10
			iSn 09 51 24.3					iPP	16 58 20
			iLg1 09 51 43.7			Gb	iP		16 56 40.6
			D = 530 km = 4.8°			Um	iP		16 56 31.5
		Um	iSn 09 52 05.2					i	16 56 34.4
			iSg 09 52 39.1			Ud	iP		16 56 37.3
	Probably northwest Russia.							i	16 56 47.3
	Origin time = 09 49 12.					Iran (h = 30 km).			
	Explosion?				"	19	Ki	iP	17 04 20.1
"	19	Up	iP 10 31 35.6					i	17 04 34.1
			i 10 31 44.0			Hindu Kush.			
"	19	Up	iP 13 14 35.7 C		"	19	Up	iP	22 27 56.1
		Ki	iP 13 13 50.2					eS	22 37 08
	Japan (h = 30 km).								micr sec
"	19	Ki	iP 13 21 32.7				P	Z' 0.1 1.0	
	Japan (h = 20 km).						S	E 0.4 6	
"	19	Ki	eP 14 18 46				Mx	E 3.4 18	
	Japan (h = 40 km).						Mx	N 4.5 22	
"	19	Ki	iPn 15 12 04.0				Mx	Z 3.7 19	
			iSn 15 13 01.0				D = 7800 km = 70°		
			iLg1 15 13 16.1			Ki	iP		22 27 14.1 C
			D = 520 km = 4.7°				iPP		22 29 37.1
	Probably northwest Russia.						iS		22 35 45
	Origin time = 15 10 50.								micr sec
	Explosion?						P	Z 0.5 4	
"	19	Ki	iP 15 14 49.0				S	E 0.7 8	
	(cont.)						S	N 0.3 8	
							Mx	E 9.8 18	
							Mx	N 7.8 17	
						(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 19 (cont.)				May 20 (cont.)			
	Ki		micr sec		Sk	ipP	03 27 38
	Mx	Z	6.1 18		Gb	iP	03 27 57.1 C
			D = 7050 km = 63 1/2°.			ipP	03 28 05.8
	Sk	eP	22 27 49		Um	iP	03 27 12.4
	Gb	iP	22 28 16.7			ipP	03 27 21.2
						iS	03 36 05
	Um	iP	22 27 32.8 C			iScS	03 37 06
						iSS	03 40 18
					Ka	iP	03 27 54.5
	Ud	iP	22 28 02.9 C		Ud	iP	03 27 42.1
			Japan. h = 50 km (Gb,Um).			ipP	03 27 51.2
			m = 5.9, M = 6.0 (Up,Ki).				Japan. h = 30 km (Up,Ki, Sk,Gb,Um,Ud).
"	19	Um	iP 23 57 08.5				m = 5.9, M = 5.6 (Up,Ki).
"	20	Ud	iP 00 57 57.7	"	20	Ki	eP 04 25 06
			Japan (h = 30 km).				micr sec
"	20	Up	iP 02 42 54.9			Mx	E 0.7 20
		Ki	iP 02 42 13.0			Mx	N 0.7 21
			ipP 02 42 26.1			Mx	Z 0.9 17
		Sk	iP 02 42 48			Gb	iP 04 26 07.9
		Um	iP 02 42 31.8			Um	iP 04 25 25.2
			i 02 42 52.8				Japan (h = 30 km).
		Ud	iP 02 43 02.3	"	20	Up	iP 04 48 42.8
			ipP 02 43 14.9			Ki	iP 04 48 00.6
			Japan. h = 50 km (Ki,Ud).				ipP 04 48 09.1
"	20	Up	iP 03 27 35.8				micr sec
			ipP 03 27 44.4			Mx	E 0.6 17
			iS 03 36 50			Mx	N 0.6 17
						Mx	Z 0.7 17
			micr sec			Um	iP 04 48 19.4
		P	Z' 0.1 1.0				ipP 04 48 27.8
		pP	Z' 0.2 1.2			Ud	iP 04 48 48.5
		Mx	E 2.2 19				ipP 04 48 57.6
		Mx	N 2.2 18				Japan. h = 30 km (Ki,Um,Ud).
		Mx	Z 1.0 16	"	20	Up	iP 05 46 57.4
			D = 7900 km = 71°.			Ki	iP 05 46 18.6 C
	Ki	iP	03 26 53.9				micr sec
		ipP	03 27 02.1			Mx	E 0.5 16
		iPP	03 29 12.1			Mx	Z 0.6 16
		iS	03 35 31			Um	iP 05 46 36.8
						Ud	iP 05 47 05.6
			micr sec				ipP 05 47 15.9
		P	Z' 0.1 1.2				Japan. h = 40 km (Ud).
		S	E 0.8 10	"	20	Up	iP 07 04 47
		S	N 0.4 7				iS 07 14 01
		Mx	E 3.0 20				micr sec
		Mx	N 2.3 20			Mx	E 2.4 21
		Mx	Z 2.6 18			Mx	N 1.9 19
			D = 7150 km = 64 1/2°.				(cont.)
	Sk	iP	03 27 29				
			(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968
May 20

(cont.)

			micr	sec
Up	Mx	Z	1.5	16
	D = 7850 km = 70 1/2°.			
Ki	iP		07 04	07.4 C
	ipP		07 04	17.1
	iPP		07 06	26.2
	iS		07 12	42
	iScS		07 13	59
			micr	sec
	P	Z'	0.1	1.0
	PP	E	0.4	4
	S	E	0.7	8
	S	N	0.5	8
	Mx	E	4.9	21
	Mx	N	3.0	20
	Mx	Z	4.1	18
	D = 7100 km = 64°.			
Sk	iP		07 04	43 C
Gb	iP		07 05	10.4 C
	ipP		07 05	19.4
Um	iP		07 04	26.1 C
	ipP		07 04	35.7
	iPP		07 06	44.3
	iS		07 13	18
	iSS		07 17	30
Ka	iP		07 05	09.6
Ud	iP		07 04	56.0 C
	ipP		07 05	06.0
Japan, h = 35 km (Ki, Gb, Um, Ud).				
m = 6.1, M = 5.7 (Up, Ki).				

" 20

Up	i(PKP)		07 32	45.3
	iPKP		07 32	49.1
	i		07 32	52.9
	iX		07 33	07.0
			micr	sec
	PKP	N	0.4	3
	PKP	Z	2.0	3
	PKP	Z'	1.6	1.3
	Mx	E	1.8	23
	Mx	N	4.5	24
	Mx	Z	4.8	24
Ki	i(PKP)		07 32	26.1
	iPKP		07 32	31.7
	iX		07 32	49.9
	iPKS		07 36	07.8
			micr	sec
	PKP	Z	0.6	5
	PKP	Z'	0.3	1.2
	PKS	Z'	0.1	1.3

(cont.)

1968
May 20

(cont.)

			micr	sec
Ki				
	Mx	E	2.3	22
	Mx	N	1.6	22
	Mx	Z	3.5	21
Sk	iPKP		07 32	43
	iX		07 33	02
Gb	i(PKP)		07 32	50.7 D
	iPKP		07 32	57.3
	iX		07 33	15.3
	i(PKS)		07 36	36.1
Um	iPKP		07 32	36.6
	i		07 32	53.4
	iX		07 33	02.6
	iPKS		07 36	14.0
Ka	i(PKP)		07 32	46.5
	i		07 32	50.6
	iPKP		07 32	58.4
	iX		07 33	09.1
	i		07 33	16.8
Ud	i(PKP)		07 32	45.8
	iPKP		07 32	50.7
	iX		07 33	08.4

Kermadec Islands (h = 20 km).

M = 6.2 (Up, Ki).

Complicated beginning with a series of onsets. (PKP) is a precursor of smaller amplitude and longer period than PKP proper. X is an unidentified, but particularly consistent phase, appearing in average 23.6 sec after (PKP).

" 20

Ki	iP		07 37	39.4
Japan (h = 30 km).				

" 20

Ki	iP		07 43	37.8
----	----	--	-------	------

" 20

Up	iP		10 45	03.4
	ipP		10 45	14.9
	iPcP		10 45	35.8
	iS		10 53	51
			micr	sec
	Mx	E	2.4	18
	Mx	N	7.2	22
	Mx	Z	5.8	22
	D = 7400 km = 66 1/2°.			
Ki	iP		10 44	10.6 C
	ePa		10 47	40
	iS		10 52	33

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 20	(cont.)			May 20	Ki	iP	15 43 16.1
	Ki		micr sec	" 20	Ud	iP	16 37 35.1
	P	Z	0.6 6		Japan (h = 30 km).		
	P	Z'	0.1 1.5	" 20	Um	iP	17 34 29.5
	S	N	0.3 8		Japan (h = 30 km).		
	Mx	E	4.1 21	" 20	Up	i(PKP)	20 25 26.5
	Mx	N	4.8 22			iPKP	20 25 30.5
	Mx	Z	9.2 21			i	20 25 34.2
	D = 6550 km = 59°.					eSS	20 48 11
	Um	iP	10 44 32 C				micr sec
		iPcP	10 45 11.6			PKP N	0.8 3
		iPP	10 46 55			PKP Z	3.6 3
		iPa	10 48 33			PKP Z'	1.2 0.8
		eS	10 52 46			Mx E	13 23
	Ud	iP	10 45 06.4			Mx N	42 24
		ipP	10 45 19.2			Mx Z	40 23
		iPcP	10 45 37.0		Ki	i(PKP)	20 25 08.5
	Kurile Islands.					iPKP	20 25 16.4
	h = 45 km (Up,Ud).					iPKS	20 28 53.0
	m = 5.5, M = 5.9 (Up,Ki).						micr sec
" 20	Up	iP	12 04 25.1			PKP Z	2.5 6
			micr sec			PKP Z'	0.3 1.0
	Mx	E	1.3 23			PKS E	2.1 7
	Mx	N	1.5 24			PKS Z'	0.3 1.5
	Mx	Z	1.0 20			Mx E	19 19
	Ki	iP	12 03 33.2			Mx N	21 19
		i	12 04 12.2			Mx Z	43 20
			micr sec		Sk	ePKP	20 25 25
	P	Z'	0.1 1.0			i	20 25 30
	Mx	E	0.9 20			iPKS	20 29 07
	Mx	N	1.0 20		Gb	i(PKP)	20 25 31.8
	Mx	Z	1.9 20			i	20 25 34.6
	Sk	eP	12 04 10			iPKP	20 25 39.3
	Gb	iP	12 04 46.7 C			i	20 25 42.1
		iPcP	12 05 15.7			i(PKS)	20 29 22.0
	Um	iP	12 03 56.7		Um	iPKP	20 25 19.5 C
		i	12 04 26.6			i(PP)	20 28 35
		i	12 04 35.0			eSS	20 47 32
	Ka	iP	12 04 52.0		Ka	i(PKP)	20 25 35.7
	Ud	iP	12 04 29.0			i	20 25 40.5
		ipP	12 04 43.9			iPKP	20 25 44.0
	Kamchatka. h = 55 km (Ud).					iPKS	20 29 13.6
	M = 5.1 (Up,Ki).				Ud	i(PKP)	20 25 28.4
" 20	Ki	iPg	14 39 29.1			iPKP	20 25 30.6
		iSn	14 39 52.4			i	20 25 34.9
		iSg	14 39 58.8		Kermadec Islands (h = 50 km).		
			D = 260 km = 2.3°.		M = 7.2 (Up,Ki).		
	Origin time = 14 38 43.				Complicated beginning with		
" 20	Ud	iP	14 43 11.2		in general three onsets of		
	Japan (h = 60 km).				varying period and amplitude.		
					Cf May 20, 07 32.		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 20	Ki	iP	20 35 45.3	May 20	(cont.)		
	Um	iP	20 35 40.8		Kurile Islands. h = 40 km		
		i	20 36 12.5		(Gb,Ud).		
	Ud	iP	20 35 30.9		m = 6.4, M = 7.0 (Up,Ki).		
" 20	Ki	iP	20 36 33.2	" 20	Up	iP	22 40 03.2 D
	Um	iP	20 37 11.2		Ki	iP	22 39 42.8
	Ud	iP	20 37 24.5		Gb	iP	22 40 20.2
" 20	Up	iPKP	20 40 03.9		Um	iP	22 39 51.1 D
		i	20 40 08.2		Ud	eP	22 40 12
			micr sec				Luzon (h = 30 km).
		PKP	Z' 0.2 0.7	" 20	Ud	i(P)	23 03 32.2
	Ki	iPKP	20 39 44.1	" 20	Up		----
		i	20 39 49.6				micr sec
	Sk	iPKP	20 40 00 C			Mx	E 1.0 17
		i	20 40 13			Mx	N 1.0 16
	Gb	iPKP	20 40 11.9 C			Mx	Z 1.6 17
	Um	iPKP	20 39 52.1 C		Ki	eP	23 34 35
		i	20 39 56.1		Um	iP	23 34 58.5
	Ka	iPKP	20 40 12.9 C		Ud	iP	23 35 28.9
	Ud	iPKP	20 40 05.6 C			ipP	23 35 43.6
		i	20 40 10.7				Kurile Islands. h = 50 km
			Kermadec Islands				(Ud).
			(h = 60 km).				
" 20	Up	iP	21 20 44.6 C	" 21	Ud	eP	00 08 58
		iS	21 29 38			i	00 09 14.4
		iScS	21 30 45				Japan (h = 30 km).
			micr sec	" 21	Ud	iP	00 16 14.9
		P	N 0.7 5				Kurile Islands (h = 50 km).
		P	Z' 0.2 0.5	" 21	Up	iP	00 30 33.2
		Mx	E 49 18				micr sec
		Mx	N 110 18			P	Z' 0.1 0.5
		Mx	Z 85 19			Mx	E 2.7 23
			D = 7600 km = 68 1/2°.			Mx	N 4.1 17
	Ki	iP	21 19 58.0 C			Mx	Z 3.4 18
		eP'P'	21 49 21		Ki	iP	00 29 47.3 C
			micr sec				micr sec
		P	Z' 0.2 1.0			P	Z' 0.1 0.9
		P'P'	Z' 0.4 2.5			Mx	E 2.1 21
		Mx	E 58 15			Mx	N 2.8 22
		Mx	N 66 16			Mx	Z 2.6 18
	Sk	iP	21 20 36		Sk	iP	00 30 25
		i	21 20 51		Gb	iP	00 30 54.8
		iPP	21 22 59		Um	iP	00 30 08.6 C
	Gb	iP	21 21 05.5 C		Ka	iP	00 30 55.9
		ipP	21 21 16.4			i	00 31 05.9
	Um	iP	21 20 19.5 C		Ud	iP	00 30 39.6 C
	Ka	iP	21 21 06.8 C				Kurile Islands (h = 45 km).
		i	21 21 31.6				m = 6.0, M = 5.7 (Up,Ki).
	Ud	iP	21 20 50.3 C				
		ipP	21 21 00.4				
			(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 21	Ki	i(P)	01 57 22.8	May 21	(cont.)		
	Um	i(P)	01 57 55.1		Up	ipP	04 22 45.6
" 21	Ud	eP	02 29 33				micr sec
	Japan (h = 25 km).				Mx	E	1.1 22
" 21	Ki	iP	02 40 28.8		Mx	N	1.9 23
		ipP	02 40 37.3		Mx	Z	1.7 21
	Ud	iP	02 41 19.0		Ki	iP	04 21 50.7
	Japan. h = 30 km (Ki).					ipP	04 22 03.2
" 21	Ki	iP	03 10 40.7				micr sec
			micr sec		P	Z'	0.1 1.3
	Mx	E	0.7 23		Mx	E	1.5 23
	Mx	N	0.3 20		Mx	N	0.8 18
	Um	iP	03 11 01.2		Mx	Z	1.8 17
		ipP	03 11 13.7		Sk	iP	04 22 28
	Ud	iP	03 11 30.3			ipP	04 22 39
		ipP	03 11 38.9		Gb	iP	04 22 54.8
	Japan. h = 40 km (Um,Ud).				Um	iP	04 22 10.2 C
" 21	Up	iP	04 06 15.0 C			ipP	04 22 22.5
		iPn	04 07 11.2			iS	04 30 56
		iPP	04 07 35.9		Ka	iP	04 22 53.0
			micr sec		Ud	iP	04 22 40.5
	P	Z'	0.3 0.9			ipP	04 22 51.5
	PP	Z'	0.3 0.6			iPcP	04 23 05.3
	Ki	iP	04 06 29.0 C	" 21	Ki	iP	05 32 29.7
		iPP	04 07 49.7		Ud	iP	05 33 19.0
		iLg1	04 19 15		Japan (h = 40 km).		
		iRg	04 22 39				
			micr sec	" 21	Ki	iP	06 47 16.8 C
	P	Z'	0.1 1.0		Japan (h = 30 km).		
	PP	Z'	0.1 0.9	" 21	Up	iP	08 31 00.4 C
	Sk	iP	04 06 45			iS	08 39 58
		iPn	04 07 59			iScS	08 40 59
		iPP	04 08 14				micr sec
	Gb	iP	04 06 36.6 C		P	E	0.3 6
		iPP	04 08 00.4		P	N	0.4 5
	Um	iP	04 06 15.5 C		P	Z	0.6 4
		iPn	04 07 09.3		P	Z'	0.1 0.5
		iRg	04 21 16		Mx	E	15 23
	Ka	iP	04 06 18.5 C		Mx	N	18 22
		iPn	04 07 30.5		Mx	Z	14 21
		iPP	04 07 44.5		D = 7550 km = 68°		
	Ud	iP	04 06 32.5 C		Ki	iP	08 30 13.6 C
		iPn	04 07 32.4			ipP	08 30 22.1
		iPP	04 07 56.8			iS	08 38 28
	Uzbek SSR (h = 15 km).					iScS	08 40 03
	m = 5.9 (Up,Ki).						micr sec
" 21	Up	iP	04 22 33.8 C		P	E	0.4 8
	(cont.)				(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

May 21

(cont.)

Ki micr sec
 P N 0.6 8
 P Z 1.4 8
 P Z' 0.2 1.2
 pP Z' 0.3 1.0
 S N 0.6 8
 Mx E 8.6 21
 Mx N 17 23
 Mx Z 18 18
 D = 6800 km = 61°
 Sk iP 08 30 52
 Gb iP 08 31 22.8
 Um iP 08 30 35.0 C
 ipP 08 30 43.8
 iS 08 39 08
 Ka iP 08 31 23.9
 i 08 31 28.5
 Ud iP 08 31 06.1 C
 ipP 08 31 15.7

Kurile Islands. h = 30 km
(Ki,Um,Ud).

m = 6.1, M = 6.3 (Up,Ki).

" 21

Ki iP 10 11 20.1
 Um iP 10 11 43.3
 Ud iP 10 12 11.8
 Probably Kurile Islands.
 Origin time = 10 01 08.

" 21

Up iP 11 04 21.9
 iS 11 14 20
 micr sec
 P Z' 0.1 0.6
 S E 0.4 8
 Mx E 1.9 20
 Mx N 3.1 19
 Mx Z 3.0 16
 D = 8850 km = 79 1/2°
 Ki iP 11 03 59.9
 i 11 04 06.1
 eS 11 13 42
 micr sec
 P Z 0.3 5
 S E 0.6 9
 S N 0.6 11
 Mx E 1.6 15
 Mx N 2.5 18
 Mx Z 2.3 14
 D = 8400 km = 75 1/2°

Sk eP 11 04 29
 Gb eP 11 04 41

(cont.)

1968

May 21

(cont.)

Um iP 11 04 07.3
 Ka iP 11 04 36.0
 Ud iP 11 04 31.0
 Luzon (h = 30 km).
 m = 5.7, M = 5.8 (Up,Ki).

" 21

Up iP 11 11 44.8
 Ki iP 11 10 58.4
 micr sec
 P Z' 0.1 1.0
 Sk iP 11 11 37
 Gb iP 11 12 06.8
 Um iP 11 11 20.1
 ipP 11 11 31.9
 Ka iP 11 12 08.5
 Ud iP 11 11 50.2
 ipP 11 12 05.0
 Kurile Islands. h = 50 km
(Um,Ud).

" 21

Up iP 11 14 54.9
 micr sec
 P Z' 0.1 0.6
 Ki iP 11 14 07.8
 micr sec
 P Z' 0.1 0.9
 Sk iP 11 14 46
 Gb iP 11 15 15.7
 Um iP 11 14 29.6
 Ka iP 11 15 17.4
 Ud iP 11 15 00.4
 Kurile Islands (h = 50 km).
 m = 6.0 (Up,Ki).

" 21

Up
 micr sec
 Mx E 0.7 18
 Mx N 0.9 17
 Ki iP 15 20 38.1
 micr sec
 Mx E 1.1 20
 Mx N 1.1 18
 Mx Z 1.2 16
 Sk iP 15 21 13.5
 Um iP 15 20 58.2
 i 15 21 23.7
 Ka eP 15 21 42
 Ud iP 15 21 27.4
 Japan (h = 25 km).
 M = 5.2 (Up,Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 21	Ki	iP	15 38 25.1	May 21	(cont.)		
	Sk	e(P)	15 38 54		Sk	iP	21 42 08.9
	Um	iP	15 38 44.6		Um	iP	21 42 04.2
	Ud	iP	15 39 15.4			i	21 42 16.5
	Japan (h = 30 km).				Ud	iP	21 42 17.9
						i	21 42 31.4
" 21	Up	iP	15 49 58.8	" 21	Ki	iP	21 45 48.9
	Sk	eP	15 49 45		Sk	eP	21 46 19
	Um	eP	15 49 42		Um	iP	21 46 10.5
" 21	Ki	iP	16 05 08.7	" 22	Up	iPKP	00 37 47.0
	Japan (h = 30 km).					i	00 37 53.2
" 21	Sk	iPKP	16 55 58.0		Ki	iPKP	00 37 25.1
	Balleny Islands (h = 30 km).					i	00 37 32.7
" 21	Ki	iP	18 02 38.4		Sk	iPKP	00 37 39.4
" 21	Ki	iSg	18 04 12.2		Gb	iPKP	00 38 00.1
	Sk	iSg	18 04 17.1		Um	iPKP	00 37 34.4
	Um	iSg	18 04 40.0			i	00 37 41.6
	Nordlands Fylke, Norway, 66.4° N, 14.8° E. Origin time = 18 02 43.				Ka	i(PKP)	00 37 55.9
						iPKP	00 38 04.0
" 21	Up	iP	18 58 29.2 C		Ud	iPKP	00 37 47.6
		ipP	18 58 40.5			i	00 37 53.3
			micr sec		Kermadec Islands (h = 40 km).		
	Mx	E	1.0 17	" 22	Ki	iP	02 19 13.5
	Mx	N	2.3 19		Ud	iP	02 20 03.7
	Mx	Z	1.7 18		Japan.		
	Ki	iP	18 57 42.3	" 22	Um	iP	02 34 37.5
			micr sec	" 22	Ki	iP	05 13 46.3
	Mx	E	1.4 17		Ud	iP	05 14 32.9
	Mx	N	1.3 20		Japan (h = 40 km).		
	Mx	Z	1.7 19	" 22	Ud	iP	05 38 24.8
	Sk	iP	18 58 17.9		Kurile Islands (h = 50 km).		
	Gb	iP	18 58 50.0	" 22	Ud	iP	07 52 17.1
		ipP	18 59 03.2	" 22	Up	iP	11 02 57.7
	Um	iP	18 58 02.7			ipP	11 03 12.0
	Ka	eP	18 58 53			iS	11 11 58
		ipP	18 59 04.8				micr sec
	Ud	iP	18 58 34.8		P	Z'	0.1 1.0
		i	18 59 13.5		pP	Z'	0.2 0.9
	Kurile Islands. h = 45 km (Up, Gb, Ka). M = 5.4 (Up, Ki).				S	E	0.9 8
" 21	Um	eP	19 09 20		S	N	0.5 8
" 21	Up	iP	21 42 24.6		Mx	E	3.4 22
	(cont.)				Mx	N	5.2 25
					Mx	Z	4.8 21
					D = 7650 km = 69°.		
					(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 22 (cont.)				May 22 (cont.)			
Ki	iP	11 02	14.9	Um	iP	13 33	20.1
	iS	11 10	39	Ka	iP	13 33	47.6
	iPS	11 11	04	Ud	iP	13 33	28.4
			micr sec	Nevada (h = 15 km).			
	P	Z	0.3 5	"	22	Sk	eP 14 17 17
	P	Z'	0.3 1.1	"	22	Ki	iP 15 00 29.7
	S	E	0.8 10			Sk	eP 15 01 04
	S	N	0.4 7	Um	iP	15 00	48.3
	Mx	E	3.4 19	Ud	iP	15 01	19.4
	Mx	N	3.3 20	Japan (h = 40 km).			
	Mx	Z	6.3 22	"	22	Up	iP 16 00 33.8
	D = 6950 km = 62 1/2°.			Ki	iP	15 59	51.6
Sk	iP	11 02	49.9	i		16 00	04.4
	ipP	11 03	01.3	Gb	iP	16 00	55.0
Gb	iP	11 03	18.5	Um	iP	16 00	10.0
	ipP	11 03	33.3	i		16 00	26.2
Um	iP	11 02	33.9	Ka	iP	16 00	54.9
	i	11 02	42.8	Ud	iP	16 00	40.9
	ipP	11 02	47.7	Japan (h = 30 km).			
	iS	11 11	13	"	22	Ki	iPn 16 28 14.5
	iPS	11 11	40			ipX	16 28 24.0
Ka	iP	11 03	18.7			iSn	16 29 02.9
	iPcP	11 03	37.4			iLg1	16 29 18.7
Ud	iP	11 03	04.4			D = 440 km = 4.0°.	
	i	11 03	13.4	Probably northwest Russia.			
Japan. h = 50 km (Up,Sk, Gb,Um).				Origin time = 16 27 12.			
m = 6.0, M = 5.8 (Up,Ki).				Explosion?			
"	22	Ki	iP 11 34 04.2	"	22	Ki	iP 18 43 25.5
		Um	i(P) 11 34 28.8			Sk	iP 18 43 24.2
Japan (h = 30 km).						Ka	iP 18 42 36.0
"	22	Ki	iPn 12 55 03.7			Ud	iP 18 43 00.9
		iSn	12 55 52.6	Iran (h = 5 km).			
		iLg1	12 56 06.5	"	22	Ki	---
		D = 460 km = 4.1°.					micr sec
Probably northwest Russia.						Mx	E 0.6 16
Origin time = 12 53 58.						Mx	N 0.6 16
Explosion?						Mx	Z 0.9 17
"	22	Sk	ePKP 13 07 58	Um	eP	18 46	52
Kermadec Islands				Ud	iP	18 47	23.7
(h = 30 km).				Kurile Islands (h = 40 km).			
"	22	Up	iP 13 33 36.4	"	22	Ki	iP 19 04 51.3
		i	13 34 18.9	"	22	Um	eP 19 18 46
Ki	iP	13 33	01.8			Ud	iP 19 19 14.2
	i	13 33	22.0	South of Japan (h = 30 km).			
Sk	eP	13 33	10				
Gb	iP	13 33	36.1				
(cont.)							

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 22	Up			May 22			
		iP	19 40 35.7 C		Up	iP	20 12 12.3
		ipP	19 40 48		Ki	iP	20 11 20.6
		iPP	19 43 09		Um	iP	20 11 46.4
		iS	19 49 41		Ka	iP	20 12 35.3
			micr sec		Ud	iP	20 12 17.9 D
		F	E 0.2 5		Kurile Islands (h = 50 km).		
		P	N 0.5 5		"	22	Ki iPn 20 42 50.6
		P	Z 0.8 4				iSn 20 43 37.6
		P	Z' 0.2 1.4				iLg1 20 43 52.3
		PP	E 0.2 4				D = 430 km = 3.9°
		PP	N 0.3 4		Sk	eSg	20 46 43
		PP	Z 0.6 5		Um	iSg	20 45 26.6
		S	N 0.6 8		Northwest Russia, 69.1°N, 30.6°E.		
		Mx	E 4.0 21		Origin time = 20 41 49.		
		Mx	N 9.4 21		Explosion?		
		Mx	Z 8.7 24		"	22	Sk eP 21 24 14
			D = 7800 km = 70°				Um iP 21 23 58.3
	Ki	iP	19 39 54.1 C				Ud iP 21 24 17.3
		i	19 39 56.8				i 21 24 28.3
		ipP	19 40 07.0		Molucca Passage (h = 60 km).		
		iPP	19 42 14		"	22	Ki iP 21 39 01.4
		iS	19 48 25				Um iP 21 39 13.6
		iPS	19 48 40				Ud eP 21 39 41
			micr sec		South of Japan (h = 30 km).		
		P	E 0.4 6		"	22	Sk eP 22 43 13
		P	N 0.3 6				Gb eP 22 43 36
		P	Z 1.1 6				Um iP 22 42 56.7
		P	Z' 0.2 1.2				Ud eP 22 43 24
		PP	E 0.4 7		South of Japan (h = 30 km).		
		PP	N 0.4 7		"	22	Ki iP 23 29 06.5
		PP	Z 0.8 7				Sk eP 23 29 47
		S	N 1.0 8				Um eP 23 29 27
		Mx	E 7.8 20				i 23 29 40.6
		Mx	N 4.9 19				Ud iP 23 29 56.3
		Mx	Z 6.3 22		Japan (h = 25 km).		
			D = 7050 km = 63 1/2°		"	22	Sk iP 23 38 37.1
	Sk	iP	19 40 28.3 C				Ud iP 23 38 41.9
		ipP	19 40 41.2		"	23	Ki iP 01 30 56.2
		iPP	19 43 05.5		"	23	Um iP 03 08 16.7
	Gb	iP	19 40 56.6 C				Ud eP 03 08 48
		ipP	19 41 08.8		Japan (h = 25 km).		
	Um	iP	19 40 12.2 C		"	23	Up i(P) 06 36 17.8
		ipP	19 40 24.5				i 06 36 40.8
		iPP	19 42 35				
		iS	19 49 00				
	Ka	iP	19 40 56.4 C				
		ipP	19 41 06.1				
	Ud	iP	19 40 42.7 C				
		ipP	19 40 52.6				
	Japan. h = 40 km (Up,Ki, Sk,Gb,Um,Ka,Ud).						
	m = 6.2, M = 6.1 (Up,Ki).						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 23	Up	iP	07 53 27.6	May 23	(cont.)		
	Ki	eP	07 52 35		Ki	i	17 44 15.9
	Ud	iP	07 53 29.5			iPKS	17 47 36
	Kurile Islands (h = 50 km).						micr sec
" 23	Sk	e(P)	10 16 25		PKP	Z	2.0 5
" 23	Sk	i(P)	14 33 36.0		PKP2	E	2.1 3
" 23	Up	iP	14 36 40.9		PKP2	N	1.8 5
			micr sec		PKP2	Z	15 6
	Mx	E	0.4 16		PKP2	Z'	3.6 1.0
	Mx	N	0.6 15		PKS	Z	4.0 7
	Mx	Z	0.7 15		Mx	E	56 20
	Ki	iP	14 35 58.8 C		Mx	N	29 20
		eS	14 44 36		Mx	Z	68 19
			micr sec		Sk	ePKP	17 44 05
	Mx	E	1.1 17			i	17 44 16.5
	Mx	N	1.3 20			i	17 44 22.8
	Mx	Z	1.4 19		Gb	iPKP	17 44 10.4
	D = 7100 km = 64°					i	17 44 22.1
	Sk	iP	14 36 33.1			iPKP2	17 44 52.8
	Gb	iP	14 37 02.1			i	17 45 04.4
	Um	iP	14 36 17.5 C		Um	iPKP	17 44 04.6 C
		ipP	14 36 27.4			i	17 44 12.2
		iS	14 45 06			iPKP2	17 44 17.4
	Ka	iP	14 37 01.5			iPP	17 47 49
	Ud	iP	14 36 47.8			iSKSP	17 58 17
	Japan. h = 35 km (Um).				Ka	iPKP	17 44 09.1
	M = 5.2 (Up,Ki).					i	17 44 21.4
" 23	Um	iP	15 33 07.8 C			iPKP2	17 44 50.2
" 23	Up	iPKP	17 44 08.8		Ud	iPKP	17 44 06.4
		i	17 44 17.9			i	17 44 19.4
		iPKP2	17 44 31.1			iPKP2	17 44 43.5
		i	17 44 42.9		New Zealand (h = 20 km).		
		iPP	17 48 22		M = 7.5 (Up,Ki).		
		eSKSP	17 58 31		Both PKP and PKP2 are		
			micr sec		followed by larger onsets		
	PKP	Z	2.0 5	" 23	Um	iP	17 59 10.7
	PKP2	E	0.6 3			i	17 59 15.4
	PKP2	N	0.4 3	" 23	Ki	iPKP	18 02 51.8
	PKP2	Z	2.0 3		Um	iPKP	18 02 59.1
	PKP2	Z'	0.7 1.0		New Zealand.		
	Mx	E	41 26				
	Mx	N	52 24	" 23	Ki	iPKP	18 05 23.1
	Mx	Z	100 26		Sk	iPKP	18 05 37.0
	Ki	iPKP	17 43 59.3 C		Um	iPKP	18 05 29.7
		i	17 44 02.4			i	18 05 35.7
		iPKP2	17 44 05.6		New Zealand.		
	(cont.)						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968						
May 23	Ka	iP	18 07	23.9	May 23	(cont.)					
"	23	Ki	iPKP	18 09 59.0		Ud	i	19 02	45.3		
		Um	iPKP	18 10 05.8		Kermadec Islands (h = 70 km).					
		New Zealand.				"	23	Ki	iP	19 14 32.1	
	"	23	Ki	e(PKP)	18 16 33		Um	eP	19 14 30		
			Um	e(PKP)	18 16 26		"	23	Up	iP	19 28 23.0
			Ud	i(PKP)	18 16 47.5			i	19 28 27.2		
			(New Zealand).				Ki	eP	19 27 57		
	"	23	Ki	iPKP	18 26 39.2			i	19 28 01.4		
			Um	iPKP	18 26 45.6		Um	iP	19 28 08.9		
			New Zealand.				Ud	iP	19 28 32.3		
	"	23	Ud	iP	18 30 43.2		Luzon (h = 70 km).				
	"	23	Ki	i(P)	18 33 14.7		"	23	Um	iP	20 06 18.6
				i(Sg)	18 33 35.6		"	23	Ki	iPKP	20 23 59.5
	"	23	Um	iP	18 41 38.8			Um	iPKP	20 24 05.9	
			Ud	iP	18 42 09.5 C			Ud	ePKP	20 24 12	
			Japan (h = 30 km).					New Zealand.			
	"	23	Up	iP	18 44 00.8		"	23	Ki	ePKP	20 39 59
			Ki	iP	18 43 13.8 C			Um	iPKP	20 40 05.5	
				iPcP	18 43 56.3			New Zealand.			
			Sk	iP	18 43 49.8		"	23	Um	iP	20 40 54.7
			Um	iP	18 43 35.1		"	23	Um	iP	20 55 32.7
				i	18 43 41.3		"	23	Ki	iPKP	23 23 15.1
				iPcP	18 44 10.4			Um	ePKP	23 23 14	
			Ka	iP	18 44 21.8			New Zealand.			
			Ud	iP	18 44 06.3 C		"	23	Up	iP	23 44 43.6
			Kurile Islands (h = 30 km).					Ki	iP	23 45 33.3	
	"	23	Ki	eP	18 47 53			Sk	iP	23 45 17.6	
			Ud	iP	18 47 54.7			Um	eP	23 45 06	
	"	23	Up	iPKP	19 02 39.9			Ka	iP	23 44 22.2	
				i	19 02 48.3			Ud	iP	23 44 53.3	
				micr sec				Ethiopia (h = 30 km).			
				PKP	Z' 0.1 0.9		"	24	Up	iP	00 07 37.0
			Ki	ePKP	19 02 18					micr sec	
				i	19 02 36.1			Mx	E	0.4 23	
			Sk	iPKP	19 02 33.1			Mx	N	0.9 21	
				i	19 02 46.3			Ki	eP	00 06 51	
			Gb	ePKP	19 02 48				i	00 06 56.8	
			Um	iPKP	19 02 28.6 C				micr sec		
			Ka	ePKP	19 02 49			Mx	E	0.9 20	
				i	19 02 52.9			Mx	N	0.8 20	
				i	19 03 02.1			Mx	Z	1.3 18	
			Ud	iPKP	19 02 41.7			(cont.)			
			(cont.)								

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 24 (cont.)				May 24 (cont.)			
	Sk	eP	00 07 31				
	Gb	iP	00 07 59.6		Northwest Russia, 67.3°N, 33.0°E.		
	Um	iP	00 07 15.4		Origin time = 10 24 28.		
		ipP	00 07 23.7		Explosion?		
		i	00 08 11.1				
		iS	00 16 07	"	24	Um	iP 11 04 37.3
	Ka	iP	00 08 03.4				
	Ud	iP	00 07 45.7 C	"	24	Ki	iP 11 27 02.8
		ipP	00 07 53.9			Sk	eP 11 27 32
		i	00 08 10.5			Gb	iP 11 28 09.2
	Japan. h = 30 km (Um, Ud).					Um	iP 11 27 29.8
	M = 5.1 (Up, Ki).					Ud	iP 11 27 54.0
						i	11 28 07.8
"	24	Sk	iPKP 01 13 15.8			Unimak Island (h = 30 km).	
		Um	iPKP 01 13 10.8 C	"	24	Um	iP 12 02 20.3
		i	01 13 17.4				
		Ud	iPKP 01 13 23.9	"	24	Um	iP 13 08 13.4
"	24	Ud	iP 02 07 35.9	"	24	Ud	iP 14 05 59.0
"	24	Sk	eP 02 10 36			Japan (h = 30 km).	
"	24	Um	iP 03 23 42.2	"	24	Up	iP 14 17 32.8 C
"	24	Ki	iP 04 24 28.3			iX	14 17 54.2
		Um	eP 04 24 24			iPP	14 20 05
		i	04 24 35.6			iS	14 26 37
"	24	Ka	iPKP 04 49 23.9				micr sec
		Ud	iPKP 04 49 13.5 C			P	E 0.5 5
		Fiji Islands (h = 680 km).				P	N 0.8 5
"	24	Up	iP 06 43 30.3			P	Z 1.6 5
		Ki	iP 06 41 55.4			P	Z' 0.4 1.3
		Sk	iP 06 42 44.0			PP	E 0.5 4
		Um	eP 06 42 46			PP	N 0.7 4
		i	06 42 58.0			PP	Z 1.0 4
		Ud	iP 06 43 30.8			S	E 1.9 7
		i	06 43 34.0			S	N 1.1 6
		Svalbard (h = 30 km).				Mx	E 25 19
"	24	Ud	e(P) 07 32 24			Mx	N 29 21
"	24	Ki	iPKP 07 42 32.4			Mx	Z 25 20
		Um	iPKP 07 42 39.1			D = 7800 km = 70°	
		New Zealand (h = 30 km).				Ki	iP 14 16 50.1 C
"	24	Ki	iPn 10 25 41.7			iX	14 17 07.9
		iSn	10 26 39.7			iPP	14 19 06
		iLg1	10 27 00.8			iS	14 25 20
		D = 530 km = 4.8°					micr sec
		Sk	iSg 10 29 35.8			P	E 0.9 6
		Um	iSg 10 27 53.9			P	N 0.7 7
		(cont.)				P	Z 3.1 10
						P	Z' 1.2 2.3
						PP	E 1.1 4
						PP	Z 1.4 4
						(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 24	(cont.)			May 24	(cont.)		
	pP - P = 2 min 17 sec				Um iP	19 59 09.3	
	and sP - P = 3 min 01				Ud iP	19 59 03.2	
	sec, which according			" 24	Ud iPg	20 00 25.9	
	to Gutenberg-Richter				i(Sn)	20 00 49.1	
	tables give h = 640 km				Underwater explosion.		
	and h = 570 km,			" 24	Ud i(P)	21 11 44.8	
	respectively.			" 24	Up iPKP2	21 17 44.7	
" 24	Um iP	16 46 24.8			PKP2 Z'	0.1 1.3	
" 24	Ki iP	16 50 48.4		Ki iPKP2	21 17 13.1		
	Sk eP	16 51 01		i	21 17 19.9		
	iS	16 52 46.2			PKP2 Z'	0.2 1.3	
	i	16 52 52.1		Sk iPKP	21 17 11.7		
	Um iP	16 51 26.4 C		i	21 17 27.6		
	Ud iP	16 51 48.6		iPKP2	21 17 42.4		
	Jan Mayen.			Gb iPKP2	21 18 01.8 C		
	Origin time = 16 48 41.			Um iPKP	21 17 09		
	Probably same epicenter			i	21 17 21.2		
	as for May 24, 15 20.			iPKS	21 20 59		
" 24	Sk e(P)	16 57 01		Ka iPKP2	21 17 58.4		
" 24	Up i(PKP)	18 01 01.0 C		i	21 18 05.7		
	iPKP2	18 01 10.9		Ud iPKP2	21 17 50.7		
	Ki iPKP	18 00 36.2		i	21 17 58.3		
	iPKP2	18 00 39.1		New Zealand (h = 30 km).			
		micr sec		" 24	Up eP	21 45 39	
	PKP2 Z'	0.2 1.3			ipP	21 45 48.7	
	Sk iPKP	18 00 51.8		Ki iP	21 44 54.4		
	iPKP2	18 01 07.5		Sk eP	21 45 31		
	Gb iPKP2	18 01 28.5		Gb iP	21 46 00.0		
	Um iPKP	18 00 44.8 C		Um iP	21 45 15.7		
	iPKP2	18 00 52.5		Ka iP	21 45 58.9		
	Ka iPKP2	18 01 25.5		ipP	21 46 10.1		
	Ud iPKP2	18 01 18.0		Ud iP	21 45 46.0		
	New Zealand (h = 25 km).			ipP	21 45 54.9		
" 24	Ki iSg	18 03 12.1		Japan. h = 35 km (Up, Ka, Ud).			
	Sk iSg	18 03 16.3		" 24	Up iP	21 47 46.3	
	Um iSg	18 03 39.9			i	21 47 50.5	
	Nordlands Fylke, Norway,					micr sec	
	66.4° N, 14.8° E.				P Z'	0.1 1.0	
	Origin time = 18 01 43.				Mx E	0.7 18	
" 24	Ud iPg	19 30 20.4			Mx N	0.8 16	
	iPn	19 30 22.1			Mx Z	1.0 20	
	iSn	19 30 38.5		Ki iP	21 46 52.0		
	Underwater explosion.			i	21 46 56.4		
" 24	Up e(P)	20 00 41			micr sec		
	(cont.)				P Z'	0.2 1.0	
				(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968
May 24 (cont.)

			micr	sec
Ki				
	Mx	E	1.0	21
	Mx	N	1.0	17
	Mx	Z	1.1	19
Sk	iP		21 47	27.6
	i		21 47	31.9
Gb	iP		21 48	05.9
	i		21 48	09.9
Um	iP		21 47	18.6 C
	i		21 47	22.8
Ka	iP		21 48	11.5
	i		21 48	15.5
Ud	iP		21 47	49.2
	i		21 47	53.0
Komandorsky Islands (h = 5 km). m = 6.1, M = 5.0 (Up,Ki). Multiple P.				
"	24	Um	iP	21 55 32.5
		Ud	iP	21 55 53.3
"	24	Sk	iP	22 28 47.7
"	24	Um	iP	23 48 11.2
		Ud	iP	23 48 42.1
Japan (h = 20 km).				
"	24	Up	iP	23 59 07.3
		Ki	eP	23 59 12
		Sk	iP	23 58 54.2
		Um	iP	23 59 13.2
		Ud	iP	23 58 56.6
Venezuela (h = 30 km).				
"	25	Up	iP	00 34 47.7
			i	00 34 54.7
			iS	00 39 07
				micr sec
		Mx	E	0.4 15
		Mx	N	0.5 11
		Mx	Z	0.4 14
		D = 2800 km = 25°		
		Ki	iP	00 35 32.2
				micr sec
		Mx	E	0.5 13
		Mx	N	0.4 13
		Mx	Z	0.7 13
		Sk	eP	00 35 31
			i	00 35 45.8
		Gb	iP	00 34 57.6
(cont.)				

1968
May 25 (cont.)

Um	iP		00 35 03.6
	i		00 35 35.7
	eS		00 39 37
Ka	iP		00 34 31.8
	i		00 34 42.8
	iPP		00 35 01.2
Ud	e(P)		00 34 58
	iP		00 35 03.4
Turkey (h = 10 km). M = 4.3 (Up,Ki).			
"	25	Ki	ePKP 02 30 44
		Um	iPKP 02 30 50.9
			iPKP2 02 31 02.0
		Ud	ePKP2 02 31 22
New Zealand (h = 30 km).			
"	25	Up	iP 05 44 15.6
		Sk	eP 05 44 41
		Um	iP 05 44 12.5
		Ka	iP 05 44 21.6
		Ud	iP 05 44 32.1
"	25	Up	iP 07 11 02.4
			iSa 07 14 22
			iLg1 07 16 53
			micr sec
		Mx	E 0.4 6
		Mx	N 0.6 6
		Mx	Z 0.5 6
		Ki	iP 07 12 00.3
			iPP 07 12 45.2
			iSn 07 16 53.5
			iLg1 07 19 44
			iLg2 07 20 29
			micr sec
		Mx	E 0.7 8
		Mx	N 1.0 8
		Mx	Z 1.2 8
		Sk	iP 07 11 56.0
			iSn 07 16 38.6
			iLg1 07 19 19.5
		Gb	iP 07 11 17.2
			iLg1 07 17 29.1
		Um	iP 07 11 29.8
			iS 07 15 19
			iSn 07 15 33.3
			iLg1 07 18 01
		Ka	iLg1 07 16 21.5
		Ud	iP 07 11 23.6
			iSn 07 15 04.5
(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968
May 25 (cont.)
Ud eLg1 07 17 33
Caucasus.
M = 4.8 (Up,Ki).

" 25 Ki iPKP 11 38 00.2
Um ePKP 11 38 05

" 25 Up iP 12 04 10.7 C
ipP 12 04 18.7
iPcP 12 04 39.4
iPP 12 06 44.2
iS 12 13 21
micr sec
P Z' 0.3 1.3
PP Z 0.4 5
S E 0.3 5
S N 0.3 6
Mx E 2.5 19
Mx N 4.3 18
Mx Z 5.5 21
D = 7850 km = 70 1/2°.

Ki iP 12 03 28.9 C
ipP 12 03 38.4
iPP 12 05 49.6
iS 12 12 04
micr sec
P Z 0.5 5
P Z' 0.2 1.2
PP E 0.4 6
PP Z 0.5 5
PP Z' 0.1 1.0
S E 1.1 7
S N 0.4 7
Mx E 4.7 17
Mx N 3.3 18
Mx Z 6.3 20
D = 7100 km = 64°.

Sk iP 12 04 03.0 C
ipP 12 04 13.0
iPP 12 06 36.2

Gb iP 12 04 31.6 C
Um iP 12 03 46.9 C
iPP 12 06 05.4
iS 12 12 37

Ka iP 12 04 31.1 C
iPcP 12 04 48.8
iPP 12 07 10.7

Ud iP 12 04 17.7 C
Japan. h = 35 km (Up,Ki,Sk).
m = 6.1, M = 5.9 (Up,Ki).

1968
May 25 Ki iP 13 48 37.4
micr sec
Mx E 0.4 16
Mx N 0.3 20
Mx Z 0.5 15
Um iP 13 48 55.0
i 13 49 11.3
Ud iP 13 49 25.2
Japan (h = 40 km).

" 25 Up iP 14 29 56.5
Ud iP 14 30 03.9
Japan.

" 25 Up iP 14 30 11.3
iPcP 14 30 31.2
micr sec
Mx E 0.5 19
Mx N 0.9 21
Mx Z 0.6 20
Ki eP 14 29 28
ipP 14 29 38.6
micr sec
Mx E 1.1 17
Mx N 1.3 17
Mx Z 1.1 17
Sk iP 14 30 03.6
ipP 14 30 12.1
Gb eP 14 30 33
iPcP 14 30 46.1
Um iP 14 29 48.5
ipP 14 29 56.0
iPcP 14 30 11.0
Ud iP 14 30 18.6
ipP 14 30 27.9
Japan. h = 30 km (Ki,Sk,Um,Ud).
M = 5.2 (Up,Ki).

" 25 Ud e(P) 15 30 05
i 15 30 19.0

" 25 Ki iP 15 47 27.8
Sk iP 15 47 39.1
Um iP 15 47 14.3
Ud iP 15 47 27.4

" 25 Sk eP 18 48 02
Um eP 18 48 00
i 18 48 06.8
Ud iP 18 48 13.5

25

14.3 sec

14.7 sec

Japan. h = 30 km (Ki,Sk,Um,Ud).
M = 5.2 (Up,Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå;
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 25	Ki	eP	20 20 14	May 26	(cont.)		
	Um	iP	20 20 35.5		Ki	i	05 40 36.5
		ipP	20 20 44.7		Gb	iP	05 39 59.9
	Ud	iP	20 21 05.4		Um	eP	05 40 05
	Japan.				Ka	eP	05 39 36
	h = 35 km (Um).				Ud	iP	05 40 04.4
" 25		i				i	05 40 16.3
	Um	iP	21 21 02.0			iPP	05 40 43.8
	Ud	eP	21 21 32		Caucasus.		
	Japan.			" 26	Up	i(P)	06 08 01.9
" 26	Up	iPKP2	00 09 33.1	" 26	Um	iP	06 59 02.9
	Ki	iPKP2	00 09 01.5	" 26	Um	iP	07 32 09.7
		i	00 09 03.7	" 26	Ki	eP	14 14 49
	Sk	iPKP	00 09 16.1		Ud	iP	14 15 39.2
		iPKP2	00 09 32.4		Japan (h = 30 km).		
	Gb	iPKP2	00 09 50.8	" 26	Up		---
	Um	iPKP	00 09 07.9				micr sec
		iPKP2	00 09 20.1		Mx	E	1.1 23
	Ud	iPKP2	00 09 40.5		Mx	N	1.7 21
		i	00 09 50.4		Mx	Z	2.0 24
	New Zealand (h = 30 km).				Ki	iPKP2	15 03 01.7
" 26	Ki	iPKP	01 30 25.9				micr sec
	Um	iPKP	01 30 33.4		Mx	E	1.6 21
" 26	Ki	iP	04 15 10.3		Mx	N	0.9 19
		i	04 15 16.8		Mx	Z	2.5 20
	Sk	eP	04 15 32		Sk	ePKP2	15 03 20
	Gb	eP	04 15 42		Um	ePKP2	15 03 05
	Um	iP	04 15 14.3			eSKSP	15 17 18
	Ka	iP	04 15 33.0			iSS	15 27 33
	Ud	iP	04 15 32.0		Ka	iPKP	15 01 57.8
	Molucca Sea (h = 110 km).				Ud	ePKP2	15 03 07
" 26	Ud	eP	05 08 38		Balleny Islands (h = 10 km).		
" 26	Ki	ePn	05 22 06		M = 6.0 (Up,Ki).		
		iSn	05 22 50.5	" 26	Ki	iPn	15 13 11.8
		iLg1	05 23 04.8			iSn	15 13 58.5
		D = 410 km = 3.7°.				iLg1	15 14 12.5
	Sk	eSg	05 25 29			D = 430 km = 3.9°.	
	Um	iSn	05 23 31.8		Probably northwest Russia.		
		iSg	05 23 59.9		Origin time = 15 12 10.		
	Russia-Finland border				Explosion?		
	region, 67.4°N, 30.0°E.			" 26	Ki	iP	16 49 23.2 C
	Origin time = 05 21 06.				Sk	iP	16 49 55.3
	Explosion?				Um	iP	16 49 49.5
" 26	Up	eP	05 39 46		Ud	i(P)	16 50 21.7
		i	05 39 49.1		Alaska (h = 30 km).		
	Ki	iP	05 40 32.0				
	(cont.)						

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 26	Up	iP	17 52 50.2	May 27	Up	iPKP	11 56 16.3
	Ki	iP	17 52 08.7 C			i	11 56 21.2
	Sk	iP	17 52 43.2		Sk	iPKP	11 56 10.5
	Um	iP	17 52 27.2		Um	iPKP	11 56 05.4 C
		ipP	17 52 41.3		Ud	iPKP	11 56 18.5 C
	Ka	iP	17 53 09.8			i	11 56 23.5
	Ud	iP	17 52 57.5 C		Kermadec Islands		
		ipP	17 53 10.4		(h = 30 km).		
	Japan. h = 50 km (Um,Ud).			" 27	Sk	eP	12 23 08
" 26	Sk	i(Sg)	18 38 15.0		Um	iP	12 23 01.4
" 26	Um	iP	18 45 06.0			i	12 23 10.9
	Ud	iP	18 45 36.7	" 27	Ki	iP	12 57 23.2
		ipP	18 45 50.1	" 27	Up	iP	18 44 59.8
	Japan. h = 50 km (Ud).					i	18 46 01.0
" 26	Ki	iPKP	20 57 24.4		Ki	iP	18 45 03.2 C
	Um	iPKP	20 57 31.4		Sk	iP	18 45 22.0 C
" 26	Um	eP	21 04 36		Um	iP	18 44 56.5 C
" 26	Um	iP	23 09 45.4		Ud	iP	18 45 15.3 C
" 26	Up	eP	23 10 24		Nepal-India (h = 25 km).		
	Ki	eP	23 09 42	" 28	Sk	iP	01 38 38.2
		ipP	23 09 53.7		Um	iP	01 38 33.0
			micr sec		Ud	iP	01 38 46.1
	Mx	E	0.4 17		These phases could be PKP		
	Mx	N	0.4 18		instead.		
	Mx	Z	1.0 18	" 28	Up	iPKP	01 48 05.4
	Um	iP	23 10 01.8			i	01 48 30.0
		ipP	23 10 12.8		Um	iPKP	01 47 54.3 C
	Ud	iP	23 10 31.7			iSS	02 10 07
		ipP	23 10 42.7		Ud	iPKP	01 48 07.1
	Japan. h = 40 km (Ki,Um, Ud).					i	01 48 32.5
" 27	Ki	iP	00 07 53.2		Kermadec Islands		
	Um	eP	00 08 20		(h = 30 km).		
	Ud	iP	00 08 45.9	" 28	Up	iPKP	02 29 30.5
" 27	Ki	iP	06 28 21.4			i	02 29 34.6
	Um	iP	06 28 40.0		Sk	ePKP	02 29 23
	Ud	iP	06 29 10.7		Um	iPKP	02 29 17.4
	Japan (h = 50 km).				Ka	iPKP	02 29 39.7
" 27	Um	iP	10 49 00.3		Ud	iPKP	02 29 30.2 C
	Ud	iP	10 49 29.2		Kermadec Islands		
		i	10 49 32.2		(h = 30 km).		
	Japan (h = 40 km).			" 28	Up	ePKP	03 53 35
					Sk	iPKP	03 53 27.4
					Um	iPKP	03 53 22.7 C
					(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 28 (cont.)				May 28 (cont.)			
	Um	iSS	04 15 32		Sk	eX	11 12 29
	Ud	iPKP	03 53 35.4 C		Um	iPKP	11 12 05.9
	Kermadec Islands					iX	11 12 24.0
	(h = 30 km).				Ud	iPKP	11 12 17.1
"	28	Sk	ePKP 04 30 38			iX	11 12 36.9
		Um	iPKP 04 30 29.9		Kermadec Islands		
		i	04 30 38.5		(h = 30 km).		
	Kermadec Islands				The phase X, appearing		
	(h = 30 km).				about 19 sec after PKP and		
"	28	Ud	iP 06 30 55.6		with larger amplitude,		
					could be PKP of another		
					shock in the same region.		
"	28	Sk	ePKP 07 09 57	"	28	Up	ipP 12 32 34.4
		Um	iPKP 07 09 49.6			Ki	eP 12 31 42
		i	07 10 01.6			Um	iP 12 31 59.6
		Ud	iPKP 07 10 11.9			ipP	12 32 08.4
	Kermadec Islands					Ud	iP 12 32 32.2
	(h = 30 km).					ipP	12 32 42.6
"	28	Up	iPKP 09 26 14.4		Japan. h = 35 km (Um,Ud).		
		i	09 26 20.2	"	28	Up	iP 13 41 32.6
			micr sec			i	13 41 36.8
		PKP	Z 0.4 4			iX	13 41 47.9
		PKP	Z' 0.1 0.5			i(PP)	13 45 59
		Mx	E 0.7 18			iPP	13 46 09.0
		Mx	N 1.1 21			iPS	13 55 20
		Mx	Z 1.3 20			iPKKP	13 57 11.5
	Ki	iPKP	09 25 52.0			i	13 57 28.5
		iPP	09 28 57				micr sec
			micr sec			P	E 0.4 5
		PKP	Z 0.4 6			P	Z 0.8 4
		PP	Z 0.5 9			X	Z' 0.3 1.2
		Mx	E 0.9 19			PP	E 3.0 4
		Mx	N 1.0 22			PP	N 1.9 4
		Mx	Z 1.8 21			PP	Z 7.2 4
	Sk	iPKP	09 26 08.1 C			PKKP	Z' 0.1 1.3
		i	09 26 19.8			Mx	E 130 28
	Gb	iPKP	09 26 22.2			Mx	N 220 28
		i	09 26 30.5			Mx	Z 210 29
	Um	iPKP	09 26 02.8 C			(D = 12000 km = 108°.)	
		i	09 26 10.3		Ki	iP	13 41 11.0 C
	Ka	iPKP	09 26 25.4			i	13 41 15.3
		i	09 26 34.0			iX	13 41 29.2
	Ud	iPKP	09 26 16.6 C			iY	13 44 49.8
		i	09 26 29.1			i(PP)	13 45 29
	Kermadec Islands					iPP	13 45 35.3
	(h = 30 km).					iPS	13 54 38
	M = 5.7 (Up,Ki).					iPKKP	13 57 26.8
"	28	Sk	ePKP 11 12 10				micr sec
		(cont.)				P	E 0.8 6
					(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968					
May 28 (cont.)					May 28 (cont.)					
	Ki		micr	sec		Um	iP	14 41	04.6	
		P	N	0.4 6			Ka	iP	14 41 52.4	
		P	Z	2.5 6			Ud	iP	14 41 35.3	
		P	Z'	0.4 1.5			Japan (h = 40 km).			
		X	Z'	0.3 1.1		"	28	Um	iP	15 57 45.1
		PP	E	7.0 5				i	15 57 53.9	
		PP	N	2.2 5		"	28	Um	eP	16 05 55
		PP	Z	13 5		"	28	Ud	iPg	19 30 19.6
		Mx	E	160 23				iPn	19 30 21.6	
		Mx	N	85 20				iSn	19 30 38.1	
		Mx	Z	300 24				Underwater explosion.		
		(D = 11450 km = 103°.)				"	28	Up	iSn	20 00 40.5
	Sk	iP		13 41 34.1			Ud	i(Sn)	20 00 48.3	
		i		13 41 40.0			Underwater explosion.			
		i(PP)		13 45 59.2		"	28	Um	iP	20 45 51.7
		iPP		13 46 15.8		"	28	Up		----
		iPKKP		13 57 09.2						micr sec
	Gb	iP		13 41 52.8			Mx	E	0.6 15	
		iX		13 42 06.1			Mx	N	0.4 10	
		i		13 45 23.2			Mx	Z	0.5 11	
		i(PP)		13 46 23.6			Sk	iP	21 37 13.7	
		iPP		13 46 40.9			Gb	iP	21 36 21.7	
		iPKKP		13 56 57.5			Um	iP	21 37 10.0	
	Um	iP		13 41 19.7 C			iRg		21 47 47	
		i		13 41 23.9			Ud	iP	21 36 39.1	
		iY		13 45 01			Greece.			
		i(PP)		13 45 39.0		"	28	Up	iP	22 40 46.6 C
		iPP		13 45 51.0				iS		22 49 36
	Ka	iP		13 41 44.3						micr sec
		i		13 41 47.8			P	Z'	0.3 1.0	
		i(PP)		13 46 12.0			S	E	1.2 11	
		iPP		13 46 31.3			Mx	E	1.7 22	
	Ud	iP		13 41 40.1			Mx	N	1.9 19	
		i		13 41 47.5			Mx	Z	4.9 19	
		iY		13 45 26.1			D = 7400 km = 66 1/2°.			
		i(PP)		13 46 07.7			Ki	iP		22 39 53.2 C
		iPP		13 46 27.2				eS		22 47 55
	New Guinea (h = 70 km).									micr sec
	m = 7.3, M = 7.7 (Up,Ki).						P	N	0.6 7	
	M uncorrected for depth.						P	Z	1.1 7	
	Multiple P. X and Y are						P	Z'	0.3 1.0	
	unidentified phases. (PP)						S	E	1.4 11	
	is a phase arriving before						S	N	0.6 7	
	the proper PP, which has						Mx	E	2.0 17	
	been mentioned before in						Mx	N	2.7 20	
	our bulletins, especially						(cont.)			
	for this distance range.									
	PP has larger amplitudes									
	and longer periods than									
	(PP).									
"	28	Ki	eP	14 40 45						
		(cont.)								

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 28 (cont.)				May 29			
Ki		micr	sec	Ki	iPKP	06 28	52.1-
	Mx	Z	3.8 20	Um	iPKP	06 28	58.8
	D = 6500 km = 58 1/2°.			Ud	ePKP2	06 29	30
Sk	iP		22 40 27.6 C	New Zealand (h = 10 km).			
Gb	iP		22 41 04.7 C	" 29	Sk	iP	08 44 33.1
	i		22 41 13.1	" 29	Up	i(P)	08 57 13.1
Um	iP		22 40 19.2 C	" 29	Up		---
	iPa		22 44 07				micr sec
	iS		22 48 44		Mx	E	0.6 15
Ka	iP		22 41 10.4 C		Mx	N	0.6 16
	i		22 41 21.2		Mx	Z	0.5 16
Ud	iP		22 40 48.9 C	Ki			---
Aleutian Islands							micr sec
(h = 15 km).					Mx	E	1.5 20
m = 6.1, M = 5.5 (Up,Ki).					Mx	N	0.6 17
" 28	Up	iP	23 06 12.5 C		Mx	Z	1.0 18
	Ki	iP	23 05 18.8 C	Um	eP	09 06	06
	Um	iP	23 05 41.2		iS	09 15	02
	Ud	iP	23 06 14.2 C	Ud	iP	09 06	38.9
Aleutian Islands				Japan.			
(h = 50 km).				M = 5.2 (Up,Ki).			
" 28	Ki	iP	23 11 01.6	" 29	Um	iP	10 11 08.9
	Sk	iP	23 11 36.1	" 29	Sk	iP	10 15 09.0
	Um	iP	23 11 20.3 C		Um	iP	10 14 52.7
		ipP	23 11 30.0		Ud	eP	10 15 20
	Ud	iP	23 11 51.4	Japan (h = 90 km).			
Japan. h = 35 km (Um).				" 29	Ki	iPn	11 02 38.8
" 28	Um	iP	23 50 26.8			iSn	11 03 37.9
" 29	Up	iP	00 19 12.8			iLg1	11 03 57.0
	Ki	iP	00 18 19.5 C			D = 560 km = 5.0°.	
		ipP	00 18 30.0		Sk	eSg	11 06 26
	Sk	eP	00 18 54	Probably northwest Russia.			
	Gb	iP	00 19 30.7	Origin time = 11 01 20.			
	Um	iP	00 18 45.0 C	Explosion?			
	Ud	iP	00 19 14.9 C	" 29	Ud	i(P)	11 56 21.0
Aleutian Islands.						i	11 56 26.2
h = 40 km (Ki).				" 29	Ud	i(P)	12 07 05.3
" 29	Up	iP	04 03 07.7	" 29	Ki	iSg	12 53 43.7
	Ud	iP	04 03 23.4		Sk	eSg	12 54 01
" 29	Ki	iPn	04 04 14.3	" 29	Ki	iP	13 01 34.7
		iSn	04 05 00.8	" 29	Up	iP	13 08 01.7
		iLg1	04 05 15.6			i	13 08 06.4
	D = 430 km = 3.9°.						
	Sk	iSg	04 08 10.4				
Probably northwest Russia.							
Origin time = 04 03 12.							
Explosion?							

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
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1968				1968			
May 29	Um	iP	13 17 27.8	May 30	(cont.)		
	Ud	iP	13 17 57.0		Up	micr	sec
" 29	Ud	i(P)	13 22 50.5		P	Z'	0.1 0.6
" 29	Sk	iP	14 06 35.1		Mx	E	0.6 16
" 29	Ki	iPn	14 10 52.2		Mx	N	0.9 21
		iSn	14 11 37.8		Mx	Z	1.0 20
		iSg	14 11 56.1		Ki	iP	01 18 42.5 C
		D = 420 km = 3.8°.				i	01 19 22.2
		Probably northwest Russia.				iPP	01 20 25.9
		Origin time = 14 09 51.				eS	01 25 20
		Explosion?					micr sec
" 29	Up	iP	17 32 47.8		P	Z'	0.1 0.9
	Sk	iP	17 33 20.6		PP	Z'	0.1 1.1
	Ka	iP	17 32 05.2		Mx	E	0.9 20
	Ud	iP	17 32 48.3		Mx	N	0.4 13
		South of Greece.			Mx	Z	0.5 11
" 29	Up	iSKP	17 43 53.6			D = 5000 km = 45°.	
		i	17 43 56.3		Sk	iP	01 18 40.7 C
	Ki	ePKP	17 40 31			iPP	01 20 26.4
	Sk	eSKP	17 43 48		Gb	iP	01 18 18.0
	Um	iSKP	17 43 40.3		Um	iP	01 18 19.5 C
	Ud	iSKP	17 43 57.2			iPP	01 19 59.4
		New Hebrides (h = 210 km).			Ka	iP	01 17 57.1 C
" 29	Um	e(Sg)	21 31 45		Ud	iP	01 18 21.6 C
" 29	Um	e(Sg)	21 35 24			iPP	01 20 05.1
" 29	Um	i(Sg)	23 30 17.9			iS	01 24 39.0
" 30	Up	iP	00 17 57.1			Iran (h = 25 km).	
	Ki	iP	00 18 38.3 C	" 30	Um	iPKP	02 51 01.6
	Sk	iP	00 18 33.7			i	02 51 13.8
	Um	iP	00 18 12.8			Kermadec Islands	
	Ka	iP	00 17 46.6			(h = 30 km).	
	Ud	iP	00 18 12.3 C	" 30	Up	iPKP2	04 45 15.2
		Iran (h = 40 km).			Ki	iPKP	04 44 43.5
" 30	Up	iP	00 47 25.0 C		Um	ePKP	04 44 50
	Ki	iP	00 46 46.9		Ud	iPKP2	04 45 21.6
	Sk	eP	00 46 56			New Zealand (h = 30 km).	
	Um	iP	00 47 08.1	" 30	Up	iP	05 34 47.6 C
	Ud	iP	00 47 17.5			eS	05 43 47
		Oregon (h = 25 km).				iScS	05 44 44
" 30	Up	iP	01 18 06.4 C				micr sec
		i	01 18 10.5		P	N	0.3 3
	(cont.)				P	Z	0.6 3
					P	Z'	0.2 1.0
					Mx	E	6.1 21
					Mx	N	4.5 24
					Mx	Z	8.5 19
						D = 7550 km = 68°.	
					Ki	iP	05 34 01.3 C
					(cont.)		(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 30 (cont.)				May 30 (cont.)			
	Ki	ipP	05 34 16.1		Up		micr sec
		i	05 35 14.6		P	N	0.5 5
		iS	05 42 16		P	Z	0.6 4
		iScS	05 43 52		P	Z'	0.2 0.6
			micr sec		S	E	0.9 6
		P	E 0.4 6		S	N	1.2 4
		P	N 0.6 7		Mx	E	19 17
		P	Z 1.4 8		Mx	N	20 14
		P	Z' 0.3 1.3		Mx	Z	25 15
		S	N 1.0 12		D = 2850 km = 25 1/2°.		
		Mx	E 8.6 22	Ki	ipP		17 46 55.5
		Mx	N 7.6 22		iS		17 52 11
		Mx	Z 11 17				micr sec
		D = 6800 km = 61°.			P	N	0.3 5
	Sk	ipP	05 34 37.1 C		S	E	0.4 5
		ipP	05 34 49.2		S	N	0.9 9
		iPcP	05 35 06.5		Mx	E	13 13
		i	05 35 57.2		Mx	N	5.8 11
		iPP	05 37 03.3		Mx	Z	6.8 11
	Gb	ipP	05 35 09.3 C		D = 3600 km = 32 1/2°.		
		ipP	05 35 24.5	Sk	ipP		17 46 28.8
	Um	ipP	05 34 22.9 C	Gb	ipP		17 45 44.6
		ipP	05 34 34.0		i		17 45 49.1
		iS	05 42 53		i		17 50 38.0
	Ka	ipP	05 35 11.0 C	Um	eP		17 46 20
		ipP	05 35 26.3		i		17 46 26.4
	Ud	ipP	05 34 54.0		iS		17 51 05
		ipP	05 35 04.7		iSS		17 52 23
	Kurile Islands. h = 50 km			Ka	ipP		17 45 20.0
	(Ki,Sk,Gb,Um,Ka,Ud).				iS		17 49 25.4
	m = 6.2, M = 5.9 (Up,Ki).			Ud	ipP		17 45 58.1
					i		17 46 01.5
"	30	Um	ipP 09 15 02.5		iS		17 50 34.5
		Ud	ipP 09 15 33.0		i		17 51 28.6
		Japan (h = 70 km).		East of Crete (h = 20 km).			
				m = 5.7, M = 5.9 (Up,Ki).			
"	30	Um	ipP 10 09 33.7	Multiple P.			
		Banda Sea (h = 30 km).		"	30	Up	ipP 17 53 01.2 C
						i	17 53 04.4
"	30	Sk	iSg 11 13 49.1	Sk	ipP		17 53 14.7
"	30	Up	i(P) 16 26 25.4 C	Gb	ipP		17 52 58.9
"	30	Ki	ipP 16 47 20.2	Um	ipP		17 53 10.9
		Sk	eP 16 47 53	Ka	ipP		17 52 53.4
		Um	ipP 16 47 35.5	Ud	ipP		17 53 04.1
		Ud	ipP 16 48 04.7 C	"	30	Up	ipP 18 11 53.5
		Japan.				Ki	ipP 18 11 36.5
"	30	Up	ipP 17 45 48.3				micr sec
		i	17 45 51.4		P	Z'	0.1 1.0
		i	17 45 57.0	Sk	ipP		18 11 59.8
		iS	17 50 16	Gb	ipP		18 12 10.5
		(cont.)		Um	ipP		18 11 42.3
				Ud	ipP		18 12 01.5
				Mindanao (h = 90 km).			

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
May 30	Up	iP	18 19 15.6	May 30	(cont.)		
	Ki	iP	18 20 52.5		Ki	iPKP	20 01 45
	Sk	iP	18 19 59.0				micr sec
	Um	iP	18 19 58.0			PKP	Z 0.8 7
	Ud	iP	18 19 19.7			Mx	E 3.1 18
	Yugoslavia (h = 30 km).					Mx	N 2.8 18
						Mx	Z 5.0 21
" 30	Ka	i(P)	18 40 52.4		Sk	iPKP	20 02 04.0
					Gb	iPKP	20 02 16.6
" 30	Up	iP	19 24 35.6		Um	iPKP	20 01 57.0 C
	Ki	iP	19 23 48.2			i	20 02 14.4
	Sk	eP	19 24 22		Ka	iPKP	20 02 21.6
	Gb	iP	19 24 56.7		Ud	iPKP	20 02 10.5
	Um	iP	19 24 10.6		Kermadec Islands (h = 40 km).		
	Ud	iP	19 24 38.0		M = 6.2 (Up,Ki).		
		i	19 24 41.9		" 30	Sk	eP 20 13 12
	Kurile Islands (h = 30 km).					Um	iP 20 13 07.3
" 30	Up	iP	20 00 18.5		" 30	Um	iP 20 15 53.9
		iX	20 00 50.9				i 20 16 05.4
		ePP	20 01 46			Ud	eP 20 16 15
			micr sec		" 30	Ud	e(P) 20 21 59
		P	Z' 0.1 1.0		" 30	Up	iP 21 22 57.6 D
	Ki	iP	20 00 57.6			Ki	iP 21 23 07.6
		iX	20 01 30.9			Sk	iP 21 23 22.5
		iPP	20 02 35			Um	iP 21 22 55.7
			micr sec				ipP 21 23 41.9
		P	Z' 0.1 1.1			Ka	iP 21 23 01.9
		PP	E 0.5 6				isP 21 24 10.6
	Sk	iP	20 00 54.2			Ud	iP 21 23 13.5
	Gb	iP	20 00 29.8				ipP 21 24 00.2
	Um	iP	20 00 33.0			Hindu Kush. h = 220 km	
		i	20 00 49.0			(Um,Ka,Ud).	
	Ka	iP	20 00 07.2		" 30	Um	iP 21 27 48.8
		iX	20 00 41.1			Ud	eP 21 28 07
	Ud	iP	20 00 33.9 C		" 30	Ud	iP 21 47 59.0
		iX	20 01 07.5			Rhodes Island.	
	Iran (h = 30 km).				" 30	Um	iP 21 56 41.9
	m = 5.6 (Up,Ki).					Ud	iP 21 56 56.1
	The phase X, appearing				" 30	Up	iP 23 25 18.2
	about 33 sec after P, is					Sk	iP 23 25 53.0
	probably P of another shock					Ka	iP 23 24 36.8
	in the same region.					Ud	iP 23 25 18.9
" 30	Up	iPKP	20 02 09.5		" 30	Um	iP 23 38 58.4
		iPKS	20 05 38			Ud	iP 23 39 13.4
			micr sec				
		PKP	Z 0.9 4				
		PKP	Z' 0.1 1.0				
		PKS	N 0.6 6				
		Mx	E 1.8 19				
		Mx	N 3.4 21				
		Mx	Z 3.8 23				
	(cont.)						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968					
May 30	Ud	i(P)	23 55 00.0	May 31	(cont.)				
"	31	Up	iP	00 28 51.1	Ki	iSg	10 28 26.0		
		Sk	iP	00 28 39.3		D = 530 km = 4.8°.			
		Um	i(P)	00 28 26.3	Sk	eSg	10 30 51		
			iP	00 28 34.5		i	10 30 58.5		
		Ka	eP	00 28 59	Um	iSg	10 29 13.5		
		Ud	iP	00 28 50.9		Northwest Russia,			
						67.4° N, 33.0° E.			
"	31	Ud	iP	01 29 11.6		Origin time = 10 25 48.			
			Japan (h = 10 km).			Explosion?			
"	31	Um	eP	01 48 07	"	31	Up	eSg	12 29 14
							Sk	eSg	12 30 58
"	31	Ud	iP	02 03 18.7			Um	iSg	12 29 47.0
							Ud	iSg	12 30 14.5
"	31	Um	iP	02 38 28.9				Esthonia. Explosion?	
"	31	Up	i(P)	02 49 26.7	"	31	Sk	iP	12 58 32.1
							Ud	iP	12 57 25.2
"	31	Up	iP	03 10 34.2 C	"	31	Sk	iPKP	13 01 52.6
			iPcP	03 11 51.5			Um	iPKP	13 01 46.2
		Ki	iP	03 10 37.7			Ud	iPKP	13 01 58.8
		Sk	iP	03 10 56.3				Kermadec Islands	
		Gb	iP	03 10 54.5				(h = 30 km).	
		Um	iP	03 10 30.6 C	"	31	Um	eP	13 21 30
			i	03 10 37.0				i	13 21 44.5
		Ka	iP	03 10 39.6 C	"	31	Up	iSg	13 37 20.9
		Ud	iP	03 10 49.7 C			Sk	iSg	13 39 43.3
			Nepal-India (h = 30 km).				Ka	ePg	13 36 19
"	31	Sk	iP	03 48 48.8				i	13 36 22.6
"	31	Um	iP	05 12 45.7				iSg	13 36 58.8
"	31	Ud	iP	06 00 45.2			Ud	iSg	13 38 05.7
			Japan (h = 30 km).					Near Liyepaya on the Baltic	
"	31	Ud	iP	07 37 20.4				coast of Latvia.	
			Aegean Sea.					Origin time = 13 35 17.	
								Explosion?	
"	31	Ki	iPn	10 16 37.1	"	31	Sk	iP	14 14 37.8
			iSn	10 17 47.4				i	14 14 44.2
			iLg1	10 18 11.3			Ud	iP	14 14 47.5
			D = 670 km = 6.0°.					North Atlantic Ocean.	
		Um	iSg	10 19 30.4	"	31	Up	i(PKP)	15 43 14.8
			Probably northwest Russia.					iPKP	15 43 21.8
			Origin time = 10 15 04.				Ki	ePKP	15 43 07
			Explosion?				Sk	i(PKP)	15 43 03.8
"	31	Ki	iPn	10 27 04.0				iPKP	15 43 13.5
			iP ^X	10 27 10.5			Gb	iPKP	15 43 26.9
			iSn	10 28 02.2			Um	i(PKP)	15 42 59.2
			(cont.)					iPKP	15 43 07.1
								(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968			
May 31	(cont.)				May 31	(cont.)		
	Ka	iPKP	15 43 31.2			Ki	iPKP	21 37 36.4
	Ud	i(PKP)	15 43 11.7			Ka	iPKS	21 41 17.0
		iPKP	15 43 23.1			Ud	iPKS	21 41 04.4
	Kermadec Islands						i	21 41 06.6
	(h = 30 km).					New Hebrides Islands		
						(h = 140 km).		
" 31	Ki		18 04 25		" 31	Up	iP	23 19 51.6
		iSg	18 04 29.4			Um	iP	23 20 16.9
	Sk	iSg	18 04 33.8			Azores Islands (h = 30 km).		
	Um	iSg	18 04 56.7					
	Nordlands Fylke, Norway,							
	66.4° N, 14.8° E.							
	Origin time = 18 03 00.							
" 31	Up	iPKP	18 39 26.0					
	Ki	iPKP	18 39 12.4 C					
	Sk	iPKP	18 39 22.9 C					
	Gb	iPKP	18 39 32.9					
	Um	iPKP	18 39 17.9 C					
	Ka	iPKP	18 39 33.8					
		iSKP	18 42 42.5					
	Ud	iPKP	18 39 27.0					
		iSKP	18 42 32.9					
	New Hebrides Islands							
	(h = 210 km).							
" 31	Ud	iPg	19 30 19.7					
		iPn	19 30 21.7					
		i	19 30 34.6					
		iSn	19 30 38.0					
	Underwater explosion.							
" 31	Up	eSn	20 00 42					
	Ud	iSn	20 00 42.8					
	Underwater explosion.							
" 31	Up	iP	20 03 04.5					
	Ki	iP	20 02 21.8					
			micr sec					
	Mx	E	1.1 17					
	Mx	N	0.7 18					
	Mx	Z	1.5 18					
	Sk	iP	20 02 56.6					
	Gb	iP	20 03 25.9					
	Um	iP	20 02 41.0					
	Ka	eP	20 03 27					
	Ud	iP	20 03 11.5					
	Japan (h = 30 km).							
" 31	Up	iPKS	21 41 00.3					
		i	21 41 03.0					
	(cont.)							

Markus Båth
November 21, 1968

fw

Seismological Institute
Uppsala

20 JAN 1969

SEISMOLOGICAL BULLETIN

UPPSALA, KIRUNA, SKALSTUGAN, GÖTEBORG,
UMEÅ, KARLSKRONA and UDDEHOLM

Uppsala	{Up}	: 59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	{Ki}	: 67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	{Sk}	: 63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	{Gb}	: 57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	{Um}	: 63°48.9'N,	20°14.2'E;	h = 16 m
Karlskrona	{Ka}	: 56°09.9'N,	15°35.5'E;	h = 11 m
Uddeholm	{Ud}	: 60°05.4'N,	13°36.4'E;	h = 240 m

JUNE 1 - 30, 1968
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1968					1968				
June	1	Ud	iP	01 07 13.0	June	1	Um	iP	07 45 38.8
			ipP	01 07 24.9			Ud	iP	07 46 10.5
				Japan. h = 45 km (Ud).					Kurile Islands
									(h = 30 km).
"	1	Ki	i(P)	02 04 24.9	"	1	Ki	i(Sn)	08 14 06.2
			i	02 04 45.1				i(Lg1)	08 14 24.8
		Ud	iP	02 04 53.0					
"	1	Ud	iP	03 32 47.0	"	1	Up	iP	08 45 06.0
				Japan (h = 30 km).			Ud	iP	08 45 08.2
"	1	Up	iP	04 09 31.3	"	1	Up	eP	09 02 08
		Ki	iP	04 08 51.0			Sk	eP	09 01 55
		Um	iP	04 09 08.6 C			Um	iP	09 01 50.9
		Ud	iP	04 09 38.2			Ud	eP	09 02 03
				Japan (h = 80 km).	"	1	Up	iP	10 42 59.0 C
"	1	Ud	iP	04 36 03.5			iPP		10 45 35
				Rhodes Island.			iPS		10 52 31
"	1	Ki	iPg	04 50 25.9 C					micr sec
			iSg	04 50 32.9			P	N	0.2 4
				D = 60 km = 0.5°.			P	Z'	0.3 1.2
		Sk	iSg	04 53 21.0			PP	Z'	0.1 1.1
		Um	iSg	04 52 39.2			Mx	E	1.6 21
				Swedish Lapland,			Mx	N	2.8 20
				68.4°N, 19.9°E.			Mx	Z	2.2 17
				Origin time = 04 50 15.					D = 7800 km = 70°.
"	1	Up	e(P)	05 27 09			Ki	iP	10 42 17.7 C
		Ki	eP	05 27 06			i		10 42 25.9
		Sk	iP	05 27 14.1			iPP		10 44 37.3
		Um	eP	05 27 08			eS		10 50 42
			i	05 27 20.7					micr sec
		Ud	eP	05 27 17			P	Z'	0.3 1.3
			i	05 27 23.2			PP	Z'	0.1 1.2
							S	N	0.3 8
							Mx	E	3.0 20

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June	1	(cont.)		June	1		
		Ki	micr sec			Up	iPKP 18 40 11.7
		Mx	N 2.2 21			i	18 40 17.1
		Mx	Z 4.5 16			Sk	iPKP 18 40 08.1
		D = 7050 km = 63 1/2°.				Um	iPKP 18 40 01.5
		Sk	iP 10 42 51.6 C			i	18 40 09.0
			ipP 10 43 05.1			Ud	e(PKP) 18 40 04
			iPP 10 45 16.8			iPKP	18 40 15.9
		Gb	iP 10 43 19.9 C	"	1	Um	iP 19 57 40.1
			ipP 10 43 33.0			Ud	iP 19 58 09.0
		Um	iP 10 42 35.9 C	"	1	Up	iS ^X 20 31 54.0
			ipP 10 42 50.1			iSg	20 32 03.0
			iS 10 51 22			Sk	eSg 20 32 01
			iPS 10 51 46			Um	iPg 20 30 10.4 D
		Ka	iP 10 43 19.1 C			iSg	20 30 18.3
			ipP 10 43 32.9			D = 70 km = 0.6°.	
			iPP 10 45 55.0			Ud	iS ^X 20 32 25.3
		Ud	iP 10 43 06.0 C			iSg	20 32 32.9
			i 10 43 14.9			Gulf of Bothnia, 63.3°N, 20.8°E.	
		Japan. h = 50 km (Sk, Gb, Um, Ka).				Origin time = 20 29 58.	
		m = 6.1, M = 5.7 (Up, Ki).					
"	1	Up	iPKP 11 42 19.5	"	1	Up	i(P) 22 26 44.5
			i(pPKP) 11 42 25.6			Japan (h = 30 km).	
			micr sec				
			E 0.2 4	"	2	Ki	iPKP 01 29 23.7
		Ki	iPKP 11 42 10.0			Um	iPKP 01 29 30.0
		Sk	iPKP 11 42 13.6			Ud	ePKP 01 29 31
			ipPKP 11 42 25.2			Fiji Islands (h = 560 km).	
		Gb	iPKP 11 42 27.9	"	2	Ud	iP 01 49 52.6
			ipPKP 11 42 38.0	"	2	Up	iP 03 59 40.0
		Um	iPKP 11 42 07.9			i	03 59 44.3
			ipPKP 11 42 18.1			Sk	iP 03 59 56.5
		Ka	iPKP 11 42 30.4			Um	iP 03 59 28.3
			ipPKP 11 42 40.8			Ud	iP 03 59 53.9
		Ud	iPKP 11 42 20.2	"	2	Ud	iP 04 59 21.2
			ipPKP 11 42 33.1	"	2	Ud	iP 06 23 47.3
		Kermadec Islands. h = 40 km (Up, Sk, Gb, Um, Ka, Ud).		"	2	Up	iP 06 39 16.3
"	1	Up	eP 12 37 15				micr sec
			i 12 37 29.1			P	Z' 0.1 1.0
			i 12 37 44.2			Ki	iP 06 38 32.0
		Sk	iP 12 37 25.8			Sk	iP 06 39 06.9
		Um	iP 12 37 05.3			Gb	iP 06 39 37.4
		Ud	eP 12 37 26			Um	iP 06 38 51.5
		Formosa (h = 80 km).				Ud	iP 06 39 22.6
"	1	Ki	iP 14 03 48.2			Kurile Islands (h = 30 km).	
		Um	iP 14 04 04.0				
		Ud	eP 14 04 34				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968					
June	2	Ud	iP	08 11 17.7	June	3	Up	iP	05 39 31.6
							Ud	iP	05 39 33.9 C
		Japan (h = 30 km).							
"	2	Up	iPKP	08 37 23.3	"	3	Um	iP	05 42 13.6
			ipPKP	08 37 45.3					
				micr sec					
			PKP	Z' 0.1 0.8	"	3	Up	iP	05 43 28.3
		Ki	iPKP	08 37 11.3				ipP	05 43 39.5
			i	08 37 22.1			Ki	iP	05 42 49.7
		Sk	iPKP	08 37 21.7				ipP	05 43 01.2
			ipPKP	08 37 44.0			Um	iP	05 43 06.4 C
		Gb	iPKP	08 37 30.7				ipP	05 43 16.4
			ipPKP	08 37 52.1			Ud	iP	05 43 35.2
		Um	iPKP	08 37 16.2 C				ipP	05 43 46.3
			ipPKP	08 37 37.3			Japan. h = 40 km (Up, Ki, Um, Ud).		
			iPP	08 38 16.4					
			ipPP	08 38 42.7	"	3	Up	iP	05 58 44.1
			ePKKP	08 47 41			Ki	iP	05 58 01.9
		Ka	iPKP	08 37 30.5			Um	iP	05 58 20.2
		Ud	iPKP	08 37 25.6			Ud	iP	05 58 51.5 C
			ipPKP	08 37 49.8			Japan (h = 30 km).		
		Solomon Islands. h = 80 km (Up, Sk, Gb, Um, Ud).			"	3	Up	iP	08 43 30.7
"	2	Um	iP	11 56 17.3				ipP	08 43 42.1
"	2	Ki	iPKP	12 16 29.9			Ki	iP	08 42 52.7 C
		Um	iPKP	12 16 36.2				ipP	08 43 03.1
		New Zealand (h = 60 km).					Sk	iP	08 43 24.8
"	2	Up	iP	19 41 47.4				iPP	08 46 07.1
		Ki	iP	19 41 35.6			Um	iP	08 43 09.3 C
		Um	iP	19 41 43.8				ipP	08 43 19.4
		Ud	iP	19 41 37.4			Ud	iP	08 43 37.6
		Mexico (h = 100 km).					Japan. h = 40 km (Up, Ki, Um).		
"	2	Up		---	"	3	Up	iP	09 05 04.8
				micr sec			Um	iP	09 04 47.0 C
			Mx	N 0.6 20			Ud	iP	09 05 11.7
		Um	iP	20 43 28.0			Bonin Islands (h = 520 km).		
		Ud	eP	20 43 51	"	3	Up	iP	09 30 11.2
		Formosa (h = 30 km).					Um	eP	09 29 35
"	2	Ud	iP	20 45 21.5				i	09 29 45.1
		Java (h = 250 km).					Ud	iP	09 30 07.0
"	2	Up	iP	22 31 37.8	"	3	Ki	iP	09 31 45.3
		Um	iPP	22 32 41.6				iPKP	09 35 51.2
		Ud	eP	22 31 42			Sk	iPKP	09 36 01.6
		Ionian Sea.						iPP	09 36 54.5
"	3	Um	iP	02 23 11.2			Um	ePKP	09 35 54
		Ud	iP	02 23 42.4				ipPP	09 37 17.7
		Japan (h = 60 km).						i	09 46 55.3
								iPKKP	09 47 07.6
							Ud	ePKP	09 36 05
								iPP	09 37 08.6
							New Guinea (h = 190 km).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968					
June	3	Up	eP	10 46 25	June	4	Up	iP	01 50 28.6
		Ki	iP	10 47 31.8				iPn	01 51 12.3
				micr sec				iPP	01 51 22.7
			Mx	E 0.5 11			Ki	iP	01 51 09.6 C
			Mx	N 0.4 11				i	01 51 14.7
		Sk	iP	10 47 08.8					micr sec
		Um	eP	10 47 01				P	Z' 0.1 0.9
		Ka	iP	10 45 56.7			Sk	iP	01 51 07.5
		Ud	iP	10 46 34.0			Um	iP	01 50 44.1
			i(PP)	10 47 09.8				i	01 50 59.4
		Rhodes Island (h = 20 km).					Ud	iP	01 50 47.2
								i	01 50 51.3
		Caspian Sea (h = 50 km).							
"	3	Um	iP	13 37 39.7	"	4	Ki	eP	02 45 02
"	3	Up	iP	14 26 57.2	"	4	Sk	iP	02 45 13.8
			i	14 27 04.6			Um	eP	02 45 25
			iPcP	14 27 21.4			Ud	iP	02 45 32.5
				micr sec			Oregon (h = 20 km).		
			P	Z' 0.2 0.5	"	4	Ud	iP	05 19 40.8
		Ki	iP	14 26 11.6 C			Tibet (h = 30 km).		
			iX	14 26 22.6	"	4	Up	iP	06 56 45.6
			isP	14 27 13.8			Ki	iP	06 57 27.7
				micr sec				i	06 57 32.8
			P	Z' 0.3 0.9					micr sec
		Sk	iP	14 26 46.9 C				P	Z' 0.1 1.0
			iX	14 26 58.7				Mx	E 0.4 14
		Gb	iP	14 27 18.8				Mx	N 0.4 13
			iX	14 27 31.3				Mx	Z 0.5 12
		Um	iP	14 26 31.7			Sk	iP	06 57 23.5
			iX	14 26 43.0			Um	iP	06 57 01.6
			iS	14 34 52				i	06 57 35.6
		Ka	iP	14 27 19.8 C				iSS	07 05 05
		Ud	iP	14 27 03.5 C			Ka	iP	06 56 34.3
		Kurile Islands (h = 160 km).					Ud	iP	06 57 01.2
		m = 6.2 (Up,Ki).						iPP	06 58 21.4
		The phase X, appearing in					Iran (h = 40 km).		
		average 11.7 sec after P,							
		could be P of another shock							
		in the same region.							
"	3	Ki	eP	14 50 53	"	4	Um	iP	11 25 06.0
		Ud	eP	14 50 00	"	4	Up	iP	13 31 48.8
"	3	Ki	eP	17 00 12					micr sec
		Ud	iP	17 00 46.3				P	Z' 0.1 0.7
		Off coast of northern					Ki	iP	13 31 18.0
		California (h = 15 km).					Sk	iP	13 31 46.3
"	3	Ud	iP	19 46 29.9			Um	iP	13 31 31.2
"	4	Up	i(P)	01 23 45.1				i	13 32 46.3
		Um	i(P)	01 22 22.3			Ud	iP	13 31 56.0
		Ud	i(P)	01 23 04.5			Bonin Islands		
							(h = 480 km).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968					
June	4	Up	iPKP	14 21 09.6	June	4	Ud	iP	19 55 37.2
			i	14 21 13.8					
		Ki	ePKP	14 20 49	"	4	Ud	iP	20 22 53.3
		Sk	iPKP	14 21 03.6				i	20 23 07.1
			i	14 21 06.5					
		Um	iPKP	14 20 57.7	"	4	Ud	iP	20 51 20.6
			i	14 21 01.4					
		Ka	iPKP	14 21 23.7	"	4	Ki	iP	21 30 33.9
		Ud	iPKP	14 21 11.3			Ud	iP	21 30 08.1
			i	14 21 16.1					
		Kermadec Islands (h = 60 km).			"	4	Ud	iP	21 33 14.4
"	4	Ki	eP	15 14 40	"	5	Ki	iP	00 17 20.5
		Java (h = 30 km).					Ud	iP	00 17 22.2
							Hindu Kush (h = 30 km).		
"	4	Ki	iP	15 20 30.4 C	"	5	Up	iP	03 47 48.9
			iPcP	15 21 10.0			Um	iP	03 47 21.4
		Um	iP	15 20 49.5				i	03 47 33.2
		Ud	iP	15 21 20.7			Ud	iP	03 47 39.5
		Japan (h = 30 km).						i	03 47 47.1
"	4	Ki	iP	15 41 12.2	"	5	Ud	iP	05 03 15.0
		Um	iP	15 41 30.7			Oregon (h = 20 km).		
		Ud	iP	15 42 01.7					
		Japan (h = 50 km).			"	5	Ud	iP	06 05 08.8
"	4	Up	iP	17 27 01.2	"	5	Ki	eP	06 23 40
			i	17 27 09.2				i	06 23 44.4
				micr sec					
		P	Z'	0.1 0.9	"	5	Up	iPKP	06 37 27.1
		Mx	E	0.9 19				ipPKP	06 37 42.4
		Mx	N	1.1 21			Ki	iPKP	06 37 41.7
		Mx	Z	1.0 16			Um	iPKP	06 37 35.1
		Ki	iP	17 26 38.2				ipPKP	06 37 51.1
				micr sec			Ka	iPKP	06 37 18.9
		P	Z'	0.1 1.3			Ud	iPKP	06 37 25.6
		Mx	E	0.7 15				ipPKP	06 37 38.0
		Mx	N	0.6 19				ipPKP	06 47 21.5
		Mx	Z	0.9 15			South Sandwich Islands. h = 50 km (Up,Um,Ud).		
		Sk	iP	17 27 05.4					
		Gb	iP	17 27 21.2	"	5	Um	iP	06 45 30.8
		Um	iP	17 26 46.9					
			eS	17 36 16	"	5	Ki	iP	07 24 09.7
		Ka	iP	17 27 15.5			Um	i(P)	07 24 51.2
		Ud	iP	17 27 10.3			Ud	iP	07 25 07.7
			i	17 27 14.1				iPP	07 27 32.4
		Formosa (h = 50 km). m = 5.9, M = 5.2 (Up,Ki).					Kamchatka (h = 90 km).		
"	4	Um	iP	18 12 04.4	"	5	Um	iP	09 33 50.5
"	4	Ki	iP	18 41 45.8			Ud	iP	09 34 20.9
		Ud	iP	18 42 35.7			Japan (h = 30 km).		
		Japan (h = 30 km).							

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968					
June	5	Ud	iP	10 07 25.2	June	5	Up	iP	23 16 23.9 C
		Alaska (h = 30 km).					ipP		23 16 35.0
									micr sec
"	5	Ki	iP	11 24 08.2			P	Z'	0.2 1.0
			i	11 24 20.9		Ki	iP		23 15 30.5 C
		Ud	iP	11 23 59.1 C			ipP		23 15 41.5
									micr sec
"	5	Ud	iP	11 40 11.9			P	Z'	0.1 1.0
"	5	Ki	eL	12 46		Sk	iP		23 16 04.2
				micr sec			ipP		23 16 15.3
		Mx	E	0.9 22		Gb	iP		23 16 41.8
		Mx	N	0.6 22			ipP		23 16 53.2
		Mx	Z	1.1 21		Um	iP		23 15 56.2 C
		Easter Island Ridge					ipP		23 16 07.2
		(h = 30 km).				Ka	iP		23 16 46.7
							ipP		23 16 58.5
"	5	Up	i(P)	12 51 14.1		Ud	iP		23 16 25.5 C
			i	12 51 34.2			ipP		23 16 35.8
"	5	Ki	i(P)	12 55 07.0		Aleutian Islands.			
			i	12 55 22.2		h = 40 km (Up,Ki,Sk,Gb,Um,Ka,Ud).			
						m = 6.1 (Up,Ki).			
"	5	Ki	iP	13 02 05.9	"	6	Ki	iP	04 23 23.7
			iS	13 12 29					
				micr sec	"	6	Up	iP	11 36 41.7
		S	E	0.3 7			Ud	iP	11 36 44.2
		S	N	0.2 7		Ionian Sea.			
		Mx	E	0.6 17	"	6	Up	eP	12 37 41
		Mx	N	0.3 15			Ud	iP	12 37 52.8
		Mx	Z	0.8 18	"	6	Up	iPKP	13 05 22.7
		D = 9350 km = 84°.					Um	iPKP	13 05 07.2 C
		Um	iP	13 02 10.9			i		13 05 13.4
		Ud	iP	13 02 30.7			Ud	iPKP	13 05 21.1
		Panay (h = 30 km).				Kermadec Islands			
"	5	Up	iPKP2	13 03 35.0		(h = 130 km).			
		Ki	iPKP	13 03 02.8	"	6	Up	iP	15 14 54.0
		Sk	ePKP2	13 03 30			Ki	iP	15 14 09.6
		Um	iPKP	13 03 09.5	"	6	Sk	iPKP	15 20 53.9
		Ud	iPKP2	13 03 41.1			Um	iPKP	15 20 51.0
		New Zealand (h = 70 km).					i		15 21 04.8
"	5	Up	iP	15 21 39.3 C			Ud	iPKP	15 21 03.6
		Ki	iP	15 21 26.5 C			i		15 21 50.8
			isP	15 22 25.8		Kermadec Islands			
		Um	iP	15 21 31.7		(h = 50 km).			
		Ud	iP	15 21 50.4	"	6	Ki	iSg	16 20 45.6
		Mindanao (h = 140 km).					Sk	iSg	16 20 50.8
"	5	Ud	iPg	20 42 19.4			Um	iSg	16 21 15.2
			iPn	20 42 21.5		Nordlands Fylke, Norway,			
			iSn	20 42 38.4		66.4° N, 14.8° E.			
		Underwater explosion.				Origin time = 16 19 18.			

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
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1968				1968			
June	7	Up		June	7	Up	(cont.)
		eP	12 11 10				
		i	12 11 27.8				
		iY	12 14 56			(S)	N 0.2 4
		iPP	12 15 17.8			Mx	E 2.3 20
		iSKS	12 21 58			Mx	N 11 22
		iS	12 22 29			Mx	Z 3.4 21
			micr sec			Ki	eP 21 44 15
		S	E 1.1 6			iPP	21 48 15.4
		Mx	E 29 21			iSKS	21 54 42
		Mx	N 47 23			iS	21 55 31
		Mx	Z 40 21				micr sec
		D = 11050 km = 99 1/2°.				SKS	E 0.7 9
		Ki	eP 12 10 53			Mx	E 7.7 22
		i	12 11 17.1			Mx	N 7.7 20
		i	12 11 46.3			Mx	Z 6.3 22
		iY	12 14 32.2			Sk	iP 21 44 35.7
		iPP	12 14 47			Um	e(PP) 21 48 12
		iS	12 22 01			iPP	21 48 29.2
			micr sec			iSKS	21 54 47
		P	Z 1.2 8			iS	21 55 34
		P	Z' 0.1 1.3			iSS	22 02 12
		PP	E 2.0 6			Ka	iPP 21 48 48.6
		PP	Z 2.6 8			Ud	iP 21 44 34.8
		S	E 2.3 8			i	21 44 41.9
		S	N 1.5 6			Celebes (h = 25 km).	
		Mx	E 48 19			M = 6.3 (Up, Ki).	
		Mx	N 29 18			"	7 Ud eP 23 40 34
		Mx	Z 56 21			"	8 Up iP 00 47 14.6
		D = 10550 km = 95°.				iS	00 51 56
		Sk	iP 12 11 17.3				micr sec
		Um	iP 12 11 00.5			Mx	E 0.6 22
		i	12 11 10.5			Mx	N 0.4 15
		iPP	12 14 48			Mx	Z 1.1 23
		iS	12 22 06			D = 3050 km = 27 1/2°.	
		iSS	12 28 57			Ki	iP 00 45 55.6
		Ka	iP 12 11 20.8			iS	00 49 46
		iX	12 14 24.5				micr sec
		iPP	12 15 29.9			P	N 1.6 5
		Ud	iP 12 11 12.9			P	Z' 0.1 1.0
		i	12 11 24.6			S	E 1.2 6
		iX	12 14 18.2			D = 2200 km = 20°.	
		iPP	12 15 09.2			Sk	eP 00 46 56
		Celebes (h = 20 km).				Gb	iP 00 47 38.0
		m = 6.5, M = 7.0 (Up, Ki).				Um	iP 00 46 37.5
"	7	Sk	iP 13 55 47.6			iPP	00 47 33.2
		Ud	iP 13 55 29.0			iS	00 50 56
"	7	Um	iP 17 05 31.1			Ka	eP 00 47 46
"	7	Ki	iP 21 16 32.7			Ud	iP 00 47 15.1
"	7	Up	i(S) 21 55 58			Arctic Ocean (h = 30 km).	
		(cont.)				m = 5.2 (Ki).	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
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1968				1968			
June	8	Up	eL	01 17	June	8	(cont.)
				micr sec			Sk iP 05 40 37.7 C
			Mx E	0.4 16			Gb iP 05 41 09.0 C
			Mx N	0.8 13			Um iP 05 40 22.5
			Mx Z	0.8 16			i 05 40 29.2
		Ki	eL	01 11			iS 05 49 02
				micr sec			Ka iP 05 41 09.3 C
			Mx E	1.2 18			Ud iP 05 40 53.6 C
			Mx N	1.1 18			Kurile Islands
			Mx Z	1.3 18			(h = 40 km).
		Solomon Islands					m = 6.2, M = 5.5 (Up,Ki).
		(h = 30 km).					
		M = 5.6 (Up,Ki).					
"	8	Ki	iP	01 40 41.6 C	"	8	Ki iP 06 16 46.2
							i 06 16 55.3
							Um iP 06 17 30.4
							Arctic Ocean (h = 30 km).
"	8	Up	iP	02 55 49.7	"	8	Ud iP 06 44 49.7
			ipP	02 55 58.6			East of Crete.
				micr sec			
			Mx E	0.8 17	"	8	Up iP 11 13 03.5
			Mx N	0.6 16			ipP 11 13 19.6
			Mx Z	0.8 17			Ki eP 11 12 16
		Ki	iP	02 55 07.2 C			Gb ipP 11 13 39.3
			ipP	02 55 14.5			Um iP 11 12 39.2
				micr sec			ipP 11 12 51.5
			Mx E	3.5 23			Ud iP 11 13 11.9
			Mx N	1.4 18			Kamchatka. h = 50 km
			Mx Z	1.5 18			(Up,Um).
		Sk	eP	02 55 42	"	8	Um iP 11 42 26.9
		Um	iP	02 55 25.9 C	"	8	Ud eP 12 33 46
			ipP	02 55 35.4	"	8	Ki i(Pn) 20 48 25.8
		Ud	iP	02 55 55.8 C			iSn 20 49 04.0
			ipP	02 56 04.0			iSg 20 49 21.5
		Japan. h = 30 km (Up,Ki, Um,Ud).					Um iSg 20 50 54.7
		M = 5.4 (Up,Ki).					Probably Finland-Russia border region. Explosion?
"	8	Ki	eP	03 27 06	"	8	Up iP 21 00 11.5
		Um	iP	03 27 11.1 D			micr sec
		Banda Sea (h = 110 km).					P Z' 0.1 0.6
							Ki iP 20 59 45.2
"	8	Up	iP	05 40 47.7 C			micr sec
				micr sec			P Z' 0.1 1.0
			P Z'	0.2 0.7			Sk iP 21 00 13.7
			Mx E	1.4 18			Gb iP 21 00 31.7
			Mx N	1.6 20			Um iP 20 59 55.1 D
			Mx Z	2.0 21			Ud iP 21 00 20.5 D
		Ki	iP	05 40 01.2			i 21 00 25.9
			eScS	05 50 00			East China Sea
				micr sec			(h = 160 km).
			P Z'	0.1 1.0			m = 5.7 (Up,Ki).
			Mx E	3.3 17			
			Mx N	3.3 21			
			Mx Z	5.7 19			
		(cont.)					

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June	8	Up	iP	21 05 48.9	June	8	(cont.)
			ipP	21 06 00.9			Um iS 23 51 04
				micr sec			ipS 23 53 04
			P	Z' 0.1 1.0			iSS 23 59 14
		Ki		---			Ka iPP 23 42 38.6
				micr sec			Ud iPP 23 43 03.3
			Mx	E 1.5 20			i 23 43 12.4
			Mx	N 0.9 19			South of Africa
		Sk	iP	21 05 42.1			(h = 30 km).
			ipP	21 05 53.6			m = 6.4, M = 6.4 (Up,Ki).
		Gb	iP	21 06 11.0			
		Um	iP	21 05 25.7 D	"	9	Up iP 00 04 05.4
			ipP	21 05 37.2			Ud iP 00 04 11.7
		Ka	iP	21 06 10.9			Kurile Islands
		Ud	iP	21 05 56.4 D			(h = 30 km).
		Japan. h = 40 km (Up,Sk,Um).			"	9	Up iP 01 02 17.6
							ipP 01 02 33.4
"	8	Up		---			iPn 01 02 58
				micr sec			iPP 01 03 21.3
			Mx	E 0.4 16			i(S) 01 07 14
			Mx	N 0.8 16			micr sec
			Mx	Z 0.9 15			pP Z' 0.1 1.1
		Ki		---			(S) E 0.6 6
				micr sec			(S) N 0.8 5
			Mx	E 0.9 18			Mx E 1.6 14
			Mx	N 0.7 18			Mx N 1.7 17
			Mx	Z 1.1 17			Mx Z 2.4 15
		Sk	iP	21 53 50.8			Ki iP 01 02 58.9
		Um	iP	21 53 31.4			ipP 01 03 12.4
		Ud	eP	21 53 58			Sk iP 01 02 56.8
			ipP	21 54 08.9			iPn 01 03 34.7
		Ryukyu Islands. h = 40 km (Ud).					Gb iP 01 02 29.2
		M = 5.2 (Up,Ki).					iPn 01 03 04.0
							iPP 01 03 18.6
"	8	Up	iPP	23 42 54			Um iP 01 02 30.3
			iSKS	23 49 15			ipP 01 02 47.3
			iPS	23 52 24			iPn 01 03 03.5
				micr sec			Ka eP 01 02 06
			PP	Z 0.5 7			Ud iP 01 02 32.0 C
			Mx	E 4.2 20			iPn 01 03 23.0
			Mx	N 8.1 20			Iran-USSR. h = 80 km
			Mx	Z 6.5 20			(Up,Ki,Um).
		Ki	iPKP	23 42 44.7	"	9	Up eP 04 25 08
			iPP	23 43 58			Ki
				micr sec			---
			PP	N 0.4 6			micr sec
			PP	Z 0.6 6			Mx E 0.4 17
			Mx	E 7.1 20			Mx N 0.5 20
			Mx	N 5.5 21			Mx Z 0.4 16
			Mx	Z 9.4 22			Ud iP 04 25 18.2
		Um	ePP	23 43 23			Nicobar Islands
			i	23 43 39.1			(h = 30 km).
		(cont.)					

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968							
June	9	Up	iP	04 30 52.0	D	June	9	Ki	iPn	10 40 23.3	
		Ud	iP	04 30 54.5					iSn	10 41 08.8	
"	9	Ud	iP	04 59 46.4					iSg	10 41 28.2	
		Japan (h = 30 km).							D = 420 km = 3.8°.		
"	9	Up	iPKP	06 26 49.4	C			Sk	iSg	10 43 57.8	
		Um	iPKP	06 26 32.7				Um	iSg	10 42 17.0	
			i	06 26 42.2				Russia-Finland border region, 67.4°N, 30.3°E.			
		Ud	iPKP	06 26 45.6				Origin time = 10 39 22.			
		Kermadec Islands (h = 30 km).					"	9	Up	iPKP	11 15 30.3
"	9	Up	ePKP	06 40 16					i	11 15 36.0	
		Um	ePKP	06 39 51				Sk	iPKP	11 15 27.1	
		Ud	ePKP	06 40 09					i	11 15 35.6	
		Kermadec Islands (h = 20 km).						Gb	iPKP	11 15 48.3	
"	9	Um	iP	07 19 24.8				Um	iPKP	11 15 17.3	
"	9	Up	iPKP	09 12 51.5					i	11 15 19.1	
			i	09 12 55.5				Ka	iPKP	11 15 49.6	
		Sk	ePKP	09 12 41				Ud	iPKP	11 15 24.0	
		Um	iPKP	09 12 35.3					i	11 15 31.8	
			i	09 12 39.6					i	11 15 43.2	
		Ka	iPKP	09 13 08.6			"	9	Um	iPKP	13 06 44.4
		Ud	iPKP	09 12 48.0					i	13 06 54.8	
			i	09 12 55.0				Kermadec Islands (h = 30 km).			
		Kermadec Islands (h = 80 km).					"	9	Up	iP	13 59 26.5
"	9	Up	iPKP	09 35 53.7						micr sec	
			iSKP	09 38 44.2				Mx	E	0.9 19	
			i	09 39 00.0				Mx	N	0.7 15	
		Ki	iPKP	09 35 41.8				Mx	Z	0.9 14	
			iSKP	09 38 22.6			Ki	iP	13 58 44.7		
		Gb	iPKP	09 36 03.5					micr sec		
		Um	iPKP	09 35 50.1				Mx	E	1.5 20	
			iSKP	09 38 33.4				Mx	N	1.0 17	
			i	09 38 43.0				Mx	Z	1.0 16	
		Ka	iPKP	09 36 05.3			Um	ipP	13 59 14.2		
		Ud	iPKP	09 35 56.0			Ud	iP	13 59 30.9		
			i	09 36 09.2			Japan (h = 70 km).				
			iSKP	09 38 46.1			M = 5.3 (Up,Ki).				
			i	09 39 03.5			"	9	Up	iP	18 10 20.0
		Tonga-Kermadec Islands (h = 580 km).						Ki	iP	18 09 37.3	
"	9	Ki	eP	10 34 04					micr sec		
		Sk	iP	10 33 55.6				Mx	E	0.8 17	
		Um	iP	10 34 11.3				Mx	N	0.6 17	
			eSKS	10 44 28				Mx	Z	0.9 17	
		Ud	eP	10 34 05			Sk	iP	18 10 12.3		
		Mexico (h = 60 km).					Gb	iP	18 10 41.3		
							(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona Ud = Uddeholm

1968				1968			
June 10	Up	iPKP	15 49 09.2	June 11	Up	iP	06 04 51.5
		i	15 49 18.8			ipP	06 05 44.3
	Um	iPKP	15 48 54.3		Ki	iP	06 04 43.3
		i	15 49 06.9			ipP	06 05 33.2
	Ud	iPKP	15 49 06.5			esS	06 16 16
		i	15 49 14.4				micr sec
	Kermadec Islands (h = 30 km).					P	Z' 0.1 1.5
" 10	Up	iP	17 44 10.4		Sk	iP	06 04 34.8
	Ki	iP	17 44 12.0			ipP	06 05 24.8
	Ud	iP	17 44 27.2		Um	iP	06 04 51.2
	Sinkiang (h = 50 km).					ipP	06 05 41.2
" 10	Ka	iP	17 49 51.7			iSKS	06 14 54
" 10	Ud	iPg	19 30 19.7			iS	06 15 06
		iPn	19 30 21.5			ipS	06 16 07
		iSn	19 30 38.0			isS	06 16 32
	Underwater explosion.				Ud	iP	06 04 42.0
" 10	Ki	iP	19 44 44.8			ipP	06 05 32.3
" 10	Up	eSn	20 00 41		El Salvador. h = 210 km (Up,Ki,Sk,Um,Ud).		
	Ud	iPg	20 00 25.9	" 11	Ki	iP	06 15 52.0 C
		i(Sn)	20 00 48.3				micr sec
	Underwater explosion.					P	Z' 0.1 1.0
" 10	Ud	iP	21 30 38.9		Um	iP	06 15 23.2
" 10	Ud	iP	22 33 14.4 D		Ka	iP	06 14 52.1
		i	22 33 20.4		Ud	iP	06 15 19.9
" 11	Up	iP	03 12 53.1		Turkey (h = 30 km).		
		iPn	03 13 58.1	" 11	Ud	eP	10 03 03
		iPP	03 14 11.6	" 11	Up	iP	10 37 20.7
			micr sec			ipP	10 37 37.0
	P	Z' 0.1	1.0		Ki	iP	10 37 20.2 C
Ki	iP		03 12 37.5 C				micr sec
			micr sec		Mx	E	0.7 22
Sk	iP	Z' 0.1	0.7		Mx	N	0.6 22
	iPP		03 14 26.2		Sk	iP	10 37 34.0
Gb	iP		03 13 22.7		Um	iP	10 37 17.7
Um	iP		03 12 38.1		Ud	iP	10 37 30.4
	iPP		03 13 49.2			ipP	10 37 43.9
Ka	iP		03 13 09.2 C		Sumatra. h = 60 km (Up,Ud).		
	iPP		03 14 27.1	" 11	Ki	iSg	13 04 13.2
Ud	iP		03 13 09.5 C		Um	e	13 02 09
	iPn		03 14 22.3			iSg	13 02 12.8
Kazakh SSR. m = 5.8 (Up,Ki). Underground explosion.					Ud	iSg	13 02 41.2
					Esthonia. Explosion?		
				" 11	Ud	iP	13 59 18.0
				" 11	Um	iP	14 44 55.3

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 11	Um	iP	15 31 15.0	June 12	(cont.)		
	Ud	iP	15 31 44.7		Ka	iP	09 10 04.2
	Japan (h = 30 km).				Ud	i(P)	09 10 36.1
" 11	Sk	iP	17 51 47.8			iP	09 10 39.8
	Um	iP	17 51 50.4 C			i	09 11 20.8
	Ud	eP	17 51 19		East of Crete (h = 30 km).		
	Yugoslavia (h = 30 km).			" 12	Ud	iP	09 32 01.3
" 11	Ud	iP	18 53 20.6			i	09 32 19.8
	Kurile Islands (h = 40 km).			" 12	Ud	iP	12 15 27.1
" 11	Ud	iP	21 13 51.4			i	12 15 30.2
		i	21 14 09.9	" 12	Up	iP	13 51 01.7
	Japan (h = 30 km).				Um	iP	13 51 38.2
" 11	Ud	iP	21 30 42.7	" 12	Up	iP	13 53 06.0 C
" 11	Up	iP	22 41 10.0		ipP		13 53 14.8
	Ki	iP	22 40 23.5		iX		13 53 25.3
	Gb	iP	22 41 31.0		i		13 53 33
	Um	iP	22 40 44.8		iPP		13 55 53.1
	Ka	iP	22 41 32.1		iPa		13 57 43
	Ud	iP	22 41 15.2 C		iS		14 02 11
	Kurile Islands (h = 60 km).				i		14 02 21
" 12	Up	iP	04 39 32.5 C		isS		14 02 28
		ipP	04 39 46.4		eP'P'		14 21 11
			micr sec				micr sec
	P	Z'	0.2 0.7		P	Z'	0.5 1.2
	Ki	iP	04 39 27.8		pP	Z'	1.0 1.1
		ipP	04 39 41.2		X	E	3.4 5
	Sk	iP	04 39 48.7		X	N	5.5 5
	Gb	iP	04 39 52.3 C		X	Z	10 5
	Um	iP	04 39 25.2 C		X	Z'	1.2 1.1
		i	04 39 44.8		PP	Z'	0.6 1.0
	Ka	iP	04 39 40.1 C		Mx	E	220 16
	Ud	iP	04 39 46.1 C		Mx	N	270 21
	India-East Pakistan. h = 50 km (Up,Ki).				Mx	Z	280 20
" 12	Up	iP	07 24 36.9		D = 7900 km = 71°.		
" 12	Up	eP	09 10 34	Ki	iP		13 52 24.6 C
			micr sec		ipP		13 52 33.2
	Mx	E	0.9 12		iX		13 52 46.1
	Mx	N	1.5 15		iPP		13 55 02
	Mx	Z	1.2 15		iPa		13 56 40
	Ki	eP	09 11 37		iS		14 01 07
	Sk	eP	09 11 16		isS		14 01 21
	Gb	eP	09 10 22		ip'P'		14 21 30.6
	(cont.)						micr sec
					P	Z'	0.6 1.5
					pP	Z'	1.1 1.3
					X	E	5.3 7
					X	N	5.0 8
					X	Z	16 8
					X	Z'	1.1 1.0
	(cont.)				(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

June 12

(cont.)

Ki			micr	sec
	PP	N	6.1	11
	PP	Z	19	12
	P'P'	Z'	0.5	2.0
	Mx	E	360	17
	Mx	N	290	17
	Mx	Z	490	16
	D = 7150 km = 64 1/2°.			
Sk	iP		13 52	59.3 C
	ipP		13 53	08.0
	iX		13 53	18.6
Gb	iP		13 53	27.0 C
	ipP		13 53	35.9
	iPP		13 56	27.6
Um	iP		13 52	43.2 C
	ipP		13 52	51.5
	iP'P'		14 21	09.2
Ka	iP		13 53	26.4 C
	ipP		13 53	35.0
	iX		13 53	46.6
	iPP		13 56	24.0
Ud	iP		13 53	12.9 C
	ipP		13 53	21.9

Japan. h = 30 km (Up,Ki, Sk,Gb,Um,Ka,Ud).
m = 6.9, M = 7.8 (Up,Ki).
The average amplitude ratio pP/P on the Z' records of this earthquake is 2.4.
The phase X appears on the average 20.1 sec after P and could be P of another shock in the same area.

" 12 Ud iP 14 09 55.8
Japan.

" 12 Up iP 14 17 14.6
Um iP 14 16 50.8
Ud iP 14 17 21.8
Japan.

Origin time = 14 06.0.
Approximate origin times are given for those after-shocks which have not been reported by the USCGS.

" 12 Ki iP 14 17 44.6
Um iP 14 18 02.9
Ud iP 14 18 32.6
Japan.
Origin time = 14 07.2.

1968

June 12

Ud iP 14 22 04.0
Japan.

" 12 Um iP 14 23 28.3
Ud iP 14 23 58.3
Japan.
Origin time = 14 12.6.

" 12 Up iP 14 28 53.0
micr sec
P Z' 0.1 1.0
Ki iP 14 28 11.9
micr sec
P Z' 0.1 1.3
Sk iP 14 28 46.2
Gb iP 14 29 13.7
Um iP 14 28 30.2
Ud iP 14 28 59.9
Japan (h = 30 km).
m = 5.9 (Up,Ki).

" 12 Up iPKP 14 29 47.5
micr sec
PKP Z' 0.1 0.5
Ki iPKP 14 30 00.9
i 14 30 33.5
iSKP 14 33 19.4
micr sec
SKP Z' 0.1 1.1
Sk iPKP 14 29 52.0
Gb iPKP 14 29 42.9
Um iPKP 14 29 54.8
i 14 30 18.5
i 14 30 34.8
iSKP 14 33 05.7

South Sandwich Islands
(h = 100 km).

" 12 Ud iP 14 43 40.3

" 12 Um iP 14 46 33.9 C

" 12 Up iP 14 49 29.2
ipP 14 49 39.2
Ki iP 14 48 48.4 C
Sk iP 14 49 22.3
ipP 14 49 32.0
Gb iP 14 49 50.2
Um iP 14 49 06.4
ipP 14 49 16.4
Ud iP 14 49 36.7
Japan. h = 35 km (Up,Sk, Um).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 12	Ud	iP	14 50 15.2	June 12	Ud	iP	15 24 23.6
		i	14 50 17.2			Japan.	
		i	14 51 24.8				
" 12	Ki	iP	14 54 41.6	" 12	Up	iP	15 35 10.0
	Um	iP	14 55 11.9		Ki	iP	15 34 28.7 C
	Ud	eP	14 55 36		Sk	iP	15 35 02.5
		Japan.				ipP	15 35 10.9
		Origin time = 14 44.2.			Gb	iP	15 35 31.1 C
					Um	iP	15 34 47.0 C
" 12	Sk	iP	14 56 14.4			ipP	15 34 55.3
	Um	iP	14 55 56.3		Ud	iP	15 35 16.8 C
	Ud	iP	14 56 28.8			Japan. h = 30 km (Sk,Um).	
		Japan.		" 12	Up	iP	16 00 17.8
		Origin time = 14 45.0.				ipP	16 00 35.2
" 12	Ud	iP	14 56 19.3		Ki	iP	15 59 36.5 C
" 12	Ud	iP	14 57 47.8			ipP	15 59 49.7
" 12	Ud	iP	14 58 53.3		Sk	iP	16 00 09.9
" 12	Up	iP	15 03 14.3		Um	iP	15 59 54.6
	Ki	iP	15 02 32.9			ipP	16 00 10.1
	Um	iP	15 02 51.7		Ka	iP	16 00 38.1
		ipP	15 03 02.3		Ud	iP	16 00 24.7 C
	Ud	iP	15 03 21.6			ipP	16 00 39.9
		ipP	15 03 32.6	" 12	Sk	iP	16 20 51.4
		Japan. h = 40 km (Um,Ud).		" 12	Up	iP	16 34 35.7
" 12	Ki	ipP	15 06 49.8			ipP	16 34 44.4
	Um	iP	15 06 59.9		Ki	iP	16 33 54.2
		ipP	15 07 10.2		Sk	iP	16 34 28.8
	Ud	iP	15 07 29.7 C			ipP	16 34 37.9
		ipP	15 07 39.0		Um	iP	16 34 12.6
		Japan.				ipP	16 34 21.6
		Origin time = 14 56.1.			Ud	iP	16 34 42.7 D
		h = 35 km (Um,Ud).				ipP	16 34 51.6
" 12	Up	iP	15 20 09.6			Japan. h = 30 km (Up,Sk,Um,Ud).	
			micr sec	" 12	Ki	iP	16 39 58.3
			Z' 0.1 1.0			i	16 40 16.5
	Ki	iP	15 19 28.0 C		Um	iP	16 40 16.4
			micr sec			i	16 40 26.2
			Z' 0.1 1.1			iPcP	16 40 40.3
	Sk	iP	15 20 01.5		Ud	iP	16 40 46.7
	Gb	iP	15 20 30.7			Japan.	
	Um	iP	15 19 45.8			Origin time = 16 29.4.	
		ipP	15 19 53.3	" 12	Ud	iP	16 46 05.1
	Ud	iP	15 20 16.5 C			Japan (h = 30 km).	
			Japan. h = 30 km (Um).	" 12	Ud	iP	17 07 27.7
			m = 6.0 (Up,Ki).			(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 12 (cont.)				June 12			
	Ud	ipP	17 07 41.8	Up	iP		19 07 03.7
		i	17 07 54.6		ipP		19 07 13.4
	Japan. h = 50 km (Ud).						micr sec
"	12	Ki	ipP 17 34 02.4		P	Z'	0.1 1.0
		Sk	ipP 17 34 36.0		Mx	E	0.6 17
		Um	ipP 17 34 20.3		Mx	N	0.9 18
		Ud	iP 17 34 42.2		Mx	Z	0.8 17
			ipP 17 34 51.1	Ki	iP		19 06 20.4
	Japan. h = 30 km (Ud).				ipP		19 06 31.3
							micr sec
"	12	Up	iP 18 03 19.8		Mx	E	1.8 22
			ipP 18 03 28.9		Mx	N	1.0 17
			micr sec		Mx	Z	1.1 17
			P Z' 0.1 1.0	Sk	iP		19 06 56.5 C
			pP Z' 0.1 1.0	Gb	iP		19 07 25.2
			Mx E 0.7 19		i		19 07 30.9
			Mx N 1.0 20	Um	iP		19 06 40.9 C
			Mx Z 1.4 18	Ud	iP		19 07 10.8 C
	Ki	iP	18 02 38.9	Japan. h = 40 km (Up,Ki).			
		ipP	18 02 48.4	M = 5.2 (Up,Ki).			
			micr sec	"	12	Um	iP 19 47 15.2
			pP Z' 0.1 1.2			Ud	iP 19 47 46.3
			Mx E 1.6 21			ipP	19 47 54.8
			Mx N 0.9 19			Japan. h = 30 km (Ud).	
			Mx Z 2.0 16	"	12	Sk	iP 19 49 51.7
	Sk	iP	18 03 12.3			Um	ipP 19 49 47.0
		ipP	18 03 21.8			Ud	iP 19 50 07.8
	Gb	iP	18 03 40.2			ipP	19 50 18.8
		ipP	18 03 50.5			Japan. h = 40 km (Ud).	
	Um	iP	18 02 56.9	"	12	Um	iP 19 59 23.3
		ipP	18 03 05.7			Ud	iP 19 59 53.6
	Ka	iP	18 03 40.0			ipP	20 00 02.5
	Ud	iP	18 03 26.3			Japan. h = 30 km (Ud).	
		ipP	18 03 35.9	"	12	Up	eP 20 24 31
	Japan. h = 35 km (Up,Ki, Sk,Gb,Um,Ud).						micr sec
	m = 5.9, M = 5.3 (Up,Ki).						E 0.5 19
"	12	Up	iP 18 06 01.8	Ki	iP		20 23 50.8
		Ka	iP 18 06 27.9				micr sec
"	12	Um	iP 18 26 15.2				Mx E 1.6 21
"	12	Up	ipP 19 00 19.9				Mx N 1.1 18
		Ki	iP 18 59 29.5				Mx Z 1.1 15
		Um	iP 18 59 47.3	Um	iP		20 24 08.3
		Ud	iP 19 00 16.3	Ud	iP		20 24 39.0
			ipP 19 00 26.8	Japan (h = 30 km).			
			iPcP 19 00 36.0	M = 5.1 (Up,Ki).			
	Japan. h = 40 km (Ud).			"	12	Up	iP 20 29 42.8
							micr sec
						P	Z' 0.1 1.2
						(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
June 12 (cont.)					June 12 (cont.)				
	Up		micr	sec		Ki		micr	sec
		Mx	E	1.0 21			PP	Z'	0.2 1.2
		Mx	N	1.7 21			S	E	1.3 8
		Mx	Z	1.6 20			S	N	1.0 11
	Ki	iP		20 29 24.6			Mx	E	11 21
		i		20 29 43.1			Mx	N	6.2 21
		iS		20 40 49			Mx	Z	12 15
		iPS		20 42 28			D = 7150 km = 64 1/2°.		
				micr sec		Sk	iP		22 08 50.6
		S	N	0.3 9			ipP		22 09 02.2
		Mx	E	1.5 20			iPP		22 11 35.6
		Mx	N	0.8 17			iPa		22 13 06.2
		Mx	Z	2.0 18		Gb	iP		22 09 19.4
		D = 11000 km = 99°.					ipP		22 09 26.6
	Um	iP		20 29 30.7			iPP		22 12 13.2
		iPS		20 42 34		Um	iP		22 08 35.6 C
	Ud	iP		20 29 50.4 C			ipP		22 08 43.8
	New Guinea (h = 30 km).						iPP		22 11 13
	M = 5.6 (Up,Ki).						iS		22 17 20
"	12	Up	iP	20 34 12.2			i		22 17 29
		Sk	i(P)	20 34 10.1			iSS		22 21 57
		Ud	iP	20 33 45.3		Ka	iP		22 09 18.8 C
"	12	Ud	iP	21 28 03.1			ipP		22 09 29.9
			ipP	21 28 11.8			iPP		22 12 10.1
	Japan. h = 30 km (Ud).					Ud	iP		22 09 04.8 C
"	12	Up	iP	22 08 58.4 C			ipP		22 09 12.2
			ipP	22 09 08.3		Japan. h = 35 km (Up,Ki, Sk,Gb,Um,Ka,Ud).			
			iPP	22 11 41.3		m = 6.1, M = 6.0 (Up,Ki).			
			iS	22 18 02		The average amplitude ratio pP/P on the Z' records is 3.9 for this earthquake.			
			i	22 18 13					
				micr sec		"	12	Ud	iP
		P	Z'	0.1 1.0				i	22 20 03.6
		pP	Z'	0.6 1.0					22 20 20.2
		PP	N	0.3 5				Japan.	
		PP	Z	0.3 4		"	12	Ud	iP
		PP	Z'	0.1 0.9					22 35 50.5
		S	E	0.7 6				Gulf of Cadix.	
		S	N	0.6 8		"	12	Ud	iP
		Mx	E	4.7 22					23 01 30.1
		Mx	N	5.0 22				Japan (h = 40 km).	
		Mx	Z	6.5 20		"	12	Ud	iP
		D = 7900 km = 71°.							23 03 26.8
	Ki	iP		22 08 17.2 C				i	23 03 35.8
		ipP		22 08 26.6		"	12	Up	iP
		iPP		22 10 48.5					23 38 48.5 C
		iS		22 16 55				ipP	23 39 32.0
				micr sec				iS	23 48 56
		P	Z'	0.1 1.0				ipS	23 49 53
		pP	Z	0.9 6					micr sec
		pP	Z'	0.5 1.1				P	Z'
	(cont.)								0.1 0.5
							(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

June 12

(cont.)

			micr	sec
Up	pP	Z'	0.3	0.9
	S	E	0.6	7
	Mx	E	1.0	20
	Mx	N	2.2	18
	Mx	Z	1.1	22
Ki	iP		23 38	31.2 C
	ipP		23 39	15.0
	iS		23 48	28
	ipS		23 49	21
	isS		23 49	34
			micr	sec
	P	E	0.6	5
	P	Z	1.2	5
	S	E	1.1	9
	S	N	1.2	13
	Mx	E	1.5	18
	Mx	N	1.9	18
	Mx	Z	1.8	17
Sk	iP		23 38	53.9
	ipP		23 39	34.9
Gb	iP		23 39	05.4
	ipP		23 39	45.5
Um	iP		23 38	36.6 C
	ipP		23 39	17.1
	i		23 39	19.8
	iS		23 48	37
	ipS		23 49	30
	isS		23 49	50
Ka	iP		23 38	59.7
	ipP		23 39	38.1
Ud	iP		23 38	57.3 C
	i		23 39	18.9
	ipP		23 39	36.8

Mindoro. h = 160 km (Up,
Ki, Sk, Gb, Um, Ka, Ud).
m = 5.9, M = 5.6 (Up, Ki).
M uncorrected for focal
depth.

" 13

Up	iP		00 16	18.7 C
	iPcP		00 16	42.6
			micr	sec
	P	Z'	0.1	1.1
	Mx	E	1.3	22
	Mx	N	2.2	18
	Mx	Z	1.8	19
Ki	iP		00 15	36.6
	ipP		00 15	43.9
	iPP		00 18	03.3
			micr	sec
	P	Z'	0.1	1.0

(cont.)

1968

June 13

(cont.)

			micr	sec
Ki	PP	Z'	0.1	1.3
	Mx	E	4.0	18
	Mx	N	2.7	20
	Mx	Z	1.8	15
Sk	iP		00 16	11.1
	iX		00 16	24.6
	iPP		00 18	47.7
Gb	iP		00 16	39.7
	iX		00 16	53.7
Um	iP		00 15	55.4 C
	iX		00 16	10.7
Ka	iP		00 16	40.9
	i		00 17	15.5
	iPP		00 19	31.1
Ud	iP		00 16	25.9 C
	ipP		00 16	34.3
Japan. h = 30 km (Ki, Ud). m = 6.0, M = 5.7 (Up, Ki).				

" 13

Up	iP		00 27	51.2
Ud	iP		00 28	05.4

" 13

Up	iP		00 53	32.6
	iPcP		00 53	54.7
Ki	eP		00 52	51
	ipP		00 52	59.9
Sk	ipP		00 53	35.2
Um	iP		00 53	09.4
	ipP		00 53	19.7
Ud	iP		00 53	38.9
	ipP		00 53	49.9
Japan. h = 35 km (Ki, Um, Ud).				

" 13

Up	iP		01 54	12.2
	ipP		01 54	21.2
Um	iP		01 53	49.3
	ipP		01 53	57.7
Ud	iP		01 54	18.9
	ipP		01 54	27.2
Japan. h = 30 km (Up, Um, Ud).				

" 13

Up	iP		02 17	00.6 C
	iS		02 26	17
			micr	sec
	P	Z'	0.1	1.0
	S	E	0.3	7
	Mx	E	1.6	17
	Mx	N	1.5	18
	Mx	Z	1.9	20
D = 7950 km = 71 1/2°.				

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

June 13	(cont.)			
	Ki	iP	02 16 19.4	C
		iS	02 24 53	
			micr sec	
		P	Z' 0.1	1.0
		S	E 0.7	6
		Mx	E 2.5	16
		Mx	N 2.3	15
		Mx	Z 4.3	15
			D = 7150 km = 64 1/2°.	
	Sk	iP	02 16 53.2	
	Gb	iP	02 17 21.3	C
	Um	iP	02 16 37.8	C
		iPP	02 19 08	
		iS	02 25 31	
		iPS	02 26 04	
	Ka	iP	02 17 20.1	
	Ud	iP	02 17 07.6	C
		iPP	02 19 45.4	
			Japan (h = 25 km).	
			m = 5.9, M = 5.6 (Up,Ki).	
"	13	Ud	iP	03 44 21.3
			Japan (h = 30 km).	
"	13	Up	iP	04 01 38.0
			iS	04 04 18.2
			i	04 04 49.6
		Ki	iP	04 00 30.6
			iS	04 02 18.7
			micr sec	
		P	Z' 0.2	1.0
		Mx	E 0.6	14
		Mx	N 0.8	15
		Mx	Z 0.9	17
	Sk	iP	04 00 36.5	
		iS	04 02 26.5	
	Gb	iP	04 01 45.5	
	Um	iP	04 01 07.2	C
		i	04 01 25.2	
		i	04 02 35.1	
		iS	04 03 18.6	
		iSS	04 03 35.2	
		iSSS	04 03 45.5	
	Ka	iP	04 02 13.8	
	Ud	iP	04 01 22.1	
			Jan Mayen (h = 30 km).	
"	13	Up	iPKP	04 18 04.5
		Gb	iPKP	04 18 19.8
		Um	iPKP	04 17 49.3
		Ka	iPKP	04 18 21.6
		Ud	iPKP	04 18 07.0
			i	04 18 17.8
			Kermadec Islands	
			(h = 30 km).	

1968

June 13	Up	iLg1	04 52 23.1
	Ki	e(Pn)	04 50 55
		eSn	04 51 33
		iSg	04 51 44.1
	Sk	iSg	04 51 56.2
	Um	iPg	04 50 10.0
		iSg	04 50 18.2
			D = 70 km = 0.6°.
	Ud	eSn	04 52 22
		iLg1	04 52 44.4
		iSg	04 52 48.8
			Västerbotten, Sweden,
			64.5°N, 20.3°E.
			Origin time = 04 49 58.
"	13	Ud	eP
			05 56 20
			Japan (h = 30 km).
"	13	Up	iP
			06 07 40.5
"	13	Ud	iP
			06 44 48.3
"	13	Ki	iP
			06 51 16.0
"	13	Ud	iP
			07 22 23.1
"	13	Ki	iPP
			07 51 27
		iSKS	07 58 12
			micr sec
		PP	E 0.4 8
		PP	Z 0.7 8
		SKS	E 0.6 10
	Um	iP	07 47 36
		iPP	07 51 35
		iSKS	07 58 08
			Galapagos Islands
			(h = 30 km).
			m = 6.2 (Ki).
			The earthquakes in this
			swarm from the Galapagos
			Islands are generally
			recorded only by our
			long-period seismographs.
"	13	Up	iP
			08 59 32.3
		ipP	08 59 38.7
			micr sec
		Mx	E 0.6 15
		Mx	N 0.8 15
		Mx	Z 1.0 16
	Ki		---
			micr sec
		Mx	E 1.3 16
		Mx	N 1.1 16
		Mx	Z 2.2 15
			(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 13 (cont.)				June 13 (cont.)			
	Um	iP	08 59 09.5		Up		micr sec
		ipP	08 59 16.2		P	Z'	0.1 1.0
	Ud	iP	08 59 39.4		Ki	iP	15 06 52.5 C
		ipP	08 59 46.0				micr sec
	Japan. h = 25 km (Up,Um, Ud).				P	Z'	0.1 1.0
	M = 5.3 (Up,Ki).				Mx	E	0.8 16
					Mx	Z	0.9 15
"	13	Ud	iP 09 02 17.3		Gb	iP	15 07 54.4
		Queen Charlotte Islands (h = 30 km).			Um	iP	15 07 10.7
						i	15 07 22.1
"	13	Up	iP 10 42 40.9		Ka	iP	15 07 54.2 C
					Ud	iP	15 07 40.8 C
					Japan (h = 20 km).		
"	13	Up	iP 12 07 41.7		m = 6.0 (Up,Ki).		
			i 12 07 54.6	"	13	Up	iP 15 46 25.9
			iS 12 16 49			i	15 46 29.9
			micr sec		Sk	iP	15 46 58.4
		P	Z' 0.1 1.0		Gb	iP	15 46 44.6
		Mx	E 1.6 17		Ud	iP	15 46 39.8
		Mx	N 1.6 16			i	15 46 44.6
		Mx	Z 1.7 18		West Pakistan (h = 30 km).		
		D = 7900 km = 71°		"	13	Ki	iP 15 56 50.8
	Ki	iP	12 07 00.6 D	"	13	Up	iP 16 08 39.2
		i	12 07 26.6	"	13	Ud	iP 16 22 26.7
		eS	12 15 43			i	16 22 36.3
			micr sec	"	13	Up	iP 16 27 57.2
		P	Z' 0.5 2.0		Ki	iP	16 27 12.5 C
		S	E 0.7 5		Ud	iP	16 28 04.2
		Mx	E 2.5 16		Japan (h = 30 km).		
		Mx	N 1.5 14	"	13	Up	iP 16 58 51.2
		Mx	Z 4.7 15		Ud	e(P)	16 58 40
		D = 7200 km = 65°		"	13	Ud	iP 18 09 55.9
	Sk	iP	12 07 35.0	"	13	Ud	iP 18 49 27.8
	Gb	iP	12 08 02.9			ipP	18 49 35.0
		i	12 08 09.8		Japan. h = 25 km (Ud).		
		iPP	12 10 52.1	"	13	Ud	iPg 19 30 19.8
	Um	iP	12 07 19.0 D			iPn	19 30 21.9
		i	12 07 25.2			iSn	19 30 38.3
		iPP	12 09 47.0		Underwater explosion.		
		iS	12 16 13	"	13	Ki	iP 19 41 39.7
		iSS	12 20 43		Um	iP	19 41 57.9
	Ka	iP	12 08 02.4		Ud	iP	19 42 28.7
		i(PcP)	12 08 18.5		Japan.		
		iPP	12 10 43.7				
	Ud	iP	12 07 48.9 D				
		iPP	12 10 29.3				
	Japan (h = 30 km).						
	m = 6.1, M = 5.6 (Up,Ki).						
"	13	Up	iP 15 07 34.1				
		i	15 07 40.3				
	(cont.)						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 13	Up	iSn	20 00 40.8	June 13	(cont.)		
	Ud	iPg	20 00 25.8		Gb	iP	22 45 46.6
		i(Sn)	20 00 48.3		Ka	iP	22 45 29.6 C
		Underwater explosion.			Ud	iP	22 45 40.9
" 13	Ud	iP	20 03 19.4			ipP	22 46 29.9
" 13	Up	iP	21 21 53.7			Hindu Kush. h = 240 km (Ud).	
		ipP	21 22 04.2	" 13	Up	iP	23 11 19.8
		iPP	21 24 24.4		Ki	eP	23 11 56
		iS	21 31 07		Gb	iP	23 11 24.9
			micr sec		Ka	iP	23 11 03.6
		P	Z' 0.1 1.2		Ud	iP	23 11 28.9
		pP	Z 0.5 3			i	23 11 51.4
		pP	Z' 0.7 1.7			Iran (h = 30 km).	
		Mx	E 3.2 17	" 14	Um	iP	00 00 16.1
		Mx	N 4.5 20		Ud	iP	00 00 40.9
		Mx	Z 4.5 20	" 14	Up	iP	00 57 21.6
		D = 7950 km = 71 1/2°.				ipP	00 57 31.7
Ki	iP		21 21 12.5 C		Ki	iP	00 56 41.5
	ipP		21 21 22.0			ipP	00 56 49.7
	iPP		21 23 41.8		Gb	ipP	00 57 52.2
			micr sec		Um	iP	00 56 59.4 C
		pP	Z' 0.3 1.1			ipP	00 57 07.4
		PP	Z' 0.4 1.8		Ud	iP	00 57 29.5
		Mx	E 5.0 22			ipP	00 57 38.4
		Mx	N 4.7 18			Japan. h = 30 km (Up, Ki, Um, Ud).	
		Mx	Z 9.7 15	" 14	Ud	iP	01 09 24.8
		D = 7200 km = 65°.				Japan (h = 30 km).	
Sk	iP		21 21 46.0	" 14	Ki	iP	01 25 10.7
	ipP		21 21 55.9		Sk	iP	01 25 45.2
	iPP		21 24 17.2		Um	iP	01 25 27.1
Gb	iP		21 22 14.2		Ka	iP	01 26 10.2
	ipP		21 22 24.2		Ud	iP	01 25 58.4
	iPP		21 25 03.4			Sikhota Alin (h = 440 km).	
Um	iP		21 21 30.3 C	" 14	Ud	iP	01 48 01.9
	ipP		21 21 40.1			ipP	01 48 11.2
	iS		21 30 22			Japan. h = 35 km (Ud).	
	eSS		21 34 51	" 14	Ud	iP	02 49 56.9
Ka	iP		21 22 13.0			Japan (h = 30 km).	
	ipP		21 22 23.3	" 14	Sk	iP	03 14 55.0
	iPP		21 24 56.7	" 14	Up	iP	03 29 34.8
Ud	iP		21 22 00.4 C			iPP	03 32 03.4
	ipP		21 22 10.3			iS	03 38 48
		Japan. h = 35 km (Up, Ki, Sk, Gb, Um, Ka, Ud).				(cont.)	
		m = 6.4, M = 5.9 (Up, Ki).					
		The amplitude ratio pP/P on the Z' records is in average = 2.6 for this shock.					
" 13	Up	iP	22 45 25.4				
	(cont.)						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
June 14 (cont.)					June 14				
	Up			micr sec		Sk	iP		06 48 15.0
	Mx	E	1.6	21	"	14	Um	iP	08 52 44.9
	Mx	N	1.8	15			Ud	iP	08 53 15.0
	Mx	Z	1.7	18			Japan (h = 30 km).		
	D = 7950 km = 71 1/2°.								
	Ki	iP		03 28 53.7	"	14	Um	e	11 04 35
		iPP		03 31 16.6			Galapagos Islands		
		iS		03 37 33			(h = 30 km).		
				micr sec					
	P	Z'	0.1	1.0	"	14	Up	iP	12 03 56.5 C
	S	E	0.9	6				iPP	12 04 07.0
	S	N	0.5	8				iPP	12 06 34
	Mx	E	2.2	17					micr sec
	Mx	N	2.3	15				P	Z' 0.1 1.0
	Mx	Z	3.3	15				Mx	E 1.4 18
	D = 7200 km = 65°.							Mx	N 1.5 19
	Sk	iP		03 29 30.8				Mx	Z 1.9 20
		iPP		03 31 58.8			Ki	iP	12 03 15.7 C
	Gb	iP		03 29 55.0					micr sec
	Um	iP		03 29 11.0				P	Z' 0.2 1.1
		iS		03 38 03				Mx	E 1.5 18
		iSS		03 42 33				Mx	N 1.1 16
	Ka	iP		03 29 55.8				Mx	Z 2.2 15
		iPP		03 32 34.3			Sk	iP	12 03 49.6 C
	Ud	iP		03 29 41.0			Gb	iP	12 04 17.8 C
		ipP		03 29 48.4				iPP	12 07 02.4
		ePP		03 32 11			Um	iP	12 03 33.9 C
	Japan. h = 25 km (Ud).							i	12 03 54.6
	m = 6.1, M = 5.6 (Up,Ki).						Ka	iP	12 04 16.9 C
"	14	Ki	iP	04 10 49.6				ipP	12 04 28.3
		Um	iP	04 10 36.6				iPP	12 07 04.6
		Ud	iP	04 10 49.6			Ud	iP	12 04 03.9 C
	West Pakistan (h = 25 km).							iPP	12 06 37.7
"	14	Ud	iP	04 46 50.3			Japan. h = 40 km (Up,Ka).		
	Japan (h = 30 km).						m = 6.1, M = 5.4 (Up,Ki).		
"	14	Um	iP	06 06 35.5 D	"	14	Up	iP	12 28 29.9
		i		06 06 41.9				i	12 28 31.9
		Ud	iP	06 07 10.4					micr sec
							P	Z' 0.1 1.0	
							Mx	E 0.8 16	
							Mx	N 2.0 17	
"	14	Ki	iP	06 15 40.8			Mx	Z 1.5 16	
		ipP		06 15 45.7			Ki	iP	12 27 43.8
	Um	iP		06 16 03.3				i	12 27 48.3
		i		06 16 23.6					micr sec
	Ud	eP		06 16 27			P	Z' 0.2 1.2	
		ipP		06 16 34.3			Mx	E 1.7 17	
	Japan. h = 20 km (Ki,Ud).						Mx	N 1.4 16	
"	14	Ud	iP	06 40 32.7			Mx	Z 1.8 15	
							Sk	iP	12 28 19.3
							Gb	iP	12 28 51.6
							(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 14	(cont.)			June 14	Um i	16 48 20	
	Um iP	12 28 05.6	C		iPS	16 50 34	
	Ka iP	12 28 54.2			Galapagos Islands		
	Ud iP	12 28 36.0			(h = 30 km).		
	iPP	12 31 08.6					
	Kurile Islands (h = 40 km).			" 14	Ud iP	17 38 56.6	
	m = 6.0, M = 5.5 (Up,Ki).						
" 14	Up iP	13 34 13.9	C	" 14	Up iSg	17 51 46.6	
	iPcP	13 34 52.0			Gb iSg	17 50 35.6	
		micr sec			Ka i	17 50 02.2	
	P Z'	0.5	1.1		iSg	17 50 06.1	
	Mx E	0.8	20		Ud iSg	17 51 38.5	
	Mx N	2.0	17		South Sweden,		
	Mx Z	2.2	17		56.2° N, 13.8° E.		
	Ki iP	13 33 21.3	C		Origin time = 17 49 33.		
		micr sec		" 14	Up iLg1	18 06 27.8	
	P Z'	0.3	1.0		Ki iSg	18 04 27.7	
	Mx E	1.3	16		Sk iSg	18 04 32.4	
	Mx N	1.4	16		Um iSg	18 04 54.4	
	Mx Z	1.8	15		Ud iLg1	18 06 21.4	
	Sk iP	13 33 58.0			Nordlands Fylke, Norway,		
	i	13 34 14.9			66.4° N, 14.8° E.		
	Gb iP	13 34 34.5	C		Origin time = 18 02 59.		
	Um iP	13 33 46.2	C	" 14	Up iP	18 29 54.1	
	Ka iP	13 34 38.0	C		Ki iP	18 29 01.4	
	Ud iP	13 34 17.8	C		Gb iP	18 30 14.1	
	Kamchatka (h = 30 km).				ipP	18 30 25.8	
	m = 6.5, M = 5.5 (Up,Ki).				Um iP	18 29 26.1	
" 14	Up iP	13 54 40.2			ipP	18 29 38.9	
	ipP	13 54 50.5			Ud iP	18 29 57.7	
	Ki iP	13 53 47.4	C		Kamchatka.		
	Gb iP	13 55 00.8			Origin time = 18 19 19.		
	Um iP	13 54 12.1			h = 45 km (Gb,Um).		
	Ka iP	13 55 04.1		" 14	Up iPKP2	19 23 44.7	
	Ud iP	13 54 45.1			i	19 23 49.6	
	Kamchatka. h = 40 km (Up).				Ki iPKP	19 23 12.7	
" 14	Ka i(Sg)	14 38 50.8			i	19 23 18.2	
" 14	Up iP	15 29 38.7	C		micr sec		
		micr sec			PKP Z'	0.1 1.3	
	P Z'	0.1	1.1		Sk ePKP	19 23 25	
	Mx N	0.7	17		iPKP2	19 23 42.1	
	Mx Z	0.7	15		Gb iPKP2	19 24 00.8	
	Ki iP	15 28 46.0	C		Um iPKP	19 23 18.5	
		micr sec			iPKP2	19 23 31.1	
	P Z'	0.1	1.4		Ka iPKP2	19 23 58.3	C
	Gb iP	15 29 59.0			i	19 24 03.7	
	Um iP	15 29 11.0			Ud ePKP2	19 23 51	
	Ka iP	15 30 02.6			i	19 23 55.9	
	Ud iP	15 29 42.7			New Zealand		
	i	15 29 55.9			(h = 25 km).		
	Kamchatka (h = 30 km).						
	m = 5.8 (Up,Ki).						

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 15 (cont.)				June 15 (cont.)			
Up			micr sec	Ka	iP	05 24	06.9
	pP	Z'	0.1 1.0	Ud	iP	05 23	54.7
	Mx	E	0.7 19	Mexico (h = 25 km).			
	Mx	N	1.2 19	M = 5.5 (Up,Ki).			
	Mx	Z	0.7 15				
Ki	iP		03 41 55.5	" 15	Up	iP	06 10 35.7
	ipP		03 42 01.7			iPcP	06 10 49.5
	iPP		03 44 18.2			ipP	06 11 12.6
			micr sec				micr sec
	pP	Z'	0.1 1.0		P	Z'	0.2 0.7
	Mx	E	1.8 18		Mx	E	0.5 16
	Mx	N	0.9 16		Mx	N	0.5 17
	Mx	Z	1.2 16		Mx	Z	0.9 14
Sk	eP		03 42 30	Ki	iP	06 10	08.1
	ipP		03 42 34.9			i(PcP)	06 10 24.0
	iPP		03 45 02.2				micr sec
Gb	iP		03 42 58.5		P	Z'	0.1 1.0
	ipP		03 43 05.2	Sk	iP	06 10	37.8 C
Um	iP		03 42 13.5			iPcP	06 10 49.1
	ipP		03 42 20.5	Gb	iP	06 10	56.4
	eS		03 51 01			ipP	06 11 32.7
	eSS		03 55 36	Um	iP	06 10	19.4 C
Ka	eP		03 42 58	Ka	iP	06 10	51.7
	ipP		03 43 04.4	Ud	iP	06 10	45.0
	iPP		03 45 35.4			ipP	06 11 21.5
Ud	iP		03 42 44.1	East China Sea. h = 140 km			
	ipP		03 42 51.5	(Up,Gb,Ud).			
	iPP		03 45 18.5	m = 5.8 (Up,Ki).			
Japan. h = 25 km (Up,Ki, Sk,Gb,Um,Ka,Ud).				" 15	Up	eSKS	07 32 12
m = 6.0, M = 5.4 (Up,Ki).						eS	07 32 38
" 15	Ud	ePS	04 46 48				micr sec
Galapagos Islands					SKS	E	0.6 8
(h = 30 km).					S	N	0.7 7
" 15	Up	iP	05 24 03.6		Mx	E	5.2 24
		eSKS	05 34 36		Mx	N	2.0 20
			micr sec		Mx	Z	8.8 24
	SKS	E	0.4 9	Ki	iP	07 21	46.2
	Mx	E	1.0 21			eSKS	07 32 17
	Mx	N	0.8 20				micr sec
	Mx	Z	1.7 21		P	Z	0.9 6
Ki	eP		05 23 58		P	Z'	0.1 1.5
			micr sec		SKS	E	3.8 13
	Mx	E	1.9 20		SKS	N	0.9 8
	Mx	N	1.0 17		Mx	E	5.4 24
	Mx	Z	2.5 20		Mx	N	5.7 23
Sk	iP		05 23 45.9 C		Mx	Z	4.9 21
Gb	iP		05 23 55.3	Sk	iP	07 21	34.6 C
Um	iP		05 24 01.8	Gb	iP	07 21	37.3
	iSKS		05 34 29			i	07 21 40.9
(cont.)						iX	07 21 51.9
				Um	iP	07 21	50.5 C
				(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 15	(cont.)			June 15	(cont.)		
	Um	iPP	07 25 28.2		Ki	iP	11 37 15.1 C
		iSKS	07 32 20			ipP	11 37 28.6
		iS	07 32 48				micr sec
	Ka	iP	07 21 47.9			P	Z' 0.7 0.9
		iX	07 22 01.6			Mx	E 2.0 17
	Ud	iP	07 21 39.4			Mx	N 1.4 18
	South of Panama (h = 15 km).					Mx	Z 3.6 18
	m = 5.9, M = 6.0 (Up,Ki).				Sk	iP	11 37 51.4 C
"	15	Ki	iP 07 50 32.6		Gb	iP	11 38 28.0 C
		Mariana Islands				ipP	11 38 38.5
		(h = 50 km).			Um	iP	11 37 39.6 C
						i	11 37 47.4
"	15	Ki	ePn 08 07 21			iPS	11 46 08
			iSn 08 08 15.9		Ka	iP	11 38 31.3 C
			iLg1 08 08 29.0			ipP	11 38 45.2
			iSg 08 08 39.1		Ud	iP	11 38 11.3 C
			D = 510 km = 4.6°			ipP	11 38 23.0
	Um	iSg	08 09 46.8		Kamchatka. h = 45 km		
	Ud	iLg1	08 12 11.0		(Ki,Gb,Ka,Ud).		
	Northwest Russia.				m = 6.9, M = 5.5 (Up,Ki).		
	Origin time = 08 06 08.			"	15	Ud	iPKP 12 24 51.5
	Explosion?					New Hebrides Islands	
"	15	Ud	iP 09 43 34.5			(h = 10 km).	
"	15	Ki	e 10 08 11	"	15	Ki	eSKS 13 39 01
			i(Sg) 10 08 47.8				ePS 13 41 14
							micr sec
"	15	Ki	eSg 11 15 24			SKS	E 0.7 9
		Um	iSg 11 14 03.8		Um	iP	13 28 24
		Ud	iSg 11 15 32.6			ipP	13 32 27
	Lake Ladoga region.					iSKS	13 38 52
"	15	Up	iP 11 28 03.8 D			i	13 41 02
			ipP 11 28 08.5			iPS	13 41 24
		Ki	eP 11 27 13		Galapagos Islands		
			ipP 11 27 16.8		(h = 30 km).		
		Um	iP 11 27 36.3	"	15	Ki	iP 13 47 08.5
			ipP 11 27 41.5			Gb	iP 13 48 15.6
		Ud	iP 11 28 10.1			Ud	iP 13 48 04.0
			ipP 11 28 14.3		Alaska (h = 20 km).		
	Sakhalin. h = 20 km (Up, Um,Ud).			"	15	Up	---
"	15	Up	iP 11 38 07.4 C				micr sec
			eS 11 46 39			Mx	E 2.0 21
			micr sec			Mx	N 3.4 21
		P	Z' 1.2 1.1			Mx	Z 4.8 21
		Mx	E 1.0 17		Ki	ePKP	13 53 15
		Mx	N 1.8 18			i	13 53 30.0
		Mx	Z 1.6 17				micr sec
	D = 7150 km = 64 1/2°.					Mx	E 3.0 23
	(cont.)					Mx	N 1.7 20
						Mx	Z 4.7 22
					(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 16	(cont.)			June 16	(cont.)		
	Um	iPP	04 04 54		Gb	iP	08 39 47.8
		iPKS	04 09 06		Um	iP	08 40 14.4
		iSKS	04 11 35		Ka	iP	08 39 25.8
		ePS	04 13 48		Ud	iP	08 40 00.5
		iSS	04 19 15			Turkey (h = 25 km).	
		Galapagos Islands (h = 30 km).		"	16	Ki	eSKS
							10 36 39
"	16	Ki	iPn				micr sec
			05 11 52.3			SKS	E 0.3 10
			iSn		Um	iPP	10 30 06
			05 12 37.2			iSKS	10 36 44
			iSg			iPS	10 38 58
			05 12 51.7			Galapagos Islands	
			D = 410 km = 3.7°			(h = 30 km).	
		Um	iSn				
			05 13 18.4	"	16	Up	iP
			iSg			Ki	eP
			05 13 50.3			Um	iP
		Russia-Finland border region.				Ud	iP
		Origin time = 05 10 51.					11 49 12.4
		Explosion?					11 48 19
"	16	Up	eL				11 48 39.8
			05 28				11 49 19.5
			micr sec			Japan.	
		Mx	E 0.9 30	"	16	Ud	eP
		Mx	N 1.9 30				11 56 27
		Ki	eL	"	16	Ud	iP
			05 30				12 16 02.1
			micr sec			Japan (h = 30 km).	
		Mx	E 1.0 19	"	16	Up	iP
		Mx	N 0.8 20				13 08 14.5
		Mx	Z 0.8 18				micr sec
		Tristan da Cunha (h = 30 km).				Mx	E 0.4 13
		M = 5.6 (Up,Ki).				Mx	N 0.6 15
"	16	Ki	iP			Mx	Z 0.9 15
		Um	iP			Ki	eP
			06 18 24.5 C				13 09 40
			06 18 31.4				e
"	16	Ud	eP				13 17 49
			06 51 12				micr sec
		Japan (h = 40 km).				Mx	E 0.2 10
"	16	Um	i(P)			Mx	N 0.3 13
			07 21 19.3			Mx	Z 0.4 13
			i			Sk	iP
			07 21 57.8			Gb	iP
"	16	Ki	iPP			Um	iP
			07 30 59				13 08 52.4
			iSKS				13 07 53.1
		Um	iPP				13 08 58.1
			07 31 08				i
			iSKS				13 09 07.4
			07 37 46				e(S)
			07 37 50				13 13 46
			iPS			Ka	iP
			07 40 00				13 07 35.5
		Galapagos Islands (h = 30 km).					i
							13 07 49.7
						Ud	iP
							13 08 16.6
							i
							13 08 26.0
		Galapagos Islands (h = 30 km).				Sicily (h = 30 km).	
		M = 4.4 (Up,Ki).				M = 4.4 (Up,Ki).	
"	16	Up	iP	"	16	Ki	iPn
			08 39 44.0				16 37 52.1
			i				iSn
			08 39 49.6				16 38 39.1
			iPP				iSg
			08 40 14.1				16 38 55.8
		Ki	iP				D = 430 km = 3.9°
			08 40 43.3			Possibly northwest Russia.	
		(cont.)				Origin time = 16 36 49.	
						Explosion?	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 16	Ki	iPP	16 37 54	June 16	Ki	eSKS	23 34 58
		eSKS	16 44 34				micr sec
		e	16 44 46			SKS E	0.3 9
			micr sec			Mx E	0.4 20
		PP E	0.4 5		Um	iSKS	23 35 06
		PP Z	0.4 6			iPS	23 37 23
		Mx Z	0.6 16			Galapagos Islands	
	Um	iPP	16 38 04			(h = 30 km).	
		iSKS	16 44 46				
		ePS	16 47 04				
		Galapagos Islands					
		(h = 30 km).					
		m = 6.2 (Ki).		" 17	Um	iSKS	01 32 12
						iPS	01 34 27
						Galapagos Islands	
						(h = 30 km).	
" 16	Up	iP	17 07 53.9	" 17	Ki	ePP	02 32 33
		iPcP	17 08 20.3			eSKS	02 39 13
	Ki	eP	17 07 12			e	02 39 26
	Um	iP	17 07 31.4 C				micr sec
	Ud	iP	17 08 01.4			PP E	0.3 6
		i	17 08 09.9			PP Z	0.4 7
		Japan (h = 10 km).				SKS E	0.3 9
					Um	iPP	02 32 40
" 16	Um	iPS	19 12 08			iPKS	02 36 49
		Galapagos Islands				iSKS	02 39 21
		(h = 30 km).				iPS	02 41 34
						Galapagos Islands	
						(h = 30 km).	
						m = 6.1 (Up,Ki).	
" 16	Up	iPP	19 33 31.7	" 17	Up	iP	04 38 23.3 C
			micr sec			i	04 38 52.0
		Mx E	2.0 18		Ki	iP	04 38 00.8 C
		Mx N	2.3 22			i	04 38 22.4
		Mx Z	2.7 21				micr sec
	Ki	e(PKP)	19 33 09			P Z'	0.1 1.0
		iPP	19 34 31.6		Sk	iP	04 38 29.1
		eSKS	19 39 58		Gb	iP	04 38 43.2
			micr sec		Um	iP	04 38 06.2
		SKS N	0.3 8			i	04 38 08.7
		Mx E	2.5 23		Ka	iP	04 38 38.9
		Mx N	1.7 20		Ud	iP	04 38 33.1 C
		Mx Z	3.5 21			Formosa (h = 40 km).	
	Gb	iPP	19 33 15.7				
	Um	iPP	19 34 04.4	" 17	Ki	ePP	04 46 01
		iPS	19 43 41			e(SKS)	04 53 01
	Ka	iPP	19 33 04.5				micr sec
		i	19 33 22.6			PP E	0.3 7
	Ud	iPP	19 33 32.8			PP Z	0.4 5
		iPKKP	19 43 37.6		Um	iP	04 42 08
		Bouvet Island (h = 30 km).				iPP	04 46 09
		M = 6.0 (Up,Ki).				iSKS	04 52 47
						iPS	04 54 58
" 16	Um	eP	20 49 40			Galapagos Islands	
	Ud	iP	20 50 11.1			(h = 30 km).	
		i	20 50 23.6			m = 6.1 (Ki).	
		Japan (h = 25 km).					

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

June 17

(cont.)

Up
S E 5.4 9
S N 1.4 7
Mx E 43 20
Mx N 50 23
Mx Z 45 20

Ki D = 7700 km = 69 1/2°
iP 12 03 24.9 C
iPP 12 05 41
eS 12 11 52
iPS 12 12 17

micr sec
P E 1.3 7
P N 1.3 9
P Z 3.4 8
P Z' 0.5 1.3
PP E 1.1 6
PP Z 1.5 6
PP Z' 0.3 1.2
S E 5.0 9
S N 4.2 14
Mx E 52 16
Mx N 73 18
Mx Z 87 17

Sk D = 7000 km = 63°
iP 12 03 59.4
i 12 04 32.9

Gb iP 12 04 28.5
Um iP 12 03 43.6 C
ipP 12 03 56.5
iPP 12 06 07
iS 12 12 24

Ka iP 12 04 28.2 C
ipP 12 04 44.3
iPP 12 07 04.4
i 12 07 15.1

Ud iP 12 04 14.0 C
Japan. h = 50 km (Um,Ka).
m = 6.6, M = 7.0 (Up,Ki).

" 17

Ki eSg 14 00 19
Sk iSg 13 59 42.0
Um iSg 13 58 24.4
Ka iSg 13 59 05.1
Ud iSg 13 58 52.6

Esthonia. Explosion?

" 17

Ki iPP 15 12 22
micr sec
PP E 0.3 7
PP Z 0.5 6
Mx Z 1.0 20

(cont.)

1968

June 17

(cont.)

Um iSKS 15 19 06
iPS 15 21 25

Galapagos Islands
(h = 30 km).
m = 6.1 (Ki).

" 17 Um iP 16 55 49.2
Ud iP 16 56 19.5
i 16 56 27.0
Japan.

" 17

Up iP 17 07 32.0 C
ipP 17 07 40.5
i 17 08 31.9
iPP 17 10 08
e 17 16 37
iS 17 16 45

micr sec
P Z' 0.1 1.0
S E 0.4 8
Mx E 1.9 20
Mx N 1.6 20
Mx Z 1.4 17

Ki D = 7950 km = 71 1/2°
iP 17 06 49.7 C
ipP 17 06 58.8
iPcP 17 07 25.2
iS 17 15 27
iScS 17 16 43

micr sec
P Z 0.4 7
P Z' 0.1 1.2
S E 0.9 12
S N 0.3 8
Mx E 6.2 21
Mx N 2.7 20
Mx Z 3.2 17

D = 7150 km = 64 1/2°

Sk iP 17 07 23.9
iPP 17 09 53.3
Gb iP 17 07 52.8 C
ipP 17 08 01.7
Um iP 17 07 08.6 C
ipP 17 07 17.0
iS 17 15 58
Ka iP 17 07 52.4 C
iPP 17 10 38.7
Ud iP 17 07 38.7 C
ipP 17 07 47.7

Japan. h = 30 km (Up,Ki,
Gb,Um,Ud).
m = 5.8, M = 5.7 (Up,Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 17	Up			June 17	(cont.)		
		iPKP	18 28 35.3 C		Up		micr sec
		e(PKS)	18 31 45			P	Z 1.0 8
			micr sec			P	Z' 0.1 1.0
		(PKS) N	0.5 9			S	E 2.6 10
		Mx E	2.0 21			Mx	E 12 19
		Mx N	4.5 24			Mx	N 8.5 17
		Mx Z	5.8 22			Mx	Z 7.0 17
	Ki	iPKP	18 28 18.4			D = 8050 km = 72 1/2°.	
		iPKKP	18 38 28.7		Ki	iP	19 08 11.6
			micr sec			ipP	19 08 22.2
		Mx E	3.5 23			iS	19 16 56
		Mx N	1.7 20				micr sec
		Mx Z	6.4 21			P	N 0.4 7
	Sk	iPKP	18 28 32.8 C			P	Z 1.0 7
	Gb	iPKP	18 28 42.8			pP	Z' 0.1 1.3
		ePKS	18 32 05			S	E 4.3 11
	Um	iPKP	18 28 28.2			S	N 1.8 10
		i	18 28 41.7			Mx	E 22 18
	Ka	iPKP	18 28 42.2			Mx	N 13 20
		iPKS	18 32 05.4			Mx	Z 17 16
	Ud	iPKP	18 28 37.1 C			D = 7350 km = 66°.	
		i	18 28 55.3		Sk	eP	19 08 44
		Santa Cruz Islands			Gb	iP	19 09 13.1
		(h = 30 km).				ipP	19 09 23.9
		M = 6.2 (Up,Ki).			Um	iP	19 08 28.8
"	17	Up	eL 18 38		Ka	iP	19 09 12.6 C
			micr sec			ipP	19 09 22.3
		Mx E	0.7 18			iPP	19 12 01.2
		Mx N	0.9 18		Ud	iP	19 08 58.5 C
	Ki	eL	18 30			ipP	19 09 10.1
			micr sec			Japan. h = 40 km (Up,Ki, Gb,Ka,Ud).	
		Mx E	0.9 19			m = 6.2, M = 6.4 (Up,Ki).	
		Mx N	0.7 18	"	17	Ud	iPn 19 30 23.0
		Mx Z	1.6 20				iSn 19 30 39.2
		Galapagos Islands				Underwater explosion.	
		(h = 30 km).		"	17	Up	iP 19 45 40.9
		M = 5.4 (Up,Ki).		"	17	Up	iSn 20 00 40.6
"	17	Up	i(P) 18 44 32.4			Ud	iPg 20 00 26.1
			i 18 44 34.2				iSn 20 00 44.5
	Ka	i(P)	18 44 45.2				i 20 00 48.3
"	17	Um	iP 19 01 26.9			Underwater explosion.	
			ipP 19 01 35.0	"	17	Ki	ePP 22 23 22
	Ud	iP	19 01 57.2				micr sec
		ipP	19 02 05.1			PP	Z 0.4 6
		Japan. h = 30 km (Um,Ud).				Mx	Z 0.3 14
"	17	Up	iP 19 08 51.5 C		Um	iPP	22 23 34
			ipP 19 09 03.3			(cont.)	
			iS 19 18 12				
		(cont.)					

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968					
June 17 (cont.)				June 18 (cont.)					
	Um	iSKS	22 30 12		Ki	i	05 32 46.9		
		i(PS)	22 32 24			i	05 33 26.3		
		iPS	22 32 35			eS	05 36 53		
		Galapagos Islands				iLg2	05 40 12.9		
		(h = 30 km).					micr sec		
"	17	Um	iP	23 34 33.9		P	Z' 0.2 1.0		
						S	N 0.4 7		
"	18	Um	iSKS	00 33 17		Mx	E 0.7 12		
			iPS	00 35 32		Mx	N 1.2 9		
		Galapagos Islands				Mx	Z 1.5 9		
		(h = 30 km).				D = 2550 km = 23°.			
"	18	Ud	iP	01 52 14.4	Sk	iP	05 31 46.5		
"	18	Ki	iS ^x	02 05 03.3	Gb	iP	05 30 20.8		
			iSg	02 05 09.9		i	05 30 31.9		
		Um	iSn	02 05 30.7	Um	iP	05 32 01.9		
			iSg	02 05 51.1		i	05 32 08.4		
		Ud	eSg	02 07 18		iS	05 35 46		
		Nordlands Fylke, Norway,				iLg2	05 38 02		
		66.9°N, 13.5°E.			Ka	iP	05 30 21.3		
		Origin time = 02 03 36.				iLg1	05 33 53.9		
"	18	Um	ePP	02 40 30	Ud	iP	05 31 04.6		
			iPS	02 49 28		i	05 31 10.6		
		Galapagos Islands				iS	05 34 06.0		
		(h = 30 km).				Italy (h = 5 km).			
"	18	Ki	eP	03 04 31		m = 5.2, M = 4.7 (Up,Ki).			
				micr sec		The Z' records of the P			
		Mx	E	0.2 10		phase at Up, Ki, Ud			
		Um	iP	03 04 36.5		exhibit a relatively			
		Ud	iP	03 04 46.0		long-period beginning,			
"	18	Um	iPS	04 19 48	"	followed after in the			
		Galapagos Islands				average 5.7 sec by a			
		(h = 30 km).				phase of shorter period.			
"	18	Up	iP	05 31 11.4	"	18	Um	iP	05 49 58.1
			i	05 31 16.9	"	18	Up	iPKP	07 00 36.9
			iS	05 34 15			i	07 00 44.1	
			iLg1	05 35 34			Ki	i(PKP)	07 00 27.3
			iLg2	05 35 49.3				iSKP	07 03 00.7
				micr sec			Sk	iPKP	07 00 29.4
		P	Z'	0.1 0.8			Gb	iPKP	07 00 45.8 D
		Mx	E	0.6 12			Um	iPKP	07 00 23.6
		Mx	N	1.7 11				i	07 00 29.6
		Mx	Z	2.0 11				i	07 00 36.0
		D = 1650 km = 15°.						iSKP	07 03 12.1
		Ki	iP	05 32 41.3			Ka	iPKP	07 00 48.3 D
		(cont.)					Ud	iPKP	07 00 36.8
								iSKP	07 03 25.0
							Fiji Islands (h = 600 km).		
"	18	Um	ePP	07 30 52	"	18	Um	ePP	07 30 52
			iSKKS	07 37 43				iSKKS	07 37 43
			iPS	07 39 46				iPS	07 39 46
		Galapagos Islands							
		(h = 30 km).							

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

June 19 (cont.)

Ki	iP	01 48 53.3
	ipP	01 49 02.3
	eS	01 57 24
		micr sec
	pP	Z' 0.1 1.0
	Mx	E 2.3 16
	Mx	N 1.6 16
		D = 7150 km = 64 1/2°.
Sk	iP	01 49 27.0
Gb	eP	01 49 55
Um	iP	01 49 11.2
	ipP	01 49 20.5
	iS	01 58 05
Ka	eP	01 49 55
		Japan. h = 35 km (Up, Ki, Um).
		M = 5.5 (Up, Ki).

" 19

Up	iP	01 59 16.3
Ki	iP	01 59 15.9
Sk	iP	01 59 30.8
Um	iP	01 59 13.3
		Sumatra.

" 19

Ud	iP	03 28 33.6
		Japan (h = 25 km).

" 19

Ki	iPn	04 04 45.4
	iSn	04 05 32.1
	iLg1	04 05 44.7
		D = 430 km = 3.9°.
Sk	iSg	04 08 35.1
Um	iSg	04 07 19.7
		Northwest Russia, 69.1°N, 30.6°E.
		Origin time = 04 03 43.
		Explosion?

" 19

Um	iSKS	04 29 56
	iPS	04 32 20
		Galapagos Islands (h = 30 km).

" 19

Up	iP	05 12 55.4 C
	iX	05 13 18.9
	iPn	05 14 01.4
	eLg1	05 23 34
		micr sec
	P	Z' 0.3 0.5
Ki	iP	05 12 38.6 C
		micr sec
	P	Z' 0.2 1.0

(cont.)

1968

June 19 (cont.)

Sk	iP	05 13 10.1 C
	ipP	05 14 33.5
Gb	iP	05 13 23.7
	ipP	05 14 50.8
Um	iP	05 12 39.6 C
Ka	iP	05 13 11.8 C
	iX	05 13 33.3
	ipP	05 14 32.9
Ud	iP	05 13 11.6 C
		Kazakh SSR.
		m = 6.3 (Up, Ki).
		Underground explosion.

" 19

Um	iSKS	06 12 16
	iPS	06 14 22
	eSS	06 19 52
		Galapagos Islands (h = 30 km).

" 19

Um	iSKS	07 55 06
	iPS	07 57 12
	iSS	08 02 38
		Galapagos Islands (h = 30 km).

" 19

Up	iP	08 27 05.6 C
	iX	08 27 11.8
	ipP	08 31 05
	iSKS	08 37 39
	iS	08 38 28
	iPS	08 39 49
		micr sec
	P	E 1.3 12
	P	Z 4.5 12
	P	Z' 0.3 1.0
	PP	Z' 0.5 2.0
	SKS	E 7.0 14
	S	N 7.5 15
	Mx	E 34 20
	Mx	N 17 22
	Mx	Z 52 20
		D = 10850 km = 97 1/2°.

Ki

iP	08 27 09.4 C
iX	08 27 14.9
eSKS	08 37 41
iPS	08 39 56
	micr sec
P	E 2.8 16
P	Z' 0.2 1.5
SKS	E 11 14
SKS	N 2.5 12
Mx	E 55 22
Mx	N 38 23
	D = 10900 km = 98°.

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 19 (cont.)				June 19 (cont.)			
	Sk	iP	08 26 54.4 C		Ki	iP	18 13 52.2 C
		iX	08 27 00.4		Um	iP	18 14 10.9
	Gb	iP	08 26 52.9 C			i	18 14 26.4
		iX	08 26 58.5		Ud	iP	18 14 40.5
	Um	iP	08 27 10.2 C		Japan (h = 30 km).		
		iX	08 27 14.5		"	19	Um iSKS 18 21 10
		iPP	08 31 06				ePS 18 23 27
		iSKS	08 37 47		Galapagos Islands		
		iS	08 38 34		(h = 30 km).		
		iPS	08 40 02		"	19	Ud iP 19 24 21.1
	Ka	iP	08 27 00.7		Japan (h = 30 km).		
		iPP	08 30 55.4		"	19	Um iSKS 19 43 58
	Ud	iP	08 26 56.5 C				ePS 19 46 15
		iX	08 27 02.0		Galapagos Islands		
	Peru. m = 6.9, M = 7.0 (Up,Ki). If the phase marked X is interpreted as pP, the depth is 20 km (Up,Ki,Sk, Gb,Um,Ud). X is bigger than P.				"	19	Up iSn 20 00 40.3
"	19	Ki	iP 08 44 13.7				Ud iPg 20 00 25.7
"	19	Ud	i(P) 10 32 29.6				iSn 20 00 43.6
"	19	Up	iPKP 11 45 36.2				i 20 00 48.0
		i	11 46 20.9		Underwater explosion.		
	Ki	iPKP	11 45 16.9	"	19	Ud	iP 20 15 45.7
	Sk	iPKP	11 45 29.5	"	19	Up	iPKP 20 17 05.1
	Um	iPKP	11 45 24.1 C				micr sec
	Ka	iPKP	11 45 47.2			Mx	E 0.5 19
	Ud	iPKP	11 45 37.6 C			Mx	N 0.5 18
	Kermadec Islands (h = 30 km).					Mx	Z 0.9 19
"	19	Ud	iP 15 09 14.9		Ki	iPKP	20 17 12.9 D
		i	15 09 27.4			iPKS	20 20 41
	Caucasus.						micr sec
"	19	Um	iSKS 15 30 08			PKP	Z' 0.1 1.2
		iPS	15 32 28			PKS	E 0.6 5
	Galapagos Islands (h = 30 km).					Mx	E 0.9 20
"	19	Um	iPP 17 05 22			Mx	N 0.5 19
		iSKS	17 12 12			Mx	Z 0.9 19
		iSKKS	17 12 26		Sk	iPKP	20 17 04.4
		iPS	17 14 20			i	20 17 12.7
	Galapagos Islands (h = 30 km).				Gb	iPKP	20 16 59.3
"	19	Up	iP 18 14 33.9		Um	iPKS	20 20 36
	(cont.)				Ka	iPKP	20 17 00.4
						i	20 17 04.6
					Ud	iPKP	20 17 01.1
					Chile (h = 25 km).		
					M = 5.5 (Up,Ki).		
"	19	Um	iSKKS 22 36 06		"	19	Um iSKKS 22 36 06
							ePS 22 38 04
	Galapagos Islands (h = 30 km).				Galapagos Islands (h = 30 km).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 19	Um	iSKS	23 56 20	June 20	Ki	iP	08 32 42.7
		i	23 58 34		Sk	i(P)	08 32 52.1
		ePS	23 58 44		Ud	iP	08 32 19.2
		Galapagos Islands (h = 30 km).				Iran.	
"	20	Up	iP 01 03 01.2	"	20	Ki	iPKP 08 39 34.0
		Ki	iP 01 03 35.3			Sk	iPKP 08 39 45.3
		Um	iP 01 03 09.2			Um	iPKP 08 39 39.5
		Ka	eP 01 02 49			Ud	iPKP 08 39 50.4
		Ud	iP 01 03 11.7			Santa Cruz Islands (h = 210 km).	
"	20	Um	iSKS 01 57 16	"	20	Ki	i(Pg) 09 21 37.3
			iPS 01 59 30				iSg 09 22 18.2
		Galapagos Islands (h = 30 km).		"	20	Up	i(P) 10 01 00.1
"	20	Up	iP 02 52 07.7	"	20	Ka	i(P) 10 01 24.7
			micr sec	"	20	Ki	e(Pg) 10 24 39
		Mx	E 0.6 21				iSg 10 25 21.3
		Mx	N 0.5 17	"	20	Ud	iP 11 09 53.5
		Mx	Z 1.3 20	"	20	Um	iSKS 11 33 10
		Ki	eP 02 52 12			Galapagos Islands (h = 30 km).	
			micr sec	"	20	Ki	i(Sg) 12 17 16.6
		Mx	E 1.1 22	"	20	Up	iP 12 18 48.2
		Mx	N 0.6 21				i 12 18 51.8
		Mx	Z 1.4 21			Ki	eP 12 19 58
		Gb	iP 02 51 56.0			Sk	eP 12 19 26
		Um	iP 02 52 13.7			Ka	iP 12 18 13.6
			iPP 02 56 12			Ud	iP 12 18 54.4
			iS 03 03 38			Crete (h = 40 km).	
		Ka	iP 02 52 04.7	"	20	Um	iP 12 22 57.8
		Ud	iP 02 52 00.2			Ud	iP 12 23 25.5
		Peru (h = 30 km).		"	20	Ki	eP 12 25 01
		M = 5.4 (Up,Ki).		"	20	Um	iPP 12 32 08
"	20	Ki	iPn 04 37 21.9			iSKS	12 38 52
			iP ^X 04 37 30.6			Galapagos Islands (h = 30 km).	
			iSn 04 38 08.6	"	20	Um	iSKS 14 14 56
			iLg1 04 38 23.4			Galapagos Islands (h = 30 km).	
			D = 430 km = 3.9°	"	20	Ki	eP 15 28 21.9
		Um	iSg 04 39 57.7				iSg 15 29 02.2
		Probably northwest Russia.				Ud	i(Sg) 15 30 45.0
		Origin time = 04 36 20.					
		Explosion?					
"	20	Um	iPS 07 41 34				
		Galapagos Islands (h = 30 km).					
"	20	Ki	iP 08 25 36.0				
		Um	iP 08 25 54.2				
		Ud	iP 08 26 25.0 C				
			ipP 08 26 33.5				
		Japan. h = 30 km (Ud).					

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 20	Ki	i(Pg)	16 10 28.0	June 21	Up	iP	00 39 40.5
		iSg	16 11 09.4			i	00 39 56.4
" 20	Um	iPP	16 26 50			iSKS	00 50 02
		iPKS	16 31 04				micr sec
		iSKS	16 33 34			SKS E	0.2 6
		iSKKS	16 33 49			Mx E	0.8 21
		iPS	16 35 52			Mx N	0.5 18
						Mx Z	1.4 21
		Galapagos Islands			Ki	i(P)	00 39 51.4
		(h = 30 km).				iSKS	00 50 20
" 20	Ki	i(Pg)	16 59 09.1				micr sec
		iSg	16 59 48.5			SKS E	0.6 1.3
" 20	Ki	iSg	18 20 00.5			Mx E	0.6 17
	Sk	eSg	18 20 06			Mx N	0.4 17
	Um	eSg	18 20 32			Mx Z	0.8 16
		Nordlands Fylke, Norway,			Um	iSKS	00 50 22
		66.4° N, 14.8° E.				iS	00 51 08
		Origin time = 18 18 33.				iPS	00 52 36
" 20	Up	eP	18 23 28		Ka	eP	00 39 37
	Ki	iP	18 22 45.6			i	00 39 51.8
			micr sec		Ud	eP	00 39 32
		Mx E	0.6 21			i	00 39 39.1
		Mx N	0.3 18				Peru (h = 20 km).
	Um	iP	18 23 05.2				M = 5.3 (Up,Ki).
	Ka	eP	18 23 50	" 21	Up	ipP	01 38 06.2
	Ud	iP	18 23 34.1		Ki	iP	01 37 12.1
		i	18 23 38.5			ipP	01 37 43.6
		Japan (h = 50 km).			Sk	iP	01 37 05.1
" 20	Up	eL	19 43			ipP	01 37 36.7
			micr sec		Um	iP	01 37 20.4 C
		Mx N	0.5 16			ipP	01 37 52.5
	Ki	eL	19 41		Ud	iP	01 37 13.7
			micr sec				Mexico-Guatemala.
		Mx E	0.5 18				h = 120 km (Ki,Sk,Um).
		Mx N	0.3 14	" 21	Ki	ePP	06 05 03
" 20	Ki	eSKS	21 00 34				micr sec
			micr sec			PP Z	0.4 6
		SKS E	0.3 8			Mx Z	0.6 20
	Um	iSKS	21 00 36		Um	iPP	06 05 11
		iPS	21 02 52			eSKS	06 11 56
		Galapagos Islands				iPS	06 14 09
		(h = 30 km).					Galapagos Islands
" 20	Um	iSKS	23 49 52				(h = 30 km).
		iPS	23 52 16	" 21	Up	iP	13 26 12.5
		Galapagos Islands				i	13 26 16.4
		(h = 30 km).			Um	iP	13 26 51.0
" 21	Ki	e(Pg)	13 33 31	" 21	Ki	iSg	13 34 13.6
		iSg	13 34 13.6				This event is from the
							same source as the events
							on June 20 at 09 21, 10 24,
							15 28, 16 10 and 16 59,
							reported above.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 21	Ki	iP	17 22 01.2	June 22	(cont.)		
		iPP	17 22 09.7		Up	iS	01 32 58
		iS	17 23 26.3				micr sec
		eT	17 28 07		P	N	0.3 3
					P	Z'	0.2 1.0
		Mx	E 0.8 17		S	E	1.3 9
		Mx	N 0.6 17		Mx	E	4.3 22
		Mx	Z 1.0 16		Mx	N	5.1 21
			D = 900 km = 8°.		Mx	Z	2.9 18
	Sk	iP	17 22 24.0				D = 7900 km = 71°.
		iS	17 24 02.1	Ki	iP		01 23 05.6 C
	Um	iP	17 22 43.0		ipP		01 23 13.6
		iS	17 24 37.4		iPP		01 25 24.4
	Ud	iP	17 23 11.8		iS		01 31 40
			Norwegian Sea (h = 30 km).		iScS		01 32 52
							micr sec
"	21	Ud	eP 17 44 26		P	E	0.3 7
			i 17 44 35.3		P	N	0.3 7
"	21	Ud	iP 17 49 25.9		P	Z	0.8 7
"	21	Up	iP 18 45 51.7		P	Z'	0.3 1.3
"	21	Up	iP 19 03 41.0		PP	E	0.5 7
			ipP 19 03 54.4		PP	Z	0.6 6
			ipP 19 03 54.4		PP	Z'	0.2 1.7
	Ki	iP	19 03 06.9		S	E	1.7 9
	Um	iP	19 03 21.4		S	N	0.9 9
		ipP	19 03 34.6		Mx	E	15 18
	Ud	iP	19 03 48.2		Mx	N	7.7 20
			South of Japan.		Mx	Z	9.5 17
			h = 50 km (Up,Um).				D = 7150 km = 64 1/2°.
"	21	Um	iSKS 21 15 36	Sk	iP		01 23 39.8 C
			ePS 21 17 46		ipP		01 23 49.1
			Galapagos Islands		iPP		01 26 11.5
			(h = 30 km).	Gb	iP		01 24 08.7 C
"	21	Up	iP 21 16 16.3		ipP		01 24 17.8
		Ki	iP 21 15 43.4	Um	iP		01 23 24.0 C
		Um	iP 21 15 57.5		ipP		01 23 33.1
		Ud	iP 21 16 24.1		iPP		01 25 49
			South of Japan		iS		01 32 16
			(h = 500 km).	Ka	iP		01 24 08.2 C
"	22	Up	iPKP 00 46 42.1 C		ipP		01 24 17.3
		Ki	iPKP 00 46 57.5 C	Ud	iP		01 23 53.7 C
			ipPKP 00 47 28.0		ipP		01 24 03.2
		Um	iPKP 00 46 50.1				Japan. h = 30 km (Up,Ki,
			South Sandwich Islands.				Sk,Gb,Um,Ka,Ud).
			h = 110 km (Ki).	"	22	Um	iP 01 32 05.1
"	22	Up	iP 01 23 47.2			Ud	iP 01 32 35.8
			ipP 01 23 56.6				Japan.
			iPP 01 26 24.2	"	22	Up	eP 06 10 34
			(cont.)			Ki	iP 06 09 44.5
						Um	iP 06 10 07.0
							ipP 06 10 21.1
						Ud	eP 06 10 39
							Kurile Islands.
							h = 50 km (Um).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 22	Um	iP	07 21 42.2	June 22	(cont.)		
"	22	Ki	ePn 08 10 49		Um	iP	16 04 14.5
			iSn 08 11 38.1		Ka	iP	16 03 47.9
			iSg 08 12 01.6		Ud	iP	16 04 14.9
			D = 460 km = 4.1°		Iran (h = 30 km).		
		Um	iSn 08 12 23.6	"	22	Ud	iP 17 36 36.9
			iSg 08 12 59.2			North Atlantic Ocean	
			Probably northwest Russia.			(h = 30 km).	
			Origin time = 08 09 45.				
			Explosion?	"	22	Um	iP 18 54 47.1
"	22	Up	iSKP 08 30 11.2	"	23	Up	iP 05 08 56.7
		Ki	iSKP 08 29 52.8			Ki	iP 05 08 14.2 C
			micr sec			Um	iP 05 08 33.0
			SKP Z' 0.1 1.3			Ud	iP 05 09 03.9
		Um	iSKP 08 30 05.1			Japan (h = 45 km).	
		Ud	iSKP 08 30 19.2	"	23	Ki	eP 05 31 14
			Fiji Islands				micr sec
			(h = 420 km).			Mx	E 0.7 15
"	22	Ki	iPn 10 13 33.6			Mx	N 0.5 15
			iSn 10 14 32.4			Mx	Z 1.1 15
			iSg 10 14 55.5			Um	eP 05 31 33
			D = 530 km = 4.8°			Japan (h = 45 km).	
		Um	iS ^X 10 15 26.5	"	23	Up	iSg 06 30 32.1
			iSg 10 15 46.6			Ki	iS ^X 06 27 22.9
			Probably northwest Russia.				iSg 06 27 43.1
			Origin time = 10 12 18.			Sk	iSg 06 30 12.0
			Explosion?			Um	eS ^X 06 28 16
"	22	Ki	iP 11 16 14.3				iSg 06 28 36.7
		Um	eP 11 16 33			Northwest Russia.	
		Ud	iP 11 17 02.2			Explosion?	
			Japan (h = 40 km).	"	23	Up	iP 09 07 36.1
"	22	Up	iP 11 32 27.8			Ki	iP 09 06 43.5
		Um	iP 11 32 21.5			Kodiak Island (h = 45 km).	
		Ud	iP 11 32 42.0	"	23	Up	iP 09 23 30.1
"	22	Up	eP 12 25 01			i	09 23 31.4
			i 12 25 08.4			iPP	09 24 57
		Ki	iP 12 26 36.3			iS	09 29 23.3
		Um	iP 12 25 53.6				micr sec
		Ud	iP 12 25 06.2			P	Z' 0.1 1.0
			Italy (h = 35 km).			PP	Z 0.9 5
"	22	Up	iP 12 41 21.6			Mx	E 1.9 20
			Italy.			Mx	N 3.5 24
						Mx	Z 1.8 19
"	22	Up	iP 16 04 00.7 D			D = 4150 km = 37 1/2°	
		Ki	iP 16 04 39.3			Ki	iP 09 24 08.8 C
			(cont.)			iPP	09 25 43.6
						(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 23 (cont.)				June 23 (cont.)			
	Ki		micr sec		Ka	iP	17 04 41.7 C
	P	Z	0.5 6		Ud	iP	17 04 15.7 C
	P	Z'	0.1 1.0		Kodiak Island (h = 30 km).		
	Mx	E	3.0 15		m = 5.8, M = 5.2 (Up, Ki).		
	Mx	N	2.3 20				
	Mx	Z	2.6 14	"	23	Ki	iP 18 46 22.9
	Sk	iP	09 24 07.2			Kodiak Island (h = 40 km).	
	Gb	iP	09 23 42.2				
		iX	09 24 11.5		"	24	Ki iP 03 33 00.1 C
	Um	iP	09 23 44.2			Um	iP 03 32 34.6
		iPP	09 25 14			Congo (h = 30 km).	
		iS	09 29 43				
		iSS	09 32 32	"	24	Ud	iP 04 15 33.0
	Ka	iP	09 23 19.1	"	24	Ki	iP 09 58 08.3
		iX	09 23 44.2			Ud	iP 09 57 07.6
	Ud	iP	09 23 44.6 C			Crete.	
		iPP	09 25 25.9				
	Iran (h = 30 km);			"	24	Up	iP 10 22 19.4
	m = 5.6, M = 5.4 (Up, Ki).					Sk	iP 10 23 00.2
"	23	Ki	iP 11 34 34.0			Gb	iP 10 22 06.7
		Um	iP 11 34 38.2			Um	eP 10 22 58
"	23	Up	iP 15 12 23.5			Ka	iP 10 21 43.9
		Ki	iP 15 11 29.3			Ud	eP 10 22 27
		Sk	iP 15 11 56.1			i	10 22 32.0
		Um	iP 15 11 57.3			Ionian Sea.	
	Kodiak Island			"	24	Ud	iP 12 40 15.5
	(h = 35 km).						
"	23	Up	iP 17 04 19.0 C	"	24	Sk	e(Sg) 17 02 34
		iS	17 12 53			Ud	e(Sg) 17 02 22.9
			micr sec	"	24	Up	iSg 17 25 13.0
	P	Z'	0.1 1.2			Sk	iSg 17 23 49.7
	Mx	E	0.7 19			Gb	iSg 17 24 44.9
	Mx	N	1.5 19			Um	eS ^X 17 25 19
	Mx	Z	1.5 19			iSg	17 25 44.8
	D = 7050 km = 63 1/2°.					Ud	iSg 17 24 15.7
	Ki	iP	17 03 24.7 C			West coast of Norway,	
		iS	17 11 02			near Nordfjord,	
			micr sec			61.9°N, 5.5°E.	
	P	Z'	0.1 1.2			Origin time = 17 21 50.	
	S	E	0.5 10			Solution checked with	
	S	N	0.5 8			Lillehammer readings.	
	Mx	E	1.0 16	"	24	Ki	iSg 18 08 37.3
	Mx	N	0.9 16			Sk	iSg 18 08 41.8
	Mx	Z	1.8 15			Um	iSg 18 09 04.7
	D = 6150 km = 55 1/2°.					Nordlands Fylke, Norway,	
	Sk	iP	17 03 51.4 C			66.4°N, 14.8°E.	
	Um	iP	17 03 52.8 C			Origin time = 18 07 09.	
		iS	17 12 02				
	(cont.)						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 24	Up	iP	18 35 03.9	June 25	(cont.)		
	Um	eP	18 35 10		Um	iSn	11 50 47.9
	Caspian Sea.					eSg	11 51 19
" 24	Ki	iP	20 23 58.1		Russia-Finland border region. 67.3°N, 30.3°E.		
		i	20 24 04.4		Origin time = 11 48 24.		
	Sk	iP	20 23 19.1		Explosion?		
	Um	iP	20 23 32.6	" 25	Up	i	12 12 32.7
		eS	20 32 43			iSg	12 12 48.1
	Ud	iP	20 23 01.6		Ki	eSg	12 15 17
	North of Ascension Island (h = 30 km).				Sk	iSg	12 14 35.2
" 25	Up	iP	04 18 03.9		Um	iSg	12 13 19.1
	Um	iP	04 17 46.0		Ud	i	12 13 20.1
		i	04 17 49.3			iSg	12 13 47.1
	Ud	iP	04 18 16.6		Esthonia-Gulf of Finland. Explosion?		
	South of Japan (h = 35 km).			" 25	Um	eP	13 41 54
" 25	Um	iP	05 56 39.2	" 25	Up	i(P)	15 21 47.2
		i	05 56 45.6	" 25	Up	iP	21 23 19.6
	Ud	iP	05 56 08.6		Sk	iP	21 23 47.5
	North of Ascension Island (h = 30 km).				Ud	iP	21 23 34.6
" 25	Ki	eP	06 58 02	" 25	Um	e(P)	21 29 31
	Sk	eP	06 57 24		Ud	i(P)	21 28 11.7
		i	06 57 35.6	" 25	Up	iP	23 12 53.4
	Um	eP	06 57 38			i	23 13 00.4
		i	06 57 44.4	" 25	Up	iP	23 44 38.0 C
	Ud	iP	06 57 06.6			ipP	23 44 46.6
		i	06 57 13.1			iS	23 53 50
	North of Ascension Island (h = 30 km).						micr sec
" 25	Sk	iPKP	09 28 05.2		P	Z'	0.1 1.0
	Um	iPKP	09 27 53.4		Mx	E	0.9 18
	South of Australia (h = 30 km).				Mx	N	1.1 19
" 25	Up	iPP	10 20 37.5		Mx	Z	1.6 20
	Ki	iP	10 20 31.3		D = 7950 km = 71 1/2°		
	Um	iP	10 20 06.6	Ki	iP		23 43 56.3 C
	Ud	iP	10 20 03.6 D		ipP		23 44 05.6
		i	10 20 12.0		i(PP)		23 46 33.8
	Caucasus.				eS		23 52 32
" 25	Ki	ePn	11 49 25				micr sec
		iSn	11 50 10.9		P	Z'	0.1 1.0
		iSg	11 50 29.9		S	E	0.5 11
	D = 420 km = 3.8°				S	N	0.4 12
	Sk	iSg	11 52 58.9		Mx	E	4.1 21
	(cont.)				Mx	N	2.0 20
					Mx	Z	2.7 17
					D = 7200 km = 65°		
					(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

June 25

(cont.)

Sk	iP	23 44 30.6
	ipP	23 44 39.2
	iPP	23 47 00.9
Um	iP	23 44 14.7 C
	ipP	23 44 24.0
	iPP	23 46 41
	iS	23 53 09
	iScS	23 54 10
Ka	iP	23 44 58.3 C
	ipP	23 45 07.6
Ud	iP	23 44 44.9 C
	ipP	23 44 54.6
Japan. h = 35 km (Up, Ki, Sk, Um, Ka, Ud).		
m = 5.9, M = 5.5 (Up, Ki).		

" 26

Up	iP	01 54 07.0 C ✓
	iS	02 03 43
		micr sec
	P	Z' 0.2 1.7
	Mx	E 1.4 19
	Mx	N 1.9 19
	Mx	Z 2.4 19
		D = 8450 km = 76°
Ki	iP	01 53 25.9
	eS	02 02 26
		micr sec
	P	Z' 0.2 1.8
	S	E 0.6 9
	S	N 0.3 9
	Mx	E 4.1 20
	Mx	N 2.3 20
	Mx	Z 4.6 19
		D = 7600 km = 68 1/2°
Sk	iP	01 53 41.3
Gb	iP	01 54 10.6
	ipP	01 54 21.6
Um	iP	01 53 50.4
	ipP	01 54 02.5
	iS	02 03 15
	iSS	02 07 49
Ud	iP	01 53 59.9
	ipP	01 54 11.1
California. h = 40 km (Gb, Um, Ud).		
m = 5.9, M = 5.7 (Up, Ki).		

" 26

Ud iP 02 01 42.0 D

" 26

Up	iP	02 01 57.2 ✓
Ki	iP	02 02 36.2 ✓
	i(PP)	02 04 08.7
Sk	iP	02 02 33.2
(cont.)		

1968

June 26

(cont.)

Um	iP	02 02 11.4 C
Ka	eP	02 01 48
Ud	iP	02 02 12.5 C
Iran (h = 30 km).		

" 26

Ki	iPKP	08 48 59.8
Sk	iPKP	08 49 10.5
Um	iPKP	08 48 58.8
	i	08 49 03.3

South of Australia
(h = 30 km).

" 26

Up	iP	10 34 50.4 C
	ePS	10 44 07
		micr sec

	P	Z' 0.4 1.2
	Mx	E 1.4 18
	Mx	N 1.3 21
	Mx	Z 1.9 20

Ki	iP	10 34 07.9 C
	i	10 34 20.3
	eS	10 42 31
		micr sec

	P	Z' 0.3 1.5
	Mx	E 1.7 17
	Mx	N 1.1 18
	Mx	Z 2.3 17
		D = 6900 km = 62°

Sk iP 10 34 42.8

Gb iP 10 35 11.6

Um iP 10 34 26.1 C

ipP 10 36 46

iS 10 43 04

iScS 10 44 32

Ka iP 10 35 11.0

Ud iP 10 34 57.1 C

Japan (h = 30 km).

m = 6.4, M = 5.4 (Up, Ki).

" 26

Up eP 13 42 56

i 13 43 30.8

" 26

Um iP 13 55 08.9 C

South of Japan

(h = 25 km).

" 26

Up iSKP 16 03 16

Um iPKP 15 59 37.0 C

iPP 16 02 05

ipPP 16 02 34

iSKP 16 03 06

Loyalty Islands

(h = 90 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
June 27	Ud	iP	01 56 56.4	June 27	Ki	----	
						micr	sec
"	27	Sk	iSKP 02 23 35.4		Mx	E	0.8 16
		Um	iSKP 02 23 30.9		Mx	N	0.3 15
		Ka	iPKP 02 21 03.5		Mx	Z	0.9 17
		Ud	iPKP 02 20 53.5		Um	iP	22 22 59.5 D
			iSKP 02 23 44.3		Mindanao (h = 60 km).		
		Fiji Islands (h = 610 km).					
"	27	Um	iP 08 50 04.1	"	28	Um	iPKP 00 03 30.7
			i 08 50 16.5			New Hebrides Islands	
		Ud	iP 08 49 13.7			(h = 10 km).	
"	27	Ud	iP 11 19 44.4	"	28	Um	iP 02 22 07.8 D
							ipP 02 22 17.5
"	27	Ud	iP 11 31 17.5		Ud	iP	02 22 37.5
					Japan. h = 35 km (Um).		
"	27	Ki	eP 12 58 29	"	28	Ki	ipP 09 41 13.7
"	27	Ud	iPg 15 17 12.1		Um	iP	09 41 20.6
			iSg 15 17 46.3		Ud	iP	09 41 52.1
					Japan (h = 30 km).		
"	27	Ud	iPg 15 46 26.0	"	28	Ki	iP 09 54 44.7
			iSg 15 46 55.1			i	09 55 01.0
"	27	Gb	iP 15 46 26.7		Um	iP	09 55 03.6
		Switzerland (h = 20 km).					
"	27	Ki	ePn 16 02 36	"	28	Up	iP 12 33 48.5
			iP ^x 16 02 44.0		Ki	iP	12 33 15.2
			iSn 16 03 22.3		Sk	iP	12 33 23.1
			iLg1 16 03 35.2		Um	iP	12 33 34.0
			D = 420 km = 3.8°			i	12 33 42.2
		Um	iSg 16 05 15.6		Ud	iP	12 33 40.5
		Probably northwest Russia.					
		Origin time = 16 01 36.					
		Explosion?					
"	27	Ki	iP 16 59 19.1	"	28	Um	eP 13 28 45
		Komandorsky Islands					
		(h = 30 km).					
"	27	Ki	iP 17 22 25.3 C		28	Ki	iP 14 34 32.3
			ipP 17 22 38.1			ipP	14 34 41.0
		Um	iP 17 22 43.9 C			eS	14 43 09
			ipP 17 22 56.6				micr sec
		Ud	iP 17 23 13.7		Mx	E	1.2 18
			ipP 17 23 27.4		Mx	N	1.1 18
		Japan. h = 50 km (Ki, Um, Ud).					
"	27	Ki	eP 21 22 53		Mx	Z	1.4 17
			micr sec		D = 7100 km = 64°		
		P	Z' 0.1 1.7		Um	iP	14 34 50.8
						ipP	14 35 00.6
						iS	14 43 41
					Ud	iP	14 35 22.0 D
						ipP	14 35 30.4
					Japan. h = 30 km (Ki, Um, Ud).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
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1968				1968			
June 28	Ki	eP	18 26 56	June 29	Ki	iP	19 23 57.6
	Ud	iP	18 27 46.3		California (h = 2 km).		
	Japan (h = 30 km).						
" 28	Sk	iP	19 48 09.9	" 30	Ki	iPn	05 11 55.9
	Afghanistan (h = 25 km).					iP ^x	05 12 02.9
						iSn	05 12 44.5
" 28	Ki	iP	20 44 36.0			iSg	05 13 02.2
	Sk	iP	20 45 00.4			D = 460 km = 4.1°	
	Tibet (h = 40 km).				Sk	iSg	05 15 34.5
					Um	eSg	05 13 56
" 28	Up	iP	21 47 43.3		Northwest Russia, 67.3°N, 31.1°E.		
	Um	eP	21 47 30		Origin time = 05 10 51.		
					Explosion?		
" 29	Ki	iP	04 31 17.0	" 30	Ki	e	07 02 43
	Um	iP	04 31 35.0				micr sec
	Ud	iP	04 32 05.0 C			Mx N	0.3 16
	Japan (h = 50 km).						
" 29	Ki	iPn	04 46 30.1	" 30	Up	iP	09 48 54.3
		eP ^x	04 46 38			iSKS	09 59 27
		iSn	04 47 12.9				micr sec
		iSg	04 47 28.0			SKS E	0.4 8
" 29	Up	iP	07 40 18.7			Mx E	1.0 18
						Mx N	1.0 20
" 29	Ki	i(Sg)	08 12 43.5			Mx Z	2.2 17
					Ki	iP	09 48 26.9 C
" 29	Up	iP	08 21 00.0			eSKS	09 58 54
	Sk	iP	08 20 50.3				micr sec
	Ud	iP	08 20 58.6			P Z	0.4 5
	Japan.					P Z'	0.2 1.3
						SKS E	1.0 14
" 29	Up	iPKP	11 26 28.5			SKS N	0.5 9
	Sk	iPKP	11 26 27.0			Mx E	1.2 15
	Um	iPKP	11 26 21.8			Mx N	1.1 18
	Ud	iPKP	11 26 31.8			Mx Z	1.3 18
	Santa Cruz Islands (h = 120 km).				Sk	iP	09 48 52.2
					Um	iP	09 48 37.8 C
" 29	Ki	iP	11 59 22.8 C			ipP	09 48 50.6
	Um	eP	11 58 57			iSKS	09 59 08
	Congo (h = 30 km).					iS	09 59 40
					Ud	iP	09 48 58.8
" 29	Ki	iPn	13 00 04.8		Mariana Islands. h = 50 km (Um). m = 6.1, M = 5.5 (Up, Ki).		
		iSn	13 00 52.6				
		iSg	13 01 13.2	" 30	Ki	iP	13 25 59.2
		D = 440 km = 4.0°			Um	iP	13 26 08.3
	Origin time = 12 59 01.				Mariana Islands (h = 40 km).		
" 29	Up	iPKP	15 50 28.9	" 30	Ki	ePn	14 15 56
	South Sandwich Islands (h = 30 km).				(cont.)		

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Ka = Karlskrona, Ud = Uddeholm

1968

June 30

(cont.)

~~Ki~~ iSn 14 16 41.8

iLg1 14 16 54.2

~~D~~ = 420 km = 3.8°

Sk iSg 14 19 23.7

Um iSg 14 17 54.8

Russia-Finland border
region, 67.6°N, 30.3°E.

Origin time = 14 14 55.

Explosion?

" 30 Ki eP 14 24 18
Sk eP 14 25 03
Um iP 14 25 08.3

" 30 Up iP 14 59 59.7
ipP 15 00 05.4
i 15 00 16.7
micr sec
Mx E 0.6 22
Mx N 0.9 17
Ki iP 14 59 17.8 D
ipP 14 59 24.7
micr sec
Mx E 2.1 21
Mx N 0.6 16
Mx Z 1.0 16
Um iP 14 59 35.4
ipP 14 59 42.8
Ud iP 15 00 06.4
ipP 15 00 13.0
Japan. h = 25 km (Up, Ki,
Um, Ud).
M = 5.3 (Up, Ki).

" 30 Up ---
micr sec
Mx E 0.7 18
Mx N 1.0 19
Mx Z 1.3 20
Ki eS 20 44 37
micr sec
S E 0.4 9
S N 0.3 8
Mx E 1.5 18
Mx N 1.0 20
Mx Z 1.6 20
Mexico (h = 35 km).
M = 5.4 (Up, Ki).

Markus Båth

January 16, 1969

re data indicated.

Seismological Institute
Uppsala

4 FEB 1969

P. W. C. 100

SEISMOLOGICAL BULLETIN

UPPSALA, KIRUNA, SKALSTUGAN, GÖTEBORG,
UMEÅ, KARLSKRONA and UDDEHOLM

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m

JULY 1 - 31, 1968
.....

1968	July 1	Sk	iP	03 21 15.5	
					Tibet (h = 30 km).
"	1	Up	iP	04 06 43.1	C
			i	04 06 44.6	
			iS	04 10 31	
			eLg1	04 12 44	
				micr	sec
		P	E	1.9	1
		P	N	0.8	1
		P	Z	3.4	1
		P	Z'	1.0	0.5
		Mx	E	0.6	13
		Mx	N	0.3	8
		Mx	Z	0.7	11
				D = 2300	km = 20 1/2°.
		Ki	iP	04 07 16.9	C
			i	04 07 23.7	
			i	04 08 05.6	
				micr	sec
		P	Z'	1.2	0.9
		Mx	E	0.3	8
		Mx	N	0.3	8
		Mx	Z	0.4	8
		Sk	iP	04 07 22.7	C
			i	04 07 31.5	
		Gb	iP	04 07 09.3	
			i	04 07 15.4	
			i	04 07 20.9	
		Um	iP	04 06 51.8	C
			i	04 06 54.5	
			iSS	04 11 21	
			iLg1	04 12 54	
		Ka	iP	04 06 44.9	C
			i	04 06 48.9	
			i	04 06 56.0	
				(cont.)	

1968	July 1	(cont.)			
		Ud	iP	04 07 05.9	C
					Kazakh SSR, north of the Caspian Sea.
					m = 6.6, M = 4.5 (Up, Ki).
					Underground explosion.
"	1	Ki	iP	05 55 06.9	
"	1	Up	iP	10 56 35.6	C
			iS	11 05 53	
				micr	sec
		P	Z'	0.8	0.8
		S	E	0.3	6
		S	N	0.7	7
		Mx	E	2.6	22
		Mx	N	6.3	25
		Mx	Z	5.6	24
				D = 8050	km = 72 1/2°.
		Ki	iP	10 55 57.5	C
			eS	11 04 44	
				micr	sec
		P	E	0.5	7
		P	N	0.4	7
		P	Z	1.3	7
		P	Z'	0.8	1.0
		S	E	0.8	7
		S	N	1.2	9
		S	Z	0.4	8
		Mx	E	7.4	21
		Mx	N	3.0	16
		Mx	Z	5.5	22
				D = 7350	km = 66°.
		Sk	iP	10 56 30.6	C
			i	10 56 39.8	
			iPP	10 59 10.4	
				(cont.)	

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Ka = Karlskrona, Ud = Uddeholm

1968				1968				
July	1	(cont.)		July	1			
		Gb	iP			Up	iP	23 49 34.6
			i			Ki	iP	23 50 13.3
		Um	iP			Um	eP	23 49 52
			iS			Ud	iP	23 49 49.7
			iScS			Iran (h = 30 km).		
		Ka	iP			Up	iP	03 57 35.2
		Ud	iP		"		i	04 00 06
		Japan (h = 70 km).					iPP	04 00 54
		m = 6.5, M = 6.0 (Up,Ki).					i	04 01 21
"	1	Up	iP				eSKS	04 07 53
		Ki	iP				iScS	04 08 22
		Sk	iP					micr sec
		Gb	iP				P	E 0.5 11
		Um	iP				P	Z 1.5 12
		Ud	iP				P	Z' 0.3 1.3
		Kamchatka.					SKS	E 2.4 13
		Origin time = 10 57 18.					Mx	E 13 28
"	1	Ki	e(P)				Mx	N 16 30
		Sk	eP				Mx	Z 27 29
		Ud	i(P)			Ki	i(P)	03 57 18.6 D
"	1	Ki	eP				iP	03 57 20.5
		Sk	eP				ipP	03 57 40.0
		Kamchatka (h = 70 km).					eSKS	04 07 30
"	1	Ud	iP				iScS	04 07 52
								micr sec
"	1	Um	iP				P	E 0.9 7
							P	N 0.4 9
"	1	Up	i(Sg)				P	Z 2.3 10
							P	Z' 0.6 1.5
"	1	Ki	eP				pP	Z' 1.2 1.6
		Um	iP				SKS	E 4.8 14
		Ud	eP				Mx	E 8.9 23
		(Turkey).					Mx	N 4.8 21
"	1	Ud	iP				Mx	Z 10 22
"	1	Up	iLg1			Sk	iP	03 57 16.4
							ipP	03 57 34.2
							iPP	04 00 30.4
						Gb	iP	03 57 29.5
							ipP	03 57 48.4
						Um	iP	03 57 28.8 D
							ipP	03 57 47.8
							i	04 00 11
							iPP	04 00 52.8
							iSKS	04 07 46
							eS	04 08 01
						Ka	iP	03 57 41.7
							ipP	03 58 04.2
						Ud	iP	03 57 31.3
							ipP	03 57 52.8
						Mexico. h = 80 km (Ki, Sk,Gb,Um,Ka,Ud).		
"	1	Um	iP			m = 6.2, M = 6.3 (Up,Ki).		
		Ud	iP					
		Japan (h = 50 km).						

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 Ka = Karlskrona, Ud = Uddeholm

1968				1968					
July	2	Up	i(PKP)	04 50 28.0	July	2	(cont.)		
			iPKP	04 50 31.5			Up	micr sec	
							Mx E	0.6 20	
			PKP Z'	0.4 0.9			Mx N	0.5 18	
		Ki	i(PKP)	04 50 10.3			D = 7950 km = 71 1/2°		
			iPKP	04 50 12.5		Ki	eP	16 54 33	
		Sk	iPKP	04 50 24.9 C				micr sec	
			ipPKP	04 50 41.3			Mx E	1.2 18	
		Gb	i(PKP)	04 50 33.7			Mx N	0.7 18	
			iPKP	04 50 39.9			Mx Z	1.0 16	
		Um	iPKP	04 50 19.2 C		Sk	eP	16 55 08	
			ipPKP	04 50 36.3			i	16 55 55.0	
		Ka	iPKP	04 50 40.1 C		Um	iP	16 54 52.0	
			ipPKP	04 50 52.6			ipP	16 55 00.6	
		Ud	i(PKP)	04 50 29.2			iS	17 03 54	
			iPKP	04 50 33.4		Ud	iP	16 55 22.3	
		Kermadec Islands.				Japan. h = 30 km (Um).			
		h = 50 km (Sk,Um,Ka).				M = 5.1 (Up,Ki).			
		(PKP) are small-amplitude precursors.			"	2	Up	i(P)	17 13 43.9
"	2	Ki	iP	06 26 15.3	"	2	Ka	iP	17 51 25.2
"	2	Up	iP	06 42 10.1	"	2	Ki	iP	18 01 44.7
		Um	iP	06 42 35.2			Um	iP	18 01 40.9
"	2	Sk	e(Sg)	08 44 39			Ud	eP	18 01 53
		Ud	i(Sg)	08 44 27.8	"	2	Up	iP	18 06 59.0
"	2	Sk	i(Sg)	09 00 34.6		Aleutian Islands (h = 40 km).			
		Ud	i(Sg)	09 00 16.9	"	2	Ki	iP	18 54 01.4
"	2	Sk	eP	09 08 29			Sk	iP	18 54 22.0
"	2	Ki	iP	10 30 07.2			ePP	18 58 46	
"	2	Um	iP	11 55 48.4			i	18 58 58.9	
			i	11 56 01.7		Um	iP	18 54 09.5 C	
"	2	Um	iP	12 18 48.9			ePP	18 58 23	
"	2	Um	e(Sg)	12 27 37			i	18 58 41.9	
"	2	Um	iP	13 41 02.3 C			i	18 58 56.3	
"	2	Um	iP	14 23 38.8		Ud	iP	18 54 29.9 C	
		Ud	iP	14 24 03.9		New Guinea (h = 60 km).			
		Unimak Island (h = 40 km).			"	2	Up	ePKP2	20 09 38
"	2	Up	eP	16 55 15			Ki	iPKP	20 09 07.0
			i	16 55 41.7			Um	iPKP	20 09 11.5
			iS	17 04 31			Ud	iPKP2	20 09 44.5
		(cont.)				New Zealand (h = 25 km).			
"	2	Um	iSg	20 29 30.8	"	2	Um	iSg	20 29 30.8
			iSg	20 28 57.3			Ud	iSg	20 28 57.3
"	2	Up	iP	22 24 18.9 C	"	2	Up	iP	22 24 18.9 C
			ipP	22 24 29.0			ipP	22 24 29.0	
		(cont.)				(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968						
July	2	(cont.)		July	3	Up	iP	02 51 02.9		
		Up	iS			Um	iP	02 50 38.2		
						Ud	iP	02 51 09.0		
						Japan (h = 30 km).				
		P	Z'			"	3	Um	iP	05 41 02.2
		Mx	E			"	3	Up	iP	10 00 40.7
		Mx	N			Ki	eP	10 00 34		
		Mx	Z					e(S)	10 05 01	
		D = 8650 km = 78°							micr sec	
		Ki	iP					P	Z'	0.2 2.0
								(S)	E	0.7 8
		P	Z'					(S)	N	0.3 10
		Mx	E					Mx	E	0.6 16
		Mx	N					Mx	N	0.4 13
		Mx	Z					Mx	Z	0.9 15
		Sk	iP			Sk	iP			10 00 04.6
		Gb	iP				i			10 00 07.1
			ipP			Gb	iP			10 00 16.8
		Um	iP			Um	iP			10 00 39.6
			ipP			Ud	iP			10 00 18.9
			iS			North Atlantic Ocean				
		Ka	iP			(h = 30 km).				
		Ud	iP			m = 5.3 (Ki).				
		Ryukyu Islands. h = 35 km				"	3	Um	iP	10 14 45.2
		(Up, Gb, Um).				"	3	Up	iP	10 23 15.1
		m = 6.0, M = 5.2 (Up, Ki).						i		10 23 20.7
		"	2	Ki	iP					micr sec
				Um	iP			P	Z'	0.1 0.5
				Ud	iP			Sk	eP	10 23 57
				Aleutian Islands		"	3	Ki	iPn	12 31 02.5
					(h = 30 km).			iSn		12 31 51.4
		"	3	Up	ipPKP			iLg1		12 32 07.0
								D = 460 km = 4.1°		
								Probably northwest Russia.		
								Origin time = 12 29 58.		
								Explosion?		
						"	3	Sk	iP	16 19 39.4
						"	3	Ud	iP	19 07 00.4
								i		19 07 03.1
		"	3	Ud	iP			Up	iP	19 54 55.3
				Japan (h = 30 km).				Ki	iP	19 55 00.0
		"	3	Up	iP			Sk	iP	19 55 19.1
								Um	eP	19 54 51
				Ud	iP			i		19 54 52.4
		"	3	Ki	iP			Ka	iP	19 55 00.8
								Ud	iP	19 55 11.5
								Kashmir (h = 110 km).		

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1968				1968						
July	4	Um	iP	00 21	21.9	July	4	(cont.)		
"	4	Up	iP	00 45	39.4	Up		iSg	16 04	55.1
		Ki	iP	00 45	01.9	Sk		iLg1	16 06	22.9
						GOT		iPg	16 04	03.1
								iSg	16 04	24.2
			P	Z'	0.1 1.1	LS		iSg	16 04	55.5
		Sk	iP	00 45	35.5	Ud		iPg	16 04	10.9
		Um	iP	00 45	18.3 D			iSg	16 04	33.3
			ipP	00 45	41.2	Västergötland, Sweden, 58.4° N, 14.0° E. Origin time = 16 03 36.				
		Ka	iP	00 45	58.3	"	4	Sk	e(Sg)	18 23 33
			i	00 46	01.0			Ud	i(Sg)	18 23 19.2
		Ud	iP	00 45	46.8 D	"	4	Up	iP	21 52 51.9
		Japan. h = 90 km (Um).						iX	21 53 06.1	
"	4	Ki	iP	02 34	02.8			iS	21 56 50	
		Ud	iP	02 33	07.4				micr sec	
		Dodecanese Islands (h = 110 km).						P	Z	0.8 5
"	4	Ki	eP	06 10	17			P	Z'	0.1 0.8
"	4	Up	iP	06 55	49.2			S	E	4.1 9
		Ki	iP	06 55	37.8			S	N	2.4 8
		Sk	iP	06 56	03.4			Mx	E	24 14
		Um	iP	06 55	39.2			Mx	N	10 14
		Ud	iP	06 56	03.1			Mx	Z	8.5 15
		Tibet (h = 30 km).						D = 2500 km = 22 1/2°		
"	4	Up	iP	07 23	19.2 C	Ki	iP		21 54	02.5 C
			iPcP	07 23	44.2			iX	21 54	33.4
									micr sec	
			P	Z'	0.1 0.5			P	N	0.4 5
		Ki	iP	07 22	32.3			P	Z	0.5 5
								P	Z'	0.1 0.9
			P	Z'	0.1 0.9			Mx	E	20 14
		Sk	iP	07 23	08.8			Mx	N	8.1 14
		Gb	iP	07 23	40.3			Mx	Z	10 14
		Um	iP	07 22	53.7	Sk	iP		21 53	30.9
		Ka	iP	07 23	41.3	Um	iP		21 53	26.8
		Ud	iP	07 23	24.9			i	21 53	36.5
			ipP	07 23	42.8			iX	21 53	50.9
		Kurile Islands. h = 70 km (Ud).						iS	21 57	52
		m = 6.0 (Up,Ki).					Ka	iP	21 52	15.5 C
"	4	Um	iP	08 02	17.9	Ud	iP		21 52	58.0
"	4	Up	iP	15 28	32.5			i	21 53	01.9
		Um	eP	15 28	33			iX	21 53	17.4
		Ud	iP	15 28	23.4 C			iS	21 57	09.4
		Costa Rica (h = 110 km).				"	4	Up	iP	23 23 18.1
"	4	Up	iPg	16 04	23.4			Ki	iP	23 24 21.7
		(cont.)							micr sec	
								Mx	E	0.3 15
								Mx	N	0.2 12
								Ka	iP	23 22 46.7
		(cont.)						(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
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1968				1968			
July	4	(cont.)		July	5	(cont.)	
		Ud	iP 23 23 24.6 D			Up	ipP 11 39 43.4
		Dodecanese Islands					iPP 11 42 11
		(h = 40 km).					eS 11 48 45
							micr sec
"	5	Up	iP 00 57 27.8 C			P	E 0.9 5
			eS 01 07 29			P	N 1.6 5
			micr sec			P	Z 3.2 4
		P	Z' 0.4 1.5			P	Z' 0.8 1.0
		D = 8950 km = 80 1/2°.				PP	Z 1.3 4
		Ki	iP 00 56 54.0 C			S	N 3.3 11
			ipP 00 56 59.0			Mx	E 20 22
			e(S) 01 06 37			Mx	N 23 25
			micr sec			Mx	Z 36 24
		P	Z 0.4 5			D = 7950 km = 71 1/2°.	
		P	Z' 0.2 1.5			Ki	iP 11 38 50.1 C
		(S)	N 0.3 10				i 11 38 52.4
		Mx	E 0.7 15				ipP 11 39 04.8
		Mx	N 0.8 17				iPP 11 41 12
		Mx	Z 1.4 17				iS 11 47 31
		Sk	iP 00 57 03.0 C				iScS 11 48 42
		Um	iP 00 57 13.4 C				micr sec
			i(S) 01 07 12			P	E 1.6 6
		Ka	iP 00 57 40.3			P	N 1.2 6
			ipP 00 57 45.0			P	Z 4.6 7
		Ud	iP 00 57 20.4 C			P	Z' 1.1 1.2
			ipP 00 57 24.9			PP	Z 1.5 5
		California. h = 15 km (Ki, Ka, Ud).				S	E 3.0 8
		m = 6.1 (Up, Ki).				S	N 4.4 10
						Mx	E 24 18
						Mx	N 25 22
						Mx	Z 34 16
"	5	Sk	eSKP 07 43 20			D = 7200 km = 65°.	
		Um	iSKP 07 43 15.5			Sk	iP 11 39 24.3
		Fiji Islands (h = 630 km).					ipP 11 39 39.2
							iPP 11 41 56.3
"	5	Ki	iPn 11 19 55.7			Gb	iP 11 39 51.6
			iSn 11 20 54.8				i 11 39 53.9
			iLg1 11 21 14.1				ipP 11 40 05.5
			D = 540 km = 4.9°.				iPP 11 42 43.9
		Sk	eSg 11 23 43			Um	iP 11 39 08.5 C
		Um	iSg 11 22 07.1				i 11 39 10.3
		Northwest Russia,					ipP 11 39 22.4
		67.3° N, 33.2° E.					iS 11 48 06
		Origin time = 11 18 40.				Ka	iP 11 39 51.9
		Explosion?					i 11 39 53.4
							ipP 11 40 05.1
"	5	Ki	iP 11 30 50.3			Ud	iP 11 39 38.2 C
			i 11 31 02.5				i 11 39 40.6
		Ud	iP 11 31 17.2				ipP 11 39 52.5
		Luzon (h = 80 km).				Japan. h = 50 km (Up, Ki, Sk, Gb, Um, Ka, Ud).	
						m = 6.8, M = 6.6 (Up, Ki).	
"	5	Up	iP 11 39 31.5 C			Double P, average time difference = 2.0 sec.	
			i 11 39 33.0				
		(cont.)					

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1968				1968								
July	5	Ki	iPKP	13 40 18.9	C	July	6	GOT	iPg	06 21 01.5		
		Um	iPKP	13 40 23.4					iSg	06 21 18.6		
			i	13 40 36.4				KLS	eSg	06 21 47		
		Ud	iPKP2	13 40 56.4				UdP	eSg	06 22 31		
		New Zealand (h = 40 km).						Kattegatt, 56.4° N, 11.7° E. Origin time = 06 20 36. Underwater explosion?				
"	5	Up	iPKP	13 57 35.7	C	"	6	GOT	iPg	06 52 36.0		
			i	13 57 40.3					iSg	06 52 52.9		
				micr	sec			KLS	eSg	06 53 23		
		Ki	PKP	Z' 0.1	1.0			UdP	iSg	06 54 12.0		
								Kattegatt, 56.4° N, 11.7° E. Origin time = 06 52 10. Underwater explosion?				
		Ki	ePKP	13 57 15				"	6	KiR	iPn	08 06 16.5
			i	13 57 21.0						iSn	08 07 12.4	
		Sk	iPKP	13 57 29.2	C					iLg1	08 07 30.8	
			i	13 57 50.2						D = 510 km = 4.6°		
		Gb	iPKP	13 57 43.8	C				SkA	eSg	08 10 06	
		Um	iPKP	13 57 23.7	C				UmE	iSn	08 07 57.3	
			i	13 57 29.3						iSg	08 08 36.0	
		Ka	iPKP	13 57 45.0	C			Northwest Russia, 67.8° N, 32.7° E. Origin time = 08 05 05. Explosion?				
			i	13 57 54.8								
		Ud	iPKP	13 57 37.4	C							
			i	13 57 42.4								
		Kermadec Islands (h = 50 km).										
"	5	Sk	e(Sg)	14 12 07		"	5	Up	iP	14 40 33.8		
		Ud	i(Sg)	14 11 00.5					i	14 40 45.2		
"	5	Up	iP	14 40 33.8				Sk	iP	14 41 02.8		
				micr	sec			Sinkiang (h = 30 km).				
"	5	Ka	iP	15 37 32.9		"	5	Ka	iP	15 37 32.9		
"	5	Up	iP	17 08 14.8		"	5	Up	iP	17 08 14.8		
				micr	sec							
				P	Z' 0.1	0.6						
		Ud	iP	17 08 16.9		"	6	Ud	eP	11 49 42		
"	5	Ka	iPg	21 37 14.3		"	6	Ki	iPn	12 43 45.1		
			eSg	21 37 51					eSn	12 44 33		
		Ud	iSg	21 39 51.3					iLg1	12 44 47.5		
		Southern Baltic Sea.							D = 440 km = 4.0°			
		Explosion?						Probably northwest Russia. Origin time = 12 42 42. Explosion?				
"	6	Um	e(Sg)	02 36 14		"	6	Um	iP	14 06 10.1		
"	6	GOT	iPg	05 54 40.1		"	6	Up	iP	14 09 08.9		
			iSg	05 54 57.0				Sk	eP	14 09 22		
		KLS	eSg	05 55 26				Ud	iP	14 09 23.4		
		UdP	iSg	05 56 16.0		"	6	Up	iP	14 14 08.2		
		Kattegatt, 56.4° N, 11.7° E.							i	14 14 11.3		
		Origin time = 05 54 14.						Ki	iP	14 13 31.7		
		Underwater explosion?							i	14 13 34.3		
								(cont.)				

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1968				1968					
July	6	(cont.)		July	6	(cont.)			
		Sk	iP	14 13 41.2		Ki	iP	17 41 00.0	
		Gb	eP	14 14 07			i	17 41 08.4	
		Um	iP	14 13 52.0		Sk	iP	17 41 16.0	
			i	14 13 54.9			i	17 41 23.5	
		Ud	iP	14 14 00.4 C		Um	eP	17 40 56	
		Nevada (h = 30 km).					i	17 41 04.1	
"	6	Up	iPKP	14 36 36.6		Ka	iP	17 41 03.8	
		Ki	ePKP	14 36 51		Ud	iP	17 41 11.5	
		Um	iPKP	14 36 45.0			i	17 41 19.4	
		Ud	iPKP	14 36 35.4	"	6	Up	iPKP	17 47 33.5
		South Sandwich Islands (h = 30 km).				Ki	iPKP	17 47 18.5	
						Sk	iPKP	17 47 29.4	
						Um	iPKP	17 47 24.9	
"	6	Up	iP	16 00 20.8			i	17 47 36.8	
		Ud	iP	16 00 29.0 C		Ud	iPKP	17 47 37.2	
		Formosa (h = 50 km).				Kermadec Islands. Origin time = 17 27 57.			
"	6	Ki	iP	17 21 43.5	"	6	Up	iPKP	17 50 59.1
		Sk	iP	17 22 17.6			i	17 51 03.7	
		Um	iP	17 22 02.4		Sk	iPKP	17 50 54.1	
		Ud	iP	17 22 33.3 C		Gb	iPKP	17 51 08.6	
		Japan (h = 30 km).				Um	iPKP	17 50 46.7	
"	6	Up	iP	17 36 57.1		Ka	iPKP	17 51 09.1	
			iS	17 47 51		Ud	iPKP	17 51 02.5	
				micr sec		Kermadec Islands. Origin time = 17 31 20.			
		Mx	E	0.5 17	"	6	Up	iP	19 43 15.7
		Mx	N	0.8 20		Ki	iP	19 42 58.0	
		Mx	Z	0.8 17			iPP	19 47 18.9	
		D = 10100 km = 91°.				Sk	iP	19 43 20.0	
		Ki	iP	17 36 38.8			iPKP	19 47 24.0	
			eSKS	17 47 02		Um	iP	19 43 04.3	
			iS	17 47 13			iX	19 43 19.8	
				micr sec			iPKP	19 47 17.1	
		SKS	E	0.2 10			iPP	19 47 32.0	
		S	N	0.4 10		Ka	iPKP	19 47 26.6	
		Mx	E	0.4 17		Ud	iP	19 43 24.2	
		Mx	N	0.6 17			iX	19 43 39.1	
		Mx	Z	1.0 18			iPP	19 48 02.0	
		D = 9650 km = 87°.				Aroe Islands (h = 25 km).			
		Sk	iP	17 37 01.9 C	"	6	Up	iP	20 18 15.6
		Gb	iP	17 37 13.9			ipP	20 18 27.5	
		Um	iP	17 36 45.3		Ki	iP	20 17 57.5	
			i	17 36 55.3		Sk	iP	20 18 19.3	
			iSKS	17 47 17		Um	iP	20 18 03.9	
			iS	17 47 25			ipP	20 18 16.6	
		Ud	iP	17 37 05.6		Ud	iP	20 18 23.9	
		Mindanao (h = 25 km).				Mindanao. h = 45 km (Up, Um).			
		M = 5.2 (Up, Ki).							
"	6	Up	iP	17 40 59.1					
			i	17 41 07.1					
		(cont.)							

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1968					1968				
July	7	(cont.)			July	7	Up	iP	21 47 05.2
		Um	iP	14 45 26.2				iSKS	21 57 36
			eScS	14 55 47					micr sec
		Ud	iP	14 45 33.1				Mx	E 0.8 21
			i	14 45 38.0				Mx	N 0.7 17
		California (h = 15 km).						Mx	Z 1.1 22
"	7	Ki	iPn	15 17 37.8			Ki	iP	21 46 45.4
			iSn	15 18 24.3				eSKS	21 57 06
			iLg1	15 18 38.3				iS	21 57 21
		D = 420 km = 3.8°.							micr sec
		Probably Russia-Finland border region.						SKS	E 0.5 8
		Origin time = 15 16 38.						S	N 0.4 9
		Explosion?						Mx	E 0.7 17
								Mx	N 0.7 18
								Mx	Z 0.9 17
"	7	Up	iP	17 03 33.7			Sk	iP	21 47 09.8
			iS	17 14 26			Um	iP	21 46 53.9 C
				micr sec				i	21 46 59.5
			P	Z' 0.1 0.7				iSKS	21 57 17
			Mx	E 0.6 20				iS	21 57 35
			Mx	N 0.8 19			Ud	iP	21 47 11.4
			Mx	Z 1.3 20				i	21 47 19.9
		D = 10100 km = 91°.						ipP	21 47 34.2
		Ki	iP	17 03 14.1			Mindanao. h = 90 km (Ud).		
			iSKS	17 13 43			M = 5.3 (Up,Ki).		
			iS	17 13 52					
				micr sec			"	7	Up
			P	Z 0.3 7					---
			SKS	E 0.6 10					micr sec
			S	N 0.5 10				Mx	E 1.2 21
			Mx	E 0.8 18				Mx	N 1.0 20
			Mx	N 0.6 18				Mx	Z 2.0 21
			Mx	Z 1.3 18			Ki	e(P)	23 18 19
		D = 9650 km = 87°.						e(SKs)	23 30 37
		Sk	iP	17 03 36.5				eSS	23 35 54
			ipP	17 03 46.9					micr sec
		Um	iP	17 03 20.6				(SKS) N	0.2 10
			ipP	17 03 32.2				Mx	E 1.6 24
			iSKS	17 13 50				Mx	N 1.3 25
			iS	17 14 00				Mx	Z 3.5 26
		Ud	iP	17 03 39.7			Um	iSKS	23 29 20
			ipP	17 03 50.9				iPS	23 31 30
		Mindanao. h = 40 km (Sk, Um,Ud).						eSS	23 36 22
		m = 5.8, M = 5.3 (Up,Ki).					Off coast of Mexico (h = 30 km).		
							M = 5.6 (Up,Ki).		
"	7	Ud	iP	18 34 12.5 C	"	8	Ud	iP	00 01 41.9
"	7	Um	iP	18 36 52.9			Peru (h = 25 km).		
"	7	Um	iP	20 02 31.5	"	8	Up	iP	00 29 49.4
"	7	Ud	iP	20 32 35.5					micr sec
							P	Z' 0.1 1.0	
							(cont.)		

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1968					1968				
July	8	(cont.)			July	8			
		Up		micr sec	Up	iPKP		12 27 42.3	
		Mx	E	0.7 18	Ki	ePKP		12 27 33	
		Mx	N	0.8 19	Gb	iPKP		12 27 52.3 C	
		Mx	Z	1.0 20	Ka	iPKP		12 27 54.4	
		Ki	iP	00 29 07.1 C	Ud	iPKP		12 27 43.8	
		i		00 29 23.7	Tonga-Kermadec Islands (h = 620 km).				
				micr sec	"	8	Up	iP	13 21 47.6 C
		Mx	E	0.6 17			iPP		13 23 10.5
		Mx	N	0.6 17					micr sec
		Mx	Z	0.6 16			P	Z'	0.1 0.6
		Um	iP	00 29 24.7			Ki	iP	13 21 58.8
		Ud	iP	00 29 56.3			ipP		13 22 08.9
		Japan (h = 40 km).					eLg2		13 36 02
		M = 5.1 (Up,Ki).							micr sec
"	8	Sk	eP	02 43 46			Mx	E	0.4 16
		i		02 43 51.6			Mx	Z	0.7 17
"	8	Ki	iP	03 56 18.2	Sk	iP		13 22 14.6 C	
		Ud	iP	03 57 08.4			ipP		13 22 24.4
		Japan (h = 30 km).					iPP		13 23 48.2
"	8	Ki	iP	04 03 53.9 C	Gb	iP		13 22 09.2 C	
		Sk	iP	04 04 28.7			ipP		13 22 18.0
		Um	iP	04 04 12.4 C			iPP		13 23 36.5
		Ud	iP	04 04 43.4	Um	iP		13 21 46.6	
		Japan (h = 60 km).					iLg1		13 34 21
"	8	Ud	iPKP	04 27 54.4	Ka	iP		13 21 51.5 C	
		Tonga-Kermadec Islands (h = 560 km).					Ud	iP	13 22 04.2 C
"	8	Ki	eP	06 41 50			ipP		13 22 13.7
		Alaska (h = 30 km).			"	8	Gb	iP	16 31 49.7
"	8	Up	iP	08 12 52.9	"	8	Up	iPKP	16 47 56.1
				micr sec			i		16 48 01.7
		P	Z'	0.1 0.7					micr sec
		Ki	iP	08 12 09.3			PKP	Z'	0.1 0.7
		Sk	iP	08 12 43.7	Gb	iPKP		16 48 05.3	
		Um	iP	08 12 28.3			i		16 48 11.4
		Ud	iP	08 12 59.9	Ud	iPKP		16 47 57.6	
		iPcP		08 13 20.9			i		16 48 03.5
		Japan (h = 30 km).			Tonga-Kermadec Islands (h = 140 km).				
"	8	Ki	eP	08 25 03	"	8	Up	iP	17 22 39.1
"	8	Ki	iP	11 35 40.7			iS		17 28 25
		Ka	iP	11 35 03.0					micr sec
		Ud	iP	11 35 24.9			Mx	E	0.6 16
		Iran (h = 30 km).					Mx	N	0.9 17
"	8	Ud	iP	11 47 10.9			Mx	Z	0.8 17
		Colombia (h = 80 km).					D = 4150 km = 37 1/2°.		
					Ki	iP		17 23 18.2	
					(cont.)				

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1968						1968					
July	8	(cont.)			July	8					
		Ki	i	17 23 20.2			Ki	iP	18 41 05.1		
			eS	17 29 32			Ud	iP	18 40 03.9		
			eSS	17 32 35			Crete (h = 15 km).				
				micr sec		"	8	Ud	iP	21 11 30.4	
		Mx	E	0.9 12			Mindanao (h = 40 km).				
		Mx	N	0.8 12		"	8	Ki	ipP	21 31 34.0	
		Mx	Z	1.3 12				Ud	iP	21 32 15.8	
		D = 4650 km = 42°.							ipP	21 32 26.3	
		Sk	iP	17 23 16.4			Aleutian Islands.				
		Gb	iP	17 22 52.1			h = 40 km (Ud).				
		Um	iP	17 22 53.7							
			iPP	17 24 21		"	8	Up	iP	21 36 59.1	
			iS	17 28 51				ipP	21 37 06.9		
			iSS	17 31 36				iS	21 47 05		
		Ud	iP	17 22 54.4 C					micr sec		
		Iran (h = 40 km).						P	Z' 0.1 0.6		
		M = 4.9 (Up,Ki).						Mx	N 0.7 17		
"	8	Up	iP	17 46 34.3				Mx	Z 0.9 19		
			iS	17 51 06				D = 8950 km = 80 1/2°.			
			iSa	17 51 33				Ki	iP	21 36 25.5 C	
				micr sec					iS	21 46 00	
		P	Z'	0.4 1.5					micr sec		
		S	N	0.8 4				P	Z' 0.1 1.0		
		Mx	E	1.5 12				S	E 0.5 6		
		Mx	N	3.4 17				S	N 0.3 7		
		Mx	Z	2.7 17				Mx	E 0.7 19		
		D = 2900 km = 26°.						Mx	N 0.7 18		
		Ki	iP	17 47 41.4				Mx	Z 0.9 17		
			i	17 47 43.3				Sk	iP	21 36 55.3	
			i	17 47 52.6				Gb	iP	21 37 18.0	
			iLg1	17 58 21				Um	iP	21 36 40.4 C	
				micr sec					ipP	21 36 50.9	
		P	Z'	0.4 1.2					iS	21 46 24	
		Mx	E	1.2 12				Ud	iP	21 37 06.4	
		Mx	N	3.8 13					ipP	21 37 13.8	
		Mx	Z	5.4 13				Bonin Islands. h = 30 km			
		Sk	iP	17 47 12.9 C				(Up,Um,Ud).			
		Gb	iP	17 46 25.7				m = 5.8, M = 5.2 (Up,Ki).			
		Um	iP	17 47 06.8 C							
			i	17 48 44.0			"	9	Up	iP	02 46 29.0
			iPcP	17 50 12.9					Ud	iP	02 46 35.6
		Ka	iP	17 46 01.6				Japan (h = 30 km).			
			i	17 48 02.3							
		Ud	iP	17 46 41.9 C			"	9	Up	iP	03 27 00.9
		Crete (h = 30 km).							Ki	iP	03 26 42.9
		m = 5.8, M = 5.2 (Up,Ki).							Sk	iP	03 27 05.6
									Ud	iP	03 27 09.1
"	8	Ki	eP	18 24 47				Philippine Islands			
		Sk	iP	18 24 18.1				(h = 60 km).			
		Ud	iP	18 23 47.9							
		Crete (h = 30 km).					"	9	Ki	eL	04 24
								(cont.)			

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1968

July 9 (cont.)
 Ki micr sec
 Mx E 0.9 20
 Mx N 0.5 17
 Mx Z 1.4 19
 Mariana Islands
 (h = 10 km).
 " 9 Ki eP 04 38 23
 ipP 04 38 31.3
 Ud iP 04 39 11.4
 Japan. h = 30 km (Ki).
 " 9 Ud iP 06 24 49.4
 " 9 Um iP 06 27 47.1
 " 9 Up
 micr sec
 Mx E 0.5 17
 Mx N 0.5 18
 Mx Z 0.8 17
 Ki eP 08 16 44
 i 08 16 51.8
 micr sec
 Mx E 0.8 16
 Mx N 0.5 15
 Mx Z 1.4 15
 Um iP 08 17 02.4
 i 08 17 19.5
 eS 08 25 55
 Ud iP 08 17 31.8
 Japan (h = 30 km).
 M = 5.0 (Up,Ki).
 " 9 Up
 micr sec
 Mx E 0.8 20
 Mx N 0.9 21
 Ki
 micr sec
 Mx E 0.8 17
 Mx N 0.8 17
 Mx Z 1.3 18
 Um iP 08 39 12.0
 i 08 39 36.4
 Ud iP 08 39 44.0
 Japan (h = 30 km).
 M = 5.2 (Up,Ki).
 " 9 Up iP 09 45 17.3
 Um iP 09 44 52.4
 Ud iP 09 45 23.7
 Japan (h = 30 km).

1968

July 9 Up iP 11 50 57.7
 Ki iP 11 51 15.2
 micr sec
 Mx E 0.5 18
 Mx N 0.4 18
 Mx Z 0.5 18
 Ud iP 11 51 03.4
 Japan (h = 30 km).
 " 9 Um iSg 12 17 37.2
 Ud iSg 12 18 21.5
 " 9 Up eP 15 06 15
 i 15 06 26.0
 i 15 06 43.9
 Ki iP 15 07 22.9
 i 15 07 31.4
 micr sec
 Mx N 0.5 14
 Mx Z 0.6 13
 Sk iP 15 06 54.1
 Gb iP 15 06 06.9
 Um iP 15 06 47.7
 Ka eP 15 05 41
 Ud iP 15 06 22.5
 Crete (h = 20 km).
 " 9 Ki iP 18 12 49.5
 Sk iP 18 12 56.3
 Um iP 18 13 18.8
 Nordlands Fylke, Norway,
 66.4°N, 14.8°E.
 Origin time = 18 11 22.
 Explosion?
 " 9 Up iP 20 44 13.9
 Ud iP 20 43 50.3
 " 10 Up iSKS 01 04 43
 micr sec
 Mx E 1.7 18
 Mx N 1.9 19
 Mx Z 2.3 18
 Ki eP 00 53 48
 iSKS 01 04 15
 micr sec
 SKS N 0.3 8
 Mx E 1.5 18
 Mx N 1.0 17
 Mx Z 2.0 18
 Um iP 00 53 53.0
 eSKS 01 04 23
 eS 01 04 50
 iPS 01 06 11
 Caroline Islands
 (h = 30 km).
 M = 5.7 (Up,Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968							
July 10	Ud	iP	09 03 34.2		July 10	(cont.)						
		i	09 03 50.4			Up		micr	sec			
			Caspian Sea (h = 30 km).			Mx	E	2.7	18			
"	10	Up	eS	11 43 09		Mx	N	3.9	21			
				micr sec		Mx	Z	3.6	22			
			S	E 0.4 10				D = 7850 km = 70 1/2°				
			Mx	E 1.7 18		Ki	iP	20 51 03.0	C			
			Mx	N 2.7 22			iPP	20 53 20				
			Mx	Z 2.9 18			iS	20 59 37				
		Ki	ePP	11 36 10				micr sec				
			ePKS	11 38 53			P	Z 0.4 4				
			eS	11 43 51			P	Z' 0.3 2.0				
			iPS	11 45 43			PP	Z 0.4 4				
				micr sec			S	E 0.9 7				
			PP	N 0.2 7			S	N 0.6 10				
			PP	Z 0.4 7			Mx	E 5.0 23				
			S	E 0.6 10			Mx	N 3.0 20				
			Mx	E 2.1 18			Mx	Z 5.1 20				
			Mx	N 1.7 20				D = 7100 km = 64°				
			Mx	Z 2.3 17		Sk	iP	20 51 37.6				
		Um	iS	11 43 26			iPcP	20 52 03.3				
			iPS	11 45 17			iPP	20 54 09.8				
			iSS	11 51 17		Gb	iP	20 52 06.2				
				Indian Ocean (h = 30 km).		Um	iP	20 51 21.2	C			
				m = 6.1, M = 6.0 (Up,Ki).			i	20 51 39.4				
"	10	Um	iP	13 31 15.0			iPP	20 53 47.7				
		Ud	iP	13 30 46.3			iS	21 00 13				
				Atlantic Ocean		Ka	iP	20 52 05.3	C			
				(h = 30 km).		Ud	iP	20 51 51.8	C			
"	10	Ki	iSg	18 03 18.7			i	20 52 31.4				
		Sk	iSg	18 03 23.2				Japan (h = 30 km).				
		Um	iSg	18 03 42.7				m = 6.0, M = 5.9 (Up,Ki).				
				Nordlands Fylke, Norway,		"	10	Ki	iPn	21 14 32.2	D	
				66.4° N, 14.8° E.					iSn	21 15 20.2		
				Origin time = 18 01 49.					iLg1	21 15 36.1		
				Explosion?						D = 440 km = 4.0°		
"	10	Up	iP	19 49 41.3			Um	iSg	21 17 04.8			
		Ki	iP	19 49 18.3					Probably northwest Russia.			
		Um	iP	19 49 27.8					Origin time = 21 13 28.			
		Ud	iP	19 49 48.3					Explosion?			
				Luzon.		"	10	Um	iP	22 27 51.1		
"	10	Up	iP	20 51 44.9	C			Ud	iP	22 27 50.5		
			iPcP	20 52 11.0			"	10	Up	iP	22 32 23.4	C
			iPP	20 54 17					ipP	22 32 32.7		
			iS	21 00 54					iPcP	22 32 44.2		
				micr sec				Ki	iP	22 31 41.5		
			P	Z' 0.2 1.2					ipP	22 31 49.4		
			S	E 0.4 8				Sk	iP	22 32 13.0		
				(cont.)					iPcP	22 32 35.7		
									iPP	22 34 47.7		
								Gb	iP	22 32 44.5		
									(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
July 10 (cont.)				July 10 (cont.)			
	Um	iP	22 32 00.4 C		Um	iP	00 55 31.0
	Ud	iP	22 32 30.5 C			ipP	00 55 40.9
	Japan. h = 30 km (Up,Ki).					iS	01 04 24
"	11	Ki	eSKP 10 27 51		Ka	iP	00 56 14.9
		Sk	iPKP 10 25 10.0 D		Ud	iP	00 56 01.3 C
		Um	iPKP 10 25 05.3			ipP	00 56 11.2
		Ud	iPKP 10 25 15.6		Japan. h = 35 km (Um,Ud).		
	Santa Cruz Islands				m = 6.5, M = 6.4 (Up,Ki).		
	(h = 320 km).			"	12	Um	iP 01 30 10.5 C
"	11	Sk	e(Sg) 18 37 01			ipP	01 30 19.4
		Ud	i(Sg) 18 37 01.4		Ud	iP	01 30 40.4
					Japan. h = 35 km (Um).		
"	11	Um	e(Sg) 20 51 21	"	12	Um	eP 01 41 26
"	11	Ud	iP 21 45 44.7			Ud	iP 01 41 56.3
	Madeira Islands					ipP	01 42 04.3
	(h = 40 km).				Japan. h = 30 km (Ud).		
"	12	Up	iP 00 55 54.6 C	"	12	Up	iP 04 07 45.5 C
			iPP 00 58 31.3			ipP	04 07 54.1
			iS 01 05 09			iS	04 16 59
			micr sec				micr sec
		P	N 0.4 4			P	Z' 0.3 1.2
		P	Z 1.0 4			pP	Z' 0.4 1.2
		P	Z' 0.3 1.1			S	E 0.5 9
		PP	Z' 0.7 2.0			S	N 0.5 9
		S	E 1.4 5			Mx	E 2.7 20
		S	N 3.6 10			Mx	N 2.8 20
		Mx	E 9.5 18			Mx	Z 2.7 17
		Mx	N 13 20			D = 7950 km = 71 1/2°.	
		Mx	Z 6.9 18		Ki	iP	04 07 03.5 C
		D = 7950 km = 71 1/2°.				iPP	04 09 25.7
	Ki	iP	00 55 13.2			iS	04 15 44
		i	00 55 18.0				micr sec
		iS	01 03 48			P	Z 0.7 9
			micr sec			P	Z' 0.4 1.7
		P	E 0.8 4			PP	Z' 0.2 1.7
		P	N 0.4 5			S	E 0.9 8
		P	Z 1.5 5			S	N 1.5 11
		P	Z' 0.7 1.8			Mx	E 10 22
		S	E 3.4 9			Mx	N 6.2 15
		S	N 5.8 10			Mx	Z 9.7 16
		S	Z 1.0 8			D = 7150 km = 64 1/2°.	
		Mx	E 25 18		Sk	iP	04 07 37.8 C
		Mx	N 19 17			iPP	04 10 18.7
		Mx	Z 26 16		Gb	iP	04 08 06.1 C
		D = 7150 km = 64 1/2°.			Um	iP	04 07 22.0 C
	Sk	iP	00 55 47.4			iPP	04 09 44.2
	Gb	iP	00 56 16.2			iS	04 16 18
	(cont.)				Ud	iP	04 07 52.4 C
					Japan. h = 30 km (Up).		
					m = 6.2, M = 5.9 (Up,Ki).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
July 12	Um	iP	04 12 06.8		July 12	(cont.)			
			Japan (h = 30 km).			Ka	iP	12 15 09.4	
"	12	Ki	iP	09 25 31.5		Ud	iP	12 15 09.4	C
		Sk	eP	09 25 43			iPn	12 16 22.8	
		Um	iP	09 25 28.6					
		Ud	eP	09 25 40					
				Sumatra (h = 30 km).					
				These phases arrive 12-17					
				sec too late, as compared					
				with the USCGS solution.		"	12	Ki	iP
									13 49 00.9
									micr sec
								Mx	E 0.4 10
								Mx	N 0.3 10
								Mx	Z 0.4 12
"	12	Up	iP	10 41 14.6		Um	iS	13 53 13	
		Um	iP	10 41 32.2					
			iPP	10 42 51.9					
		Ud	iP	10 41 29.8					
				Iran (h = 25 km).					
"	12	Ki ^R	iPn	11 17 34.6		"	12	Um	iP
			iSn	11 18 33.1					14 35 37.2
			iSg	11 18 58.2		"	12	Ki	iP
			D = 540 km = 4.9°						16 53 17.7
		Sk ^A	eSg	11 21 22					ipP
		Um ^E	iSg	11 19 47.2					16 53 27.7
				Northwest Russia,					Um
				67.3° N, 33.2° E.					iP
				Origin time = 11 16 18.					16 53 36.0
				Explosion?					ipP
									16 53 46.6
									Ud
									iP
									16 54 06.6
									ipP
									16 54 15.9
									Japan. h = 35 km (Ki, Um,
									Ud).
"	12	Up	iPKP	11 47 09.1		"	12	Up	iP
			i	11 47 14.1					22 11 58.0
				micr sec					C
			PKP	Z' 0.1 0.5					micr sec
		Ki	ePKP	11 46 47					P Z' 0.1 1.1
		Sk	iPKP	11 47 03.7					Ki
		Gb	iPKP	11 47 17.5					iP
		Um	iPKP	11 46 57.8					22 11 09.0
			i	11 47 25.1					Sk
		Ud	iPKP	11 47 10.8					eP
			i	11 47 18.4					22 11 45
			ipPKP	11 49 24.4					Um
				Kermadec Islands.					iP
				h = 600 km (Ud).					22 11 31.6
"	12	Up	iP	12 14 53.4					Ud
			iPn	12 15 56.0					iP
				micr sec					22 12 02.8
			P	Z' 0.1 0.7					ipP
		Ki	iP	12 14 37.7					22 12 11.9
				micr sec					Kurile Islands.
			P	Z' 0.1 0.8					h = 35 km (Ud).
		Sk	iP	12 15 08.8		"	13	Ud	iP
		Um	iP	12 14 37.8					02 11 51.2
				(cont.)		"	13	Up	iP
									06 15 45.6
									Ki
									iP
									06 15 33.6
									Sk
									iP
									06 15 59.3
									Um
									iP
									06 15 34.5
									ipP
									06 15 40.4
									Ud
									iP
									06 15 59.4
									Tibet. h = 25 km (Um).
"	13	Ud	iP	06 40 31.2		"	13	Ud	iP
				Off coast of Oregon					06 40 31.2
				(h = 30 km).					Off coast of Oregon
									(h = 30 km).
"	13	Ud	iP	06 52 01.0		"	13	Ud	iP
				Off coast of Oregon					06 52 01.0
				(h = 30 km).					Off coast of Oregon
									(h = 30 km).

Kazakh SSR.
m = 5.9 (Up, Ki).
Underground explosion.

12 Ki^R iPn 11 17 34.6
iSn 11 18 33.1
iSg 11 18 58.2
~~D = 540 km = 4.9°~~
Sk^A eSg 11 21 22
Um^E iSg 11 19 47.2
Northwest Russia,
67.3° N, 33.2° E.
Origin time = 11 16 18.
Explosion?

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
July 13	Sk	iPKP	06 57 04.6		July 14	(cont.)			
	Um	iPKP	06 56 58.2			Ka	eP	07 43 14	
		i(PKS)	07 00 59				i	07 44 06.6	
		New Britain (h = 40 km).				Ud	iP	07 43 11.8	
"	13	Ud	iP	09 40 04.9 C		Luzon (h = 40 km).			
"	13	Ki	eP	13 26 26	"	14	Um	iP	10 13 30.4
		Um	iP	13 26 36.7 C	"	14	Ud	iP	16 28 33.3
		Ud	iP	13 26 58.2	"	14	Up	iP	18 22 33.4
		Mariana Islands (h = 20 km).				Ki	iP	18 22 22.3	
"	13	Um	i(P)	16 12 40.5		Sk	iP	18 22 47.9	
"	13	Ud	iPKP	23 35 56.2		Um	iP	18 22 21.6	
		Tonga Islands (h = 230 km).					ipP	18 22 29.1	
"	14	Up	eP	04 08 00		Ud	iP	18 22 46.7	
		Ki	eP	04 07 52		Tibet. h = 30 km (Um).			
		Sk	eP	04 07 41	"	14	Up	iP	21 03 48.4
		Um	iP	04 07 58.4			iS	21 13 05	
			i	04 08 03.1				micr sec	
			i	04 08 25.4			Mx	E	0.6 20
		Ud	eP	04 07 51			Mx	N	0.8 16
		Honduras (h = 15 km).					Mx	Z	1.1 17
"	14	Up	iP	05 35 55.6			D = 7900 km = 71°.		
		Ki	iP	05 35 12.8		Ki		---	
				micr sec				micr sec	
		Mx	E	0.6 18			Mx	E	1.8 18
		Mx	N	0.6 18			Mx	N	1.0 15
		Um	iP	05 35 31.7			Mx	Z	2.0 18
			i	05 35 35.0		Um	iP	21 03 24	
		Ud	iP	05 36 02.2			iS	21 12 12	
		Japan (h = 40 km).				Ud	iP	21 03 55.2	
"	14	Ud	iP	07 34 51.3		Japan (h = 40 km).			
		Japan (h = 20 km).				M = 5.3 (Up,Ki).			
"	14	Up	iP	07 43 02.3	"	14	Ki	iP	22 28 25.5
			i	07 43 04.3	"	14	Ki	eP	22 41 25
			i	07 43 26.7			Ud	iP	22 41 16.7
		Ki	iP	07 42 42.9		Turkmen SSR (h = 30 km).			
				micr sec	"	15	Up	iP	00 01 03.0
		Mx	E	0.4 13			Ki	eP	00 00 25
		Mx	N	0.3 14			Um	iP	00 00 41.7
		Mx	Z	0.4 13			Ud	eP	00 01 07
		Um	eP	07 42 49		Japan (h = 40 km).			
			i	07 42 52.0	"	15	Up	iP	01 33 09.0
			i	07 43 01.5			Um	iP	01 33 12.2
		(cont.)					Ud	iP	01 33 25.1
						Hindu Kush (h = 35 km).			

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
July 15	Up	iSKP	04 33 21.2	July 16	Ud	iPKP	05 58 52.0
	Ki	iSKP	04 32 55.3		Tonga-Kermadec Islands (h = 410 km).		
			micr sec				
		SKP	Z' 0.1 1.5				
	Sk	iSKP	04 33 14.2	" 16	Up	iP	11 06 40.2
	Um	iSKP	04 33 08.5		Japan (h = 70 km).		
	Ud	iPKP	04 30 37.1				
		iSKP	04 33 23.6	" 16	Ud	iP	11 21 32.5
	Fiji Islands (h = 590 km).				Hindu Kush (h = 140 km).		
" 15	Up	iP	05 18 58.5	" 16	Up	i	12 38 42.6
	Ki	iP	05 18 48.7			iSg	12 38 58.1
	Sk	iP	05 19 13.7		Ki	eSg	12 41 28
	Um	iP	05 18 48.8		Sk	eSg	12 40 49
	Ud	iP	05 19 13.6		Um	iSg	12 39 28.7
	Tibet (h = 20 km).				Ud	iSg	12 40 01.5
" 15	Up	iP	08 40 20.8		Esthonia. Explosion?		
	Ki	iP	08 41 01.3	" 16	Ki	eL	13 50
	Sk	iP	08 40 57.9				micr sec
	Ud	iP	08 40 36.2			Mx	E 0.3 15
		i	08 40 44.1			Mx	N 0.2 15
	Iran (h = 30 km).					Mx	Z 0.4 15
" 15	Up	iP	09 15 04.9		Mexico (h = 30 km).		
	Ki	iP	09 15 35.6	" 16	Ki	iSg	18 34 42.8
	Sk	iP	09 15 36.5		Sk	eSg	18 34 47
	Gb	iP	09 15 20.5		Probably Nordlands Fylke, Norway. Explosion?		
	Um	iP	09 15 17.3				
		i	09 15 29.6	" 16	Ki	eL	18 40
	Arabian Sea.						micr sec
" 15	Ki	iSKP	10 28 19.5			Mx	E 0.5 15
	Sk	iSKP	10 28 35.6			Mx	N 0.3 15
	Um	iSKP	10 28 30.2			Mx	Z 0.5 15
	Ud	iPKP	10 25 51.9		Mexico (h = 40 km).		
		iSKP	10 28 43.5	" 16	Ki	iP	19 16 43.2
	Tonga-Kermadec Islands (h = 550 km).				Sk	iP	19 17 04.9
" 15	Um	iP	14 06 30.0		Ud	iP	19 17 08.5
					Mindanao (h = 90 km).		
" 15	Up	iP	15 16 57.7	" 16	Up	iP	20 48 24.0
" 15	Sk	iP	17 02 16.2		Ki	iP	20 49 31.1
	California (h = 15 km).				Sk	iP	20 49 03.5
" 15	Up	iP	18 28 30.5		Ud	iP	20 48 32.0
	Ki	iP	18 27 51.9		Crete (h = 60 km).		
	Sk	iP	18 28 26.3	" 16	Up	iPKP	21 44 24.8
	Um	iP	18 28 08.6		Ki	iPKP	21 44 09.9
	Ud	iP	18 28 36.7		Sk	iPKP	21 44 20.3
	Japan (h = 50 km).				Um	iPKP	21 44 15.6
					Ud	iPKP	21 44 27.2
					New Hebrides Islands (h = 220 km).		

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968
July 16 Up iP 22 32 57.6
Ki iP 22 32 45.8
Sk iP 22 33 11.2
ipP 22 33 17.3
Um iP 22 32 46.7
Tibet. h = 25 km (Sk).

" 17 Up ePS 05 52 09
micr sec
Mx E 1.0 20
Mx N 1.3 21
Mx Z 1.6 20
Ki iP 05 38 13.9 C
eSKS 05 48 54
micr sec
Mx E 1.5 20
Mx N 1.3 20
Mx Z 2.1 21
Um iP 05 38 20.3
iPP 05 42 43
eSKS 05 48 53
eS 05 49 58
Ud iP 05 38 42.1
Timor (h = 25 km).
M = 5.7 (Up, Ki).

" 17 Up i(P) 05 41 30.0
Ki iP 05 41 49.7

" 17 Ki iP 05 58 26.0

" 17 Up iP 06 35 52.9 C
ipP 06 35 57.9
Ki iP 06 35 48.6 C
micr sec
P Z' 0.1 1.5
Sk iP 06 35 37.2 C
ipP 06 35 42.8
Um iP 06 35 53.8 C
Ka iP 06 35 52.7
Ud iP 06 35 43.5
Costa Rica. h = 20 km
(Up, Sk).

" 17 Ka iP 08 32 41.2
Ud iP 08 32 25.8
Off coast of Ecuador
(h = 30 km).

" 17 Up iSg 09 39 13.2
GOT iPn 09 37 32.5
K&S iSg 09 38 55.2
Ud ePn 09 37 49
(cont.)

1968
July 17 (cont.)
Ud iSg 09 38 22.5
Skagerrak.
Origin time = 09 37 08.
The location for this series of 9 events is close to 58.4° N, 10.8° E. They are probably underwater explosions.

" 17 Up i(Pn) 09 59 13.1
iSg 10 00 09.9
GOT iSn 09 58 22.8
Ud iPn 09 58 41.1
eSg 09 59 16
Skagerrak.
Origin time = 09 58 03.

" 17 Up iPn 10 10 18.1
iSg 10 11 22.2
GOT iPn 10 09 36.5
iSn 10 09 54.4
K&S eSg 10 11 08
Ud iPn 10 09 54.0
iSg 10 10 27.0
Skagerrak.
Origin time = 10 09 16.

" 17 Ki eP 10 10 47
Japan (h = 15 km).

" 17 Ud iPn 10 13 18.3
iSg 10 13 51.3
Probably Skagerrak.

" 17 Up iPn 10 27 18.5
iSg 10 28 20.1
GOT iPn 10 26 36.7
iSn 10 26 54.3
K&S eSg 10 28 10
Ud iPn 10 26 54.6
iSg 10 27 27.5
Skagerrak.
Origin time = 10 26 17.

" 17 Ud i 11 34 32.9
iSg 11 34 53.1

" 17 Up iPg 12 38 25.4
iSg 12 39 12.9
~~SkA iLg1 12 39 52.9~~
GOT iPn 12 37 31.3
iSn 12 37 48.9
K&S eSg 12 39 04
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

July 18 (cont.)
Gb iPKP 05 23 56.6
Um iPKP 05 23 48.5
i 05 23 50.6
iPKS 05 27 02.3
Ud iPKP 05 23 50.0
Tonga Islands (h = 240 km).

" 18 Up iP 08 07 07.5
i 08 07 24.2
Ki iP 08 07 08.1
Um iP 08 07 04.3
i 08 07 13.4
Ud iP 08 07 16.9
Sumatra (h = 15 km).

" 18 Ki iPn 10 44 32.5
~~i 10 45 25.4~~
iSn 10 45 32.0
~~iLg1 10 45 50.6~~
~~D = 540 km = 4.9°~~
SkA e 10 47 59
eSg 10 48 19
UmE iSn 10 46 10.3
iSg 10 46 40.1
Northwest Russia,
67.3°N, 33.0°E.
Origin time = 10 43 17.
Explosion?

" 18 Up iP 11 32 13.7
iS 11 41 27
micr sec
Mx E 0.8 21
Mx N 0.8 19
Mx Z 0.9 18
D = 7900 km = 71°
Ki iP 11 31 31.0
eS 11 40 06
micr sec
S E 0.3 7
Mx E 1.7 19
Mx N 1.0 17
Mx Z 1.3 18
D = 7100 km = 64°
Gb eP 11 32 35
Um iP 11 31 50.2
iS 11 40 42
Ka iP 11 32 34.1
Ud iP 11 32 20.3 C
ipP 11 32 30.4
Japan. h = 40 km (Ud).
M = 5.3 (Up, Ki).

1968

July 18 Up iSg 12 59 40.7
Gb iSg 12 59 01.5
Ud iPg 12 58 51.9
iSn 12 59 10.9
iSg 12 59 13.6
D = 190 km = 1.7°
Probably Västergötland,
Sweden.
Origin time = 12 58 18.

" 18 Up i 14 02 56.0
iSg 14 03 13.9
Um iSg 14 03 44.0
Ud e 14 03 45
eSg 14 04 12
Esthonia. Explosion?

" 18 Ki eP 14 50 35
Ud iP 14 49 55.2
Atlantic Ocean
(h = 30 km).

" 18 Up iP 17 32 10.0
Ki iP 17 32 11.8 C
Gb iP 17 32 25.9
Um eP 17 32 06
Ka iP 17 32 15.4
Ud iP 17 32 22.6 C
Nicobar Islands
(h = 30 km).

" 18 Up iP 17 55 06.3
Ki iP 17 55 07.4
Gb iP 17 55 19.9
Um iP 17 55 02.9
ipP 17 55 12.4
Ka iP 17 55 10.1
Ud iP 17 55 17.9
Nicobar Islands.
h = 35 km (Um).

" 18 Ud iP 19 21 59.4
i 19 22 04.9

" 19 Up iP 05 08 08.5
ipP 05 08 17.1
iS 05 17 43
micr sec
P Z' 0.1 0.5
S E 0.3 5
S N 0.7 14
Mx E 3.0 22
Mx N 4.1 20
Mx Z 5.8 22
D = 8400 km = 75 1/2°
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

July 19

(cont.)

Ki	iP	05 08 09.8	C
	ipP	05 08 18.9	
	iS	05 17 48	
		micr sec	
	P	E 0.4	7
	P	Z 0.9	8
	pP	Z' 0.4	1.7
	S	E 1.1	6
	S	N 0.9	9
	Mx	E 6.7	18
	Mx	N 4.3	20
	Mx	Z 8.0	19
		D = 8450 km = 76°	
Sk	iP	05 08 26.0	C
	ipP	05 08 33.7	
Gb	iP	05 08 24.8	C
	ipP	05 08 32.4	
Um	iP	05 08 04.8	
	i	05 08 06.1	
	ipP	05 08 13.8	
	iPP	05 10 59	
	iS	05 17 37	
Ka	iP	05 08 12.6	C
	ipP	05 08 21.1	
	i	05 08 44.9	
Ud	iP	05 08 19.8	
	ipP	05 08 26.7	
		Nicobar Islands. h = 30 km (Up, Ki, Sk, Gb, Um, Ka, Ud). m = 6.0, M = 5.9 (Up, Ki).	

" 19

Up	iP	06 19 02.8	
	i	06 19 12.0	
Ki	iP	06 19 04.2	
		micr sec	
	P	Z' 0.1	1.5
Sk	iP	06 19 19.7	
Gb	iP	06 19 18.1	
Um	iP	06 18 59.7	
Ka	iP	06 19 07.0	
Ud	iP	06 19 14.4	

Nicobar Islands
(h = 30 km).

" 19

Up		----	
		micr sec	
	Mx	E 0.7	23
	Mx	N 1.1	22
	Mx	Z 1.1	22
Ki	iPKP	09 39 54.5	
		micr sec	
	Mx	E 0.6	20

(cont.)

1968

July 19

(cont.)

Ki			micr	sec
	Mx	N	0.6	21
	Mx	Z	1.5	22
Sk	iPKP		09 40	05.3
Um	iPKP		09 40	00.7
Ud	iPKP		09 40	10.5
			New Hebrides Islands (h = 30 km). M = 5.5 (Up, Ki).	

" 19 Um iP 09 55 31.0

" 19 Ki i(Sg) 10 18 27.6

" 19 Ki i(Sg) 10 20 25.4

" 19 Up eP 10 33 17

" 19 Up eP 16 54 07

Ki eP 16 54 02

Sk iP 16 54 18.2

Um iP 16 53 58.0

Ud eP 16 54 12

Nicobar Islands
(h = 10 km).

" 19 Ud iP 18 06 03.2

East of Crete.

" 19 Ki R 18 35 34
iSg 18 33 35.0
Sk A iSg 18 33 38.4
Um E iPg 18 33 13.2
iSg 18 34 01.0
~~Ud ePg 18 35 27~~

Nordlands Fylke, Norway,
66.4° N, 14.8° E.

Origin time = 18 32 05.

Explosion?

" 19 Up iP 18 58 50.5 C

Ki iP 18 58 39.5

Sk iP 18 59 04.7

Um iP 18 58 38.0

Ud iP 18 59 04.3

Tibet (h = 30 km).

" 19 Up iP 20 52 58.8

i 20 53 00.9

Ud iP 20 53 02.0

" 19 Up iP 22 24 23.3

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
July 21					July 21 (cont.)				

			micr	sec					
		Mx	E	1.8 19		Ka	iP	17 07 30.7	
		Mx	N	2.1 21		Ud	eP	17 07 55	
		Mx	Z	3.4 21			i	17 07 56.9	
		Ki	iPP	06 10 58			Iran (h = 30 km).		
				micr sec		"	21	Ud	iP
		PP	E	0.3 5				17 14 14.4	
		PP	N	0.3 5		"	21	Ki	eP
		PP	Z	0.4 6				17 20 34	
		Mx	E	2.7 22				17 20 37.0	
		Mx	N	1.9 18				17 20 09.3	
		Mx	Z	3.5 21				17 19 38.5	
		Um	iPP	06 11 12				Eastern Mediterranean Sea.	
			iPS	06 20 28		"	21	Up	
			iSS	06 26 32				---	
			New Ireland (h = 5 km).					micr	sec
			m = 6.4, M = 6.0 (Up,Ki).					Mx	E
								0.7	18
"	21	Ki	iPP	06 28 25				Mx	N
				micr sec				1.6	20
			PP	Z 0.5 5				Mx	Z
		Sk	ePP	06 29 02				1.7	21
		Gb	iPP	06 29 33.0		Ki	iPKP2	17 48 28.0	
			New Ireland (h = 30 km).				eSS	18 11 58	
								micr sec	
"	21	Ud	iPKP	06 51 55.6				Mx	E
			Tonga Islands					1.6	21
			(h = 50 km).					Mx	N
								1.3	20
"	21	Up	iP	13 01 47.8				Mx	Z
		Ki	iP	13 01 22.6				2.3	19
		Ud	iP	13 01 56.8		Sk	iPKP2	17 48 51	
			Ryukyu Islands			Gb	iPKP2	17 48 54.9	
			(h = 130 km).			Um	iPKP2	17 48 21.5	
							i	17 48 35.0	
"	21	Up	iP	13 32 16.5 C			iSS	18 11 58	
				micr sec			Ud	ePKP2	17 48 43
			PKP	Z' 0.1 0.5			South of Australia		
		Ki	ePKP	13 31 59			(h = 30 km).		
		Sk	iPKP	13 32 11.4			M = 5.9 (Up,Ki).		
		Gb	iPKP	13 32 24.9		"	21	Up	iP
		Um	iPKP	13 32 06.4 C				18 39 31.8	
		Ud	iPKP	13 32 19.1 C				Ki	iP
			South of Kermadec Islands					18 39 00.4 D	
			(h = 30 km).					18 39 28.9	
"	21	Ud	iP	13 43 15.2				18 39 13.9 D	
			Greece.					18 39 38.9	
								Bonin Islands	
"	21	Up	eP	17 07 38				(h = 460 km).	
			i	17 07 39.6					
		Sk	iP	17 08 17.2		"	21	Up	iP
			(cont.)					21 12 06.9 D	
								i	21 12 36.4
								ipP	21 14 06.1
									micr sec
								P	Z' 0.1 0.5
								Ki	iP
								21 11 19.9	
								ipP	21 13 14.7
									micr sec
								pP	Z' 0.3 1.6
								(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
July 21 (cont.)				July 22 (cont.)			
	Sk	iP	21 11 55.5		Sk	iP	07 05 00.5
		ipP	21 13 53.5		Ud	iP	07 05 23.9
	Gb	iP	21 12 28.1		Kodiak Island (h = 30 km).		
	Um	iP	21 11 41.4		"	22	Sk iP 07 53 48.8
		ipP	21 13 38.1				Ud iP 07 53 17.4
	Ka	iP	21 12 29.3		Greece.		
	Ud	iP	21 12 12.3		"	22	Up iP 09 08 19.5
		ipP	21 14 11.5				eS 09 11 28
	Sea of Okhotsk. h = 620 km (Up,Ki,Sk,Um,Ud).						Ki eP 09 09 25
"	22	Up	iP 00 24 54.6				Sk iLg1 09 15 47.4
		Ki	iP 00 24 12.2				Um iP 09 08 52.1
		Sk	iP 00 24 47.8				iSS 09 13 05.2
		Gb	iP 00 25 16.5				i 09 13 39.7
		Um	iP 00 24 29.6				iLg1 09 15 01.3
			iS 00 33 06			Ud	eP 09 08 38
		Ka	iP 00 25 16.4				i 09 08 43.3
		Ud	iP 00 25 01.3				eS 09 12 06
	Japan (h = 30 km).						iSS 09 12 49.3
"	22	Ud	eP 03 22 54				iLg1 09 14 31.3
			i 03 28 51.5				Crimea (h = 30 km).
"	22	Up	---	"	22	Ud	iP 12 51 20.0
			micr sec	"	22	Up	iSg 14 26 54.3
		Mx	E 0.8 21			Ki	iSg 14 29 23.0
		Mx	N 1.0 20			Um	iSg 14 27 24.8
		Mx	Z 1.4 21			Ud	eSg 14 27 53
		Ki	iPKP 05 28 12.2			Esthonia. Explosion?	
			i 05 28 22.6		"	22	Um iPKP 17 50 40.2
			micr sec				Ud iPKP 17 50 53.1
		Mx	E 1.6 21	"	22	Up	iPKP 18 17 48.3
		Mx	N 1.7 20				ipPKP 18 17 57.6
		Mx	Z 1.9 20				iPKS 18 21 21
		Um	iPP 05 29 07				iPKS 18 21 32.3
			iPS 05 38 51				micr sec
		Ud	iPP 05 28 55.3				pPKP Z' 0.2 1.5
	Bouvet Island (h = 30 km). M = 5.7 (Up,Ki).						Mx E 1.0 21
"	22	Ki	i(P) 05 33 13.6				Mx N 1.1 22
"	22	Um	iP 06 29 36.3				Mx Z 1.7 21
"	22	Ud	iP 06 39 23.8			Ki	iPKP 18 17 33.2
"	22	Um	iPKP 06 42 03.9 C				ipPKP 18 17 42.9
		Ud	iPKP 06 42 16.3				micr sec
	(Tonga Islands).						PKP Z' 0.2 1.5
"	22	Ki	iP 07 04 32.8 C				pPKP Z' 0.3 1.2
	(cont.)						Mx E 1.4 22
							Mx N 1.2 22
							Mx Z 2.4 22
						Sk	iPKP 18 17 44.2
						(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968								
July 22 (cont.)				July 23								
Sk	ipPKP	18 17	54.3	Ki	i(Sn)	10 01	24.3					
	iPKS	18 21	29.1		i(Lg1)	10 01	43.3					
Gb	ePKP	18 17	55	"	23	Up	iS ^x					
	ipPKP	18 18	03.6				iSg					
Um	e(PKP)	18 17	39			Ki	eSg					
	iPKP	18 17	40.7				i					
	ipPKP	18 17	50.4			Sk	iSg					
	iPP	18 19	55			Gb	eSg					
	iPKS	18 21	20.9			Um	iSg					
Ka	iPKP	18 17	56.1				i					
	ipPKP	18 18	05.5			Ud	iSn					
Ud	iPKP	18 17	49.4				iSg					
	ipPKP	18 17	58.8				Esthonia. Explosion?					
	iPP	18 20	41.8	"	23	Ki	iSg					
	iPKS	18 21	36.8			Sk	iSg					
	New Hebrides Islands.					Um	iSg					
	h = 35 km (Up, Ki, Sk, Gb, Um, Ka, Ud).						11 48 16.8					
	M = 5.6 (Up, Ki).						11 48 21.5					
							11 48 45.9					
							Nordlands Fylke, Norway.					
"	22	Up	iP	18 59	54.4	"	23	Ki	eP	12 16	15	
		Ud	iP	18 59	56.7				ipP	12 16	22.8	
								Ud	iP	12 17	03.3	
"	22	Up	iP	20 36	09.9				ipP	12 17	12.2	
		Ud	iP	20 36	23.8				Japan. h = 30 km (Ki, Ud).			
"	22	Up	iP	22 44	54.6	"	23	Up	iP	18 20	35.1	
		Ki	iP	22 44	21.0				ipP	18 20	43.7	
		Sk	iP	22 44	51.0						micr sec	
			iPP	22 47	51.7				P	Z'	0.1 1.0	
		Um	iP	22 44	35.1			Ki	iP	18 19	53.3	
			ipP	22 46	15.7				ipP	18 20	01.1	
		Ud	iP	22 45	01.3						micr sec	
			ipP	22 46	44.3				Mx	E	1.2 21	
			South of Japan.							Mx	N	0.8 19
			h = 460 km (Um, Ud).							Mx	Z	1.1 15
"	22	Ki	iSg	23 20	22.5			Sk	eP	18 20	27	
		Sk	iSg	23 20	30.0				epP	18 20	35	
		Um	iSg	23 20	57.6			Gb	iP	18 20	55.9	
			Nordlands Fylke, Norway,					Um	iP	18 20	11.7	
			66.7° N, 14.0° E.						ipP	18 20	20.0	
			Origin time = 23 18 50.						iS	18 29	05	
"	22	Sk	iP	23 22	24.4			Ud	iP	18 20	41.7	
									ipP	18 20	50.7	
"	23	Um	iP	05 33	55.2				Japan. h = 30 km (Up, Ki, Sk, Um, Ud).			
			i	05 34	16.1			"	23	Up	iP	
"	23	Ud	eP	06 31	39						iSKS	
											18 40 57.5	
"	23	Um	iP	06 41	28.8						18 51 30	
			i	06 41	48.2						micr sec	
									Mx	E	1.4 19	
									Mx	N	1.0 17	
									Mx	Z	1.4 18	
								Ki	eP	18 40	40	
									(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968		(cont.)				1968		(cont.)	
July 23						July 23			
	Ki	i	18 40 54.0				Ki		micr sec
		iSKS	18 51 10				Mx	E	8.2 21
			micr sec				Mx	N	5.0 20
		SKS	E 0.8 10				Mx	Z	7.8 22
		SKS	N 0.6 8				D = 7150 km = 64 1/2°.		
		Mx	E 3.0 19			Sk	iP	23 13 43.8	
		Mx	N 1.7 20			Gb	iP	23 14 12.5 C	
		Mx	Z 3.2 16			Um	iP	23 13 28.1 C	
	Sk	iP	18 40 39.6				ipP	23 13 35.7	
	Um	iP	18 40 51.0 C				iPP	23 15 52	
	Mexico (h = 30 km).						iS	23 22 20	
	M = 5.7 (Up,Ki).					Ka	iP	23 14 11.7	
"	23	Up	eP 21 01 39			Ud	iP	23 13 58.4 C	
		Ki	eP 21 01 28			Japan. h = 30 km (Up,Um).			
		Sk	iP 21 01 53.8			m = 6.1, M = 6.0 (Up,Ki).			
		Um	eP 21 01 29	"	24	Um	e(Sg)	01 58 51	
		Ud	iP 21 01 53.6	"	24	Up	eP	02 27 22	
	Tibet (h = 30 km).						i	02 27 38.8	
"	23	Ki	iP 23 10 44.0	"	24	Up		----	
		Um	iP 23 11 02.4 C					micr sec	
		Ud	iP 23 11 32.7			Mx	E	0.8 18	
	Japan (h = 30 km).					Mx	N	1.0 19	
"	23	Up	iP 23 13 51.5 C			Mx	Z	1.1 18	
		ipP	23 14 00.6			Ki	eS	04 29 49	
		iPP	23 16 25					micr sec	
		iS	23 23 02			S	N	0.3 8	
			micr sec			Mx	E	2.4 19	
		P	N 0.3 4			Mx	N	2.0 20	
		P	Z 0.3 4			Mx	Z	4.6 19	
		P	Z' 0.2 1.3			Sk	eP	04 19 18	
		PP	N 0.3 4			Um	iP	04 19 30.9	
		PP	Z 0.4 4				eSKS	04 30 00	
		S	E 0.6 8				iS	04 30 22	
		Mx	E 3.6 21				iSS	04 36 00	
		Mx	N 4.7 21			Mexico (h = 50 km).			
		Mx	Z 4.3 22			M = 5.5 (Up,Ki).			
		D = 7900 km = 71°.		"	24	Um	iP	08 33 56.6	
	Ki	iP	23 13 09.6 C				i	08 34 01.5	
		iPP	23 15 28.2			Haiti (h = 25 km).			
		iS	23 21 44	"	24	Up	iPKP	09 09 29.0	
			micr sec					micr sec	
		P	E 0.3 7				PKP	Z' 0.1 0.6	
		P	N 0.3 8			Um	iSKP	09 12 13.1	
		P	Z 0.8 6			Ka	iPKP	09 09 40.5	
		P	Z' 0.2 1.7			Ud	iPKP	09 09 30.9	
		PP	E 0.3 7			Tonga-Kermadec Islands			
		PP	N 0.3 7			(h = 570 km).			
		PP	Z 1.3 4						
		S	E 1.1 9						
		S	N 0.8 9						
	(cont.)								

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
July 24	Up	iP	09 34 54.1	July 24	(cont.)		
	Ki	iP	09 34 52.0		Um	iP	16 36 30.9
	Ud	iP	09 35 02.7			ipP	16 36 44.7
	Sunda Strait (h = 140 km).				Ud	iP	16 37 01.2
					Japan. h = 50 km (Um).		
" 24	Up	iS ^X	11 10 24.8	" 24	Ki	iPKP	20 39 49.4
		iSg	11 10 39.2		Sk	ePKP	20 40 00
	Ki	iSg	11 13 13.2		Um	iPKP	20 39 57.0
	Sk	i	11 12 05.3			i	20 40 07.9
		iSg	11 12 32.2			ipPKP	20 40 16.8
	Gb	iSg	11 12 18.6		Ud	ePKP	20 40 03
	Um	iSg	11 11 11.5		Tonga Islands.		
	Ka	iSg	11 11 52.0		h = 70 km (Um).		
	Ud	i	11 11 13.5	" 24	Up	iP	21 01 04.5
		iSg	11 11 41.6		Ki	iP	21 02 22.7
	Esthonia. Explosion?				Sk	eP	21 01 49
" 24	Ki ^R	iPn	12 47 28.9		Um	eP	21 01 46
		i	12 48 07.5			eLg2	21 10 43
		iSn	12 48 17.4		Ka	iP	21 00 30.8
		iLg1	12 48 30.6		Ud	iP	21 01 16.0
		D = 460 km = 4.1°			Greece (h = 70 km).		
	Sk ^A	iSg	12 51 21.1	" 25	Um	i(Sg)	02 25 36.5
	Um ^E	iSg	12 50 02.5	" 25	Up	iP	03 44 04.2
		i	12 50 11.0		Ki	eP	03 43 53
	Northwest Russia, 69.0° N, 31.1° E. Origin time = 12 46 23. Explosion?				Sk	iP	03 44 18.8
" 24	Ki	iPn	13 07 09.3		Um	eP	03 43 53
		iSn	13 07 46.2		Ud	iP	03 44 17.3
		iSg	13 08 02.5		Tibet (h = 30 km).		
" 24	Ud	i(P)	13 37 55.7	" 25	Up	iP	04 20 55.7
" 24	Ka	iP	13 45 00.0		Sk	iP	04 21 38.3
" 24	Um	iP	14 16 00.9		Ud	iP	04 21 02.9
" 24	Up	iP	14 46 44.9		Greece.		
		i	14 46 45.9	" 25	Um	i(PKP)	07 00 36.0
		i	14 46 56.2			iPKP	07 00 49.1
	Ki	iP	14 45 52.4		Tonga Islands (h = 30 km).		
	Um	iP	14 46 18.2	" 25	Um	iPKP	07 13 50.5
	Ud	iP	14 46 46.1		Kermadec Islands (h = 30 km).		
	Aleutian Islands (h = 20 km).			" 25	Up	i(PKP)	07 42 43.9 C
" 24	Ki	iP	16 10 44.8			i	07 42 45.0
" 24	Ki	iP	16 36 12.9			iPKP	07 42 49.3
	(cont.)					iPKS	07 46 16
						iSKSP	07 56 29
							micr sec
					PKP	E	4.5 15
					(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968 July 25 (cont.)				1968 July 25 (cont.)			
Up				Gb	iPKP	08 07	36.2
	PKP	N	11 16	Um	iPKP	08 07	16.5 C
	PKP	Z	43 18	Ka	iPKP	08 07	37.5 C
	PKP	Z'	2.0 0.7	Ud	iPKP	08 07	30.1 C
	PKS	N	2.5 8	Kermadec Islands (h = 40 km).			
	PKS	Z	7.0 9	"	25	Ki	iP
	Mx	E	28 22				08 18 41.5
	Mx	N	60 23	"	25	Up	iPKP
	Mx	Z	58 23				09 13 06.4
Ki	i(PKP)		07 42 25.0 C			Sk	iPKP
	iPKP		07 42 31.8				09 13 00.1 C
	iPP		07 45 25			Gb	iPKP
	iPKS		07 46 07				09 13 13.6
	iSKSP		07 55 31			Um	iPKP
							09 12 54.9 C
						i	09 13 08.2
						Ka	iPKP
							09 13 15.9
						Ud	iPKP
							09 13 07.7 C
						Kermadec Islands (h = 30 km).	
				"	25	Sk	iPKP
							09 48 40.7
						Um	iPKP
							09 48 34.5 C
						Kermadec Islands (h = 30 km).	
				"	25	Sk	iP
							09 49 35.8
						North Atlantic Ocean (h = 30 km).	
Sk	i(PKP)		07 42 40.3 C	"	25	Ki	iPn
	iPKP		07 42 43.0				10 33 19.0
Gb	i(PKP)		07 42 50.0				iP ^x
	iPKP		07 42 56.9				10 33 27.0
Um	iP		07 40 02				iSn
	iPKP		07 42 36.1 C				10 34 04.3
	iPP		07 45 48				iLg1
	iPKS		07 46 10				10 34 17.7
	iSKSP		07 55 52				D = 410 km = 3.7°
Ka	i(PKP)		07 42 50.0 C			Sk ^A	eSg
	iPKP		07 42 58.7				10 37 04
Ud	i(PKP)		07 42 45.2 C			Um ^F	iSg
	iPKP		07 42 51.6				10 35 46.3
	Kermadec Islands (h = 60 km). m = 6.8, M = 7.4 (Up, Ki). (PKP) are precursors of smaller amplitude and longer period than PKP.					Northwest Russia, 68.8°N, 30.0°E. Origin time = 10 32 20. Explosion?	
"	25	Up	iPKP	"	25	Up	iP
			08 07 28.4 C				11 01 22.5 C
			i				ipP
			08 07 32.0				11 01 31.9
							iPP
							11 03 55
							iPa
							11 05 32
							iS
							11 10 12
							micr sec
						P	Z'
							0.1 0.6
						pP	Z'
							0.2 0.8
						PP	Z
							0.3 3
						S	E
							0.2 5
						Mx	E
							2.1 16
						Mx	N
							2.9 16
						Mx	Z
							2.3 18
						D = 7450 km = 67°.	
						(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

July 25

(cont.)

Ki	iP	11 00 36.5	C
	ipP	11 00 45.7	
	iPP	11 02 58	
	iS	11 08 47	
		micr sec	
	P	N 0.3	6
	P	Z 0.6	7
	P	Z' 0.2	1.5
	pP	Z' 0.3	1.2
	PP	E 0.3	6
	S	E 0.4	7
	Mx	E 5.3	16
	Mx	N 2.8	17
	Mx	Z 4.1	16
		D = 6650 km = 60°	
Sk	iP	11 01 12.0	C
	ipP	11 01 21.4	
Gb	iP	11 01 43.9	
	ipP	11 01 53.2	
Um	iP	11 00 57.1	C
	ipP	11 01 06.4	
Ka	iP	11 01 44.6	
	ipP	11 01 53.9	
	iPP	11 04 19.2	
		Kurile Islands. h = 35 km	
		(Up, Ki, Sk, Gb, Um, Ka).	
		m = 5.9, M = 5.8 (Up, Ki).	

" 25

Um	eP	11 24 33	
	i	11 24 39.2	

" 25

Up	iPKP	11 51 31.6	
	i	11 51 36.7	
Sk	iPKP	11 51 25.5	
Um	iPKP	11 51 20.1	
Ud	iPKP	11 51 33.3	C

Kermadec Islands
(h = 30 km).

" 25

Up	iP	12 02 16.6	
Sk	eP	12 02 00	
Um	iP	12 01 59.7	C
	i	12 02 09.8	
Ud	i(P)	12 02 19.7	

" 25

Um	iP	12 56 19.2	
----	----	------------	--

" 25

Um	iP	13 25 19.2	
----	----	------------	--

" 25

Um	iP	16 57 13.5	
	i	16 57 24.9	

" 25

Up	iPKP	19 12 01.3	
	(cont.)		

1968

July 25

(cont.)

Up	i	19 12 08.5	
Sk	iPKP	19 11 57.2	
Gb	iPKP	19 12 11.3	
Um	iPKP	19 11 51.7	
Ka	iPKP	19 12 12.3	
		Kermadec Islands	
		(h = 30 km).	

"

25	Ki	iPn	20 30 05.4	
		ip ^x	20 30 13.6	
		iSn	20 30 51.8	
		iLg1	20 31 04.5	
		D = 420 km = 3.8°		
	Sk	eSg	20 33 56	
	Um	iSg	20 32 40.0	

Northwest Russia,

69.1° N, 30.2° E.

Origin time = 20 29 06.

Explosion?

"

25	Up	iP	22 09 50.4	
			micr sec	

	Mx	N	0.4	9
--	----	---	-----	---

	Mx	Z	0.6	9
--	----	---	-----	---

Ki	eP	22 11 06	
----	----	----------	--

		micr sec	
--	--	----------	--

	Mx	E	0.7	12
--	----	---	-----	----

	Mx	N	0.3	10
--	----	---	-----	----

	Mx	Z	0.5	9
--	----	---	-----	---

Sk	iP	22 10 33.9	
----	----	------------	--

Gb	eP	22 09 36	
----	----	----------	--

Um	iP	22 10 30.5	
----	----	------------	--

	i	22 10 35.1	
--	---	------------	--

	iS	22 14 44	
--	----	----------	--

Ka	iP	22 09 10.2	
----	----	------------	--

Ud	iP	22 09 57.2	
----	----	------------	--

Greece-Albania (h = 20 km).

M = 4.3 (Up, Ki).

" 25

Um	iP	23 47 44.0	C
----	----	------------	---

" 26

Um	iP	00 41 29.6	
----	----	------------	--

	i	00 41 36.6	
--	---	------------	--

" 26

Um	iP	01 14 51.7	
----	----	------------	--

	i	01 14 59.2	
--	---	------------	--

" 26

Up	iP	06 46 48	
----	----	----------	--

	iSKS	06 57 14	
--	------	----------	--

		micr sec	
--	--	----------	--

	P	Z	0.7	7
--	---	---	-----	---

	SKS	E	1.0	11
--	-----	---	-----	----

	SKS	N	0.7	11
--	-----	---	-----	----

	Mx	E	1.1	20
--	----	---	-----	----

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
July 26 (cont.)					July 26 (cont.)				
	Up		micr	sec	Sk	iP	17	20	13.9
	Mx	N	1.1	21	Gb	iP	17	19	45.3
	Mx	Z	1.9	20	Um	iP	17	20	22.0 C
	Ki	iP	06	46 38 C		i	17	20	28.3
	eSKS		06	57 02		iS	17	31	10
			micr	sec		eSS	17	37	09
	P	E	0.4	6	Ka	iP	17	19	41.9
	P	N	0.2	7		i	17	19	48.8
	P	Z	1.0	7	Ud	iP	17	19	58.0 C
	P	Z'	0.4	2.5	South Atlantic Ocean				
	SKS	E	1.8	9	(h = 30 km).				
	SKS	N	0.7	8	"	26	Ki ^R	iSg	18 32 30.7
	Mx	E	2.9	21			Sk ^A	iSg	18 32 35.4
	Mx	N	1.7	20			Um ^E	iSg	18 32 58.0
	Mx	Z	4.2	21	Nordlands Fylke, Norway, 66.4°N, 14.8°E.				
	Sk	iP	06	46 30.2	Origin time = 18 31 02.				
	Um	iP	06	46 46.1 C	Explosion?				
		iPP	06	50 04	"	26	Ki	iP	18 42 12.7
		iSKS	06	57 14			Sk	iP	18 41 56.8
	Ka	iP	06	46 45.0	Colombia (h = 160 km).				
		i	06	46 50.6	"	26	Ka	iPg	18 52 07.2
	Ud	iP	06	46 39.5				iSg	18 52 33.3
	Mexico (h = 15 km).						Ud	eSg	18 54 43
	m = 6.2, M = 5.6 (Up,Ki).				There are a number of similar events in the daytime of July 26, probably explosions in the South Baltic region.				
"	26	Up	iS ^X	12 08 17.3	"	26	Up	iP	20 56 09.0
			iSg	12 08 29.5				iPP	20 57 54.4
		Ki	eSg	12 10 56			Ki	iP	20 56 22.0
		Sk	e	12 09 47					micr sec
			eSg	12 10 20			Mx	E	0.4 13
		Gb	iSg	12 10 08.6			Mx	N	0.3 13
		Um	iSg	12 09 00.2			Mx	Z	0.5 15
	Esthonia. Explosion?						Sk	iP	20 56 35.9
"	26	Ki	iP	12 53 47.2			Gb	iP	20 56 28.0
		Sk	iP	12 54 12.6			Um	iP	20 56 09.3
		Um	iP	12 53 48.0			Ud	iP	20 56 25.1
	India-China (h = 30 km).							iPP	20 58 17.1
"	26	Ki	iP	14 13 31.2			West Pakistan		
		Um	iP	14 13 24.7			(h = 35 km).		
		Ud	iP	14 13 16.6 D			Up	i(PKP)	22 05 50.5
	Peru-Brazil (h = 150 km).				"	26		iPKP	22 05 55.9
"	26	Up	iP	17 20 00.8			Ki	iPKP	22 05 37.5
		i		17 20 20.1			Sk	i(PKP)	22 05 44.1
		Ki	iP	17 20 38.4				iPKP	22 05 51.3
		eSKS		17 31 11			(cont.)		
			micr	sec					
		P	Z'	0.1 1.7					
		Mx	E	0.5 18					
		Mx	N	0.5 16					
		Mx	Z	0.7 17					
	(cont.)								

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
July 26 (cont.)				July 27 (cont.)			
Gb	iPKP	22 06 05.8		Ka	iP	02 50 42.7	
	i	22 06 11.9			i	02 50 46.3	
Um	i(PKP)	22 05 39.4 C			iS	02 54 50.3	
	iPKP	22 05 46.1		Ud	iP	02 51 22.1	
Ka	iPKP	22 06 06.4			i	02 51 26.6	
Ud	i(PKP)	22 05 52.3 C		Dodecanese Islands			
	iPKP	22 06 00.6		(h = 20 km).			
	i	22 06 05.1		m = 5.6, M = 5.8 (Up,Ki).			
Kermadec Islands				Double P (Up,Ki,Ka,Ud).			
(h = 10 km).							
"	26	Sk	ePKP 22 12 00	"	27	Ud	iP 04 32 07.6
		Um	iPKP 22 11 54.3	Kurile Islands			
		i	22 12 00.1	(h = 50 km).			
		Ud	iPKP 22 12 07.1	"	27	Up	iP 07 38 14.6
		i	22 12 13.4			Ud	iP 07 38 23.4
"	26	Up	iP 23 34 25.4	Ryukyu Islands			
		Um	iP 23 34 06.1	(h = 230 km).			
		Ud	eP 23 34 19	"	27	Ki	iP 08 10 41.4
		i	23 34 26.6				
"	27	Up	eP 02 51 14 C	"	27	Ki	iP 08 33 26.7
		i	02 51 16.1			Um	iP 08 33 44.7
		iS	02 55 34			Ud	iP 08 34 14.6
			micr sec	Japan (h = 35 km).			
		P	N 0.3 4	"	27	Ki	e(Sn) 10 35 07
		P	Z 0.4 4				i(Lg1) 10 35 24.7
		P	Z' 0.1 0.6	"	27	Up	ePKP 11 10 50
		S	E 0.8 6			Ki	iPKP 11 10 38.1
		S	N 0.8 4			Gb	iPKP 11 10 51.9
		Mx	E 17 15			Um	iPKP 11 10 45.2
		Mx	N 18 15	Fiji Islands (h = 90 km).			
		Mx	Z 19 15	"	27	Up	iP 11 36 01.9 C
			D = 2850 km = 25 1/2°.	"	27	Ki	e(Sn) 12 23 10
Ki	iP	02 52 19.7					i(Lg1) 12 23 29.9
	i	02 52 22.1		"	27	Up	iP 17 52 37.5
	iS	02 57 31				Ki	iP 17 51 44.1
		micr sec				i	17 51 45.4
		P	Z' 0.1 0.8			Sk	iP 17 52 15.2
		S	E 1.0 11				iPcP 17 52 49.0
		S	N 0.5 9	Gb	iP	17 52 51.4	
		S	Z 0.5 6	Um	iP	17 52 10.4	
		Mx	E 8.9 15		i	17 52 11.7	
		Mx	N 6.3 11		iPcP	17 52 47.3	
		Mx	Z 7.2 10	Ka	iP	17 53 01.0	
			D = 3600 km = 32 1/2°.	Ud	iP	17 52 36.6	
Sk	iP	02 51 54.0		Aleutian Islands			
Gb	iP	02 51 09.2		(h = 60 km).			
Um	iP	02 51 46.8					
	iPP	02 52 38.0					
	iS	02 56 33					
	(cont.)						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
July 27	Up	iP	19 48 36.0		July 28	Ki	ePKS	11 21 20	
		i	19 48 48.2					micr sec	
		i	19 48 58.8				PKS	N 0.3	7
"	27	Up	iPKP	21 42 12.2 C			Mx	E 0.6	20
		Sk	iPKP	21 42 05.7 C			Mx	N 0.6	21
		Gb	iPKP	21 42 20.3 C			Mx	Z 1.3	20
		Um	iPKP	21 42 00.4 C		Gb	iPKP	11 17 57.8	
		Ka	iPKP	21 42 21.2 C			ipPKP	11 18 08.5	
		Ud	iPKP	21 42 14.0 C		Um	iPKS	11 21 28	
		Kermadec Islands.				Ka	iPKP	11 18 00.7	
		Origin time = 21 22 26.					ipPKP	11 18 12.3	
"	28	Up	iPKP	00 00 18.8		Tonga Islands. h = 40 km (Gb, Ka).			
		Sk	iPKP	00 00 12.3	"	28	Ki ^R	iPn	11 25 10.4
		Gb	iPKP	00 00 28.2			iP^X	11 25 18.3	
		Um	iPKP	00 00 07.2			iSn	11 25 52.5	
			i	00 00 17.8			iSg	11 26 10.4	
		Ka	iPKP	00 00 28.3			D = 380 km = 3.4°		
		Ud	iPKP	00 00 20.9 C			Sk ^A	iSg	11 28 35.3
		Kermadec Islands (h = 25 km).					Um ^E	iSn	11 26 37.2
"	28	Ud	iP	02 04 29.0			iSg	11 27 07.2	
"	28	Up	iP	03 35 30.5			Northwest Russia, 67.5°N, 29.3°E.		
			i	03 35 39.1			Origin time = 11 24 16.		
		Ki	iP	03 34 37.2			Explosion?		
		Sk	iP	03 35 06.4	"	28	Up	iP	14 14 43.2
		Um	iP	03 35 03.5				ipP	14 14 59.1
		Ud	iP	03 35 29.3			Ki	eP	14 14 02
		Aleutian Islands (h = 30 km).					Sk	iP	14 14 36.9
"	28	Up ^P	iSg	05 36 02.8				ipP	14 14 51.3
		Ki ^R	iSn	05 32 45.8			Um	iP	14 14 20.4
			eSg	05 33 10			Ud	iP	14 14 51.1
		Sk ^A	eSg	05 35 37			Japan. h = 60 km (Up, Sk).		
		Um ^E	iSn	05 33 25.5	"	28	Up	iP	21 22 58.9
			iSg	05 33 58.9				i	21 23 16.8
		Northwest Russia, 67.4°N, 31.3°E.						iS	21 31 21
		Origin time = 05 30 50.						micr sec	
		Explosion?					P	N 0.3	4
"	28	Ki	eP	07 27 30			P	Z 0.5	4
		Um	iP	07 27 48.8			P	Z' 0.3	1.5
		Ud	iP	07 28 17.7			S	E 0.5	9
		Japan (h = 40 km).					S	N 1.1	8
"	28	Um	eP	10 22 46			Mx	E 2.9	19
							Mx	N 3.1	19
							Mx	Z 3.7	19
							D = 6950 km = 62 1/2°.		
						Ki	iP	21 22 03.4	
							eS	21 29 41	
							micr sec		
						P	E 0.4	5	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
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1968 July 28 (cont.)				1968 July 29 (cont.)			
	Ki		micr sec		Um	iP	06 35 16.0 C
	P	N	0.7 6		Ka	iP	06 36 05.8
	P	Z	1.2 6		Ud	iP	06 35 41.8
	P	Z'	0.2 1.6		Aleutian Islands		
	S	N	1.6 8		(h = 25 km).		
	Mx	E	3.4 18				
	Mx	N	4.0 21	"	29	Ki	iP 07 46 28.9
	Mx	Z	7.8 21			Sk	iP 07 46 58.5
	D = 6050 km = 54 1/2°.					Gb	iP 07 47 36.8
	Sk	iP	21 22 41.6			Um	iP 07 46 55.5
	Gb	eP	21 23 20			Ud	iP 07 47 21.6
	Um	eP	21 22 31			Aleutian Islands	
		iPa	21 26 03			(h = 30 km).	
		iX	21 30 22				
		iS	21 30 27	"	29	Up	eP 10 06 49
		iScS	21 32 19			Ki	iP 10 06 38.5
	Ka	iP	21 23 24.3 C				i 10 07 17.7
	Ud	iP	21 23 02.5			Sk	iP 10 06 32.5
	Komandorsky Islands					Gb	eP 10 06 42
	(h = 25 km).						ipP 10 06 50.6
	m = 6.1, M = 5.7 (Up,Ki).					Um	iP 10 06 46.0
	The phase X (Um) could						iS 10 17 19
	be due to an S-P conversion						iScS 10 17 32
	at the base of the crust					Ud	iP 10 06 42.1
	(cf Båth and Stefánsson,						ipP 10 06 50.9
	Ann. di Geofisica, 19,					Mexico. h = 30 km (Gb,Ud).	
	119-130).						
"	28	Up	iP 21 33 34.4	"	29	Up	ePKP 11 31 26
			micr sec				iPP 11 34 27
		P	Z' 0.1 1.5				iPKS 11 35 04
	Ki	iP	21 32 33.4				micr sec
		i	21 32 40.0			PP	Z 0.5 7
	Gb	iP	21 33 53.4			PKS	N 0.3 5
	Um	iP	21 33 05.5			Mx	E 0.8 17
	Ka	iP	21 34 00.1			Mx	N 2.4 20
		i	21 34 11.2			Mx	Z 2.7 21
	Ud	iP	21 33 36.6		Ki	ePP	11 33 36
	Komandorsky Islands					iPKS	11 34 40
	(h = 20 km).					micr sec	
"	29	Up	eP 02 41 57			PP	Z 0.5 8
		Um	eP 02 41 44			PKS	E 0.5 6
		Ud	eP 02 42 02			PKS	N 0.7 10
"	29	Up	iP 03 36 20.7			PKS	Z 1.3 9
		Ud	iP 03 36 11.1			Mx	E 2.2 20
						Mx	N 2.3 20
						Mx	Z 6.3 20
"	29	Up	iP 06 35 42.5		Gb	iPKP	11 31 30.8
		Ki	iP 06 34 49.0		Um	iPKP	11 31 22.2
		Sk	iP 06 35 19.7			iPP	11 34 03
		Gb	iP 06 35 57.0			i	11 34 23
		(cont.)				iPKS	11 34 52
						iSKSP	11 44 15
						(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968				
July 29 (cont.)				July 29				
	Ka	iPKP	11 31 33.5 C		Ka	iPKP	15 39 30.7	
	Ud	iPKP	11 31 24.2			i	15 39 49.4	
	Tonga Islands (h = 30 km). m = 5.9, M = 6.0 (Up,Ki).				Ud	iPKP	15 39 20.2	
					Tonga Islands (h = 30 km).			
"	29	Sk	iP 11 47 16.8	"	29	Up	iP 16 10 17.5	
	Mexico (h = 30 km).					Ki	eP 16 10 49	
							e(Pn) 16 12 00	
							micr sec	
"	29	Up	eSg 12 33 18			Mx	E 0.3 11	
		Um	iSg 12 33 50.5			Mx	N 0.3 10	
		Ud	iSg 12 34 22.2			Mx	Z 0.5 11	
	Esthonia. Explosion?					Sk	iP 16 10 55.1	
						Um	iP 16 10 23.7	
"	29	Gb	iPKP 12 39 18.0			Ud	iP 16 10 33.1	
		Um	iPKP 12 39 09.1 C			Iran (h = 15 km).		
		Ka	iPKP 12 39 20.1					
			i 12 39 23.3		"	29	Sk	iP 16 14 08.3
		Ud	iPKP 12 39 09.9			Ud	iP 16 14 17.7 C	
	Tonga Islands (h = 30 km).					Mexico (h = 30 km).		
"	29	Ud	iP 13 29 05.3	"	29	Up	iP 16 51 04.2	
	Komandorsky Islands (h = 30 km).					Ki	iP 16 50 33.6	
						Um	iP 16 50 46.1	
"	29	Up	---			Ud	iP 16 51 11.6	
			micr sec			Bonin Islands (h = 460 km).		
		Mx	E 1.0 20	"	29	Up	iP 17 26 18.7	
		Mx	N 1.3 21	"	29	Up	iP 21 51 39.7	
		Mx	Z 1.9 20			Ud	iP 21 51 40.5	
	Ki		---			Aleutian Islands (h = 40 km).		
			micr sec	"	29	Up	iP 00 06 13.1 C	
		Mx	E 0.9 18				ipP 00 06 23.3	
		Mx	N 1.7 18				iPP 00 10 28	
		Mx	Z 3.8 24				micr sec	
	Um	e	14 04 07			P	Z 0.3 3	
		eSS	14 04 52			P	Z' 0.3 1.0	
	New Ireland (h = 30 km). M = 5.7 (Up,Ki).					PP	E 1.1 12	
						PP	N 1.0 13	
"	29	Up	iPKP 15 33 08.5			PP	Z 1.7 11	
			i 15 33 13.7			Mx	E 4.6 20	
			micr sec			Mx	N 11 20	
		PKP	Z' 0.1 0.5			Mx	Z 9.4 22	
	Gb	iPKP	15 33 18.6 D		Ki	iP	00 05 54.1 C	
			i 15 33 23.8			i	00 06 40.5	
	Ka	iPKP	15 33 20.6			eX	00 09 15	
			i 15 33 22.8			iPP	00 09 58	
	Ud	iPKP	15 33 10.1			iPS	00 18 47	
			i 15 33 15.2			(cont.)		
	Tonga-Kermadec Islands (h = 210 km).							

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
July 30 (cont.)					July 30 (cont.)				
	Ki		micr	sec	Ud	iP	02 28	33.6	
	P	Z	0.6	4		iS	02 31	12.5	
	P	Z'	0.3	1.2		Iceland (h = 1 km).			
	PP	E	1.7	13	"	30	Up	iPKP	03 08 51.3
	PP	Z	3.4	11				iSKP	03 11 38.5
	Mx	E	7.7	18			Ki	iSKP	03 11 15.0
	Mx	N	5.5	19					micr sec
	Mx	Z	9.1	19				SKP	Z' 0.3 1.5
	Sk	iP	00 06	15.8 C			Sk	iSKP	03 11 32.1
		ipP	00 06	25.6			Gb	iPKP	03 09 01.5
		iPP	00 10	35.7			Um	iPKP	03 08 39.5
	Gb	iP	00 06	29.3				i	03 08 50.6
		ipP	00 06	39.3				iSKP	03 11 27.1
		iX	00 09	49.4			Ka	iPKP	03 09 02.9
		iPP	00 10	54.4			Ud	iPKP	03 08 52.4
	Um	iP	00 05	59.6 C				i	03 09 01.5
		i(X)	00 09	13				iSKP	03 11 40.1
		i(X)	00 09	30				Fiji Islands (h = 620 km).	
		iPP	00 10	03.0				This case illustrates well	
		iPS	00 19	07				the relative amplitude of	
	Ka	iP	00 06	23.4 C				PKP and SKP over the	
		i(X)	00 09	34.8				distance range covered by	
		iX	00 09	40.8				our stations, about 131° -	
	Ud	iP	00 06	20.8				-144°.	
		ipP	00 06	30.6					
		iX	00 09	31.5					
	New Guinea. h = 35 km (Up, Sk, Gb, Ud).				"	30	Ki	iP	03 23 26.8
	m = 6.7, M = 6.4 (Up, Ki).				"	30	Up	e(PKP)	04 29 43
	X is another instance of								micr sec
	the phase arriving before							Mx	E 0.5 18
	PP, particularly in this							Mx	N 0.7 18
	distance range.							Mx	Z 0.9 19
"	30	Ki	i(PP)	00 22 33.9			Ki	iPKS	04 32 54
		Java (h = 60 km).							micr sec
"	30	Ud	eP	01 23 33				PKS	N 0.3 7
		Rhodes Island.						PKS	Z 0.5 10
"	30	Ki	iP	02 28 18.2				Mx	E 1.1 20
			iS	02 30 57.8				Mx	N 0.8 19
			iSS	02 31 19.6				Mx	Z 1.6 20
				micr sec			Gb	iPKP	04 29 43.9 C
		P	Z'	0.1 1.5			Um	i(PKP)	04 29 33 C
		Mx	E	0.9 20				iPP	04 32 11
		Mx	N	0.9 13				iPKS	04 33 05
		Mx	Z	1.3 18			Ka	iPKP	04 29 46.8
		D = 1600 km = 14 1/2°.						i	04 29 59.9
	Sk	eP	02 27	56			Ud	iPKP	04 29 35.6
		iS	02 30	21.3			Tonga Islands (h = 30 km).		
	Um	iP	02 28	36.1			M = 5.6 (Up, Ki).		
		i	02 28	51.8	"	30	Gb	iPKP	05 26 19.7
	(cont.)						Ud	iPKP	05 26 11.1
							Tonga Islands (h = 30 km).		

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968					
July 30				July 30 (cont.)					
"	30	Um	iP	06 37 52.4	Up				
"	30	Gb	iPKP	07 16 57.0	Mx	Z	4.8 21		
		Tonga Islands (h = 30 km).			D = 11100 km = 100°.				
"	30	Sk	iPKP	07 56 09.1	Ki	iP	20 52 26.3		
		Um	iPKP	07 56 03.4		iX	20 56 06.8		
		Ud	iPKP	07 56 17.3		iPP	20 56 40.7		
"	30	Ki	iP	08 21 37.9		eSKS	21 03 00		
		Ud	iP	08 22 30.5		ePS	21 05 24		
		Aleutian Islands (h = 40 km).					micr sec		
"	30	Ki	eSg	12 09 23	PP	E	0.8 7		
		Sk	eSg	12 09 44	PP	N	0.2 7		
		Um	iSg	12 07 25.8	PP	Z	1.4 6		
		Esthonia. Explosion?			SKS	E	1.0 9		
"	30	Sk	eSg	13 02 18	Mx	E	7.0 24		
		Um	iSg	13 01 11.9	Mx	N	3.7 25		
"	30	Ud	i(Pg)	13 08 12.1	Mx	Z	9.6 24		
			iSg	13 08 30.6	D = 11100 km = 100°.				
"	30	Up	iP	17 45 30.7	Sk	iP	20 52 12.9		
				micr sec		eX	20 55 44		
		P	Z'	0.1 0.8	Um	iP	20 52 28.0 C		
		Ki	iP	17 44 45.7		ipP	20 52 36.6		
				micr sec		iX	20 56 01		
		Mx	E	0.7 20		iPP	20 56 34.8		
		Mx	N	0.4 17		iSKS	21 03 02		
		Mx	Z	1.4 17		iS	21 03 59		
		Sk	iP	17 45 20.1		iSS	21 10 59		
		Gb	iP	17 45 50.9	Ka	iP	20 52 20.8		
		Um	iP	17 45 05.6 C	Ud	iP	20 52 14.8		
			iSS	17 58 15		ipP	20 52 23.1		
		Ka	iP	17 45 52.6		iX	20 56 08.4		
			i	17 46 02.9	Peru. h = 30 km (Um,Ud). m = 6.5, M = 6.0 (Up,Ki). Concerning the phases X, the same remark applies as for July 30, 00 06.				
		Ud	iP	17 45 36.3	"	31	Up	iP	01 48 39.2
		Kurile Islands (h = 35 km).							micr sec
"	30	Up	iP	20 52 23.8			Mx	E	0.6 20
			eX	20 56 13			Mx	N	0.5 17
			iPP	20 56 36.2			Mx	Z	0.8 16
			iSKS	21 02 58	Ki	iP			01 47 56.4
			eS	21 03 49					micr sec
				micr sec			Mx	E	1.5 18
		SKS	E	0.5 9			Mx	N	0.8 18
		S	N	1.3 16			Mx	Z	1.4 17
		Mx	E	3.2 21	Um	iP			01 48 15.2
		Mx	N	3.0 21	Ud	iP			01 48 45.4 C
(cont.)					Japan (h = 30 km). M = 5.2 (Up,Ki).				
"	31	Up	iP	01 51 48.8	"	31	Up	iP	01 51 48.8
			ipP	01 51 57.3				ipP	01 51 57.3
				(cont.)					(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
July 31 (cont.)				July 31 (cont.)			
	Um	iP	01 51 25.3		Ud	iPKP	14 30 51.1
		ipP	01 51 36.4			i	14 31 02.7
	Ud	iP	01 51 54.6				
	Japan. h = 35 km (Up,Um).			"	31	Ud	iP 14 43 19.1
"	31	Up	iP 06 51 00.2	"	31	Ud	iP 15 30 17.9
			ipP 06 51 09.5	"	31	Ud	iP 16 31 40.0
	Ki	iP	06 50 05.3	"	31	Ud	iP 16 31 40.0
	Ud	iP	06 51 01.1	"	31	Up	iP 19 34 50.3
	Aleutian Islands. h = 35 km (Up).						i 19 34 56.4
"	31	Up	iP 09 26 48.5				iS 19 39 19
	Ki	iP	09 28 11.0				micr sec
	Sk	iP	09 27 27.8			Mx	E 1.3 17
	Ka	iP	09 26 10.8			Mx	N 1.5 15
	Ud	eP	09 26 53			Mx	Z 1.4 15
	Greece (h = 80 km).						D = 2800 km = 25°
"	31	Ki	iP 10 54 42.0		Ki	iP	19 35 57.0 C
			i 10 54 46.4			i	19 37 26.4
	Sk	iP	10 55 29.3				micr sec
	Ud	iP	10 56 10.7			Mx	E 0.9 15
	Svalbard (h = 30 km).					Mx	N 0.6 10
"	31	Up	iSg 11 57 44.7			Mx	Z 0.7 11
	Um	iSg	11 58 16.4		Sk	iP	19 35 30.4
	Esthonia. Explosion?				Gb	iP	19 34 46.0
"	31	Ud	iP 12 49 13.1 C		Um	iP	19 35 37.6
						iS	19 40 39
"	31	Up	iPKP 14 05 44.8		Ka	iP	19 34 19.9
			i 14 05 51.0			iS	19 38 24.4
			i 14 06 04.4		Ud	iP	19 34 59.6
	Ki	iPKP	14 05 31.8	"	31	Ki	iP 20 12 45.1
			i 14 05 40.3				micr sec
	Sk	iPKP	14 05 39.3 C			Mx	E 0.5 13
	Gb	ePKP2	14 06 03			Mx	N 0.5 13
	Um	iPKP	14 05 34.7			Mx	Z 0.5 14
			i 14 05 48.2		Ud	eP	20 12 37
	Ka	e(PKP2)	14 06 04				
		iPKP2	14 06 08.6				
	Ud	iPKP	14 05 47.1				
			i 14 06 06.1				
	Kermadec Islands (h = 30 km).						
"	31	Up	ePKP 14 30 48				
	Sk	iPKP	14 30 39.4				
			i 14 30 50.9				
	Um	iPKP	14 30 34.2				
			i 14 30 44.3				
	(cont.)						

Markus Båth
February 1, 1969



24 FEB 1968 Fly C60

Seismological Institute Uppsala

SEISMOLOGICAL BULLETIN

UPPSALA, KIRUNA, SKALSTUGAN, GÖTEBORG, UMEÅ, KARLSKRONA and UDDEHOLM

Table with 4 columns: Station Name, Station Code, Latitude, Longitude, and Height (h). Rows include Uppsala, Kiruna, Skalstugan, Göteborg, Umeå, Karlskrona, and Uddeholm.

AUGUST 1 - 31, 1968

Main data table with columns for date (1968 Aug. 1), station code (Up, Ki, Sk, Gb, Um, Ka, Ud), seismic phase (iPKP, i, ipPKP, etc.), time (00 33 38.4), and location (C, Tonga-Kermadec Islands, Luzon). Includes handwritten notes like 'Probably northwest Russia' and 'Explosion?'.

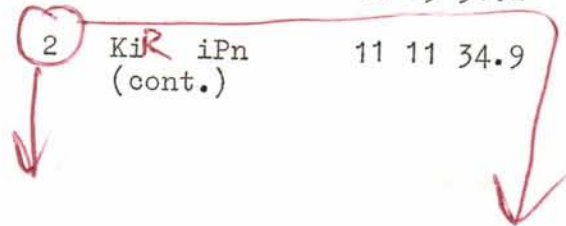
Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968					
Aug.	1	(cont.)			Aug.	1	Ki	iP	23 17 07.5	
		Ki	iP	20 57 20.7			Sk	iP	23 17 30.0	
		Sk	iP	20 57 42.7			Ud	iP	23 17 34.5	
		Um	iP	20 57 27.0				i	23 17 52.3	
		Ud	iP	20 57 48.1			Luzon.			
		Luzon.					Origin time =	23 05.0	✓	
		Origin time =	20 45.3.			"	1	Up	iP	23 19 16.2
"	1	Ki	iP	21 02 52.5			Ki	iP	23 18 56.7	
		Ud	iP	21 03 20.5				ipP	23 19 04.6	
		Luzon.							micr sec	
		Origin time =	20 50.8.					P	Z' 0.1 1.3	
"	1	Up	iP	21 09 42.8			Sk	iP	23 19 21.3	
		Ki	iP	21 09 25.2			Ka	iP	23 19 26.7	
		Sk	eP	21 09 49				ipP	23 19 34.0	
		Um	iP	21 09 31.5			Ud	iP	23 19 24.8	
		Ud	iP	21 09 51.2				ipP	23 19 33.0	
		Luzon (h = 30 km).					Luzon.			
		Origin time =	21 09.0				Origin time =	23 06.8.		
"	1	Up	iP	21 21 23.2			h = 30 km (Ki,Ka,Ud).			
		Ud	iP	21 21 32.0		"	1	Up	iP	23 19 47.4
		Luzon.					Ki	iP	23 19 27.3	
		Origin time =	21 09.0				Sk	iP	23 19 54.1	
"	1	Um	iP	21 24 35.8			Luzon.			
							Origin time =	23 07.4.		
"	1	Up	iP	21 27 27.4		"	1	Up	iP	23 28 51.2
		Ki	iP	21 27 08.7 C			Ki	iP	23 28 31.9	
		Sk	eP	21 27 32			Sk	iP	23 28 53.9	
		Um	iP	21 27 14.5			Ud	iP	23 29 00.0	
		Ud	iP	21 27 36.5 C				ipP	23 29 09.5	
		Luzon (h = 30 km).					Luzon. h = 35 km (Ud).			
"	1	Up	iP	21 31 19.8		"	1	Ki	iP	23 47 17.9 C
"	1	Um	iP	21 33 36.1			Sk	iP	23 47 41.9	
							Ud	iP	23 47 46.5	
"	1	Um	i(P)	21 42 40.6			Luzon.			
		Ud	iP	21 42 42.0			Origin time =	23 35.2.		
"	1	Um	i(P)	21 59 02.9		"	1	Up	iP	23 57 36.1
		Ud	iP	21 59 30.0			Ki	iP	23 57 16.7	
"	1	Ud	iP	22 00 20.5				ipP	23 57 25.8	
"	1	Um	iP	22 12 25.0			Sk	iP	23 57 37.5	
							Um	iP	23 57 22.9	
"	1	Ud	eP	22 36 26			Ud	iP	23 57 45.0	
								ipP	23 57 54.5	
"	1	Ki	eP	22 43 51			Luzon, h = 35 km (Ki,Ud).			
		Um	iP	22 44 14.4		"	2	Up	iP	00 13 27.9
		Ud	iP	22 44 25.0		"	2	Up	iP	00 48 06.4
							Ki	iP	00 47 45.4	
							(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Aug.	2	(cont.)		Aug.	2		
		Ud	iP 00 48 13.1			Up	ePP 04 06 26
		Luzon.				Ki	eP 04 06 16
		Origin time =	00 35.7.				i 04 06 20.8
"	2	Up	iP 00 52 48.5			Ka	iPP 04 06 20.7
		Ki	iP 00 52 29.1			Ud	iP 04 05 54.5
			ipP 00 52 36.9			Iran (h = 10 km).	
		Sk	eP 00 52 53	"	2	Um	iPKP 04 21 41.6
		Ud	iP 00 52 57.5			Ud	ePKP 04 21 53
			ipP 00 53 04.5			Kermadec Islands (h = 30 km).	
		Luzon. h = 25 km (Ki,Ud).		"	2	Ud	iP 04 25 03.5
"	2	Ud	iP 01 10 40.0	"	2	Ki	e(P) 04 27 34
"	2	Up	iP 01 18 13.1				i 04 27 37.4
		Ki	eP 01 17 53	"	2	Up	iP 05 10 43.0
		Sk	iP 01 18 18.6			Ki	eP 05 10 32
		Ud	iP 01 18 22.4			Sk	eP 05 11 00
		Luzon (h = 30 km).				Ud	iP 05 11 00.3
"	2	Ud	iP 01 35 05.8	"	2	Ki	iP 05 13 20.2
			i 01 35 18.1			Um	iP 05 13 25.5
"	2	Ki	iP 01 39 38.4			Ud	iP 05 13 48.2
		Sk	eP 01 40 04			Luzon.	
		Ud	iP 01 40 07.0			Origin time = 05 01.2.	
		Luzon.		"	2	Ki	eP 05 56 33
		Origin time = 01 27.5.				Um	iP 05 56 47.6
"	2	Ud	iP 01 58 24.4			Ud	iP 05 57 03.1
"	2	Up	iP 02 07 57.2			(Luzon).	
		Ki	iP 02 07 37.4	"	2	Ud	iP 06 35 38.5
			ipP 02 07 47.5				i 06 35 47.1
			i 02 08 05.2	"	2	Ud	iP 07 21 23.3
		Sk	iP 02 08 02.0	"	2	Ud	iP 07 24 23.4
		Ka	iP 02 08 08.7	"	2	Ud	iP 09 19 45.4
		Ud	iP 02 08 06.4				i 09 20 18.5
		Luzon. h = 35 km (Ki).		"	2	Ki	iP 09 49 20.8
"	2	Up	iP 02 36 42.8			Sk	eP 09 49 40
"	2	Ki	iP 03 28 14.2			Ud	iP 09 49 49.5
		Ud	iP 03 28 42.8			(Luzon).	
		Luzon.		"	2	Ki	eP 11 08 45
		Origin time = 03 16.1.					i 11 09 04.1
"	2	Ud	iP 03 55 44.5	"	2	Ud	iP 11 09 31.2
			i 03 55 52.1	"	2	Ki	eP 11 11 34.9
"	2	Ud	iP 04 00 54.4			(cont.)	
		Luzon (h = 50 km).					

2
Ki^R iPn
(cont.)



Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968
Aug. 2

(cont.)

iSn	11 12 11.8
iSg	11 12 28.0
D = 330 km = 3.0°	
SkA eSg	11 14 53
Um iSn	11 12 54.0
iSg	11 13 23.8
Ud iLg1	11 15 48.5

Northern Finland,
67.4° N, 28.3° E.
Origin time = 11 10 46.
Explosion?

Ud	iP	12 08 44.0
Ud	eP	12 15 10
	i	12 15 47.5
Up	iP	12 27 43.2
Ud	iP	12 27 59.8
Up	iP	12 51 21.8
Up	iP	13 38 22.7 C
	iPP	13 40 06.4
	iS	13 44 44
	iX	13 45 09.6
micr sec		
P	Z'	0.3 0.8
PP	Z'	0.1 0.9
S	E	0.3 4
S	N	0.3 3
Mx	N	0.5 10
Mx	Z	0.8 13
D = 4850 km = 43 1/2°		
Ki	iP	13 38 49.4 C
	ePa	13 41 11
	iS	13 45 35
	iSa	13 48 36
micr sec		
P	Z'	0.9 0.8
S	E	0.5 7
S	N	0.3 6
S	Z	0.5 6
S	Z'	0.1 1.5
Mx	E	2.2 20
Mx	N	1.3 17
Mx	Z	4.2 21
D = 5150 km = 46 1/2°		
Sk	iP	13 38 53.9 C
Gb	iP	13 38 37.0 C
	i	13 38 52.2
	eS	13 45 09

(cont.)

1968
Aug. 2

(cont.)

Um	iP	13 38 30.6 C
	iPP	13 40 11.7
	iS	13 44 59
	iX	13 45 08.6
Ka	iSS	13 48 09
	iP	13 38 17.2 C
	iPP	13 40 00.2
Ud	iP	13 38 38.3 C
	iPP	13 40 25.1
	iS	13 45 16.3

Iran (h = 60 km).
m = 5.9, M = 5.1 (Up, Ki).
X (Up, Um) could be P of
another earthquake.

Up	eP	13 48 00
Um	iP	13 48 09.5
Ud	iP	13 48 08.7
	i	13 48 18.0
Up	iP	14 19 29.3 C
	iPP	14 22 54.7
	iSKS	14 29 57
micr sec		
P	E	5.6 15
P	N	6.8 17
P	Z	29 16
P	Z'	0.7 1.5
PP	E	7.2 11
PP	N	7.1 8
PP	Z	31 15
PP	Z'	6.0 3.0
SKS	E	22 14
Mx	E	65 20
Mx	N	130 22
Mx	Z	150 22
D = 9700 km = 87 1/2°		
Ki	iP	14 19 15.2 C
	iPP	14 22 28
	iSKS	14 29 37
	iScS	14 29 59
micr sec		
P	E	13 15
P	N	5.5 12
P	Z	40 13
P	Z'	7.4 3.2
PP	E	18 16
PP	N	7.7 13
PP	Z	27 14
SKS	E	80 12
Mx	E	300 22
Mx	N	130 21

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Aug.	2	(cont.)		Aug.	2	(cont.)	
		Ki				Sk	iSg 18 54 35.9
		Mx	Z 460 22			Um	iSg 18 52 48.7
		D = 9400 km = 84 1/2°.				Ud	iSg 18 54 13.6
		Sk	iP 14 19 11.2 C			Lake Ladoga. Explosion?	
		Gb	iP 14 19 22.8 C				
		Um	iP 14 19 24.4 C	"	2	Sk	e(Sg) 19 46 09
			i 14 19 26.6			Ud	e 19 45 17
			iS 14 29 59				i(Sg) 19 46 08.4
			iScS 14 30 16.0				
		Ka	iP 14 19 33.3 C	"	2	Ud	iP 21 58 15.1
			i 14 20 30.8				
		Ud	iP 14 19 21.1 C	"	2	Up	iP 23 59 39.5
		Mexico (h = 40 km).				Ki	eP 23 59 16
		m = 7.4, M = 7.5 (Up,Ki).				Ud	iP 23 59 47.2 C
		P, especially PZ' has a pronounced long-period character.				(Luzon).	
"	2	Ud	iP 14 43 26.9	"	3	Ud	iP 00 14 06.5
"	2	Ka	iP 15 18 12.4	"	3	Ud	iP 00 52 10.0
"	2	Ud	iP 15 31 34.0	"	3	Ud	eP 02 02 44
"	2	Sk	iP 15 56 38.9	"	3	Ki	eP 02 22 31
		Mexico (h = 40 km).				Ud	eP 02 22 58
"	2	Ud	iP 16 40 03.3				i 02 23 08.4
"	2	Ki	iP 17 25 08.4	"	3	(Luzon).	
		Sk	iP 17 25 30.3	"	3	Ki	i(Sn) 04 40 57.4
			ipP 17 25 36.7				i(Lg1) 04 41 12.7
		Gb	iP 17 26 16.3	"	3	Up	iP 05 06 30.2 D
		Um	iP 17 25 30.4				iS 05 16 21
			ipP 17 25 38.4				micr sec
		Ud	eP 17 25 53			P	E 2.6 9
			ipP 17 26 01.2			P	N 2.8 8
		Kodiak Island. h = 30 km (Sk,Um,Ud).				P	Z 10 10
"	2	Ud	iP 17 30 26.9			P	Z' 0.8 0.9
"	2	Ki	iP 17 58 21.5			P	E 5.3 10
		Um	iP 17 58 24.9			S	E 5.3 10
			i 17 58 30.5			S	N 3.2 8
		Ud	iP 17 58 48.4			Mx	E 120 15
		(Luzon).				Mx	N 67 15
"	2	Up	iP 18 50 41.5			Mx	Z 180 15
		Mexico (h = 30 km).				D = 8650 km = 78°.	
"	2	Ki	iSg 18 54 15.8			Ki	iP 05 06 02.1 D
		(cont.)					ipP 05 06 16.9
							iS 05 15 26
							micr sec
						P	E 4.0 8
						P	N 2.2 12
						P	Z 14 10
						P	Z' 4.1 2.0
						S	E 11 10
						(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Aug.	3	(cont.)		Aug.	3		
		Ki				Ud	iP 07 05 47.5
		S	N 5.5 9	"	3	Ki	iP 07 22 13.7
		Mx	E 85 19			Ud	iP 07 22 43.2
		Mx	N 66 15			Luzon.	
		Mx	Z 74 15			Origin time = 07 10.2.	
		D = 8100 km = 73°.					
		Sk	iP 05 06 30.9 D	"	3	Up	iP 07 32 50.9
			i 05 09 02.5				
		Gb	iP 05 06 49.6 D	"	3	Ki	eP 07 59 28
		Um	iP 05 06 13.0 D			Ud	iP 08 00 16.1
			iS 05 15 49			Alaska.	
		Ka	iP 05 06 45.4 D			Origin time = 07 50.6.	
			ipP 05 06 59.7				
		Ud	iP 05 06 38.9 D	"	3	Ki	i(Sg) 08 17 14.6
			ipP 05 06 49.5				
		Ryukyu Islands. h = 50 km (Ki, Ka, Ud).		"	3	Ud	iP 10 49 26.0
		m = 7.0, M = 7.3 (Up, Ki).		"	3	Ud	iP 11 41 27.0
"	3	Ud	iP 06 16 49.0	"	3	KiR	iPn 12 36 45.2
"	3	Up	iP 06 37 28.0 C				iSn 12 37 34.3
			ipP 06 37 36.8				iPg1 12 37 47.8
			iS 06 47 41				iPg 12 38 10.5
							D = 460 km = 4.1°.
			micr sec			SkA	eSg 12 40 35
		P	Z 7.5 11			Um	e iSg 12 39 14.7
		P	Z' 0.4 0.9			Northwest Russia,	
		S	E 1.5 9			68.7° N, 31.3° E.	
		S	N 3.3 14			Origin time = 12 35 39.	
		Mx	E 13 17			Explosion?	
		Mx	N 12 18	"	3	Ud	iP 13 05 29.0
		Mx	Z 24 19				
		D = 9200 km = 83°.		"	3	Up	iP 14 10 07.4
		Ki	iP 06 37 08.9 C				ipP 14 10 15.4
			ipP 06 37 16.3				iS 14 16 55
			iS 06 47 07				micr sec
						Mx	E 0.7 18
			micr sec			Mx	N 0.7 15
		P	E 2.1 11			Mx	Z 0.9 18
		P	Z 3.6 8			D = 5100 km = 46°.	
		P	Z' 1.6 1.4			Ki	iP 14 10 32.8
		S	E 7.2 13				ipP 14 10 44.9
		S	N 4.2 14				eSa 14 21 48
		Mx	E 14 19				micr sec
		Mx	N 17 17			Mx	E 1.8 15
		Mx	Z 14 13			Mx	N 1.1 16
		D = 8800 km = 79°.				Mx	Z 2.9 15
		Sk	iP 06 37 31.9 C			Sk	iP 14 10 37.1
		Gb	iP 06 37 45.3 C				ipP 14 10 45.7
		Um	iP 06 37 14.6 C			Gb	iP 14 10 22.3
			ipP 06 37 22.1			Um	iP 14 10 12.4
			iS 06 47 18				ipP 14 10 23.4
		Ka	iP 06 37 39.6 C				eS 14 17 10
		Ud	iP 06 37 37.2 C				eSa 14 21 09
			ipP 06 37 44.8			(cont.)	
		Luzon. h = 30 km (Up, Ki, Um, Ud).					
		m = 6.6, M = 6.5 (Up, Ki).					

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1968				1968			
Aug.	3	(cont.)		Aug.	3	(cont.)	
		Ud	iP 14 10 22.8			Ud	ipP 19 31 42.9
			ipP 14 10 31.0			Luzon.	h = 25 km (Sk,Ud).
		West Pakistan. h = 40 km				m = 5.8, M = 5.4	(Up,Ki).
		(Up,Ki,Sk,Um,Ud).					
		M = 5.0 (Up,Ki).		"	3	Ud	iP 22 08 16.5
"	3	Up	iP 14 30 00.6	"	3	Ud	eP 23 19 23
		Ki	iP 14 29 41.9	"	3	Up	iP 00 57 40.1 C
		Sk	eP 14 30 06			Sk	eP 00 58 21
		Ud	iP 14 30 10.0 C			Ud	iP 00 57 47.9
			ipP 14 30 19.0			Greece (h = 40 km).	
		Luzon. h = 35 km (Ud).					
"	3	Up	iP 15 51 01.8 C	"	4	Ud	iP 01 29 30.4
			ipP 15 51 11.0	"	4	Up	iP 02 17 06.8
		Ki	iP 15 50 42.9			Ki	iP 02 16 46.9
			ipP 15 50 51.3				micr sec
		Sk	iP 15 51 06.5			P	Z' 0.1 1.0
		Um	iP 15 50 49.0			Sk	iP 02 17 11.0
		Ud	iP 15 51 11.1 C			Gb	iP 02 17 24.0
			ipP 15 51 19.5			Um	iP 02 16 53.1
		Luzon. h = 30 km (Up,Ki,Ud).				Ud	iP 02 17 15.0
"	3	Up	iP 16 04 13.6			i	02 17 31.5
		Ki	iP 16 03 54.7			Luzon (h = 30 km).	
		Um	iP 16 04 00.8	"	4	Um	iP 02 29 18.4
		Ud	iP 16 04 22.9			Ud	iP 02 28 54.2
			ipP 16 04 32.4			Greece.	
		Luzon. h = 35 km (Ud).					
"	3	Up	iP 19 31 26.6	"	4	Ud	iP 05 31 13.6
			iS 19 41 45			i	05 31 24.4
			micr sec	"	4	Ud	iP 05 54 01.0
		P	Z' 0.1 0.7	"	4	Ud	eP 06 19 01
		Mx	E 0.8 17	"	4	Um	i(Sg) 07 17 06.4
		Mx	N 1.1 18	"	4	Up	iP 08 17 39.3 C
		Mx	Z 1.1 18			i	08 18 17.9
		D = 9300 km = 83 1/2°.				eS	08 27 53
		Ki	iP 19 31 07.4 C			D = 9300 km = 83 1/2°.	
			i 19 31 29.9			Ki	iP 08 17 20.0 C
			iS 19 41 07				micr sec
			micr sec			P	Z' 0.1 1.2
		P	Z' 0.1 1.0			Sk	iP 08 17 43.6
		S	E 0.6 9			Gb	iP 08 17 56.5
		Mx	E 0.8 14			Um	iP 08 17 26.4
		Mx	N 1.2 22			iS	08 27 28
		Mx	Z 1.1 13			Ka	iP 08 17 51.1
		D = 8850 km = 79 1/2°.				Ud	iP 08 17 48.5 C
		Sk	iP 19 31 31.5			i	08 17 52.2
			ipP 19 31 38.7			Luzon (h = 20 km).	
		Gb	iP 19 31 43.3				
		Um	iP 19 31 13.7				
			iS 19 41 19				
		Ka	iP 19 31 37.8				
		Ud	iP 19 31 35.9 C				
		(cont.)					

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1968					1968				
Aug.	4	(cont.)			Aug.	5	(cont.)		
		Ki	ipP	18 12 24.9			Um	e(PS)	00 27 01
		Ud	eP	18 12 43			Bouvet Island (h = 30 km).		
			ipP	18 12 53.4					
		Luzon. h = 40 km (Ki,Ud).			"	5	Ud	eP	00 38 53
"	4	Up	iP	18 24 01.8				i	00 39 07.8
		Ki	iP	18 25 06.9	"	5	Up	iP	02 48 42.6
		Sk	iP	18 24 41.6			Ki	eP	02 48 54
		Gb	iP	18 23 56.6			Sk	eP	02 49 08
			i	18 24 01.7			Um	iP	02 48 41.1
		Um	iP	18 24 34.2			Ka	iP	02 48 46.6
		Ka	iP	18 23 31.3				ipP	02 49 12.4
			iS	18 27 33.9			Ud	iP	02 48 58.9
		Ud	iP	18 24 09.9				ipP	02 49 24.4
			i	18 24 13.9				iPP	02 51 08.2
			i	18 24 19.9			Hindu Kush. h = 120 km		
		Dodecanese Islands					(Ka,Ud).		
		(h = 40 km).			"	5	Up	iP	03 20 57.2
"	4	Um	iP	18 38 00.1	"	5	Ki	iP	04 17 10.3
			i	18 38 10.5				i	04 17 14.4
"	4	Up	iP	19 11 24.0			Ud	eP	04 17 35
		Sk	iP	19 11 49.5				i	04 17 42.9
		Um	iP	19 11 21.5	"	5	Up	iP	04 50 27.1
		Ud	iP	19 11 42.0			Ki	eP	04 50 05
		Tadzhik SSR.					Ud	iP	04 50 24.1
"	4	Ud	iP	19 50 34.8				i	04 50 35.5
		Japan (h = 40 km).			"	5	Ki	eP	05 00 41
"	4	Up	iP	23 29 12.5 C				e	05 03 01
				micr sec				iT	05 05 47.6
		P	Z'	0.1 0.6				i	05 06 28.0
		Ki	eP	23 30 35				i	05 08 48.2
				micr sec			Sk	iP	05 01 16.1
		Mx	E	0.4 16				i	05 01 21.0
		Sk	iP	23 29 52.2 C				iS	05 02 54.0
		Gb	iP	23 28 58.8				iSS	05 03 34.8
			i	23 29 02.3				i	05 05 19.7
		Um	iP	23 29 51.7			Gb	eP	05 02 37
			i	23 32 38.9			Um	eP	05 01 27
		Ka	iP	23 28 34.9				iS	05 03 52.3
		Ud	iP	23 29 18.5 C			Ka	eP	05 03 00
			i	23 29 24.1				i	05 05 18.3
		Ionian Sea (h = 30 km).					Ud	iP	05 02 03.6
"	5	Ki		---				i	05 02 15.4
				micr sec				iS	05 04 22.1
		Mx	E	0.4 16			Norwegian Sea (h = 30 km).		
		Mx	N	0.3 18	"	5	Ka	iPKP	06 13 07.6
		Mx	Z	0.8 22			Fiji Islands (h = 570 km).		
		(cont.)							

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1968				1968			
Aug.	5			Aug.	5	(cont.)	
		Sk	eP	07 19 02			
		Um	eP	07 18 33			
		Ud	iP	07 18 24.0		Ki	micr sec
						pP	Z 4.1 9
						S	E 12 8
"	5	Ki	eP	08 35 18		S	N 3.6 9
			i	08 36 30.5		P'P'	Z' 0.3 2.0
		Ud	iP	08 35 00.9		Mx	E 49 21
						Mx	N 29 19
"	5	Ka	iP	10 14 41.0		Mx	Z 65 21
						D = 7400 km = 66 1/2°.	
"	5	Ud	iP	12 05 25.9		Sk	iP 16 28 26.7
							i 16 28 27.7
"	5	Ki	iP	13 44 04.7			ipP 16 28 40.3
			ipP	13 44 18.9		Gb	iP 16 28 50.4
		Sk	iP	13 44 13.6			ipP 16 29 01.0
		Um	iP	13 43 57.0			iS 16 38 31.6
		Sumatra. h = 50 km (Ki).				Um	iP 16 28 08.7 D
							i 16 28 10.2
"	5	Up	iP	15 03 32.3			ipP 16 28 22.7
		Ki	iP	15 03 13.0			i 16 30 31
		Sk	eP	15 03 37			iPP 16 30 51
		Um	iP	15 03 19.7			i 16 36 47
		Luzon (h = 40 km).					iS 16 37 01
							iX 16 37 28.9
"	5	Ka	e(Sg)	15 56 08			iP'P' 16 56 13.3
"	5	Ka	i(P)	15 57 17.2		Ka	iP 16 28 47.2
							ipP 16 28 58.9
							iS 16 38 26.0
"	5	Up	iP	16 28 29.3 D		Ud	iP 16 28 37.7
			ipP	16 28 41.0			i 16 28 38.7
			ePP	16 31 12			ipP 16 28 51.3
			iPa	16 33 01			iS 16 38 05.1
			iS	16 37 47			iX 16 38 32.5
							Japan. h = 45 km (Up,Ki,
							Sk,Gb,Um,Ka,Ud).
							m = 6.8, M = 6.7 (Up,Ki).
							Double P, with small-
							amplitude first phases
							(Ki,Sk,Um,Ud).
		P	Z	2.5 8		"	5 Up iP 16 53 56.6
		P	Z'	0.6 0.6			Ki eP 16 53 44
		PP	Z	1.7 11			micr sec
		S	E	6.4 7			P Z' 0.1 1.5
		S	N	1.6 8			Sk eP 16 53 42
		S	Z	2.0 5			Um iP 16 53 53.5
		Mx	E	8.9 15			Ud iP 16 53 45.3
		Mx	N	25 19			Mexico (h = 30 km).
		Mx	Z	18 17			
		D = 8050 km = 72 1/2°.					
		Ki	iP	16 27 55.0 D			
			i	16 27 56.0			
			ipP	16 28 07			
			iS	16 36 37			
			iP'P'	16 56 19.2			
		P	E	1.6 8		"	5 Ki eP 17 06 17
		P	N	0.9 9			Ud iP 17 07 05.4
		P	Z'	1.0 1.0		"	5 Ud iP 19 59 16.9

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968						
Aug.	5	Ud	iP	20 32 54.9	Aug.	6	(cont.)			
"	5	Um	iP	20 48 45.2			Ki	iP	03 18 30.2	
		Ud	eP	20 49 14					micr sec	
		Japan (h = 50 km).					P	Z'	0.2 1.2	
							Mx	E	0.6 14	
							Mx	N	0.8 19	
"	5	Up	iP	21 02 43.5			Mx	Z	0.7 13	
		Ki	iP	21 02 09.8			Sk	iP	03 18 55.0	
		Sk	iP	21 02 41.4			Gb	iP	03 19 08.0	
			i	21 02 50.6			Um	iP	03 18 36.6	
		Um	iP	21 02 23.6 C			Ka	iP	03 19 02.1	
		Ud	iP	21 02 52.3 C				i	03 19 06.3	
			i	21 03 05.8			Ud	iP	03 18 58.8 C	
		Japan (h = 40 km).						i	03 19 04.6	
		Luzon (h = 30 km).					m = 6.1, M = 5.3 (Up,Ki).			
"	5	Sk	iP	22 49 45.8						
"	6	Ki	iP	00 22 08.1	"	6	Up	iP	03 28 50.7 C	
		Gb	iP	00 21 24.1			Ki	iP	03 28 31.8	
		Ud	eP	00 21 33			Sk	iP	03 28 55.5	
		North Atlantic Ocean					Gb	iP	03 29 08.0	
		(h = 30 km).					Um	iP	03 28 38.2	
								i	03 28 41.7	
"	6	Ud	iP	00 37 15.5			Ka	eP	03 29 03	
			ipP	00 37 29.5			Ud	iP	03 28 59.9 C	
		Japan. h = 50 km (Ud).					Luzon (h = 40 km).			
"	6	Ud	iP	01 04 57.9	"	6	Up	iP	03 36 43.9	
			i	01 05 24.3			Ki	eP	03 36 28	
"	6	Ud	iP	01 14 24.0				i	03 36 41.3	
"	6	Ud	eP	01 22 09			Sk	eP	03 36 27	
"	6	Ud	eP	01 22 09			Um	iP	03 36 38.5	
		Mexico (h = 15 km).								
"	6	Up	iP	02 46 01.6	"	6	Ud	iP	03 55 09.6	
			ipP	02 46 15.8			North Atlantic Ocean			
		Ki	iP	02 45 28.0 C			(h = 30 km).			
		Sk	iP	02 46 00.2	"	6	Ud	iP	04 12 25.6	
			ipP	02 46 12.0	"	6	Up	iP	04 32 26.8	
		Gb	iP	02 46 23.4				ipP	04 32 39.2	
		Um	iP	02 45 42.2 C					micr sec	
		Ud	iP	02 46 10.0				P	Z'	0.1 0.7
		Japan. h = 50 km (Ki,Sk).					Ki	iP	04 31 53.5	
		Sk Z' shows distinctly					Sk	iP	04 32 24.8	
		longer period for pP than						ipP	04 32 37.1	
		for P.					Gb	iP	04 32 48.4	
"	6	Up	iP	03 18 49.9			Um	iP	04 32 07.5 C	
				micr sec				ipP	04 32 18.9	
		P	Z'	0.1 0.7			Ud	iP	04 32 35.3	
		Mx	E	0.4 16			Japan. h = 45 km (Up,Sk,			
		Mx	N	1.0 24			Um). Sk Z': same remark as			
		Mx	Z	0.7 15			for Aug. 6, 02 46.			
		(cont.)								

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
Aug.	6	Up	iP	04 47 15.1 C	Aug.	6	(cont.)		
		Ki	iP	04 46 46.9			60.0°N, 10.3°E.		
		Sk	iP	04 47 15.5			Origin time = 05 15 30.		
			e	04 47 28			Solution verified by		
		Gb	iP	04 47 34.2			Lillehammer reading (Sg).		
		Um	iP	04 46 57.9 C					
		Ka	iP	04 47 26.6	"	6	Ud	eP	05 22 13
		Ud	iP	04 47 23.1				i	05 22 20.4
		Ryukyu Islands (h = 30 km).							
"	6	Up	iP	05 03 21.7	"	6	Ud	iP	06 06 23.6
		Ud	iP	05 03 24.4	"	6	Ki	eP	07 34 14
"	6	Um	iP	05 05 10.2			Ud	iP	07 34 30.6
		Ka	iP	05 05 32.7	"	6	Up	iP	08 43 46.4
"	6	Up	iP	05 05 27.8			iS	08 51 09	
		ipP		05 05 36.5				micr sec	
		iS		05 15 45			Mx	E	0.6 21
				micr sec			Mx	N	1.1 21
		P	Z'	0.1 0.9			Mx	Z	1.1 17
		Mx	E	0.7 15			D = 5700 km = 51 1/2°.		
		Mx	N	1.1 18			Ki	iP	08 44 29.7 C
		Mx	Z	1.5 16			ipP		08 44 40.5
		D = 9200 km = 83°.							micr sec
		Ki	iP	05 05 09.1			Mx	E	0.8 16
		ipP		05 05 17.2			Mx	N	0.6 16
		eS		05 15 11			Mx	Z	0.7 13
				micr sec			Sk	eP	08 44 23
		P	Z'	0.1 1.2				e	08 44 29
		S	E	0.3 7			Gb	iP	08 43 56.4
		Mx	E	1.0 14			Um	iP	08 44 07.1
		Mx	N	0.8 15				ipP	08 44 18.1
		Mx	Z	1.3 14				iPP	08 46 01.2
		D = 8850 km = 79 1/2°.						iS	08 51 42
		Sk	iP	05 05 32.3			iSa		08 56 18
		ipP		05 05 41.0			Ka	iP	08 43 36.7
		Gb	iP	05 05 45.2 C			Ud	iP	08 44 02.9
		ipP		05 05 53.8			Gulf of Aden. h = 45 km		
		Um	iP	05 05 15.1			(Ki,Um).		
		ipP		05 05 23.4			M = 5.0 (Up,Ki).		
		Ka	iP	05 05 38.7	"	6	Up	iP	08 55 37.5
		ipP		05 05 47.5				i	08 55 42.1
		Ud	iP	05 05 37.0 C	"	6	Ki	eP	09 40 12
		ipP		05 05 45.6			Ud	iP	09 40 41.2
		Luzon. h = 30 km (Up,Ki, Sk,Gb,Um,Ka,Ud).			"	6	Up	iP	10 19 56.6
		m = 5.9, M = 5.4 (Up,Ki).					ipP		10 20 07.4
"	6	SkA	eSg	05 17 36			Ki	iP	10 19 27.6
		UdA	ePg	05 16 02			Sk	iP	10 19 56.9
			iSg	05 16 22.5			Gb	iP	10 20 14.9
		D = 180 km = 1.6°.					Um	iP	10 19 39.0
		Oslo region, Norway,					Ud	iP	10 20 04.6
		(cont.)					(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Aug. 6	(cont.)			Aug. 6	Ud iP	22 01 04.4	Luzon (h = 30 km).
	Ud ipP	10 20 14.0			Ud iP	23 24 21.4	
	Ryukyu Islands.				Ud iP	23 52 08.4	
	h = 35 km (Up,Ud).				Ki eP	23 56 41	
" 6	Ki iSn	10 50 07.6			Sk eP	23 57 06	
	iLg1	10 50 27.3			Ud eP	23 57 09 C	
	Sk iSg	10 52 56.3			e	23 59 23	
	Um iS ^x	10 51 05.1			Luzon (h = 30 km).		
	iSg	10 51 25.2					
	Ud e(Sg)	10 53 53					
	Northwest Russia.						
	Explosion?			" 7	Ki iPn	00 15 54.4	
" 6	Ud iP	12 49 53.2			iP ^x	00 16 02.5	
" 6	Ud iP	13 38 17.7			iSn	00 16 40.7	
" 6	Ud iP	14 34 45.0			iLg1	00 16 53.6	
	i	14 34 51.8			D = 430 km = 3.9°.		
" 6	Ud iP	15 15 37.8			Sk eSg	00 19 40	
" 6	Ud iP	16 02 23.9			Probably northwest Russia.		
" 6	Sk e(Sg)	16 12 54			Origin time = 00 14 52.		
	Um e(Sg)	16 11 03			Explosion?		
" 6	Sk iP	16 18 28.1		" 7	Up iP	00 22 29.2	
" 6	Up iP	20 25 20.2			Sk iP	00 22 17.6	
	Ki eP	20 24 55			i	00 22 23.7	
	Ka eP	20 25 33			Ud eP	00 22 14	
	Ud iP	20 25 28.9			North Atlantic Ocean		
	Ryukyu Islands				(h = 30 km).		
	(h = 30 km).			" 7	Ud eP	01 41 16	
" 6	Ki ^R ePg	21 16 44		" 7	Up iP	04 05 51.3	
	iSg	21 17 27.9			Ki iP	04 05 32.1	
	D = 360 km = 3.2°.				Sk iP	04 05 56.2	
	Sk ^A iSg	21 19 14.7			Gb eP	04 06 08	
	Um ^E iSg	21 17 34.9			Ud iP	04 06 00.3	
	Northern Finland,				Luzon (h = 30 km).		
	66.0°N, 26.8°E.			" 7	Up iP ^{PKP}	04 12 44.1	
	Origin time = 21 15 44.				Sk iP ^{PKP}	04 12 39.9	
	Solution obtained by				Um iP ^{PKP}	04 12 30.9	
	combination of readings				i	04 12 43.7	
	at Finnish and Swedish				Ud e ^{PKP}	04 12 44	
	stations.				Kermadec Islands		
" 6	Sk iP	21 47 08.3			(h = 30 km).		
	Um eSS	22 04 31		" 7	Up iS ^x	05 56 32.9	
	Ud eP	21 46 43			iSg	05 56 44.2	
	South Atlantic Ocean				Sk iSg	05 58 35.5	
	(h = 30 km).				Um iSg	05 57 20.7	
					Ud iSn	05 57 18.9	
					iSg	05 57 46.5	
					Southwest Finland.		
					Origin time = 05 54 59.		
					Explosion?		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Aug. 7	Up	iP	08 11 11.6 C	Aug. 7	(cont.)		
		ipP	08 11 26.9		Ka	iSg	14 26 51.1
		iPcP	08 11 35.6			D = 220 km = 2.0°	
		iS	08 20 06		Ud	iSg	14 29 00.9
			micr sec		Southern Baltic.		
		P	Z' 0.2 0.7		Origin time = 14 25 45.		
		Mx	E 0.8 17		Explosion?		
		Mx	N 1.4 18		" 7	Sk	eP 18 12 52
		Mx	Z 1.3 16				
		D = 7550 km = 68°			" 8	Um	iP 00 01 56.6
	Ki	iP	08 10 27.6 C		" 8	Up	iP 00 15 37.2
		ipP	08 10 42.7			Sk	eP 00 15 44
		eS	08 18 44			Gb	iP 00 15 57.7
			micr sec				i 00 16 18.7
		P	Z' 0.2 1.0			Um	iP 00 15 21.5
		S	N 0.6 8			Ud	iP 00 15 47.0
		Mx	E 1.9 20				i 00 16 11.9
		Mx	N 1.5 19			Ryukyu Islands (h = 50 km).	
		Mx	Z 3.5 21		" 8	Ud	iP 02 26 47.9
		D = 6850 km = 61 1/2°					i 02 27 08.3
	Sk	iP	08 11 02.7 C		" 8	Ud	iP 03 21 09.5
	Gb	iP	08 11 32.8 C		" 8	Up	iP 05 06 39.7 C
		ipP	08 11 49.3			ipP	05 06 51.0
	Um	iP	08 10 47.0 C			iPP	05 09 22.0
		ipP	08 11 02.2			iS	05 16 05
		iPa	08 15 08				micr sec
		iS	08 19 19			P	Z' 0.3 1.0
	Ka	iP	08 11 33.4 C			Mx	E 0.9 19
		ipP	08 11 49.8			Mx	N 1.8 22
	Ud	iP	08 11 18.3 C			Mx	Z 1.3 17
		ipP	08 11 30.9			D = 8150 km = 73 1/2°	
		Japan. h = 55 km (Up,Ki, Gb,Um,Ka,Ud).			Ki	iP	05 06 00.3 C
		m = 6.2, M = 5.4 (Up,Ki).				ipP	05 06 12.3
" 7	Sk	iP	08 27 38.7			iPP	05 08 26.1
	Ud	iP	08 27 02.9			iS	05 14 53
	Aegean Sea.						micr sec
" 7	Gb	iP	08 59 56.9			P	Z' 0.2 1.0
	Ud	iP	09 00 08.9			S	N 0.3 8
" 7	Up	iSg	12 34 45.4			Mx	E 3.1 18
	GOT	iSg	12 34 35.2			Mx	N 1.4 18
	Ud	iPg	12 34 12.4			Mx	Z 3.6 18
		iSg	12 34 32.9			D = 7400 km = 66 1/2°	
		D = 190 km = 1.7°			Sk	iP	05 06 33.7 C
		Near Motala, southern Sweden, 58.4°N, 14.9°E.				ipP	05 06 45.3
		Origin time = 12 33 38.				iPP	05 09 14.1
		Blast?			Gb	iP	05 06 59.6 C
" 7	Ka	iPg	14 26 24.7			ipP	05 07 11.2
	(cont.)				Um	iP	05 06 17.6 C
					(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968				
Aug.	8	(cont.)		Aug.	8	Ud	i	17 25 38.3
		Um	ipP				i(Sg)	17 25 42.3
			iPP					
			iS	"	8	Sk	iPP	18 50 04.9
			eSS			Ud	iP	18 48 09.9
		Ka	iP			Tadzhik SSR.		
			ipP					
		Ud	iP	"	8	Sk	eSg	19 32 00
			ipP			Ud	eSg	19 32 00
		Japan. h = 40 km (Up,Ki, Sk,Gb,Um,Ka,Ud).		"	8	Um	iP	20 54 28.3
		m = 6.1, M = 5.5 (Up,Ki).					i	20 55 04.9
"	8	Ki	iP	"	8	Ud	iP	22 06 48.4
"	8	Up	iP	"	8	Ki	iPKP	22 29 27.1
		Ki	iP			Sk	iPKP	22 29 38.5
		Sk	iP			Um	iPKP	22 29 33.4
		Gb	iP			Ud	iPKP	22 29 42.9
		Um	iP			New Hebrides Islands		
			ipP			(h = 40 km).		
		Ud	iP	"	9	Ud	iP	01 59 01.5
		Ryukyu Islands. h = 45 km (Um).				Japan (h = 50 km).		
"	8	Ud	eP	"	9	Gb	iPKP	02 14 19.9
		Ryukyu Islands (h = 30 km).				Tonga Islands (h = 180 km).		
"	8	Um	iSKP	"	9	Up	iP	02 22 51.7
		Ud	iPKP				i	02 23 16.7
		Tonga-Kermadec Islands (h = 530 km).		"	9	Up	iP	02 35 10.5
"	8	Ka	iPg				ipP	02 35 22.8
			iSg			Sk	iP	02 35 26.4
		Probably southern Baltic. Explosion?					ipP	02 35 40.7
						Um	iP	02 35 03.2
							ipP	02 35 17.9
"	8	Up	iP			Ka	ipP	02 35 34.7
		Ki	iP			Ud	iP	02 35 23.4
		Sk	iP			Burma-India. h = 55 km		
		Gb	iP			(Up,Sk,Um).		
			ipP	"	9	Up	iPP	03 29 17.6
		Um	iP					micr sec
		Ud	iP			Mx	E	1.1 23
			ipP			Mx	N	1.0 20
		Luzon. h = 30 km (Gb,Ud).				Mx	Z	1.8 22
"	8	Ki	iSg			Ki	iPKP	03 27 09.0
		Sk	iSg					micr sec
		Um	iSg			Mx	E	3.7 20
		Nordlands Fylke, Norway, 66.4°N, 14.8°E.				Mx	N	2.3 20
		Origin time = 16 03 15.				Mx	Z	6.3 20
		Explosion?				Sk	iPKP	03 27 07.6
							ipP	03 28 53.0
						(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968
Aug. 9 (cont.)

Gb	iPKP	03 27 14.3
	iPP	03 29 08.8
Um	iPKP	03 27 08.5
	iPP	03 29 15.1
	iPKS	03 30 30
	iPS	03 39 12
	i	03 40 58
	iSS	03 46 20
Ka	iPKP	03 27 14.5
Ud	iPKP	03 27 14.3
	iPP	03 29 07.0

Easter Island (h = 30 km).
M = 6.0 (Up,Ki).
PP Z' exhibits a comparatively long period, around 3 sec.

" 9 Ki iP 04 46 39.1

" 9 Sk iP 07 44 20.9
Um iP 07 44 12.5
Ud iP 07 43 48.3
Aegean Sea.

" 9 Ki^R iPn 10 07 55.3
iSn 10 08 30.9
~~iSg 10 08 45.8~~
~~D = 320 km = 2.9~~

Sk^A iSg 10 11 10.8
Um^E iSn 10 09 12.8
iSg 10 09 44.6
~~Ud iLg1 10 12 08.5~~

Northern Finland,
67.3°N, 28.0°E.
Origin time = 10 07 08.
Explosion?

" 9 Up iP 10 49 05.4
micr sec
P Z' 0.1 0.9
Ki eP 10 48 20
micr sec
P Z' 0.1 1.0
Mx E 0.6 16
Mx N 0.6 19
Mx Z 1.6 20
Sk iP 10 48 56.0
Gb iP 10 49 26.9 C
Um iP 10 48 40.8 C
Ka iP 10 49 27.6 C
ipP 10 49 37.6
Ud iP 10 49 12.0 C
(cont.)

1968
Aug. 9 (cont.)

Ud	ipP	10 49 19.4
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Kurile Islands. h = 30 km
(Ka,Ud).
m = 6.0 (Up,Ki).

" 9 Gb iPKP 18 18 31.6
Ud iPKP 18 18 26.2
Tonga Islands (h = 50 km).

" 9 Ud eP 18 26 16
i 18 26 25.5
Luzon (h = 40 km).

" 9 Sk eP 20 03 16

" 9 Um iPKP 21 45 43.9
Ud iPKP 21 45 34.0
South Shetland Islands
(h = 30 km).

" 9 Up iP 21 46 19.7
ipP 21 46 41.9
Ki iP 21 46 01.3
Sk iP 21 46 24.9
ipP 21 46 42.9
Gb iP 21 46 38.0
Um iP 21 46 07.6
Ka iP 21 46 31.3
ipP 21 46 51.1
Ud iP 21 46 29.4 C
Luzon. h = 80 km (Up,Sk, Ka).

" 10 Ki iP 00 45 23.3
eT 00 53 29
i 00 54 04.2
micr sec
Mx E 0.7 17
Mx N 1.5 19
Mx Z 1.7 19
Sk eP 00 46 18
Gb eP 00 47 31
Um iP 00 46 19.6
Ka iP 00 47 43.1
Ud iP 00 46 57.3
i 00 47 06.3
Svalbard (h = 30 km).

" 10 Ki iP 01 06 57.2
i 01 07 31.7
Sk iP 01 07 51.1
i 01 08 01.8
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

Aug. 10

(cont.)

Gb iP 01 09 04.4
Um iP 01 07 55.7
Ka iP 01 09 23.9
Ud iP 01 08 33.8
i 01 08 42.2
Svalbard (h = 30 km).

" 10

Up iP1 02 20 36.8
iP2 02 20 44.3
iY 02 23 43
iPP 02 24 34
iSKS 02 31 14
iPS 02 33 13
micr sec
P2 E 6.8 18
P2 N 1.9 9
P2 Z 13 9
P2 Z' 0.7 1.0
PP E 3.3 9
PP N 2.8 7
SKS E 29 12
SKS N 17 10
Mx E 360 24
Mx N 330 25
Mx Z 580 25
D = 10850 km = 97 1/2°.
Ki iP1 02 20 22.0 C
iP2 02 20 28.5
i 02 20 53.2
iY 02 23 25
iPP 02 24 11
iSKS 02 30 59
iS 02 31 34
micr sec
P1 Z' 0.8 1.5
P2 E 11 11
P2 N 2.4 12
P2 Z 32 11
P2 Z' 2.5 1.0
PP E 11 8
PP Z 24 9
PP Z' 2.5 2.2
SKS E 66 12
SKS N 8.4 10
S N 20 9
Mx E 340 22
Mx N 180 21
Mx Z 420 19
D = 10500 km = 94 1/2°.

Sk

iP1 02 20 42.6 C
iP2 02 20 49.5
iY 02 23 55.7
(cont.)

1968

Aug. 10

(cont.)

Gb iP1 02 20 52.9 C
iP2 02 21 00.0
iX 02 23 41.8
iY 02 24 16.8
Um iP1 02 20 27.1 C
iP2 02 20 33.8
Ka iP1 02 20 46.5 C
iP2 02 20 53.3
iX 02 23 23.8
Ud iP1 02 20 45.2 C
iP2 02 20 51.7
iY 02 23 57.8

Molucca Passage (h = 30 km).
m = 7.5, M = 7.9 (Up, Ki).
Double P: a small P1 is followed after 6.9 sec (average) by a much larger P2. X and Y belong to the group of unidentified phases arriving before PP and which use to be clear in this distance range.

" 10

Up iP 02 36 36.2
Sk iP 02 36 46.5
i 02 37 10.5

" 10

Up iP 02 37 21.1
micr sec
P Z' 0.1 1.0
Ki iP 02 37 31.1
micr sec
P Z' 0.1 1.0
Sk iP 02 37 17.7
Gb e(P) 02 37 19
i 02 37 35.4
Um iP 02 37 23.5
Ka iP 02 37 18.6
Ud iP 02 37 17.1
i 02 37 38.8

" 10

Up iP 02 39 18.6

" 10

Up iP 02 40 12.5
Um iP 02 40 15.1

" 10

Ki iP 02 53 05.8
Sk eP 02 53 30
Ud eP 02 53 37
(Molucca Passage).

" 10

Up iP 02 57 03.0
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
Aug. 10	(cont.)				Aug. 10	Up	iP	04 19 24.9	
	Ki	iP	02 56 47.6				i	04 19 29.5	
			micr sec			Ki	iP	04 19 08.5	
		P	Z' 0.1 1.0				i	04 19 11.2	
	Sk	iP	02 57 08.4				P	Z' 0.2 1.3	
	Gb	iP	02 57 19.5			Sk	iP	04 19 31.8	
	Um	iP	02 56 52.6 C				iX	04 22 04.2	
	Ud	iP	02 57 11.6				iY	04 22 49.2	
		i	02 57 19.5			Gb	iP	04 19 41.6	
	Molucca Passage.						iY	04 23 04.1	
	Origin time = 02 43.5.						i	04 23 08.5	
"	10	Ki	iP	02 57 49.9		Um	iP	04 19 16.3	
		Sk	iP	02 58 10.7		Ka	iP	04 19 35.9	
		Ud	iP	02 58 16.5			iY	04 22 41.5	
	Molucca Passage.					Ud	iP	04 19 32.2	
	Origin time = 02 44.5.						iY	04 22 46.8	
"	10	Sk	eP	03 00 11		Molucca Passage			
		Um	iP	03 00 42.8		(h = 30 km).			
		Ud	iP	03 00 26.3		The phases X and Y are			
"	10	Sk	eP	03 02 57		identical with the phases			
		Gb	iP	03 02 50.2		X and Y, respectively,			
"	10	Ki	iP	03 39 54.3 C		"	10	Gb	eP
			i	03 40 08.0					i
"	10	Ki	iP	04 01 01.8				Ka	iP
		Ud	iP	04 01 30.7					i
	Molucca Passage				"	10	Up	iP	04 33 50.5
	(h = 30 km).							i	04 34 10.5
"	10	Ki	iP	04 10 27.4				iPn	04 34 28.9
		Ud	iP	04 10 55.4				Ki	iP
	Molucca Passage								micr sec
	(h = 30 km).								P
"	10	Ki	iP	04 11 48.4					Z' 0.1 1.2
		Sk	eP	04 12 09			Sk	eP	04 34 29
		Ud	iP	04 12 12.7				iPP	04 35 40.2
	Molucca Passage						Gb	iPn	04 34 40.4
	(h = 30 km).						Um	iP	04 34 08.4 C
"	10	Ki	iP	04 15 59.4				iPn	04 35 04.9
		ipP	04 16 11.0				Ka	iP	04 33 36.9
		i	04 16 23.9					i	04 33 40.2
		Ki	iP	04 15 44.3			Ud	iP	04 34 05.4 C
			i	04 16 15.0			Iraq (h = 30 km).		
		Um	iP	04 15 47.4		"	10	Ki	iP
		Ud	iP	04 16 07.8					iT
	Molucca Passage.							Sk	iP
	h = 40 km (Up).								i
								Gb	iP
								Ka	iP
								Ud	iP
								Svalbard (h = 30 km).	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968
Aug. 10 Ud iPKP 05 52 56.0 C
Tonga Islands (h = 60 km).

" 10 Up iP 06 05 21.3 C
i 06 05 25.7
iY 06 08 23.5
iSKS 06 15 53
micr sec
P Z 1.3 7
P Z' 0.1 0.6
SKS E 2.6 8
SKS N 1.0 6
Mx E 13 23
Mx N 13 21
Mx Z 18 20

Ki iP 06 05 04.4
ipP 06 05 14.5
iY 06 08 01
iPP 06 08 57
iSKS 06 15 37
iS 06 16 13
micr sec
P E 0.7 8
P Z 2.6 9
P Z' 0.4 1.5
PP E 1.5 8
PP Z 1.8 6
SKS E 5.3 7
SKS N 0.9 7
S E 8.2 6
S N 2.7 6
Mx E 23 17
Mx N 15 19
Mx Z 35 17
D = 10450 km = 94°.

Sk iP 06 05 25.7 C
i 06 05 49.1
iX 06 07 58.7
iY 06 08 55.1
i 06 09 59.3

Gb iP 06 05 37.5
ipP 06 05 46.9
iX 06 08 20.4

Um iP 06 05 09.7
iY 06 08 25.4

Ka eP 06 05 32
iX 06 08 16.5

Ud iP 06 05 28.8 C
ipP 06 05 40.2
i 06 05 49.8
i 06 08 32.8
iY 06 08 52.3

Molucca Passage.
h = 40 km (Ki,Gb,Ud).
(cont.)

1968
Aug. 10 (cont.)
m = 6.7, M = 6.7 (Up,Ki).
The phases X and Y are
identical with the phases
X and Y, respectively,
for Aug. 10, 02 20.

" 10 Ud iP 08 23 26.3
Molucca Passage
(h = 30 km).

" 10 Up iP 08 23 49.1
i 08 23 55.4
micr sec
Mx E 1.0 20
Mx N 1.0 20
Mx Z 1.9 20

Ki iP 08 23 33.2 C
ipP 08 23 47.0
iSKS 08 34 03
micr sec
P Z' 0.1 1.0
pP Z' 0.2 1.0
SKS E 0.8 14
Mx E 1.8 16
Mx N 0.8 18
Mx Z 2.5 18

Sk iP 08 23 54.8
ipP 08 24 07.9
iX 08 26 38.1

Um iP 08 23 38.5 C
ipP 08 23 51.9
i 08 27 08.7

Ka iP 08 24 01.5
Ud iP 08 23 57.1
ipP 08 24 10.7
i 08 24 36.9
i 08 27 04.8
iY 08 27 13.3
iPP 08 28 13.2

Molucca Passage.
h = 50 km (Ki,Sk,Um,Ud).
M = 5.5 (Up,Ki).
X and Y: see explanation
Aug. 10, 02 20.

" 10 Ki iP 09 03 15.4
Um iP 09 03 18.5
Ud e(P) 09 03 43
Molucca Passage
(h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
Aug. 10	Ki	iSg	09 21 17.5		Aug. 10	Up	iP	13 17 33.7	
	Sk	eSg	09 21 42			Ki	iP	13 17 14.0	
	Um	iSg	09 19 53.5			Sk	iP	13 17 38.3	
	Ud	eSn	09 20 43			Um	iP	13 17 21.0	
		iSg	09 21 28.3			Ud	iP	13 17 43.1	
		Lake Ladoga.					Probably Luzon.		
		Origin time = 09 16 58.					Origin time = 13 05.1.		
		Explosion?							
"	10	Ki	iP	10 19 10.2	"	10	Up	eP	13 57 51
		Um	iP	10 19 16.1			i	13 57 54.5	
		Ud	iP	10 19 34.7			Ki	iP	13 57 22.6
		Molucca Passage					Sk	eP	13 57 52
		(h = 25 km).					Um	iP	13 57 36.4 D
							Ud	iP	13 58 01.3
							South of Japan		
							(h = 520 km).		
"	10	Ud	eP	10 29 46	"	10	Ki	iP	14 13 57.3
		Molucca Passage					Ud	iP	14 14 23.2
		(h = 30 km).					Molucca Passage		
"	10	Ki	eP	10 42 26			(h = 30 km).		
		Sk	iP	10 42 42.8					
		Ud	iP	10 42 46.4					
		Molucca Passage							
		(h = 5 km).				"	10	Ud	iP
								14 21 27.8	
"	10	Up	iPKP	10 49 20.8	"	10	Ki	iP	14 26 18.6
		i	10 49 30.0				Um	iP	14 26 45.3
		Ki	ePKP	10 48 54			Ud	iP	14 27 11.1
		Sk	iPKP	10 49 15.3			Aleutian Islands.		
		Um	iPKP	10 49 10.7	"	10	Ki	eP	14 49 51
		Ud	iPKP	10 49 22.8			i	14 50 04.4	
"	10	Up	iPKP	11 24 35.3	"	10	Ki	iP	15 35 01.9
		Ud	iPKP	11 24 36.8			Ud	iP	15 35 24.9
			ipPKP	11 25 37.8			i	15 35 31.8	
		Tonga-Kermadec Islands.					Molucca Passage		
		h = 240 km (Ud).					(h = 30 km).		
"	10	Up	iP	12 47 01.1	"	10	Ki	iP	15 58 54.0 D
"	10	Up	iP	13 03 43.3			Um	iP	15 58 59.4
				micr sec			Ud	iP	15 59 17.8
		P	Z'	0.1 0.6			Molucca Passage		
		Ki	iP	13 03 24.1 C			(h = 30 km).		
		Sk	iP	13 03 48.8	"	10	Um	iP	16 34 34.5
		Gb	iP	13 04 01.5	"	10	Up	iP	16 53 50.9
		Um	iP	13 03 30.9			i	16 54 17.5	
		Ka	iP	13 03 55.6			eS	17 04 03	
		Ud	iP	13 03 53.0 C			micr sec		
		Probably Luzon.					P	Z'	0.1 1.0
		Origin time = 12 51.3.					Mx	E	1.1 20
"	10	Ud	iP	13 14 53.8			Mx	N	1.9 19
							Mx	Z	1.7 18
							D = 9300 km = 83 1/2°.		

(cont.)

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1968					1968					
Aug. 10	(cont.)				Aug. 10	(cont.)				
	Ki	iP	16 53 31.9			Ka	iPKP	19 37 50.5		
		ipP	16 53 41.5				iPKS	19 41 21.4		
		i	16 54 11.0			Ud	iPKP	19 37 41.8		
		iS	17 03 31				iPKS	19 41 10.3		
			micr sec			Loyalty Islands				
		pP	Z 0.8 4			(h = 140 km).				
		pP	Z' 0.2 1.3			"	10	Up	iP	20 02 18.2 C
		S	N 0.4 7						iS	20 12 31
		Mx	E 1.5 20							micr sec
		Mx	N 1.3 20						P	Z' 0.1 0.6
		Mx	Z 1.6 14						D = 9150 km = 82 1/2°.	
			D = 8900 km = 80°.					Ki	iP	20 01 58.5
	Sk	iP	16 53 55.5					Sk	iP	20 02 22.5
		ipP	16 54 05.6					Gb	iP	20 02 35.7
	Gb	ipP	16 54 17.9					Um	iP	20 02 05.2
	Um	iP	16 53 38.4						iS	20 12 05
		ipP	16 53 47.5					Ka	iP	20 02 29.3
		iS	17 03 41						i	20 02 34.2
	Ka	iP	16 54 01.6						i	20 02 38.6
		i	16 54 08.1					Ud	iP	20 02 27.4 C
		i	16 54 30.8						i	20 02 31.8
	Ud	iP	16 53 59.8						i	20 02 35.0
		ipP	16 54 10.1					Luzon (h = 40 km).		
	Luzon. h = 35 km (Ki,Sk,Um,Ud).					"	10	Up	iP	23 18 36.2 D
	m = 5.9, M = 5.5 (Up,Ki).							Ki	iP	23 18 16.2
	pP Z' has a larger amplitude than P Z'.							Gb	iP	23 18 52.9
"	10	Ud	eP	18 01 47				Um	iP	23 18 22.7
	Molucca Passage							Ka	iP	23 18 48.0
	(h = 30 km).						Luzon.			
							Origin time = 23 06.2.			
"	10	Um	iP	18 12 06.0		"	11	Ki	eP	01 04 11
		Ud	iP	18 12 17.3				Molucca Passage		
								(h = 30 km).		
"	10	Ud	iP	18 45 47.4		"	11	Ki	iP	02 59 11.2
"	10	Up	iPKS	19 41 11.2				Sk	eP	02 59 31
		i	19 41 18.6					Molucca Passage		
		i	19 41 27.3					(h = 30 km).		
	Ki	iPKP	19 37 37.2		"	11	Ki	iP	03 01 35.6	
		iPKS	19 40 47.6					Molucca Passage		
			micr sec					(h = 30 km).		
		PKS	Z' 0.1 1.3		"	11	Um	iS	03 07 42	
		Mx	E 0.3 12					iSP	03 09 21	
		Mx	N 0.4 17				Peru (h = 90 km).			
	Sk	ePKP	19 37 44		"	11	Ki	eP	04 52 11	
		iPKS	19 41 06.4		"	11	Up	iSg	05 53 38.1	
	Gb	iPKP	19 37 49.1				(cont.)			
		iPKS	19 41 19.5							
	Um	iPKP	19 37 42.3							
		iPKS	19 40 59.3							
	(cont.)									

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1968

Aug. 11	(cont.)				
	Ki	eSn	05 50 21		
		iLg1	05 50 43.0		
	Sk	iSg	05 53 10.6		
	Um	iSn	05 51 01.8		
		iSg	05 51 38.0		
	Northwest Russia. Explosion?				
" 11	Up	iP	09 13 55.7		
	Ki	iP	09 13 39.6		
	Sk	iP	09 14 02.2		
	Um	iP	09 13 44.9		
	Molucca Passage (h = 30 km).				
" 11	Ki	eP	10 15 57		
	Um	iP	10 16 02.6		
	Molucca Passage (h = 30 km).				
" 11	Sk	iP	10 29 00.7		
" 11	Ki	eP	11 50 02		
" 11	Ki	iP	12 17 17.6 C		
	Molucca Passage (h = 30 km).				
" 11	Up	iPKP	12 20 51.0 C		
			micr sec		
		PKP	Z' 0.1 0.7		
	Ka	iPKP	12 21 01.8		
	Tonga-Kermadec Islands (h = 480 km).				
" 11	Up	iP	12 48 07.4 C		
		ipP	12 48 46.9		
		iS	12 56 45		
		isS	12 57 47		
			micr sec		
		P	Z' 0.4 0.6		
	Ki	iP	12 47 14.5 C		
		ipP	12 47 51.0		
		isP	12 48 09		
		iS	12 55 08		
		isS	12 56 13		
			micr sec		
		P	Z' 0.2 0.7		
		S	E 0.5 8		
		S	N 0.5 8		
	Sk	iP	12 47 46.7 C		
		i	12 48 19.6		
	(cont.)				

1968

Aug. 11	(cont.)				
	Gb	iP	12 48 24.4 C		
	Um	iP	12 47 40.3 C		
		i	12 48 02.2		
		ipP	12 48 15.7		
		iS	12 55 58		
		isS	12 57 01		
	Ka	iP	12 48 30.3 C		
		ipP	12 49 10.5		
	Aleutian Islands. h = 150 km (Up,Ki,Um,Ka). m = 6.1 (Up,Ki).				
" 11	Um	iP	13 23 24.4		
" 11	Ki	iP	15 21 08.4		
	Sk	eP	15 21 29		
	Molucca Passage (h = 30 km).				
" 11	Ki	eP	19 00 28		
	Molucca Passage (h = 5 km).				
" 11	Up	iP	20 14 17.0		
		iSKS	20 24 49		
			micr sec		
		Mx	E 4.0 25		
		Mx	N 3.4 19		
		Mx	Z 5.6 24		
	Ki	iP	20 14 01.1		
		i	20 15 46.5		
		iPP	20 17 45		
		iSKS	20 24 30		
		iS	20 25 06		
			micr sec		
		P	Z 0.7 8		
		P	Z' 0.1 1.5		
		PP	E 0.7 8		
		PP	Z 0.8 7		
		SKS	E 1.3 9		
		S	N 0.3 10		
		Mx	E 7.0 21		
		Mx	N 3.3 20		
		Mx	Z 9.2 21		
			D = 10500 km = 94 1/2°.		
	Sk	iP	20 14 21.0		
		iY	20 17 59.6		
	Um	iP	20 14 08.1		
		i	20 14 28.2		
		iY	20 17 27.5		
		iPP	20 17 55		
		iSKS	20 24 37		
	Ka	iP	20 14 30.2		
	(cont.)				

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1968				1968			
Aug. 11	(cont.)			Aug. 12	Ki	iP	13 57 03.1
	Ud	iP	20 14 24.8				micr sec
		iPP	20 18 23.8			P	Z' 0.1 1.2
	Molucca Passage (h = 30 km).				Um	iP	13 57 08.0
	m = 6.1, M = 6.2 (Up,Ki).				Ud	iP	13 57 26.8
					Molucca Passage (h = 30 km).		
" 11	Sk	e(P)	21 54 13	" 12	Ki	iP	14 20 14.8
	Ud	iP	21 53 30.9 C		Gb	iP	14 20 41.7
" 11	Ki	iP	22 18 48.7			i	14 20 47.3
	Sk	e(P)	22 19 00		Ud	eP	14 20 38
" 11	Ki	eP	22 21 13		Probably Molucca Passage. Origin time = 14 07.0.		
	Molucca Passage (h = 30 km).			" 12	Um	iP	15 15 02.7
" 12	Ki	ePn	02 19 19	" 12	Ki	eP	18 01 03
		ePg	02 19 29		Um	iP	18 01 13.5
		eSn	02 19 58		Ud	iP	18 01 36.1
		iSg	02 20 12.7		Probably Luzon. Origin time = 17 49.1.		
	D = 360 km = 3.2°.			" 12	Up	iPKP	18 26 56.6
	Origin time = 02 18 26.					i	18 27 03.2
" 12	Ki	iP	02 50 30.7				micr sec
	Um	iP	02 50 49.6			PKP	Z' 0.2 0.6
	Ud	iP	02 51 19.7		Ki	ePKP	18 26 36
	Japan.				Sk	iPKP	18 26 49.2
" 12	Ud	iP	05 39 31.4			i	18 26 51.1
" 12	Sk	eP	06 41 07		Gb	iPKP	18 27 05.9
" 12	Ki	eP	07 12 28			i	18 27 14.5
	Sk	eP	07 12 49		Um	iPKP	18 26 44.6
	Molucca Passage (h = 20 km).					i	18 26 47.0
" 12	Up	i	07 13 35.7		Ka	iPKP	18 27 05.3
		i(Sg)	07 14 21.4			i	18 27 16.2
	Ud	e(Sg)	07 14 31		Ud	iPKP	18 26 59.3
" 12	Ki	iP	07 51 51.4			i	18 27 04.9
" 12	Ki	eP	13 11 29		Kermadec Islands (h = 30 km). Double PKP with an inter- val generally increasing with distance over our station net.		
	Sk	eP	13 11 53	" 12	Ud	iP	19 53 19.7
	Ud	iP	13 11 57.2	" 12	Up	iP	20 29 53.1
	Probably Luzon. Origin time = 12 59.5.			" 12	Up	iP	20 42 57.4
" 12	Um	iP	13 20 34.1				micr sec
" 12	Sk	iSg	13 32 21.1			Mx	E 0.5 18
	Ud	iSg	13 31 21.3			Mx	N 0.6 16
					(cont.)		

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1968				1968			
Aug. 12	(cont.)			Aug. 13	Ki	iP	04 18 43.6
	Ki	iP	20 42 12.4				Molucca Passage
			micr sec				(h = 30 km).
		Mx	E 0.8 19	"	13	Up	iP 04 45 53.1
		Mx	N 0.9 19			Ki	eP 04 46 40
		Mx	Z 1.0 16			Ka	i(P) 04 45 47.2
	Sk	eP	20 42 47			Ud	iP 04 46 13.8
	Gb	iP	20 43 16.5				Turkey.
	Um	iP	20 42 33.2	"	13	Ki	iP 06 52 26.0
		i	20 42 39.7				
	Ud	iP	20 43 01.7	"	13	Ud	i(Sg) 07 01 59.6
		i	20 43 04.2				
	Japan (h = 70 km).			"	13	Ki	eP 09 16 05
	M = 5.0 (Up,Ki).						Molucca Passage
"	12	Up	iPKP 20 49 21.8				(h = 30 km).
		Sk	iPKP 20 49 10.6	"	13	Ki	i(Sg) 10 34 03.0
		Um	iPKP 20 49 05.3				
		Ud	iPKP 20 49 18.2	"	13	Ki	iP 12 08 52.6
		i	20 49 24.2				Molucca Passage
"	12	Ki	e(Sn) 20 53 42				(h = 30 km).
			i(Lg1) 20 54 00.9	"	13	Um	iP 13 35 25.6
"	12	Ki	eP 21 08 15				Switzerland.
		Ud	iP 21 09 03.7	"	13	Ud	iP 17 02 07.1
	Japan (h = 50 km).			"	13	Ka	iP 17 53 01.3
"	12	Sk	eP 23 26 55	"	13	Ud	iP 18 23 48.6
	Colombia (h = 30 km).			"	13	Ki	iSg 19 03 25.5
"	13	Ki	iP 00 27 21.3			Sk	iSg 19 03 30.2
		Ud	iP 00 27 31.7			Um	iSg 19 03 53.0
	Luzon (h = 45 km).						Nordlands Fylke, Norway,
"	13	Up	iP 03 06 22.6				66.4°N, 14.8°E.
		Ki	iP 03 06 07.7 C				Origin time = 19 01 57.
			micr sec				Explosion?
		P	Z' 0.2 1.2	"	13	Up	iPKP 19 54 18.2 C
		Mx	E 0.7 20				iPKS 19 57 32.0
		Mx	N 0.5 20				i 19 57 40.7
		Mx	Z 1.1 21				micr sec
	Sk	iP	03 06 28.3				PKS Z' 0.1 0.7
		iY	03 09 46.9			Ki	iPKP 19 54 03.0
		iPP	03 10 32.4				micr sec
	Um	iP	03 06 12.6 C				PKP Z' 0.2 1.2
		ipP	03 06 21.7			Sk	iPKP 19 54 14.0
	Ud	iP	03 06 31.2				iPKS 19 57 26.2
		iX	03 09 22.8			Gb	iPKP 19 54 24.8
		iPP	03 10 38.7				iPKS 19 57 43.8
	Molucca Passage.						(cont.)
	h = 35 km (Um).						
	X and Y: see explanation						
	under Aug. 10, 02 20.						

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1968				1968			
Aug. 13 (cont.)				Aug. 14 (cont.)			
	Um	iPKP	19 54 09.3		Up		micr sec
	Ud	iPKP	19 54 18.5		Mx	E	0.7 18
		iPKS	19 57 34.9		Mx	N	2.4 17
		i	19 58 38.9		Mx	Z	1.4 18
	New Hebrides Islands (h = 130 km).				D = 9450 km = 85°.		
	Ki	iP	08 08 49.4 C		Ki	eS	08 18 55
"	14	Up	iPKP 00 35 58.2				micr sec
		Sk	iPKP 00 35 46.0		P	Z'	0.3 1.5
		Um	iPKP 00 35 39.9		S	E	0.3 8
		Ud	iPKP 00 35 52.2		S	N	0.3 8
"	14	Ki	eP 00 37 47.0		Mx	E	1.4 19
	Molucca Passage (h = 30 km).				Mx	N	1.7 20
					Mx	Z	1.0 16
					D = 9000 km = 81°.		
"	14	Up	iP 01 23 54.8 C		Sk	iP	08 09 13.6
		ipP	01 24 04.0		Gb	iP	08 09 25.3
		iS	01 32 11		Um	iP	08 08 55.9 C
			micr sec			iS	08 19 08
		P	Z' 0.1 1.1		Ka	iP	08 09 19.7
		D = 6700 km = 60 1/2°.			Ud	iP	08 09 17.4 C
	Ki	iP	01 23 00.0 C		Luzon (h = 10 km).		
		ipP	01 23 09.0		m = 6.0, M = 5.6 (Up,Ki).		
			micr sec	"	14	Up	iP 08 51 32.1 C
		P	Z' 0.1 1.0			i	08 51 34.1
	Sk	iP	01 23 37.3			ipP	08 51 41.8
		ipP	01 23 46.0			iS	09 02 07
	Gb	iP	01 24 11.6				micr sec
	Um	iP	01 23 25.6			pP	Z' 0.1 0.6
		ipP	01 23 33.8			S	E 0.5 10
		iPa	01 26 19.2			S	N 0.9 9
		iS	01 31 16			Mx	E 1.3 17
	Ka	iP	01 24 19.8 C			Mx	N 2.2 18
	Ud	iP	01 23 58.1 C			Mx	Z 4.0 18
		ipP	01 24 07.1			D = 9800 km = 88°.	
	Kamchatka. h = 35 km (Up, Ki,Sk,Um,Ud).				Ki	iP	08 51 15.4 C
	m = 5.9 (Up,Ki).						micr sec
"	14	Ud	iP 02 11 18.8			P	Z 1.1 4
		i	02 11 24.2			P	Z' 2.0 2.8
"	14	Ki	eP 02 23 23			Mx	E 3.1 18
	Unimak Island (h = 30 km).					Mx	N 3.1 15
"	14	Up	iP 08 09 08.7 C			Mx	Z 6.1 18
		i	08 09 15.5		Sk	iP	08 51 14.1 C
		iS	08 19 30		Um	iP	08 51 26.4
			micr sec			ipP	08 51 34.0
		P	Z' 0.2 0.5			i	08 52 02.1
		S	E 0.3 6		Ka	iP	08 51 38.7
	(cont.)				Ud	iP	08 51 24.4 C
						ipP	08 51 32.1
					Mexico. h = 30 km (Up,Um, Ud).		
					m = 6.4, M = 5.9 (Up,Ki).		
					P Z' exhibits a long period (which frequently happens at our stations for earth- quakes from this area).		

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1968				1968			
Aug. 14	Sk	eP	09 29 27	Aug. 14	(cont.)		
" 14	Ki	iPn	10 15 55.0		Ud	iP	18 28 12.1
		iSn	10 16 40.9			Greece.	
		iSg	10 17 01.0	" 14	Um	i	18 31 35.8
		D = 420 km = 3.8°.				i(Sg)	18 31 56.8
	Sk	iSg	10 19 29.2	" 14	Um	iP	18 36 21.5
		Northwest Russia.			Ud	iP	18 36 17.3
		Origin time = 10 14 54.		" 14	Up	iP	22 27 43.3
		Explosion?				i	22 27 50.3
" 14	Ki	eSg	11 27 09			iPP	22 31 42
	Sk	eSg	11 26 26			iSKS	22 38 24
	Um	iSg	11 25 10.0			iS	22 39 00
		Near Reval, Esthonia.					micr sec
		Explosion?				P	E 1.8 10
" 14	Ki	e(Sg)	12 22 30			P	Z 7.5 12
	Um	i	12 20 41.2			P	Z' 0.2 1.0
		iSg	12 20 50.2			PP	E 3.7 8
	Ud	iSg	12 21 27.8			PP	N 2.4 12
		Baltic State region.				PP	Z 15 14
		Explosion?				PP	Z' 0.3 1.0
" 14	Ud	i	12 39 08.7			SKS	E 13 12
		iSg	12 39 11.8			S	N 45 16
" 14	Up	iPKP	14 53 22.1			Mx	E 51 18
	Sk	ePKP	14 53 12			Mx	N 160 24
	Um	iPKP	14 53 06.2			Mx	Z 96 21
	Ud	ePKP	14 53 19			D = 10650 km = 96°.	
" 14	Ud	iP	15 15 37.2	Ki	iP	22 27 35.8	C
" 14	Up	iP	15 50 29.8		i	22 31 17	
		iPP	15 51 10.1		iPP	22 31 25	
	Ki	iP	15 51 51.5		iSKS	22 38 11	
	Sk	iP	15 51 23.9		iS	22 38 40	
		i	15 55 44.4		ePKKP	22 44 48	
	Um	iP	15 51 09.7			micr sec	
	Ud	iP	15 50 45.7		P	E 2.5 6	
		Rumania (h = 130 km).			P	Z 7.5 7	
" 14	Ki	eP	17 42 01		P	Z' 0.5 1.2	
		iSg	17 42 52.4		PP	Z 18 14	
	Sk	e(P)	17 42 08		PP	Z' 1.5 2.4	
		iSg	17 42 50.6		SKS	E 33 14	
		Possibly off west coast			SKS	N 2.4 7	
		of Norway in the Lofoten			S	N 43 14	
		area.			Mx	E 120 20	
" 14	Up	i(P)	18 28 03.7		Mx	N 95 19	
	Sk	iP	18 28 45.2		Mx	Z 180 18	
	(cont.)				D = 10450 km = 94°.		
				Sk	iP	22 27 55.0	
					i	22 27 58.5	
					iPP	22 31 59.6	
				Gb	iP	22 28 01.0	
					i	22 28 06.5	
					iPP	22 32 11.0	
				(cont.)			

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1968				1968			
Aug. 14		(cont.)		Aug. 15		(cont.)	
Um	iP	22 27	38.8 C	Ki		micr	sec
	i	22 27	44.4	Mx	E	0.8	18
	iPP	22 31	30.4	Mx	N	0.8	20
	iSKS	22 38	07	Mx	Z	1.4	19
	iS	22 38	48	Ud	eP	04 26	33
Ka	iP	22 27	54.1	Celebes (h = 30 km).			
	i	22 27	59.5	M = 5.4 (Up,Ki).			
	iPP	22 31	57.5	"	15	Ki	iP
Ud	iP	22 27	56.2			05 18	35.2 C
	i	22 27	59.6	Ud	iP	05 18	57.6
	iPKKP	22 44	29.9	Molucca Passage			
Celebes (h = 25 km).				(h = 30 km).			
m = 7.1, M = 7.5 (Up,Ki).				"	15	Up	iPKP
Double P, small and large,						07 09	45.9
at an average interval of						micr	sec
5.1 sec.						PKP	Z' 0.2 0.7
"	15	Up	iP	Ki	iPKP	07 09	34.7
		Ki	eP		iSKP	07 12	48.3
		Ud	iP		iPKS	07 13	03
					iS	07 19	56
					i	07 20	17
					iSS	07 29	41
						micr	sec
					PKS	N	0.4 9
				Sk	iPKP	07 09	39.1
				Gb	iPKP	07 09	54.1
					ipPKP	07 10	40.9
				Um	iPKP	07 09	41.1
					iSKP	07 12	58
					iPKS	07 13	14
					ipPP	07 13	28.6
					iSS	07 30	30
				Ka	iPKP	07 09	56.6
					i	07 09	58.0
				Ud	iPKP	07 09	46.2 D
				Tonga-Kermadec Islands.			
				h = 180 km (Gb).			
				S (Ki) would correspond			
				to the diffracted S.			
"	15	Ki	eP	"	15	Up	iP
		Sk	iP			08 41	40.9
						Ki	iP
						08 42	22.7
						Sk	iSn
						08 47	50.6
						Um	iP
						08 41	56.1
						Ka	iP
						08 41	34.0
						Ud	iP
						08 41	59.1 C
						i	08 42
						iS	08 46
						35.2	
				Caucasus.			
"	15	Up	---	"	15	Ki	iP
			micr sec			11 53	45.4 C
		Mx	N 1.3 21			Sk	iP
		(cont.)				11 54	04.7 C
						(cont.)	

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1968				1968			
Aug. 15	(cont.)			Aug. 16	Ki	iSKP	03 52 42.1
	Um	iP	11 53 48.3 C		Gb	iPKP	03 50 27.3
	Ud	iP	11 54 05.1		Ka	iPKP	03 50 29.7
	Celebes (h = 10 km).				Ud	iPKP	03 50 18.8
" 15	Ud	iP	13 58 47.6		Fiji Islands (h = 630 km).		
" 15	Up		---	" 16	Ki	i(Sg)	04 28 30.3
			micr sec	" 16	Up	iP	10 50 41.0 C
	Mx	E	0.6 20			iPP	10 53 24.3
	Mx	N	1.5 19			iS	11 00 01
	Mx	Z	1.6 20				micr sec
	Ki	iPKP	18 00 21.6			P	Z' 0.1 1.0
		i	18 00 33.3			Mx	E 1.6 17
			micr sec			Mx	N 2.5 18
	Mx	E	1.1 20			Mx	Z 2.3 18
	Mx	N	0.7 18			D = 8050 km = 72 1/2°	
	Mx	Z	1.3 20		Ki	iP	10 49 59.5 C
	Sk	iPKP	18 00 32.4			iPP	10 52 24.7
	Um	iPKP	18 00 26.3			iS	10 58 43
		i	18 00 39.2				micr sec
	Ud	iPKP	18 00 38.1			P	Z 0.5 7
		i	18 00 48.8			P	Z' 0.1 1.5
	Santa Cruz Islands					S	E 0.7 9
	(h = 5 km).					S	N 0.5 9
	M = 5.7 (Up,Ki).					Mx	E 9.3 20
" 15	Up	iP	21 39 29.6			Mx	N 4.4 21
			micr sec			Mx	Z 6.1 16
	Mx	N	0.9 22			D = 7300 km = 65 1/5°	
	Ki	eP	21 39 15		Sk	iP	10 50 33.4 C
		i	21 39 18.7			iPP	10 53 00.9
			micr sec			iPa	10 54 54.4
	Mx	E	0.7 20		Gb	iP	10 51 01.0
	Mx	N	0.7 18			iPP	10 53 51.6
	Mx	Z	1.6 22		Um	iP	10 50 17.8 C
	Sk	iP	21 39 37.2			i	10 50 28.8
		iPP	21 43 34.5			iPP	10 52 44.3
	Um	iP	21 39 19.4			iS	10 59 17
	Ud	iP	21 39 34.9			iScS	11 00 08
		i	21 39 39.1		Ka	iP	10 50 58.6
	Celebes (h = 30 km).				Ud	iP	10 50 47.8 C
	M = 5.3 (Up,Ki).					iPP	10 53 38.4
" 15	Up	iP	23 26 08.8 C		Japan (h = 20 km).		
	Ki	iP	23 25 39.3		m = 5.9, M = 5.9 (Up,Ki).		
		ipP	23 25 49.5	" 16	Ki	iPn	10 54 05.2
	Ud	iP	23 26 17.9			iSn	10 54 42.3
	Ryukyu Islands.					iSg	10 54 58.4
	h = 40 km (Ki).						D = 330 km = 3.0°
" 16	Ud	iP	02 23 50.6		Sk	iSg	10 57 23.6
" 16	Ki	i(Sg)	03 17 53.7		Probably northern Finland.		
					Origin time = 10 53 16.		
					Explosion?		

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
 Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Aug. 16	Ud	iP	11 12 23.0	Aug. 16	(cont.)		
"	16	Ki	eP 11 22 05		Um	iP	18 38 34.8
		Ud	iP 11 22 25.5			i	18 39 08.5
			Molucca Passage			iScS	18 49 16
			(h = 30 km).				Mexico. h = 50 km (Up,Ki).
"	16	Up	i(PKP) 11 52 12.0	"	16	Um	iP 19 03 05.7
			iPKP 11 52 24.2	"	16	Up	iP 21 37 28.0
			iSKP 11 55 10.0			Ki	iP 21 37 10.3
		Ki	iSKP 11 54 46.4				micr sec
			iPKS 11 55 36.9			P	Z' 0.1 1.5
			micr sec			Mx	E 0.6 15
			SKP Z' 0.3 1.5			Mx	N 0.3 15
		Sk	i(PKP) 11 52 17.3			Mx	Z 0.6 14
			iPKP 11 52 27.8			Sk	iP 21 37 09.0
			iSKP 11 55 03.4			Um	iP 21 37 21.6
			i 11 55 13.7			Ud	iP 21 37 19.7
		Gb	iPKP 11 52 34.6 D				Mexico (h = 25 km).
		Um	i(PKP) 11 52 12.8	"	17	Up	eP 04 14 11
			iPKP 11 52 19.1				i 04 14 13.7
			iSKP 11 54 58.1				iY 04 17 20.3
		Ka	iPKP 11 52 37.3 D				iU 04 17 54.0
		Ud	iPKP 11 52 26.5				iSKS 04 24 40
			i 11 52 35.4				micr sec
			iSKP 11 55 11.6			SKS	E 0.7 6
			Fiji Islands (h = 640 km).			SKS	N 0.6 8
"	16	Um	iP 13 43 55.8			Mx	E 2.2 19
"	16	Ud	iP 14 14 57.3			Mx	N 4.5 22
"	16	Ki	iSg 17 36 31.8			Mx	Z 4.0 18
		Sk	iSg 17 37 09.2			Ki	iP 04 13 54.1
		Um	iSg 17 35 16.0				ipP 04 14 03
		Ud	iSg 17 36 41.6				iU 04 17 26
			Lake Ladoga region.				iSKS 04 24 23
			Explosion?				iS 04 25 00
"	16	Up	iP 18 38 38.9				micr sec
			ipP 18 38 51.0			P	Z 0.9 9
			i 18 39 22.2			P	Z' 0.1 1.2
		Ki	iP 18 38 25.2			SKS	E 2.1 8
			ipP 18 38 40.3			SKS	N 0.6 7
			iPP 18 41 36.2			S	E 1.7 7
			eS 18 48 46			S	N 0.7 8
			isS 18 49 12			Mx	E 3.3 21
			micr sec			Mx	N 2.6 21
			Mx E 1.1 22			Mx	Z 6.1 18
			Mx N 0.5 20				D = 10500 km = 94 1/2°.
			Mx Z 2.0 22			Sk	eP 04 14 14
			D = 9400 km = 84 1/2°.				i 04 14 17.1
		Sk	iP 18 38 21.4 C				iPP 04 18 20.2
		(cont.)				Um	iP 04 13 57.7
							i 04 14 02.2
							ipP 04 14 07
						(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

Aug. 17 (cont.)
 Um i(Y) 04 17 18.9
 iPP 04 17 55
 i 04 18 03
 iSKS 04 24 32
 iS 04 25 08
 Ud iP 04 14 17.0
 i 04 14 20.2
 iY 04 17 30.8
 iU 04 18 10.4
 i 04 18 41.3
 Molucca Passage.
 h = 35 km (Ki,Um).
 m = 6.2, M = 6.1 (Up,Ki).
 Double P, small and large,
 at an interval of about
 3-4 sec (Up,Sk,Um,Ud). Y
 has the same meaning as
 for Aug. 10, 02 20. U is
 a related phase, but it
 belongs to another branch.

" 17 Up iP 04 49 54.5
 micr sec
 P Z' 0.1 0.8
 Ki iP 04 49 19.2
 ipP 04 49 37.3
 Sk iP 04 49 50.3
 ipP 04 50 06.0
 Gb eP 04 50 17
 ipP 04 50 32.8
 Um iP 04 49 34.4 D
 Ud iP 04 50 01.6 D
 South of Japan.
 h = 60 km (Ki,Sk,Gb).

" 17 Ki iP 12 20 10.9
 Molucca Passage
 (h = 40 km).

" 17 Ki eP 13 42 09
 Um iP 13 42 13.7
 Ud eP 13 42 31
 Molucca Passage
 (h = 30 km).

" 17 Ki iP 14 52 28.2 C
 ipP 14 52 46.4
 Sk iP 14 52 42.1
 Um iP 14 52 25.9
 Sumatra. h = 70 km (Ki).

" 17 Um iP 16 12 13.4

" 17 Ki iP 19 00 46.6
 (cont.)

1968

Aug. 17 (cont.)
 Ki ipP 19 00 57.1
 Sk eP 19 01 08
 Um eP 19 00 54
 Molucca Passage.
 h = 40 km (Ki).

" 17 Ki iPn 20 36 07.3
 iP^X 20 36 15.6
 iSn 20 36 53.2
 iLg1 20 37 06.2
 D = 420 km = 3.8°.
 Sk eSg 20 39 55
 Um e 20 38 39
 iSg 20 38 46.9
 Northwest Russia.
 Origin time = 20 35 07.
 Explosion?

" 18 Ki i(Pg) 00 24 23.2
 iSg 00 24 50.9

" 18 Um iS 02 35 07
 Molucca Sea (h = 30 km).

" 18 Ki iP 05 57 14.8
 i 05 57 29.3
 iPP 06 01 07
 micr sec
 PP Z 0.3 6
 Mx E 0.8 18
 Mx N 0.5 21
 Mx Z 1.3 20
 Sk iPP 06 01 41.6
 Um iP 05 57 20.5 C
 iSKS 06 07 56
 eS 06 08 32
 Ud eP 05 57 38
 iY 06 00 53.9
 Molucca Passage
 (h = 30 km).

" 18 Up iP 07 23 46.2 C
 micr sec
 P Z' 0.2 1.5
 Mx E 0.7 16
 Mx N 1.5 15
 Mx Z 1.1 17
 Ki iP 07 23 06.1
 iS 07 31 56
 micr sec
 Mx E 1.3 16
 Mx N 1.1 16
 Mx Z 1.0 14
 D = 7400 km = 66 1/2°.
 (cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

Aug. 18 (cont.)

Sk	iP	07 23	38.4
	i	07 23	42.0
Um	iP	07 23	21.2
	i	07 23	25.4
	iS	07 32	22
Ud	iP	07 23	50.4
	i	07 23	53.4

Japan (h = 30 km).
M = 5.5 (Up,Ki).
Double P (Sk,Um,Ud).

" 18 Ud iP 11 31 46.7
Tien-Shan.

" 18 Up iP 12 05 53.5
iS 12 14 50
micr sec

Mx	E	0.6	22
Mx	N	1.2	23
Mx	Z	1.4	22

D = 7500 km = 67 1/2°.

Ki	iP	12 05	03.6
	eS	12 13	12
		micr	sec
	P	Z	0.5 5
	S	E	0.3 7
	S	N	0.2 7
	Mx	E	0.6 14
	Mx	N	0.6 14
	Mx	Z	1.0 14

D = 6650 km = 60°.

Sk	iP	12 05	39.8
Um	iP	12 05	27.3
	eS	12 13	52
Ud	iP	12 05	58.3

Kurile Islands (h = 25 km).
m = 5.6, M = 5.0 (Up,Ki).

" 18 Up iP 14 28 57.4 C
ipP 14 29 06.4
micr sec

P	Z'	0.1	0.8
---	----	-----	-----

Ki	iP	14 28	52.4 C
	ipP	14 29	02.0
		micr	sec
	P	Z'	0.1 1.3

Sk	iP	14 29	14.4 C
	ipP	14 29	21.9
Gb	iP	14 29	17.7
Um	iP	14 28	50.3 C
	ipP	14 28	58.5
Ka	iP	14 29	05.0 C

(cont.)

1968

Aug. 18 (cont.)

Ud	iP	14 29	11.4 C
	ipP	14 29	20.1

India. h = 35 km (Up,Ki,
Sk,Um,Ud).
m = 5.8 (Up,Ki).

" 18 Ki eP 17 48 55
Sk iP 17 49 25.2
Um iP 17 49 09.3
Ud iP 17 49 22.5

Molucca Passage
(h = 30 km).

" 18 Up iPKP 18 27 43.7
Ki iPKP 18 27 24.8 D
Sk iPKP 18 27 35.7
Um iPKP 18 27 29.3 D
iPP 18 29 17
Ud iPKP 18 27 41.1

Santa Cruz Islands
(h = 30 km).

" 18 Um iPKP 18 48 15.7
Santa Cruz Islands
(h = 40 km).

" 18 Up eP 18 53 02
i(PKP) 18 56 17.7
iPKP 18 56 26.4
i 18 56 34
iPP 18 58 14.1
iSKS 19 02 44
i 19 04 17
iPKKP 19 06 23.9
i 19 06 28.9
micr sec

PKP	Z	0.8	2
PKP	Z'	0.8	0.5
PP	E	0.2	3
PP	N	0.4	3
PP	Z	0.9	3
PP	Z'	1.0	1.5
PKKP	Z'	0.2	0.9
Mx	E	7.6	23
Mx	N	16	25
Mx	Z	11	24

(D = 13650 km = 123°).

Ki	iP	18 52	27.2
	i(PKP)	18 56	06.5
	iPKP	18 56	12.9
	i	18 56	21.7
	ePP	18 57	17

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
 Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Aug. 18	(cont.)			Aug. 18			
Ki	ipPP	18 59 15			Ki	iP	19 10 07.0
	i	19 03 39				P	Z' 0.2 1.5
	i	19 06 05.0			Um	iP	19 10 09.5
	i(PKKP)	19 06 43.1			Molucca Passage		
	iPKKP	19 06 51.3			(h = 30 km).		
		micr sec					
	P	Z' 0.4 2.0	" 18	Sk	iP		19 13 13.6
	PKP	Z 1.1 4	" 18	Up	iP		19 25 43.6
	PKP	Z' 1.4 1.0			i		19 25 52.1
	PP	E 0.7 8		Ud	iP		19 25 45.3
	PP	N 0.8 9					
	PP	Z 1.7 8	" 18	Um	iP		19 27 03.0
	PKKP	Z' 0.2 1.0	" 18	Ki	iP		20 34 47.9
	Mx	E 21 25	" 18	Up	iP		23 32 07.5
	Mx	N 12 19	" 18		i		23 32 17.1
	Mx	Z 12 23	" 18	Ki	iP		23 31 53.3
	(D = 12900 km = 116°).				Sk	eP	23 32 09
Sk	iF	18 52 56.6		Um	iP		23 32 03.2
	i(PKP)	18 56 19.7		Ud	iP		23 32 18.5
	iPKP	18 56 24.3			i		23 32 24.8
	i	18 56 32.5	" 19	Ki	iP		00 41 44.9
	iPKKP	19 06 30.3					micr sec
Gb	i(PKP)	18 56 26.9			Mx	E 0.3 12	
	iPKP	18 56 33.0			Mx	N 0.3 13	
	i	18 56 41.4		Um	iP		00 41 04.1
	iPP	18 58 40.5			iLg1		00 46 52.3
	iPKKP	19 06 14.2		Ud	iP		00 40 15.9
Um	iP	18 52 45.9		Switzerland (h = 30 km).			
	i(PKP)	18 56 11.3	" 19	Ki	iP		02 42 28.4
	iPKP	18 56 19.0		Um	iP		02 42 29.5
	i	18 56 27.0			i		02 43 21.7
	iPP	18 57 45		Ud	iP		02 42 41.9
	i	19 03 58	" 19	Sk	iP		10 18 38.7
	iPKKP	19 06 40.5		Um	iP		10 18 24.7
Ka	i(PKP)	18 56 27.9			ipP		10 18 33.6
	iPKP	18 56 32.4			i		10 24 58
	i	18 56 40.8	" 19	Ud	iP		10 18 37.4
	iPP	18 58 33.4			ipP		10 18 46.2
	i(PKKP)	19 06 29.8	" 19	Sk	i(P)		11 55 54.3
Ud	iP	18 53 05.3			i		11 56 04.0
	i(PKP)	18 56 20.4		Um	iP		11 54 36.0
	iPKP	18 56 28.4		Ud	iP		11 54 52.0
	i	18 56 36.5	" 19	Ud	iPg		15 23 49.0
	i(PP)	18 58 09.4			iLg1		15 24 05.1
	iPKKP	19 06 22.5		(cont.)			
Solomon Islands (h = 540 km). m = 6.6, M = 6.8 (Up,Ki). M not corrected for focal depth. PKP is preceded by a small-amplitude precursor, (PKP), about 6 sec earlier, and followed by a phase (i) larger than PKP, 8-9 sec later.				" 19	Sk	i(P)	11 55 54.3
				" 19		i	11 56 04.0
				" 19	Um	iP	11 54 36.0
				" 19	Ud	iP	11 54 52.0
				" 19	Ud	iPg	15 23 49.0
				" 19		iLg1	15 24 05.1

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

Aug. 19 (cont.)
Ud iSg 15 24 08.2
D = 170 km = 1.5°
Origin time = 15 23 19.

" 19 Up iP 15 41 29.4
micr sec
P Z' 0.1 1.5
Ki iP 15 42 35.9
Sk iP 15 42 07.5 C
Gb iP 15 41 20.5
Ka iP 15 40 57.3
Ud iP 15 41 35.9
Crete (h = 30 km).

" 19 Up iPKP 16 01 27.7
Ki iPKP 16 01 17.1
Sk ePKP 16 01 25
Um iPKP 16 01 24.4
Ud ePKP 16 01 31
Tonga Islands
(h = 150 km).

" 19 Up iP 17 15 17.8
Ki iP 17 14 58.5
micr sec
P Z' 0.1 1.3
Um iP 17 15 06.5
ipP 17 15 17.9
Ud iP 17 15 26.7 C
ipP 17 15 35.0
Samar. h = 35 km (Um,Ud).

" 19 Sk iSg 17 53 26.8
Um iSg 17 51 39.9

" 20 Up iPKP 03 34 50.1 D
i 03 34 56.3
micr sec
PKP Z' 0.2 0.7
Ki iPKP 03 34 27.7
i 03 34 35.8
Sk iPKP 03 34 44.7 D
Gb iPKP 03 34 58.0 D
i 03 35 09.9
Um iPKP 03 34 39.3 D
ipPKP 03 36 08.8
Ka iPKP 03 34 59.4 D
i 03 35 11.4
Ud iPKP 03 34 52.2 D
i 03 34 59.2
Kermadec Islands.
h = 380 km (Um).

1968

Aug. 20 Up iP 04 12 52.1
Ki iP 04 12 36.7 C
Sk iP 04 13 07.6
Um iP 04 12 37.3
Ud iP 04 13 08.5
Kazakh SSR. Underground
explosion.

" 20 Up iPKP 08 22 00.9 C
Um iSKP 08 24 46.2
Ud iPKP 08 22 03.2
Tonga-Kermadec Islands
(h = 450 km).

" 20 Um i 08 41 01.5
i(Sg) 08 41 33.6

" 20 Up iP 09 40 50.0
micr sec
P Z' 0.1 1.3
Sk iP 09 41 03.4
Um iP 09 40 40.6
Ka eP 09 41 01
Ud iP 09 41 03.3
Tibet.

" 20 Ka i(P) 10 22 22.2

" 20 Ki^R iSg 10 34 02.0
Sk^A iSg 10 34 08.8
Um^E iSg 10 34 29.2
Nordlands Fylke, Norway,
66.4°N, 14.8°E.
Origin time = 10 32 34.
Explosion?

" 20 Up iSg 11 30 41.0
Ki eSg 11 31 12
Sk iSg 11 31 51.4
Um iSg 11 29 59.9
Ud iSg 11 31 41.7
Lake Ladoga. Explosion?

" 20 Ki iP 11 30 32.0 C
micr sec
Mx E 0.7 17
Mx N 0.7 20
Mx Z 1.0 18
Um iP 11 30 42.2 C
iSKS 11 41 19
Ud iP 11 31 03.4
Caroline Islands
(h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Aug. 20	Up	iPKP	15 45 15.3 C	Aug. 21	(cont.)		
		i	15 45 20.3		Up	i	18 16 46
			micr sec				micr sec
		PKP Z'	0.1 0.5			PKP Z'	0.1 1.0
	Sk	iPKP	15 45 09.2			Mx E	6.1 21
		i	15 45 12.7			Mx N	13 23
	Gb	iPKP	15 45 23.2 C			Mx Z	16 24
		i	15 45 26.2		Ki	e(PKP)	18 16 14
	Um	iPKP	15 45 03.7 C			iPKP	18 16 20.2
	Ka	iPKP	15 45 24.1 C			iPKS	18 20 05
	Ud	iPKP	15 45 16.7 C				micr sec
	Kermadec Islands (h = 30 km).					PKS E	0.7 6
						Mx E	13 25
"	20	Um	iP 20 17 11.5			Mx N	9.2 23
						Mx Z	28 23
"	20	Um	iP 20 52 56.1		Sk	iPKP	18 16 25.7
"	20	Sk	eP 23 52 58		Gb	e(PKP)	18 16 38
"	21	Ki	iP 05 09 12.1			iPKP	18 16 44.5
"	21	Ud	iPKP 06 27 07.1 C		Um	i(PKP)	18 16 19.3 C
	Tonga-Kermadec Islands (h = 530 km).					iPKP	18 16 24.3
						iPP	18 19 40.0
"	21	Um	iP 08 31 34.8			iPKS	18 20 22
"	21	Ki ^R	iPn 10 07 08.7			iSS	18 38 22
			iSn 10 08 07.6		Ka	iPKP	18 16 46.7
			iLg1 10 08 31.3		Ud	i(PKP)	18 16 33.7
			D = 540 km = 4.9°			iPKP	18 16 38.9
		Sk ^A	iSg 10 10 59.7		Kermadec Islands (h = 30 km). M = 6.8 (Up,Ki).		
		Um ^E	iSn 10 08 48.0	"	21	Ud	iP 18 47 03.5
			10 08 11.7			Greece.	
	Northwest Russia, 67.5°N, 33.2°E. Origin time = 10 05 54. Explosion?			"	21	Um	iP 21 48 01.2
"	21	Ki	iSg 12 54 39.5			i	21 48 10.6
		Sk	iSg 12 53 59.0	"	21	Sk	e(P) 22 42 06
		Um	iSg 12 52 42.8			Um	iP 22 41 35.4
		Ud	iSg 12 53 11.6	"	21	Up	i(P) 22 50 46.0
	Esthonia. Explosion?					i	22 50 52.1
"	21	Ud	iP 13 34 12.6	"	22	Ki	iP 00 45 17.7 C
"	21	Sk	eP 18 00 57			Um	iP 00 45 07.0 C
		Um	iP 18 00 45.1			Ud	iP 00 45 24.9
		i	18 00 51.7		Hindu Kush.		
		Ud	iP 18 01 04.3	"	22	Sk	ePKP 01 00 37
"	21	Up	iPKP 18 16 31 C			Um	iPKP 01 00 30.1
		(cont.)				Ud	iPKP 01 00 48.1
				"	22	Um	iP 01 22 09.3
				"	22	Up	ePKP 02 27 59
						(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Aug. 22 (cont.)				Aug. 22 (cont.)			
	Ki	ePKP	02 27 40	Up	S	E	0.7 6
	Sk	iPKP	02 27 50.6		S	N	0.6 6
	Gb	iPKP	02 28 14.7		Mx	E	2.7 16
	Um	iPKP	02 27 44.4 C		Mx	N	5.7 23
	Ud	iPKP	02 27 57.0		Mx	Z	4.9 19
	Kermadec Islands (h = 30 km).				D = 7300 km = 65 1/2°.		
"	22	Sk	iP 06 59 36.9	Ki	iP		14 09 54.1 C
		Ud	iP 06 59 45.9		ePa		14 13 28
					iS		14 17 51
							micr sec
"	22	Sk	iPKP 07 52 44.9		P	N	0.6 7
		i	07 52 55.9		P	Z	1.4 5
		Um	iPKP 07 52 40.4		P	Z'	0.3 1.0
		Ud	iPKP 07 52 54.5		S	E	1.9 8
		i	07 53 08.0		S	N	0.9 9
	Kermadec Islands (h = 40 km).				Mx	E	3.7 20
					Mx	N	4.0 20
					Mx	Z	4.4 20
"	22	Um	iP 08 06 58.7 C		D = 6400 km = 57 1/2°.		
		Ud	iP 08 07 14.4	Sk	iP		14 10 28.8 C
"	22	Ki	iPn 10 36 50.4	Gb	iP		14 11 06.4
		iSn	10 37 48.9		ipP		14 11 17.4
		iLg1	10 38 10.7	Um	iP		14 10 19.4 C
		D = 540 km = 4.9°.			iPcP		14 11 01.9
		Um	iSg 10 39 04.8		iPP		14 12 36
	Northwest Russia.				iPa		14 14 05
	Origin time = 10 35 35.				iS		14 18 40
	Explosion?			Ka	eP		14 11 12
					ipP		14 11 22.5
"	22	Sk	iP 11 31 46.1	Ud	iP		14 10 50.1 C
		Ud	iP 11 32 07.0	Aleutian Islands. h = 40 km (Gb,Ka). m = 6.2, M = 5.8 (Up,Ki).			
"	22	Up	iP 13 43 06.7	"	22	Ud	iP 15 20 28.5 D
		Ki	iP 13 42 13.1 C	"	22	Um	iP 15 20 18.5
			micr sec			Ud	iP 15 20 48.0
			P Z' 0.1 1.0			i	15 20 52.5
		Sk	iP 13 42 47.6 C	Japan (h = 60 km).			
		Gb	iP 13 43 24.8	"	22	Ki ^R	iSg 16 20 38.3
		Um	iP 13 42 39.0 C			Sk ^A	iSg 16 20 43.2
		Ka	iP 13 43 30.9			Um ^E	iSg 16 21 06.1
		Ud	iP 13 43 09.0 C	Nordlands Fylke, Norway, 66.4°N, 14.8°E. Origin time = 16 19 10. Explosion?			
	Aleutian Islands (h = 30 km).			"	22	Up	iPKS 16 41 57.2
"	22	Up	iP 14 10 48.0 C			Ki	iPKP 16 38 23.9
		iPa	14 14 59	(cont.)			
		iS	14 19 28				
			micr sec				
		P	N 0.4 5				
		P	Z' 0.4 1.0				
	(cont.)						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968		(cont.)			
Aug. 22	Ki		micr sec		
	Mx	E	0.5	19	
	Mx	N	0.4	18	
	Sk	iPKP	16 38	35.5	
	Um	iPKP	16 38	30.5	
		ipPKP	16 39	11.7	
	Ud	iPKP	16 38	41.0	
	New Hebrides Islands.				
	h = 160 km (Um).				
" 22	Up	iP	16 52	35.6	
	Ki	iP	16 51	41.9	C
	Sk	eP	16 52	16	
	Gb	iP	16 52	55.2	
		i	16 52	58.7	
	Um	iP	16 52	07.7	
		ipP	16 52	13.8	
	Ud	iP	16 52	37.8	
		ipP	16 52	44.0	
	Aleutian Islands.				
	h = 25 km (Um,Ud).				
" 22	Up	iP	16 54	40.3	
	Ki	iP	16 54	21.2	
		ipP	16 54	33.0	
	Sk	ipP	16 54	58.8	
	Um	ipP	16 54	36.4	
	Ud	iP	16 54	48.7	
		ipP	16 54	59.0	
	Luzon. h = 40 km (Ki,Ud).				
" 22	Um	iP	17 25	47.4	
" 22	Ki	iP	18 18	37.3	
	Sk	iP	18 18	17.3	
	Gb	iP	18 17	29.4	
	Um	iP	18 18	16.8	
		i	18 18	24.2	
	Ud	iP	18 17	46.5	
" 22	Ki	eP	20 02	15	
	Aleutian Islands				
	(h = 30 km).				
" 22	Up	iP	20 50	11.9	
	Um	iP	20 49	42.6	
	Ud	eP	20 50	14	
	Komandorsky Islands				
	(h = 50 km).				
" 22	Um	iP	22 58	23.9	
	Botswana (h = 30 km).				
" 23	Um	iP	00 17	14.3	

1968					
Aug. 23	Up	iPg	02 18	02.0	
		iSg	02 18	10.5	
		ipg	02 18	14.4	
		D = 80 km = 0.7°			
	Ud	iPg	02 18	33.8	
		iSg	02 19	03.1	
		D = 260 km = 2.3°			
	Probably off Baltic coast				
	of Uppland, Sweden.				
	Origin time = 02 17 48.				
	Explosion?				
" 23	Up	iP	02 34	41.2	
	Ud	iP	02 34	42.4	
" 23	Up	iP	06 55	22.2	
		P	Z'	0.1	0.8
		Mx	E	0.5	18
		Mx	N	0.8	19
		Mx	Z	1.1	17
	Ki	iP	06 55	02.9	
				micr sec	
		Mx	E	0.4	14
		Mx	N	0.4	18
		Mx	Z	0.9	19
	Sk	iP	06 55	26.8	
	Gb	iP	06 55	39.7	
	Um	iP	06 55	08.9	C
		eS	07 05	04	
	Ka	iP	06 55	33.2	
		i	06 55	44.6	
	Ud	iP	06 55	31.1	C
		i	06 55	39.9	
	Luzon (h = 60 km).				
	M = 5.2 (Up,Ki).				
" 23	Ki	eP	08 48	33	
	Molucca Passage				
	(h = 100 km).				
" 23	Ki	iP	08 51	19.8	
				micr sec	
		Mx	E	0.9	20
		Mx	N	0.7	21
		Mx	Z	1.4	21
	Ud	eP	08 51	38	
	Celebes (h = 40 km).				
" 23	Ki	iPn	11 08	49.3	
		iSn	11 09	35.4	
		iSg	11 09	52.3	
		D = 420 km = 3.8°			
	Origin time = 11 07 47.				

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1968	Aug. 23	Um	iSg	11 35 56.7
		Sk	eSg	11 37 18
"	23	Up	iP	12 11 07.7
		Sk	iP	12 11 21.7
		Um	iP	12 10 54.7
		Ud	iP	12 11 21.2
		Tibet (h = 30 km).		
"	23	Sk	ePKP	13 06 17
		Um	iPKP	13 06 14.9
		Ud	ePKP	13 06 28
		Kermadec Islands (h = 30 km).		
"	23	Up	iPn	13 10 38.0
			iSn	13 11 48.6
			iSg	13 12 22.3
			micr sec	
			Sg	Z' 0.1 0.5
		Ki	iPn	13 10 55.4
			iSn	13 12 20.1
			iLg1	13 12 56.8
		Sk	iPn	13 11 08.4
			iSg	13 13 31.1
		GB	eLg1	13 14 12
		Um	i(Pn)	13 10 25.8
			iSn	13 11 18.5
			iLg1	13 11 37.4
		Ka	iPn	13 11 16.0
			iSn	13 12 54.8
			iSg	13 13 54.4
		Ud	iPn	13 11 02.9 C
			iSn	13 12 35.7
			iSg	13 13 23.6
		Russia-Finland border region, 61.5°N, 29.5°E. Origin time = 13 09 05. Explosion?		
"	23	Up	iP	13 17 10.6
		Sk	iP	13 17 13.3
		Um	iP	13 16 55.1
		Ud	iP	13 17 24.1
		Japan (h = 40 km).		
"	23	Up	iP	14 19 57.6
"	23	Ud	iP	14 41 29.1
"	23	Ka	iPg	15 12 47.8
			iSg	15 13 15.0
		D = 230 km = 2.1°.		
		(cont.)		

1968	Aug. 23	(cont.)		
		Ud	iSg	15 15 21.3
		South coast of the Baltic Sea.		
		Origin time = 15 12 06. Explosion?		
"	23	Ud	iP	15 47 16.3
		Hindu Kush.		
"	23	Up	iP	18 20 29.3
			i	18 20 39.4
		Sk	i(P)	18 20 32.5
		Um	iP	18 20 23.3
			i	18 20 34.0
		Ud	iP	18 20 32.1
			i	18 20 41.6
"	23	Um	iP	20 16 13.3
		Ud	eP	20 16 24
"	23	Up	iP	21 07 45.0
		Um	iP	21 07 28.4
		Ud	iP	21 07 54.1
		Ryukyu Islands (h = 170 km).		
"	23	Ud	iP	21 29 26.2 C
"	23	Up	iP	22 49 59.6
			epP	22 51 56
			i	22 51 59.8
			iSKS	22 59 46
			iSKKS	23 00 32
			e	23 02 33
			iPKKP	23 05 58.6
			i	23 06 03.5
			micr sec	
		SKS	E	0.5 4
		(D = 11650 km = 105°).		
Ki		iPKP		22 54 19.8
		iS		23 01 34
		iSP		23 03 16
		e(PKKP)		23 05 32
		iPKKP		23 05 46.8
			micr sec	
		S	N	0.7 8
		(D = 11950 km = 107 1/2°).		
Sk		eP		22 49 55
		ipP		22 51 53.2
		i(PKKP)		23 05 46.6
Gb		iP		22 49 45.4
		epP		22 51 39
		(cont.)		

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1968

Aug. 23

(cont.)

Gb	i	22 51 43.7
	ePP	22 53 58
Um	iPKP	22 54 15.9
	iPP	22 54 31.0
	iSKS	22 59 56
	iSKKS	23 00 47
	iS	23 01 20
	iSP	23 03 03
	ipS	23 04 13
	i(PKKP)	23 05 33.9
	iPKKP	23 05 51.7
Ka	iPP	22 54 06.2
Ud	iP	22 49 51.3
	ipP	22 51 48.0
	i	22 51 51.0
	iPP	22 54 05.9
	i	22 54 09.8
	iSKS	22 59 38.5
	i	23 05 39.6
	i(PKKP)	23 05 48.5
	iPKKP	23 06 10.4

Bolivia-Argentina.

h = 510 km (Up,Sk,Gb,Ud).

" 23

Gb	iPP	23 31 57.9
Ud	iPP	23 32 05.0

Bolivia-Argentina
(h = 540 km).

" 24

Ki	ePn	10 34 50
	eSn	10 35 36
	iSg	10 35 59.5
Um	iSg	10 36 54.3

" 24

Ki	i(Sg)	12 34 41.7
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" 24

Up		---
		micr sec
	Mx	N 0.7 22
	Mx	Z 0.7 22
Um	iSS	13 07 33

South Pacific Ocean
(h = 30 km).

" 24

Up	iP	14 35 55.8
Sk	iP	14 36 10.2
Um	iP	14 35 44.6
Ud	iP	14 36 09.6

Tibet (h = 60 km).

" 24

Up	iPKP	15 26 45.5
	ipPKP	15 26 54.7

(cont.)

1968

Aug. 24

(cont.)

Up			micr	sec
	pPKP	Z'	0.1	0.9
Ki	iPKP		15 26	26.4
	ipPKP		15 26	34.6
Sk	iPKP		15 26	40.7
	ipPKP		15 26	49.7
Gb	iPKP		15 26	52.5
	ipPKP		15 27	02.4
Um	iPKP		15 26	34.1
	ipPKP		15 26	44.6
Ka	iPKP		15 27	04.1
	ipPKP		15 27	10.8
Ud	iPKP		15 26	47.1
	ipPKP		15 26	56.8

South of Kermadec Islands.

h = 30 km (Up,Ki,Sk,Gb,
Um,Ka,Ud).

" 24

Up	iPKP	15 29 13.2
	ipPKP	15 29 21.9
Sk	iPKP	15 29 09.6
	ipPKP	15 29 16.6
Um	iPKP	15 29 02.3
	ipPKP	15 29 11.9
Ud	iPKP	15 29 14.7
	ipPKP	15 29 23.6

South of Kermadec Islands.

Origin time = 15 09 27.
h = 30 km (Up,Sk,Um,Ud).

" 24

Up	ePKP	15 34 47
	ipPKP	15 34 54.8
Sk	ePKP	15 34 41
	ipPKP	15 34 49.5
Um	iPKP	15 34 36.4
	ipPKP	15 34 42.9
Ud	iPKP	15 34 48.8
	ipPKP	15 34 56.3

South of Kermadec Islands.

Origin time = 15 15 00.
h = 25 km (Up,Sk,Um,Ud).

" 24

Up	iPKP	16 27 48.5
	ipPKP	16 27 58.2
Sk	iPKP	16 27 43.0
	ipPKP	16 27 51.5
Um	iPKP	16 27 38.0 C
	ipPKP	16 27 47.8
Ud	iPKP	16 27 50.2

South of Kermadec Islands.

h = 30 km (Up,Sk,Um).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
Aug. 24	Um	iPKP	17 31 24.5		Aug. 25	Up	eSg	03 13 15	
		ipPKP	17 31 32.5			Sk	e(Sg)	03 11 43	
	Ud	ePKP	17 31 37				i	03 12 41.4	
		ipPKP	17 31 44.9			Ud	iSg	03 12 22.6	
		South of Kermadec Islands.				Southwest Norway.			
		Origin time = 17 11 48.							
		h = 25 km (Um,Ud).			" 25	Up	iP	03 24 27.1 C	
" 24		The French atmospheric nuclear explosion (USCGS: 18 29 58.9, 22.2°S, 138.8°W) gave only surface waves at our stations (Press-Ewing Up and Um).					i	03 24 35.8	
						Sk	iP	03 24 15.5	
							i	03 24 30.7	
						Um	iP	03 24 16.8 C	
							i	03 24 25.2	
						Ud	iP	03 24 29.2	
							i	03 24 37.7	
" 24	Sk	eSg	18 34 21		" 25	Um	iP	03 57 52.3	
	Um	iSg	18 33 03.8			Ud	iP	03 58 13.0	
		i	18 33 19.9						
	Ud	eSg	18 33 43		" 25	Ud	iP	04 33 47.3	
			Southwest Finland.				i	04 33 51.5	
			Explosion?						
" 24	Up	iP	21 03 39.8		" 25	Up	iP	04 43 25.7	
		i	21 04 12.7				i	04 43 34.7	
	Um	iP	21 03 37.1			Um	iP	04 43 15.8	
		i	21 04 09.4				i	04 43 24.6	
	Ud	iP	21 03 50.9			Ud	iP	04 43 27.8	
		i	21 04 23.7				i	04 43 36.0	
						These phases could be PKP instead of P (possibly south of Kermadec Islands).			
" 24	Um	iP	22 58 01.4		" 25	Ud	iP	05 26 14.2	
	Ud	iP	22 58 22.0						
" 25	Up	iP	00 12 28.9		" 25	Ud	iP	07 28 55.9 C	
		i	00 12 36.1			Crete.			
	Ki	iP	00 12 14.1						
	Um	iP	00 12 18.9		" 25	Up	iP	09 18 46.3 C	
	Ud	iP	00 12 37.7				iPP	09 21 23.4	
			Molucca Passage				eS	09 27 52	
			(h = 60 km).					micr sec	
" 25	Ki	iP	00 24 49.9			P	N	0.3 5	
			micr sec			P	Z'	0.4 1.3	
	Mx	E	0.6 18			PP	Z	0.3 4	
	Mx	N	0.5 17			S	E	0.3 7	
	Mx	Z	0.9 17			S	N	0.4 4	
	Ud	i(P)	00 25 21.3			Mx	E	2.5 19	
			Molucca Passage			Mx	N	3.6 18	
			(h = 60 km).			Mx	Z	2.6 20	
						D = 7850 km = 70 1/2°.			
" 25	Up	iP	02 05 20.2		Ki	iP		09 18 04.5 C	
	Ud	iP	02 05 19.9			iPP		09 20 23.0	
			Aleutian Islands			iS		09 26 39	
			(h = 40 km).			(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Aug. 25 (cont.)				Aug. 25 (cont.)			
	Ki		micr sec		Ud	i	10 25 25.2
	P	Z'	0.4 1.3		Mindanao (h = 110 km).		
	S	E	0.9 12				
	S	N	0.6 9	"	25	Up	iPKP 11 34 59.8
	Mx	E	6.8 22			Sk	iPKP 11 34 57.9
	Mx	N	3.3 18			Gb	iPKP 11 35 06.2
	Mx	Z	7.1 21				i 11 35 41.6
	D = 7100 km = 64°					Um	iPKP 11 34 55.1
	Sk	iP	09 18 38.8 C			Ud	iPKP 11 34 54.9
		iPP	09 21 10.0				ePKS 11 38 27
		iPa	09 22 52.2			Tonga Islands	
	Gb	iP	09 19 07.5 C			(h = 100 km).	
		iPP	09 21 46.2				
	Um	iP	09 18 23.3 C	"	25	Up	iP 13 36 44.8
		ipP	09 18 33.3			Ki	iP 13 36 27.9
		iPP	09 20 43.1				micr sec
		iS	09 27 14			P	Z' 0.1 1.4
	Ka	iP	09 19 07.1 C			Um	iP 13 36 32.9
		ipP	09 19 16.4				i 13 36 37.8
		iPP	09 21 47.2			Ud	iP 13 36 49.4
	Ud	iP	09 18 53.4 C				iY 13 40 06.5
		iPP	09 21 27.4			Molucca Passage	
	Japan. h = 35 km (Um,Ka).					(h = 30 km).	
	m = 6.1, M = 5.9 (Up,Ki).					Y (Ud) has the same	
						meaning as for Aug. 10,	
"	25	Up	iP 09 25 03.4 C			02 20.	
		i	09 25 47.6				
		iPP	09 27 40.7	"	25	Up	iP 18 04 55.9
			micr sec			Sk	iP 18 05 12.2
		P	Z' 0.3 1.3			Ud	iP 18 05 10.8
	Ki	iP	09 24 21.0 C			Tibet (h = 20 km).	
		iPP	09 26 40.9				
			micr sec	"	25	Ud	iP 18 24 06.1
		P	Z' 0.2 1.3			Luzon (h = 30 km).	
	Sk	iP	09 24 55.6 C	"	25	Ud	iP 19 01 51.6
		iPP	09 27 27.1				
	Gb	iP	09 25 24.2 C	"	26	Ki	e(P) 01 58 28
		iPP	09 28 04.0			Ud	e(P) 01 59 00
	Um	iP	09 24 39.7 C	"	26	Ki	eP 06 07 29
		iPP	09 27 00.2			Iran (h = 30 km).	
	Ka	iP	09 25 23.9 C	"	26	Um	iP 06 10 21.6
		ipP	09 25 30.1				i 06 10 29.8
	Ud	iP	09 25 10.0 C			Ud	iP 06 10 34.2
		ipP	09 25 16.3				i 06 10 42.4
		i(PP)	09 27 38.4				
	Japan. h = 25 km (Ka,Ud).						
	m = 6.0 (Up,Ki).						
"	25	Ud	iP 10 16 45.0	"	26	Ud	eP 07 12 49
		Japan (h = 40 km).				Japan (h = 25 km).	
"	25	Ud	iP 10 25 08.8	"	26	Um	iPKS 09 48 28
		(cont.)				Fiji Islands (h = 25 km).	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Aug. 26	Up	iSg	14 33 45.9	Aug. 27	Up	iSKS	14 09 49
	Ki	eSg	14 36 13				micr sec
	Sk	eSg	14 35 31		Mx	N	0.5 18
	Um	iSg	14 34 18.0		Ki	iP	13 58 54.0
	Ud	iSg	14 34 47.7				micr sec
			Esthonia. Explosion?		Mx	E	0.6 15
" 26	Ki	eP	15 49 31		Mx	N	0.6 17
	Ud	iP	15 50 08.0		Mx	Z	1.0 16
" 26	Um	iP	16 15 05.8		Sk	iP	13 59 18.7
		i	16 16 05.9		Um	iP	13 59 00.4 C
" 26	Ud	iP	16 29 27.8			iSKS	14 09 30
" 26	Sk	eSg	16 55 59		Ud	eP	13 59 20
	Ud	i	16 54 28.4				Mariana Islands (h = 15 km).
		iSg	16 54 51.0	" 27	Sk	i(Sg)	14 56 41.3
			Southwest Norway.	" 27	Ud	iP	15 39 48.3
" 26	Up	iP	18 31 05.2	" 27	Ud	iP	16 41 42.2
	Ki	iP	18 31 13.8				Nevada. Probably under-ground explosion.
	Sk	iP	18 31 30.0	" 27	Sk	iP	17 52 15.7
	Um	iP	18 31 03.3				Alaska (h = 30 km).
	Ka	iP	18 31 10.2	" 27	Ki	iSg	18 44 57.2
	Ud	iP	18 31 21.5		Sk	iSg	18 45 02.5
		ipP	18 32 07.3				18 45 04.4
			Hindu Kush. h = 220 km (Ud).		Um	i	18 45 15.7
" 26	Ud	eP	20 35 27			iSg	18 45 24.5
" 26	Gb	iPKP	20 42 44.8				Nordlands Fylke, Norway, 66.4°N, 14.8°E.
			Fiji Islands (h = 670 km).				Origin time = 18 43 29.
" 27	Sk	iP	04 19 50.1				Explosion?
" 27	Ki	eP	06 23 13	" 27	Ud	i(Sg)	21 25 24.0
" 27	Sk	i(Sg)	11 56 51.8	" 28	Ud	iP	00 09 21.0
" 27	Ud	iPg	12 03 20.0				Celebes (h = 30 km).
		iSg	12 03 38.5	" 28	Up	i(P)	00 58 58.7
" 27	Up	i(Sg)	12 41 01.3	" 28	Ud	iP	01 28 29.9
	Ki	iSg	12 43 33.5	" 28	Up	iP	02 06 55.7
		i	12 43 41.4			i	02 07 02.8
	Sk	iSg	12 42 49.9	" 28	Up	iP	02 27 46.6
	Gb	iSg	12 42 37.6		Ki	eP	02 27 27
	Um	iSg	12 41 30.4		Sk	iP	02 27 52.0
		i	12 41 40.6		Um	iP	02 27 34.2
	Ud	i	12 41 38.1		Ud	iP	02 27 56.1
		iSg	12 42 01.1				Luzon (h = 30 km).
			Esthonia. Explosion?				

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
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1968				1968			
Aug. 28	Um	iP	02 50 26.4	Aug. 28	Ud	i(Sg)	12 12 32.6
	Ud	iP	02 50 29.3				
" 28	Um	iP	03 05 14.6	" 28	Up	iPg	12 38 33.8
	Sikhota Alin (h = 250 km).					iSn	12 39 09.6
						iSg	12 39 24.7
" 28	Ki	ePn	04 24 38		Ki	iSg	12 41 53.0
		iP ^X	04 24 46.9		Sk	iSg	12 41 11.3
		iSn	04 25 24.9		Um	iSg	12 39 55.8
		iLg1	04 25 37.5		Ud	i	12 39 33.8
		D = 430 km = 3.9°.				iSg	12 40 25.0
	Sk	eSg	04 28 21		Esthonia. Explosion?		
	Um	iSg	04 27 11.1	" 28	Ki	iPn	13 13 44.9
		i	04 27 17.8			eSn	13 14 33
	Northwest Russia.					iLg1	13 14 45.6
	Origin time = 04 23 36.					D = 440 km = 4.0°.	
	Explosion?				Origin time = 13 12 41.		
" 28	Ud	iP	05 59 06.4	" 28	Ka	iPg	13 23 09.5
" 28	Um	iP	06 07 57.3			iSg	13 23 38.4
	Aegean Sea.				Probably explosion in the South Baltic area.		
" 28	Ki	iP	07 35 24.4	" 28	Up	iP	14 26 34.4
	Um	iP	07 35 32.2			i	14 26 37.8
	Mexico (h = 40 km).			" 28	Ud	i(Sg)	14 29 32.7
" 28	Sk	eP	07 59 56	" 28	Gb	iPKP	17 31 23.7
	Um	iP	07 59 52.4		Ud	iPKP	17 31 15.1
		i	07 59 59.9		Tonga Islands (h = 200 km).		
	Ud	iP	08 00 13.3	" 28	Up	iPKP	17 50 25.3
" 28	Ki	i(Sn)	10 50 03.3			i	17 50 29.5
		i(Lg1)	10 50 24.6			i	17 50 33.0
" 28	Up	iPKS	12 13 29		Sk	iPKP	17 50 18.7
			micr sec			i	17 50 23.8
	Mx	E	1.5 30		Gb	iPKP	17 50 33.3
	Mx	N	1.0 24		Um	iPKP	17 50 14.2
	Mx	Z	2.5 29			i	17 50 17.7
	Ki	iPKP	12 09 38.8		Ud	iPKP	17 50 26.9
		eSS	12 29 23	" 28	Ki	i(Sg)	19 32 57.9
			micr sec	" 28	Ud	iP	20 26 37.7
	Mx	E	0.9 20	" 28	Up	iP	20 54 44.9 C
	Mx	N	0.8 19			i	20 54 47.8
	Mx	Z	1.6 20			eS	21 05 10
	Sk	iPKP	12 09 52.2				micr sec
	Um	iPKP	12 09 47.7		P	E	0.3 3
		i(PP)	12 12 25		P	N	0.3 3
		ePKS	12 13 13		P	Z	1.1 3
		iSS	12 29 49		P	Z'	0.3 0.7
	Ud	ePKP	12 09 55				
	Fiji Islands (h = 40 km).						
	M = 5.7 (Up, Ki).						

(cont.)

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1968					1968				
Aug. 28	(cont.)				Aug. 28	Ud	iP		
	Up		micr	sec				23 04	18.1 C
	S	E	0.9	8	"	28	Ud	iP	23 45 30.9 D
	S	N	2.1	12				i	23 45 38.7
	Mx	E	9.9	16					
	Mx	N	13	18	"	29	Ud	iP	00 22 11.3 D
	Mx	Z	23	16				i	00 22 18.6
	D = 9350 km = 84°.								
	Ki	iP	20 54	26.1 C	"	29	Ud	iP	01 25 37.0 C
		iS	21 04	32					
			micr	sec	"	29	Up	iP	01 48 48.5
	P	E	0.7	8			Ki	eP	01 48 28
	P	Z	2.4	9					micr sec
	P	Z'	0.5	1.5				Mx	E 0.5 14
	S	E	2.8	10				Mx	N 0.5 21
	Mx	E	9.6	15				Mx	Z 0.5 14
	Mx	N	13	16			Sk	iP	01 48 52.0
	Mx	Z	19	14			Um	iP	01 48 35.5
	D = 8900 km = 80°.						Ud	iP	01 48 56.9 C
	Sk	iP	20 54	49.8 C			Luzon (h = 15 km).		
		ipP	20 54	57.0					
	Gb	iP	20 55	02.6 C	"	29	Up	iP	02 04 51.0
	Um	iP	20 54	32.5 C			Ki	iP	02 04 31.9
		ipP	20 54	39.2			Ud	iP	02 04 59.6 C
		iS	21 04	40				i	02 05 04.6
	Ka	iP	20 54	56.2 C			Luzon.		
	Ud	iP	20 54	54.2 C			Origin time = 01 52 22.		
	Luzon. h = 25 km (Sk,Um).								
	m = 6.4, M = 6.5 (Up,Ki).				"	29	Ud	iP	02 07 08.0
"	28	Sk	e(P)	21 02 16	"	29	Ud	iP	02 12 02.8
		Ud	iP	21 02 11.6					
"	28	Up	iP	21 03 37.9	"	29	Up	eP	02 23 53
		Ud	iP	21 03 45.7 D				ipP	02 24 00.5
							Ki	iP	02 23 33.2
"	28	Ud	iP	21 11 07.0			Gb	iP	02 24 08.6
			i	21 11 25.6			Ud	iP	02 24 01.3
								ipP	02 24 08.7
"	28	Ud	iP	21 16 27.4			Luzon. h = 30 km (Up,Ud).		
			i	21 16 35.6	"	29	Ud	iP	04 01 16.3
"	28	Ud	iP	21 18 52.4	"	29	Ud	iP	04 18 12.0
"	28	Ud	iP	21 28 06.3	"	29	Ud	iP	04 54 20.6 C
"	28	Ud	iP	21 39 38.6	"	29	Ud	iP	05 05 01.7
"	28	Ud	iP	21 42 00.5	"	29	Up	iP	08 17 58.5
"	28	Sk	i(P)	21 43 58.3			Ki	iP	08 17 39.2
		Ud	iP	21 44 19.6			Sk	iP	08 18 03.1
								ipP	08 18 09.2
"	28	Sk	iP	22 12 05.3			Gb	iP	08 18 15.4

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Aug. 30	Um	iP	00 28 55.4	Aug. 30	Ki	iP	06 31 46.2 C
		i	00 29 02.9		Sk	eP	06 32 12
" 30	Ud	iP	01 34 56.5		Um	iP	06 31 56.0
" 30	Ud	eP	01 48 35		Ud	iP	06 32 14.6
" 30	Um	iP	02 45 08.6		Molucca Passage (h = 50 km).		
" 30	Up	iP	02 56 05.3 C	" 30	Um	iP	10 20 22.9
		ipP	02 56 12.1	" 30	Ki		---
			micr sec				micr sec
	P	Z'	0.1 0.9		Mx	E	0.7 15
	Mx	E	0.8 20		Mx	N	0.3 15
	Mx	N	1.1 21		Mx	Z	0.9 13
	Mx	Z	1.3 20		Ud	iP	12 30 15.8
	Ki	iP	02 55 23.6			ipP	12 30 24.0
		ipP	02 55 32.9		Luzon. h = 30 km (Ud).		
			micr sec	" 30	Um	iSKP	12 54 17.0
	Mx	E	1.4 19		Ud	iPKP	12 51 33.8
	Mx	N	0.7 16		Tonga-Kermadec Islands (h = 440 km).		
	Mx	Z	1.4 15	" 30	Ud	iP	13 04 01.5
	Sk	iP	02 55 58.3 C	" 30	Gb	iP	14 07 46.1 C
		ipP	02 56 07.4			i	14 07 54.2
		iPP	02 58 31.4	" 30	Ud	iP	14 36 54.9
	Gb	iP	02 56 26.7 C	" 30	Ki	ePn	20 37 41
		i	02 56 40.8			ipX	20 37 49.4
		iPP	02 59 15.6			iSn	20 38 27.0
	Um	iP	02 55 42.4 C			iLg1	20 38 39.6
		i	02 55 46.6			B = 420 km = 3.8	
	Ka	iP	02 56 26.0		SkA	eSg	20 41 33
	Ud	iP	02 56 12.5 C		Um	i	20 40 12.9
		ipP	02 56 19.5			iSg	20 40 20.4
		iPP	02 58 54.0		Northwest Russia, 69.3°N, 30.0°E. Origin time = 20 36 41. Explosion?		
	Japan. h = 30 km (Up, Ki, Sk, Ud).						
	M = 5.2 (Up, Ki).						
" 30	Ud	iP	04 49 42.2	" 30	Ud	iP	21 14 19.0
" 30	Ud	iP	05 35 03.5 D	" 30	Um	iP	21 18 34.4
" 30	Ud	iP	05 35 23.3		Iran (h = 30 km).		
	Kamchatka (h = 20 km).						
" 30	Ki	eP	05 38 29	" 30	Um	iP	21 19 09.0
			micr sec		Ud	iP	21 19 07.5
	Mx	E	0.6 17	" 30	Ud	iP	21 47 58.3
	Um	iP	05 38 04.7	" 30	Up	iP	22 11 37.3
		i	05 44 43.8		(cont.)		
	Ud	eP	05 38 10				
		i	05 38 28.4				
	Caucasus (h = 30 km).						

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1968				1968			
Aug. 30 (cont.)				Aug. 31			
	Up	iS	22 19 07	Up	iP2		10 54 51.4
			micr sec		iP3		10 54 56.5 C
	S	E	0.6 7		iP4		10 55 06.5
	S	N	0.6 8		iPP		10 56 20
	S	Z	0.9 10		iS2		11 00 35
	Mx	E	1.3 22		iS4		11 00 51
	Mx	N	1.8 22				micr sec
	Mx	Z	2.3 23		P3	Z'	0.2 0.8
	D = 5950 km = 53 1/2°.				P4	E	1.2 3
	Ki	iP	22 12 06.1		P4	N	1.2 4
		iS	22 20 12		P4	Z	3.0 3
			micr sec		P4	Z'	0.9 1.0
	S	E	1.4 9		PP	E	4.4 6
	S	N	1.1 7		PP	Z	6.9 6
	Mx	E	3.3 20		S2	E	6.9 8
	Mx	N	1.4 18		S2	N	5.5 7
	Mx	Z	3.1 18		S4	E	18 10
	D = 6400 km = 57 1/2°.				Mx	E	240 18
	Sk	iP	22 12 08.8		Mx	N	380 17
	Um	iP	22 11 50.3		Mx	Z	430 17
		iS	22 19 26		D = 4150 km = 37 1/2°.		
	Ka	iP	22 11 25.7	Ki	iP1		10 55 15.7
		ipP	22 11 31.1		iP2		10 55 17.9
	Ud	iP	22 11 50.7		iP3		10 55 24.3 C
		ipP	22 11 55.0		iP4		10 55 33.1
	Arabian Sea. h = 20 km				iPP		10 56 51
	(Ka,Ud).				iS2		11 01 24
	m = 5.8, M = 5.4 (Up,Ki).				iS4		11 01 40
							micr sec
"	30	Ud	eP 22 31 57		P2	Z'	0.3 1.2
			i 22 32 03.8		P3	Z'	0.8 1.2
"	30	Um	iP 23 11 42.0		P4	E	3.8 5
"	31	Um	e 02 45 44		P4	N	2.7 6
			i(Sg) 02 46 05.8		P4	Z	6.1 5
"	31	Up	iP 08 05 46.5		P4	Z'	2.4 1.3
		Atlantic Ocean			PP	E	4.6 7
		(h = 30 km).			PP	N	4.8 7
"	31	Up	e 09 05 45		PP	Z	7.0 5
			iSg 09 06 03.8		S2	N	6.4 6
	Ka	iSg	09 03 57.0		S4	E	45 15
		i	09 04 20.3		S4	N	24 12
	Ud	iSg	09 06 06.5		Mx	E	210 11
	Southern Baltic Sea.				Mx	N	200 11
	Explosion?				Mx	Z	310 11
"	31	Ud	iP 09 13 45.0		D = 4550 km = 41°.		
"	31	Gb	iP 09 41 16.3	Sk	iP2		10 55 23.5 C
					iP3		10 55 29.8
					iP4		10 55 39.0
					iPP		10 57 11.2
				Gb	iP2		10 55 07.3
					iP3		10 55 13.6
					iP4		10 55 23.2
					iPP		10 56 45.4
				Um	iP1		10 54 56.6 C
				(cont.)			

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1968				1968			
Aug. 31 (cont.)				Aug. 31 (cont.)			
Um	iP2	10 54	59.9	Ka	iP	11 41	40.1
	iP3	10 55	04.6		iPP	11 42	57.8
	iP4	10 55	13.4	Ud	iP	11 42	01.3 C
	iPP	10 56	41.1	Iran (h = 25 km).			
	iS	11 00	56	m = 5.8 (Up,Ki).			
Ka	iP2	10 54	45.5	"	31	Ki	iP 12 39 37.2
	iP3	10 54	53.5	"	31	Ki	e(Pg) 12 43 14
	iP4	10 55	02.3			iSg	12 43 52.3
Ud	iP1	10 55	05.2 C	"	31	Ud	iP 13 07 54.9
	iP2	10 55	09.0	"	31	Sk	iP 13 21 53.5
	iP3	10 55	13.6	"	31	Up	iP 13 30 12.0
	iP4	10 55	23.1			iPP	13 31 36.1
Iran (h = 15 km).						Ki	iP 13 30 35.9
m = 6.7, M = 7.4 (Up,Ki).						Sk	iP 13 30 42.0
These magnitudes corre-						Gb	iP 13 30 29.4
spond to the maximum						Um	iP 13 30 19.5 C
motion (P4 etc). Multiple						Ud	iP 13 30 26.8
P, probably indicating						iPP	13 31 51.5
multiple rupture, together						Iran (h = 30 km).	
with pP-phases: four phases				"	31	Ki	i(P) 14 00 03.4
with successively larger						i	14 00 09.1
amplitudes can be distin-				"	31	Up	eP 14 13 30
guished. The average time						i	14 13 36.6
intervals are: P2 - P1 = 3.1						iPP	14 14 53.0
sec, P3 - P2 = 5.9 sec,						micr sec	
P4 - P3 = 9.2 sec. The						PP	Z' 0.1 1.0
phase P2 corresponds to the						Mx	E 0.7 13
USCGS solution. Similar						Mx	N 1.8 15
multiplicity is suggested						Ki	iP 14 13 55.7
in the bulletins of many						micr sec	
other stations. - Higher-						Mx	E 3.6 22
mode surface waves are re-						Mx	N 4.8 22
corded. - Um LP records show						Mx	Z 2.0 18
clear G-waves (mantle Love						Sk	iP 14 14 02.2
waves).						i	14 14 07.0
"	31	Up	iP 11 41 45.1			iPP	14 15 34.7
			iPP 11 43 10.6			Gb	iP 14 13 46.7
			micr sec			iPP	14 15 23.1
		P	Z' 0.1 1.0			Um	iP 14 13 36.7
		PP	Z' 0.2 1.0			i	14 13 40.6
Ki	iP	11 42	10.7 C			iPP	14 14 57.5
	iPP	11 43	47.2			Ka	iPP 14 14 44.0
		micr sec				Ud	iP 14 13 46.6
	P	Z' 0.2	1.2			i	14 13 51.2
	PP	Z' 0.3	1.3			Iran (h = 20 km).	
Sk	iP	11 42	17.3 C			M = 5.3 (Up,Ki).	
	iPP	11 43	53.3			Double P (Up,Sk,Um,Ud).	
Gb	iP	11 42	01.7 C				
	iPP	11 43	30.1				
Um	iP	11 41	51.5 C				
	iPP	11 43	18.0				
(cont.)							

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968			
Aug. 31	Um	iP	14 17 36.2		Aug. 31	Ud	iPKP	20 13 18.4
"	31	Um	iP	14 35 22.1		Fiji Islands (h = 380 km).		
		Ud	iP	14 35 54.2				
			ipP	14 36 02.9				
		Japan. h = 30 km (Ud).						
"	31	Ud	iP	15 09 29.9				
"	31	Up	iPKP	16 13 56.9				
		Sk	iPKP	16 13 51.4				
		Um	iPKP	16 13 45.5				
		Ud	iPKP	16 13 58.2				
"	31	Ud	iP	16 27 08.2				
"	31	Um	iP	16 45 44.1				
		Ud	iP	16 46 49.5				
"	31	Up	iP	16 56 46.9				
		Ki	iP	16 56 05.0 C				
				micr sec				
		Mx	E	0.9 20				
		Mx	N	0.4 14				
		Mx	Z	0.8 14				
		Sk	iP	16 56 43.7				
		Um	iP	16 56 23.6 C				
			ipP	16 56 32.2				
		Ud	iP	16 56 53.7				
			ipP	16 57 02.5				
		Japan. h = 30 km (Um, Ud).						
"	31	Ud	eP	17 05 03				
"	31	Ud	iP	17 21 05.0				
"	31	Up	iPKP	17 27 36.4				
		Ud	iPKP	17 27 39.3				
		Tonga-Kermadec Islands (h = 630 km).						
"	31	Up	iP	18 15 07.8				
			i	18 15 13.5				
			i	18 15 24.0				
		Ki	eP	18 14 19				
			iPP	18 16 04.4				
				micr sec				
		Mx	E	0.5 13				
		Mx	N	0.5 14				
		Mx	Z	0.8 14				
		Sk	eP	18 15 05				
		Ka	iP	18 15 33.2				
		Ud	iP	18 15 18.0				
		East of Lake Baikal (h = 25 km).						

Markus Båth
February 21, 1969

Phon date indicated

Uppsala

SEISMOLOGICAL BULLETIN

UPPSALA, KIRUNA, SKALSTUGAN, GÖTEBORG,
 UMEÅ, KARLSKRONA and UDDEHOLM

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m

Pod

SEPTEMBER 1 - 30, 1968

1968				1968			
1968	1	Up	iPKP	00 43 50.2	1968	1	(cont.)
			i	00 43 54.3			Up
				micr sec			Mx E 1.1 20
			PKP	Z' 0.2 0.5			Mx N 3.2 20
		Ki	ePKP	00 43 28			Mx Z 1.2 15
			i	00 43 36.2		Ki	iP 05 46 11.1
		Sk	iPKP	00 43 44.0			iPP 05 47 12.4
			i	00 43 44.8			micr sec
		Gb	iPKP	00 43 58.7			P Z' 0.2 1.5
		Um	iPKP	00 43 38.7 C			Mx E 2.2 17
			i	00 43 42.3			Mx N 1.4 16
		Ka	iPKP	00 44 00.1			Mx Z 1.4 13
			i	00 44 04.4		Sk	iPn 05 47 04.7
		Ud	iPKP	00 43 52.2		Gb	iP 05 45 42.8
		Kermadec Islands				Um	eP 05 45 44
		(h = 25 km). Two onsets,					iPP 05 46 32.0
		about 4 sec apart (Up,Um				Ka	iP 05 45 20.3
		Ka).					i 05 45 24.0
						Ud	iP 05 45 46.3
							iPn 05 46 13.5
						Iran-USSR (h = 40 km).	
						M = 5.0 (Up,Ki).	
"	1	Up	iP	01 24 30.6	"	1	Sk iP 06 09 34.6
		Ki	iP	01 25 41.7			Um iP 06 09 09.8
		Um	iP	01 25 05.5			Ud iP 06 09 33.4
		Ud	eP	01 24 27			Tibet (h = 20 km).
		Yugoslavia (h = 15 km).					
"	1	Up	iP	04 59 57.6	"	1	Up iP 07 01 04.0
		Ki	iP	05 00 36.2			
		Um	iP	05 00 19.5			
			iS	05 09 50			
			i	05 10 04			
		Ud	eP	04 59 50			
		Atlantic Ocean (h = N,					
		normal depth).					
"	1	Up	iP	05 45 30.2 ✓	"	1	Up iP 07 34 38.7 C
			iPn	05 45 51.1 ✓			i 07 34 42.2
			iPP	05 46 20			iPP 07 36 02.0
			iSa	05 51 00			iS 07 40 17
		(cont.)					micr sec
							P E 1.1 6
						(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Sep.	1	(cont.)		Sep.	1		
		Up	micr sec			Ki	iP 08 30 48.8
		P	N 0.7 5			Ud	iP 08 30 37.8
		P	Z 2.8 6			Iran (h = 15 km).	
		P	Z' 0.7 0.9	"	1	Up	iP 09 34 43.2
		PP	N 1.4 7			Ud	iP 09 34 48.8
		PP	Z 3.7 8			Kurile Islands (h = N).	
		PP	Z' 0.2 0.8	"	1	Ud	iP 09 39 29.4
		S	E 1.8 10	"	1	Up	iP 11 11 15.2
		S	N 5.0 9			Sk	iP 11 11 47.0
		Mx	E 15 18			Ud	iP 11 11 31.9
		Mx	N 49 15			Iran (h = N).	
		Mx	Z 25 18	"	1	Up	iP 12 41 23.0
		D = 4100 km = 37°.				Ud	iP 12 41 39.5
		Ki	iP 07 35 07.0 C	"	1	Iran.	
		i	07 35 10.5			Origin time = 12 34 10.	
		iPP	07 36 28	"	1	Um	i(P) 14 02 59.5
		eS	07 41 09			Ud	iP 14 02 16.7
		iSS	07 43 41	"	1	Up	iSg 14 29 22.4
			micr sec			Sk	iSg 14 28 22.9
		P	E 4.0 6			Um	iSg 14 27 07.7
		P	N 3.4 6			Ud	iSg 14 29 33.5
		P	Z 6.1 6			Västerbotten, Sweden,	
		P	Z' 1.0 1.1	"	1	64.8°N, 19.6°E.	
		PP	E 11 9			Origin time = 14 26 34.	
		PP	N 8.2 8	"	1	Sk	iP 15 05 53.8
		PP	Z 11 8	"	1	Sk	eSg 16 10 22
		S	E 4.8 11			Um	iSg 16 09 01.0
		S	N 3.6 8			Ud	iSg 16 11 33.4
		Mx	E 90 13			Västerbotten, Sweden,	
		Mx	N 82 16			64.9°N, 20.1°E.	
		Mx	Z 120 13			Origin time = 16 08 28.	
		D = 4500 km = 40 1/2°.		"	1	Ud	iP 18 19 24.6
		Sk	iP 07 35 12.4	"	1	Ud	iP 18 38 52.3 C
		i	07 35 16.0	"	1	Up	iP 19 23 43.9
		iPP	07 36 46.0			iPP	19 25 02.5
		Gb	iP 07 34 55.3			micr sec	
		i	07 34 59.8			Sk	Z' 0.1 1.3
		Um	iP 07 34 46.5 C			Sk	iP 19 24 16.6
		i	07 34 51.0			Gb	iP 19 24 00.7
		iPP	07 36 12			Um	iP 19 23 50.6
		iS	07 40 36			i	19 25 55.2
		Ka	iP 07 34 35.1			Ud	iP 19 24 00.6
		i	07 34 39.5			Iran (h = 25 km).	
		Ud	iP 07 34 55.5 C				
		i	07 35 00.0				
		Iran (h = 15 km).					
		m = 6.4, M = 6.7 (Up, Ki).					
		Double P, about 4 sec					
		apart; the amplitudes refer to the later, bigger P.					
		Alternatively, as in most similar cases, the two phases could be P and pP, respectively.					

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1968				1968			
Sep.	1	Ud iPKP	20 57 40.4	Sep.	2	Sk eP	23 09 41
		Tonga-Kermadec Islands				Ud iP	23 09 10.2
		(h = 630 km).				East of Crete (h = 50 km).	
"	1	Ud iP	21 24 02.9	"	2	Ki eP	23 20 40
		Iran (h = 40 km).				Ud iP	23 19 57.9
"	2	Up iP	01 19 48.5	"	3	Up iP	02 40 44.3
		Ud iP	01 19 50.0			Ud iP	02 40 52.2
"	2	Ud iP	07 45 20.5	"	3	Um iP	05 22 20.2
"	2	Ud eP	10 55 24			Ud eP	05 23 00
						Japan (h = 50 km).	
"	2	Ki eSg	13 33 13	"	3	Up iP	05 34 31.4 C
		Sk iSg	13 32 36.0			P	Z' 0.3 0.7
		Um iSg	13 31 17.0			Ki iP	05 33 47.3 C
		Ud iSg	13 31 46.3			P	Z' 0.1 1.0
		Esthonia. Explosion?				Sk iP	05 34 22.2 C
"	2	Up i(Sg)	14 58 28.0			Gb iP	05 34 52.6 C
		Ka e(Sg)	14 59 21			Um iP	05 34 06.6 C
"	2	Up iPKP	15 40 16.3			ipP	05 34 23.1
		Sk iPKP	15 40 09.6			Ka iP	05 34 52.9
		i	15 40 21.7			Ud iP	05 34 37.9 C
		Gb iPKP	15 40 24.2			i	05 34 47.7
		Um iPKP	15 40 04.4 C			ipP	05 34 54.6
		Kermadec Islands				Japan. h = 60 km (Um,Ud).	
		(h = 120 km).				m = 6.4 (Up,Ki).	
"	2	Ki iP	16 17 00.2	"	3	Up iP	07 12 54.3
		Ud eP	16 17 25			ipP	07 13 05.5
		Mindanao (h = 50 km).				iS	07 22 06
"	2	Up ePKP	17 25 21			D = 7900 km = 71°	
		Ud iPKP	17 25 25.8			Ki iP	07 12 13.8
		Tonga-Kermadec Islands				i(pP)	07 12 21.2
		(h = 610 km).				Sk iP	07 12 48.1
"	2	Up iP	18 01 26.6			i	07 12 54.7
		Ki iP	18 01 07.2			i	07 13 15.8
		Um iP	18 01 13.4			Um iP	07 12 31.7
		Ud iP	18 01 35.4 C			ipP	07 12 42.8
		Luzon (h = 20 km).				iS	07 21 23
"	2	Ud iP	18 49 21.7			Ud iP	07 13 01.3
						ipP	07 13 12.3
"	2	Ud iP	19 09 06.5	"	3	Up iP	08 24 27.4
						i	08 24 30.5
"	2	Up iP	21 29 40.1			iS	08 27 58
		Ud iP	21 29 28.5				micr sec
"	2	Ud eP	22 41 35			P	E 1.3 3
		i	22 41 50.8			P	N 4.2 3

(cont.)

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1968					1968					
Sep.	3	(cont.)			Sep.	3	(cont.)			
		Up		micr sec			Um	iP	09 18 15.8	
		P	Z	4.0 3				i	09 18 17.9	
		P	Z'	0.6 0.7				iPn	09 18 24.4	
		S	E	4.2 5			Ka	iP	09 17 15.8	
		S	N	8.0 5			Ud	iP	09 18 01.9	
		Mx	E	55 18				iS	09 21 50.3	
		Mx	N	75 18			Turkey (h = N).			
		Mx	Z	100 22						
		D = 2200 km = 20°				"	3	Ki	iP	09 40 22.2
		Ki	iP	08 25 34.7 C			Um	iP	09 39 47.7	
			i	08 25 38.7			Ud	iP	09 39 40.9	
			eS	08 30 14						
			iSn	08 30 49.2		"	3	Up	iP	09 56 39.3
				micr sec				Ki	eP	09 57 40
		P	E	1.1 8			Sk	iP	09 57 26.5	
		P	N	2.5 8				iPn	09 57 37.5	
		P	Z	3.1 8			Um	iP	09 57 02.7	
		P	Z'	0.8 0.9			Ud	iP	09 56 50.5	
		S	E	30 17			Turkey.			
		S	N	10 13						
		Mx	E	160 21		"	3	Up	eP	10 01 01
		Mx	N	91 13				iPP	10 02 22	
		Mx	Z	110 12					micr sec	
		D = 3000 km = 27°						PP	Z'	0.2 1.1
		Sk	iP	08 25 16.4				Mx	E	0.6 11
			i	08 25 18.9				Mx	N	1.8 18
			i	08 30 59.2				Mx	Z	0.9 12
		Gb	iP	08 24 34.5 C			Ki	iP	10 01 26.8	
			i	08 24 36.2				i	10 01 30.0	
			iS	08 28 05.0				iPP	10 02 46.6	
		Um	iP	08 24 59.1 C					micr sec	
			i	08 25 03.4				P	Z'	0.2 1.5
			iS	08 29 03				Mx	E	0.9 15
			iSa	08 29 16				Mx	N	2.2 18
		Ka	iP	08 23 59.2 C				Mx	Z	1.3 14
			i	08 24 02.6			Sk	iP	10 01 33.4 C	
			i	08 24 08.5				iPP	10 03 06.5	
			iS	08 27 19.0			Gb	iP	10 01 18.7	
		Ud	iP	08 24 43.6			Um	iP	10 01 07.9	
			i	08 24 48.1				iPP	10 02 30.6	
			iS	08 28 38.2			Ka	iPn	10 02 17.9	
		Turkey (h = 5 km).					Ud	iP	10 01 17.2	
		m = 6.3, M = 6.4 (Up,Ki).						i	10 01 20.9	
		Double P, in average 3.4					Iran (h = 15 km).			
		sec apart. Higher-mode					m = 5.8, M = 5.1 (Up,Ki).			
		surface waves.								
"	3	Up	iP	09 17 47.8		"	3	Um	eP	10 09 20
			iS	09 21 21.3				Ud	iP	10 09 20.0
		Ki	iP	09 18 51.7			Instead, these phases			
			iPn	09 19 08.0			could be Sn to the pre-			
		Sk	iP	09 18 34.6			ceding shock.			
			iS	09 22 58.0		"	3	Up	iP	11 00 51.1
		(cont.)					(cont.)			

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1968						1968					
Sep.	3	(cont.)				Sep.	3	Ki	iSn	12 52 09.5	
		Up	eS	11 04 23					iSg	12 53 06.0	
				micr sec				Sk	e	12 51 57	
			P	Z' 0.1 0.5					iSg	12 52 23.3	
			S	Z' 0.1 1.0				Um	iSg	12 50 54.9	
			Mx	N 0.4 14				Ud	eSg	12 51 35	
			D = 2300 km = 20 1/2°.					Esthonia. Explosion?			
		Ki	iP	11 01 58.0							
			iPn	11 02 14.6		"	3	Ud	iP	14 03 12.2	
			eSa	11 07 15							
			e(Lg1)	11 10 04		"	3	Up	iP	14 13 44.5	
				micr sec					iS	14 17 17	
			Mx	E 0.8 21						micr sec	
			Mx	N 0.4 12					P	Z' 0.1 0.7	
			Mx	Z 0.6 11					Mx	N 0.6 15	
		Sk	iP	11 01 41.0				D = 2300 km = 20 1/2°.			
			iPn	11 02 02.0				Ki	iP	14 14 52.6	
			iS	11 06 13.6					iSn	14 20 08.0	
			i	11 06 19.8						micr sec	
		Gb	iP	11 01 00.7				Mx	E 0.4 12		
		Um	iP	11 01 22.6				Mx	N 0.3 11		
			iS	11 05 33.6				Mx	Z 0.6 12		
		Ka	i(P)	11 00 31.1				Sk	eP	14 14 34	
			iS	11 03 37.8					iSn	14 19 14.8	
		Ud	iP	11 01 07.2				Gb	iS	14 17 25.3	
			i	11 01 13.7				Um	iP	14 14 17.1 C	
			iS	11 04 58.2					iS	14 18 27.1	
		Turkey (h = 10 km).						Ka	eP	14 13 20	
		M = 4.3 (Up,Ki).							iS	14 16 29.5	
									iSS	14 17 05.4	
"	3	Up	iP	12 26 36.3				Ud	iP	14 14 00.3	
			iS	12 30 12.2					iS	14 17 54.9	
		Ki	iP	12 27 41.2				Turkey (h = 15 km).			
			iSn	12 32 44.0				M = 4.2 (Up,Ki).			
		Sk	iP	12 27 23.3		"	3	Ka	iPg	15 44 44.5	
			iSn	12 32 22.0					iSg	15 45 13.5	
		Gb	iP	12 26 40.5							
		Um	iP	12 27 06.6		"	3	Up	iP	15 47 52.8	
			iSn	12 31 39.0					eS	15 56 42	
		Ka	iP	12 26 10.2						micr sec	
		Ud	iP	12 26 50.4				S	E 0.3 7		
			iS	12 30 38.5				Mx	E 1.0 20		
		Turkey.						Mx	N 0.7 17		
		Origin time = 12 22 00.						Mx	Z 1.9 20		
								D = 7450 km = 67°.			
"	3	Up	iP	12 34 58.3				Ki	iP	15 47 59.9	
		Ki	iP	12 36 03.7					ipP	15 48 11.0	
		Sk	iP	12 35 45.6					eS	15 57 02	
		Um	iP	12 35 27.7						micr sec	
		Ud	iP	12 35 09.5				P	Z 0.4 6		
			iS	12 39 05.6				P	Z' 0.3 1.8		
		Turkey.						S	N 0.4 9		
		Origin time = 12 30 21.						(cont.)			

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1968				1968			
Sep.	3	(cont.)		Sep.	3	(cont.)	
		Ki	micr sec			Um	iP 18 55 45.6
		Mx	E 1.4 22			iPP	18 57 08
		Mx	N 0.8 19			iS	19 01 46
		Mx	Z 1.7 19			Ka	iP 18 55 50.3
		D = 7600 km = 68 1/2°.				ipP	18 56 09.1
		Sk	iP 15 47 38.1 C			iPP	18 57 21.8
		Gb	iP 15 47 36.9			Ud	iP 18 56 02.8
		Um	iP 15 48 00.3 C			Hindu Kush. h = 90 km	
			ipP 15 48 10.3			(Gb,Ka).	
			iS 15 57 01			m = 5.7, M = 5.0 (Up,Ki).	
			iSS 16 01 17			M not corrected for focal	
		Ka	iP 15 47 47.4			depth.	
		Ud	iP 15 47 40.6				
		North Atlantic Ocean.					
		h = 40 km (Ki,Um).				"	3
		m = 5.8, M = 5.3 (Up,Ki).				Up	iP 19 09 09.0 D
						Ki	iP 19 09 45.8
						i	19 10 22.0
		"	3			Sk	iP 19 09 07.4
		Um	eP 16 44 31			i	19 10 03.8
		"	3			Um	iP 19 09 30.3
		Um	iP 16 57 29.3			iPcP	19 09 46.7
		"	3			Ka	iP 19 08 54.7
		Up	iP 17 55 44.0			Ud	iP 19 09 04.0
		Ki	iP 17 55 32.9			iPcP	19 09 31.2
		Sk	iP 17 55 58.2 C			Atlantic Ocean (h = N).	
		Um	iP 17 55 33.2 C			"	3
		Ud	iP 17 55 57.3 C			Up	iP 19 51 13.3
		Tibet (h = 50 km).				Ki	iP 19 50 54.5
		"	3			Sk	eP 19 51 18
		Up	iP 18 55 46.5			Um	iP 19 51 00.6
		iPP	18 57 14			Ud	iP 19 51 22.7 C
		iSS	19 04 41			i	19 52 04.5
			micr sec			Luzon (h = 40 km).	
		P	Z' 0.1 0.5			"	3
		Mx	E 1.1 15			Up	eP 21 12 48
		Mx	N 1.4 17			eS	21 16 14
		Mx	Z 2.2 17			Ki	eP 21 13 56
		Ki	iP 18 55 58.4			Sk	eP 21 13 40
		i	18 56 07.5			i	21 13 43.6
		i	18 57 10.0			iPn	21 13 58.3
		iPP	18 57 32.2			Gb	iP 21 12 56.9
		eSS	19 05 13			Um	eP 21 13 21
			micr sec			eS	21 17 24
		P	Z' 0.1 1.3			Ka	iP 21 12 24.5
		Mx	E 1.3 16			Ud	iP 21 13 04.6
		Mx	N 0.9 11			iS	21 17 00.3
		Mx	Z 0.9 13			Turkey (h = 60 km).	
		Sk	iP 18 56 12.9			"	3
		i	18 56 25.1			Um	eP 22 20 02
		iPP	18 57 54.5			Alaska (h = N).	
		Gb	iP 18 56 07.8			"	3
		ipP	18 56 26.2			Up	iP 22 33 27.9 D
		iPP	18 57 46.9				micr sec
		(cont.)				P	Z' 0.2 0.6
						(cont.)	

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1968			1968		
Sep. 3	(cont.)		Sep. 4	Um iP	02 46 45.1
	Ki iP	22 32 55.1	" 4	Um iP	04 13 53.3
	Sk iP	22 33 24.3		Banda Sea (h = 110 km).	
	Gb iP	22 33 46.1	" 4	Up iP	05 17 41.4
	Um iP	22 33 09.1 D		Ki iP	05 17 06.0
	i	22 33 33.7		Sk eP	05 17 37
	Ka iP	22 33 44.6		Um iP	05 17 21.2 D
	Ud iP	22 33 34.9 D		Ud iP	05 17 48.5
	South of Japan (h = 410 km).			South of Japan (h = 270 km).	
" 3	Up P	iPg 22 35 57.4	" 4	Um eP	05 30 25
		iSg 22 36 29.6	" 4	Ki eP	06 01 37
		micr sec		Ud iP	06 01 24.9
		Sg Z' 0.1 0.5		Iran (h = N).	
	Ki R	iLg1 22 40 22.9	" 4	Up iP	06 30 36.6
	Sk A	i(Sn) 22 37 32.5		Ki iP	06 31 40.6
		iLg1 22 37 56.9		i(Pn)	06 31 56.3
	GBT	iPg 22 35 40.3		Sk iP	06 31 23.9
		iSg 22 35 57.4		i(Pn)	06 31 29.1
		i(Rg) 22 36 00.8		eSn	06 36 09
	Um E	iLg1 22 38 26.7		Um iP	06 31 06.2
		i 22 38 28.7		iPn	06 31 20.1
	Ka S	iPg 22 36 03.0		iSn	06 35 23.6
		iSg 22 36 34.0		Ud iP	06 30 49.0
	Ud D	iPg 22 35 46.6 C		iSn	06 34 46.7
		i 22 35 50.4		Turkey.	
		iSg 22 36 08.2		Origin time = 06 26.0.	
	Västergötland, Sweden, 58.4 N, 14.1 E.		" 4	Ki ePg	07 10 41
	Origin time = 22 35 14.			iSg	07 11 03.6
	Felt. There are some indications, though not conclusive, that this was a double shock, about 4 sec apart, the second somewhat stronger than the first one.			Sk eSg	07 12 47
" 3	Ki	iPKP 23 49 14.9		Um iSg	07 12 37.4
		ipPKP 23 49 24.7	" 4	Northwest coast of Norway: West Fjord, near Lofoten.	
	Sk	ePKP 23 49 26	" 4	Ki ePKP	08 00 23
	Um	iPKP 23 49 21.8		New Hebrides Islands (h = 15 km).	
		ipPKP 23 49 31.3	" 4	Up iP	08 15 59.0
	Ud	ePKP 23 49 31		micr sec	
		ipPKP 23 49 41.2		Ki P	Z' 0.1 1.0
	New Hebrides Islands. h = 35 km (Ki,Um,Ud).			Ki eP	08 16 22
" 4	Um epP	00 51 29		i	08 17 23.6
	Celebes (h = 440 km).			i	08 18 08.5
" 4	Um iP	02 44 01.6		micr sec	
	Ud iP	02 43 33.3 D		Mx E	0.8 17
				Mx N	0.5 13
				Mx Z	1.0 16
				Sk iP	08 16 29.0
				(cont.)	

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1968				1968					
Sep.	4	(cont.)		Sep.	4	Up	iP	12 10 22.4	
		Sk	iPP	08 18 06.9	"	4	Ki	ePn	12 25 14
		Gb	iP	08 16 16.4				ePX	12 25 24
		Um	iP	08 16 04.2				eSn	12 26 02
			iPP	08 17 32.8				iLg1	12 26 14.9
		Ud	iP	08 16 13.0				D = 440 km = 4.0°.	
			i	08 16 15.4				Probably northwest Russia.	
			iPP	08 17 43.4				Origin time = 12 24 10.	
		Iran	(h = 25 km).					Explosion?	
"	4	Ki	e	09 43 36	"	4	Ud	iP	13 43 06.3
			i	09 43 45.4				i	13 44 39.0
		Um	e	09 44 37					
		Probably regional.							
"	4	Ki	eP	10 06 14	"	4	Sk	eP	14 58 43
							Um	iP	14 58 44.5
"	4	Up	iP	10 44 55.4	"	4	Ki	eP	15 17 22
		Ki	eP	10 44 02					
		Sk	iP	10 44 38.6	"	4	Um	iP	16 10 54.5
		Um	iP	10 44 26.6			Ud	iP	16 11 15.6
		Ka	iP	10 45 19.8	"	4	Up	iSn	17 12 27.4
			ipP	10 45 30.9				iLg1	17 13 06.5
		Ud	iP	10 44 59.3			Ki	iPg	17 09 43.3 C
		Kamchatka. h = 40 km (Ka).						iSg	17 10 04.0
"	4	Ud	iP	10 51 23.7				micr sec	
"	4	Up	iP	11 09 01.8				Sg z' 0.5 0.5	
			i	11 09 36.5			Sk	iPg	17 10 58.4
								iLg1	17 12 02.9
"	4	Up	iP	11 26 47.9				iSg	17 12 15.5
			iPP	11 28 09.6			Um	iPg	17 10 16.2
				micr sec				iSn	17 10 47.4
		PP	Z'	0.1 1.0				iSg	17 10 59.1
		Mx	E	0.4 11			Ka	eLg1	17 15 06
		Mx	N	0.5 12			Ud	iLg1	17 13 25.5
		Mx	Z	0.6 12			Torne River Valley, Sweden-Finland border region, 66.9°N, 23.7°E. Origin time = 17 09 11. Felt.		
		Ki	iP	11 27 13.7	"	4	Up	iP	21 31 13.7
			i	11 27 16.4			Ud	iP	21 31 04.3
			iPP	11 28 43.4	"	4	Up	iP	23 31 56.9 C
				micr sec				iPP	23 33 21.5
		Mx	E	0.6 15				iS	23 37 39
		Mx	N	0.4 11					micr sec
		Mx	Z	0.6 11				P	Z' 0.1 0.9
		Sk	iP	11 27 20.5				PP	Z' 0.2 1.0
			iPP	11 28 55.4				Mx	E 0.8 11
		Gb	iP	11 27 04.5				Mx	N 2.0 17
		Um	iP	11 26 54.9				(cont.)	
			i	11 26 57.6					
			iPP	11 28 24.0					
			iPcP	11 29 11.1					
		Iran	(h = 25 km).						
		M = 4.6 (Up,Ki). Double							
		P (Ki,Um).							

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

Sep. 4

(cont.)

Up			micr	sec	
	Mx	Z	1.5	12	
	D = 4100 km = 37 ⁰ .				
Ki	iP		23	32	23.6
	i(Pa)		23	33	41
	iPP		23	33	56.7
			micr	sec	
	P	E	0.3	6	
	P	N	0.3	7	
	P	Z	0.6	6	
	P	Z'	0.3	1.5	
	PP	Z'	0.2	1.4	
	Mx	E	4.2	14	
	Mx	N	1.8	16	
	Mx	Z	5.8	14	
Sk	iP		23	32	29.4 C
	iPP		23	34	01.0
Gb	iP		23	32	13.4
	iPP		23	33	40.7
Um	iP		23	32	03.6 C
	iPP		23	33	27.1
	iS		23	37	53
Ka	iP		23	31	52.6
	iPP		23	33	06.1
Ud	iP		23	32	13.4 C
	iPP		23	33	40.1
Iran (h = 15 km).					
m = 5.7, M = 5.3 (Up, Ki).					

" 5

Up			micr	sec	
	Mx	E	1.2	24	
	Mx	N	1.0	19	
	Mx	Z	1.8	22	
Ki	ePKP		03	02	20
			micr	sec	
	Mx	E	0.6	18	
	Mx	N	0.6	19	
	Mx	Z	1.9	24	
Sk	ePKP		03	02	17
Um	ePKP		03	02	21
	iPP		03	04	48
	iPKS		03	05	45
	iSS		03	22	35
Ud	ePKP		03	02	10
Off coast of Chile					
(h = N).					
M = 5.6 (Up, Ki).					

" 5

Up	iP		04	12	52.6 C
	iPn		04	13	53.3
	iPP		04	14	11.4
			micr	sec	
	P	Z'	0.2	0.7	

(cont.)

1968

Sep. 5

(cont.)

Ki	iP		04	12	37.4 C
	i		04	12	42.6
	iPn		04	13	37.6
			micr	sec	
	P	Z'	0.2	0.7	
Sk	iP		04	13	08.5 C
	iPn		04	14	22.1
Gb	iP		04	13	21.2
	iPn		04	14	40.9
Um	iP		04	12	37.8 C
	i		04	13	15.2
	iPn		04	13	36.7
Ka	iP		04	13	08.7 C
Ud	iP		04	13	09.1 C
	iPn		04	14	21.4

Kazakh SSR.

m = 6.2 (Up, Ki).

Underground explosion.

" 5

Ki	iP		06	45	47.6
Sk	iP		06	46	08.5
Um	iP		06	45	51.8
Ud	eP		06	46	11
Talaud Islands (h = N).					

" 5

Ki	e(P)		08	17	07
Um	eP		08	17	53

" 5

Ki	eP		08	28	55
Um	iP		08	28	45.7
Azores Islands (h = N).					

" 5

Sk	eP		08	47	55
Crete.					

" 5

Ki	iP		09	04	56.0
Sk	iP		09	05	26.2 C
Um	iP		09	04	56.7
Kazakh-Sinkiang (h = N).					

" 5

Up	iPg		09	24	41.8
	eSg		09	25	10
Ka	i		09	25	20.7
	iSg		09	25	48.9
Probably underwater explosion in the central Baltic Sea.					

" 5

Ki	iP		10	17	15.5
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" 5

Ki	eP		10	31	12
Um	iP		10	31	34.3
Kurile Islands (h = N).					

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
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1968				1968					
Sep.	5	Um	iP	11 46 40.7	Sep.	6	Up	eP	02 34 49
				Japan (h = 80 km).				ePP	02 36 12
"	5	Um	iP	11 57 29.2				i	02 36 14.7
			i	11 57 41.2					micr sec
"	5	Ki	ePn	12 09 05				Mx E	0.3 11
			iSn	12 09 46.4				Mx N	0.8 16
			iSg	12 10 03.4				Mx Z	0.6 10
				D = 380 km = 3.4°			Ki	iP	02 35 14.4
				Origin time = 12 08 10.				iLg2	02 50 19
									micr sec
"	5	Up	iP	13 23 32.1				Mx E	1.2 14
			i	13 23 38.9				Mx N	2.2 21
"	5	Sk	e	16 59 04				Mx Z	1.3 14
			i(Sg)	16 59 13.7			Sk	iP	02 35 21.0
"	5	Ki	eL	18 01				iPP	02 36 59.2
				micr sec			Um	iP	02 34 55.7
			Mx E	0.6 20				iS	02 40 53
			Mx Z	1.2 22			Ud	iP	02 35 04.7
				New Guinea (h = N).					Iran (h = 25 km).
"	5	Ki	ePg	18 03 36					M = 5.0 (Up, Ki).
			i	18 03 47.4	"	6	Um	iP	02 55 55.2
			iSg	18 04 13.1				i	02 56 09.6
		Sk	ePg	18 03 39	"	6	Ki	e(PKP)	03 40 49
			iSg	18 04 17.5				iPKP	03 40 55.9
			i	18 04 26.6			Sk	ePKP	03 41 08
		Um	iPg	18 03 53.2			Um	iPKP	03 41 01.8
			iSn	18 04 22.0				i	03 41 13.0
			iSg	18 04 40.1					New Hebrides Islands
				Nordland's Fylke, Norway,					(h = 25 km).
				66.4° N, 14.8° E.	"	6	Ki	iPKP	07 55 05.6
				Origin time = 18 02 44.				ipPKP	07 55 16.0
				Explosion?			Sk	iPKP	07 55 16.3
"	5	Up	eL	18 56				ipPKP	07 55 28.5
				micr sec			Um	iPKP	07 55 12.2
			Mx E	0.4 13				ipPKP	07 55 22.3
			Mx N	0.6 13					New Hebrides Islands.
			Mx Z	0.6 13					h = 40 km (Ki, Sk, Um).
				Crete (h = 90 km).	"	6	Sk	iP	08 03 04.5
"	5	Sk	iPKP	22 19 46.1					Peru (h = 70 km).
		Um	iPKP	22 19 41.3	"	6	Sk	e(P)	12 37 23
				Santa Cruz Islands	"	6	Up	iSg	12 39 22.0
				(h = 180 km).				i	12 39 37.5
"	6	Um	iP	02 17 46.1			Ki	eSg	12 42 05
		Ud	iP	02 18 15.4			Sk	iSg	12 41 27.1
				Aleutian Islands.			Um	eSg	12 40 07
				Underwater explosion.					Esthonia. Explosion?
"	6	Um	eP	13 17 39	"	6	Um	eP	13 17 39
				(cont.)					

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Sep.	6	(cont.)		Sep.	6	(cont.)	
		Um	i 13 18 14.8			Ki	micr sec
"	6	Up	iP 14 11 48.6			pP	Z' 0.2 1.0
			micr sec			S	E 0.9 6
		P	Z' 0.2 1.3			S	N 0.4 8
		Ki	iP 14 11 14.6 C			Mx	E 4.5 22
			micr sec			Mx	N 5.2 22
		P	Z' 0.2 1.5			Mx	Z 7.4 19
		Sk	iP 14 11 22.4 C			D = 7650 km = 69°.	
		Gb	iP 14 11 48.4 C			Sk	iP 19 34 21.6
		Um	iP 14 11 33.8 C			Gb	iP 19 34 44.1
		Ka	iP 14 12 01.8 C			Um	iP 19 34 02.9
		Nevada. m = 6.1 (Up,Ki).				i	19 34 04.2
		Underground explosion.				ipP	19 34 17.5
						iS	19 43 18
"	6	Up	iP 14 36 34.7			iSS	19 47 56
		i	14 36 36.1			Ka	iP 19 34 40.8
"	6	Sk	e(Sg) 15 39 55			Ud	iP 19 34 31.5 D
"	6	Up	iPg 15 43 19.4			ipP	19 34 44.5
		iSg	15 44 14.9			Japan. h = 50 km (Up,Ki, Um,Ud).	
		Sk	eSg 15 46 35			m = 6.2, M = 5.9 (Up,Ki).	
		Um	iSg 15 46 05.7			Double P (Up,Ki,Um).	
		Ka	iPg 15 43 08.5	"	6	Up	iP 20 29 21.4
		i	15 43 14.6			ipP	20 29 29.2
		iSg	15 43 49.8			Sk	iP 20 29 14.7
		Near Lijepaya on the Baltic coast of Latvia.				Um	iP 20 29 11.2 C
		Explosion? Cf May 31, 1968, 13 37.				ipP	20 29 18.8
						Ud	iP 20 29 23.5
						ipP	20 29 30.9
"	6	Ki	iP 16 47 06.4			It is not unlikely that these phases instead are PKP and pPKP, respectively.	
		Um	iP 16 47 21.2	"	6	Up	iP 21 43 03.0 C
		Ud	eP 16 47 49				micr sec
		Japan (h = 35 km).				P	Z' 0.1 0.5
"	6	Up	iP 19 34 22.5	"	6	Up	iP 21 58 26.8
		i	19 34 23.5			Ud	iP 21 58 14.8
		ipP	19 34 36.8	"	6	Sk	iP 23 31 19.2
		iS	19 43 52			Kodiak Island (h = 50 km).	
			micr sec	"	6	Ki	iP 23 32 02.1
		P	Z' 0.2 0.7			Sk	iP 23 32 29.3 C
		S	N 0.5 4			Um	iP 23 32 30.0 C
		Mx	E 3.1 18			Ud	iP 23 32 53.1
		Mx	N 3.1 19			Kodiak Island (h = N).	
		Mx	Z 5.5 19	"	7	Ud	iP 01 27 08.2
		D = 8200 km = 74°.		"	7	Ud	iP 01 58 13.7
		Ki	iP 19 33 50.8			Kurile Islands (h = N).	
		i	19 33 51.8				
		ipP	19 34 04.3				
		iS	19 42 53				
		(cont.)					

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
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1968				1968			
Sep.	7	Um iPKP	02 20 01.1	Sep.	7	(cont.)	
		Fiji Islands	(h = 650 km).			Ki ePKP	16 11 21
						iPKS	16 14 31.5
"	7	Up iP	02 29 54.5				micr sec
		Um iP	02 29 37.3			PKS Z'	0.2 1.8
		Formosa.				Sk ePKP	16 11 11
"	7	Ki i(P)	07 04 21.6			Um iPKP	16 11 11.3
						i	16 11 38.0
"	7	Um ePP	07 06 53			Ud iPKP	16 11 03.6
		New Guinea	(h = 50 km).			South Sandwich Islands	
						(h = 45 km).	
"	7	Ki e(Sg)	08 10 20	"	7	Up iP	17 17 33.1
		Um i(Sg)	08 11 47.5			Atlantic Ocean	(h = N).
"	7	Up iP	08 37 37.7	"	7	Up eP	18 25 10
		i	08 37 57.1			Ud iP	18 25 18.9 C
		Ki iP	08 36 43.8 C			Luzon	(h = 10 km).
		Sk iP	08 37 11.2	"	7	Ki iPKP	23 34 39.8
		Um iP	08 37 11.8			Ud iPKP	23 34 55.2
		Ud iP	08 37 34.7			New Hebrides Islands	
		Kodiak Island	(h = 40 km).			(h = N).	
"	7	Up i(P)	11 06 12.8 C	"	7	Up iPKP	23 35 25.2
"	7	Up iPn	13 37 30.2			Ki iPKP	23 35 10.6
		i	13 38 30.2			Sk ePKP	23 35 22
		iSn	13 38 43.8			Um iPKP	23 35 17.2
		iLg1	13 38 59.1			i	23 35 27.3
		Ki iSn	13 39 20.8			Ud iPKP	23 35 27.5
		i	13 39 39.6			New Hebrides Islands.	
		iLg1	13 40 07.5			Origin time =	23 16 14.
		Sk ePg	13 36 47	"	8	Up iPKP	00 35 52.8
		i	13 37 07.5			iPKS	00 39 20.7
		iSg	13 37 29.8			Ki iPKP	00 35 38.4
		Gb iLg1	13 38 37.9			i	00 35 45.3
		Um iPn	13 37 29.3			Sk iPKP	00 35 49.7
		iSn	13 38 44.5			Um iPKP	00 35 44.6
		iLg1	13 39 18.8			Ka iPKP	00 36 01.7
		Ka e(Sn)	13 39 07			Ud iPKP	00 35 54.6
		iLg1	13 39 52.3			New Hebrides Islands	
		Ud ePn	13 36 56			(h = 20 km).	
		iPg	13 37 13.8	"	8	Up iP	02 12 34.5 D
		iLg1	13 38 04.2			i	02 13 03.5
		West coast of Norway,				Ki iP	02 11 49.9
		near Ålesund	(h = N).			Sk iP	02 12 25.8
"	7	Sk eP	13 47 13			Gb iP	02 12 56.1
"	7	Um iP	15 27 10.8			Um iP	02 12 10.2
"	7	Up iPKP	16 11 05.6			Ka iP	02 12 56.8
		iPKS	16 14 27.9			Ud iP	02 12 41.1 D
		(cont.)				Japan	(h = 330 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968					
Sep.	8	Um	eP	06 48 53	Sep.	8	Up	iP	15 26 52
"	8	Um	iP	07 26 36.4				iX	15 31 18
"	8	Ud	iP	07 56 47.2				iPP	15 31 29
				Japan (h = N).				ePS	15 40 43
"	8	Up	iP	08 56 06.2					micr sec
		Ki	iP	08 55 23.7				PP	E 0.8 7
		Um	iP	08 55 42.8				PP	N 0.7 7
		Ud	iP	08 56 13.1				PP	Z 2.2 7
			ipP	08 56 22.7				PP	Z' 0.3 1.5
				Japan. h = 35 km (Ud).				Mx	E 5.0 19
"	8	Ki	ePn	12 06 27				Mx	N 7.3 20
			iP	12 06 34.8				Mx	Z 8.4 20
			iSg	12 07 27.8				Ki	iP
			D = 400 km = 3.6°						15 26 30.4 C
		Sk	iSg	12 09 54.8					iX
		Um	iSg	12 08 25.1					15 29 36.7
				Northwest Russia,					eX
				67.5°N, 29.9°E.					15 30 31
				Origin time = 12 05 30.					iPP
				Explosion?					15 30 52
"	8	Up	iPKP	13 23 16.8 C					ePS
		Ki	ePKP	13 23 32					15 40 06
			eSKP	13 26 39					micr sec
				micr sec					
			SKP	Z' 0.1 1.5					
		Um	iPKP	13 23 24.9				P	Z 0.8 6
		Ud	iPKP	13 23 14.9				P	Z' 0.2 1.7
			iPKKP	13 33 11.9				PP	E 1.1 8
				South Sandwich Islands				PP	N 0.6 9
				(h = 150 km).				PP	Z 2.8 9
"	8	Up	iPKP	13 49 18.9				Mx	E 9.8 24
		Ki	iPKP	13 49 04.8				Mx	N 5.1 21
		Sk	iPKP	13 49 15.8				Mx	Z 11 23
		Um	iPKP	13 49 11.9				Sk	eP
		Ud	iPKP	13 49 21.4					15 26 57
				New Hebrides Islands					iPKP
				(h = 30 km).					15 30 54.5
"	8	Ki	iPKP	14 46 33.4					iPP
			i	14 46 39.9					15 31 29.0
		Um	iPKP	14 46 40.3				Gb	eP
		Ud	ePKP	14 46 49					15 27 09
				New Hebrides Islands					eX
				(h = 25 km).					15 31 48
"	8	Ki	iPKP	15 14 18.1				Um	iP
				New Hebrides Islands					15 26 34
				(h = 30 km).					iX
									15 30 19.8
"	8	Ki	iPKP	15 14 18.1					iX
				New Hebrides Islands					15 30 37.7
				(h = 30 km).					iPP
									15 30 54
									iSKS
									15 37 09
"	8	Ki	iPKP	15 14 18.1					iPS
				New Hebrides Islands					15 40 12
				(h = 30 km).					Ka
									iP
									15 27 05.9
									iX
									15 31 40.3
									iPP
									15 31 51.3
"	8	Ki	iP	15 46 14.4				Ud	iP
				New Guinea (h = 40 km).					15 27 00.1
									iX
									15 31 10.4
									New Guinea (h = 30 km).
									m = 6.8, M = 6.4 (Up,Ki).
									X denotes the group of
									phases which arrive ahead
									of PP, especially clear
									in this distance range.
"	8	Ki	eP	16 31 35					
				Alaska (h = 10 km).					

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Sep.	9	(cont.)		Sep.	9	(cont.)	
		Ka ipP	00 51 40.4			Ki	micr sec
		ePP	00 54 59			pP	Z' 0.1 1.2
		Ud iP	00 50 59.6			Mx	E 0.3 15
		ipP	00 51 37.8			Mx	N 0.5 20
		Peru-Brazil. h = 150 km (Up,Ki,Sk,Gb,Um,Ka,Ud). m = 6.0 (Up,Ki).				Mx	Z 1.0 20
"	9	Up iP	02 29 32.7			Sk iP	05 04 30.8
		Ki iP	02 28 32.2			ipP	05 04 37.4
		iPcP	02 30 39.0			iPcP	05 05 32.8
			micr sec			Gb iP	05 05 10.6
		P	Z' 0.1 1.0			ipP	05 05 17.3
		Mx	E 0.5 16			Um iP	05 04 32.6
		Mx	N 0.2 14			ipP	05 04 39.2
		Mx	Z 0.3 13			iS	05 12 24
		Sk iP	02 29 15.5			Ka iP	05 05 22.3
		Gb iP	02 29 57.7			ipP	05 05 29.0
		Um iP	02 28 58.9			Ud iP	05 04 55.4
		iPcP	02 30 48.5			Alaska. h = 25 km (Ki,Sk, Gb,Um,Ka). M = 4.9 (Up,Ki).	
		Ka iP	02 30 01.5	"	9	Ki iP	05 17 45.1
		i	02 30 04.6			Um eP	05 17 10
		Ud iP	02 29 37.6			Ud eP	05 16 54
		iPcP	02 31 06.5	"	9	Ki eP	07 25 19
		Siberia (h = N).				ipP	07 25 29.6
"	9	Up iPKP	02 53 46.6 C			Um eP	07 25 38
		Ki iPKP	02 53 31.7			Ud iP	07 26 09.8
		i	02 53 38.7			ipP	07 26 20.6
		Sk iPKP	02 53 42.7			Japan. h = 40 km (Ki,Ud).	
		Gb iPKP	02 53 53.6	"	9	Up iP	09 58 44.8
		Um iPKP	02 53 39.0 C			iS	10 02 22
		Ud iPKP	02 53 47.7			D = 2300 km = 20 1/2°	
		New Hebrides Islands (h = 30 km).				Ki iP	09 57 05.2
"	9	Up iP	02 54 35.0			i	09 57 09.0
		Ki iP	02 54 55.9				micr sec
		Sk eP	02 55 04			P	Z' 0.2 2.0
		Ud iP	02 54 50.1			Sk iP	09 57 54.9
		Probably West Pakistan.				Gb iP	09 59 02.2
"	9	Ki ePKP	04 28 27			Um iP	09 57 56.3 C
		Um ePKP	04 28 36			i	09 58 00.3
		New Zealand (h = N).				iS	10 01 10
"	9	Up iP	05 04 59.2			Ka iP	09 59 17.1
		eS	05 13 10			Ud iP	09 58 36.0
			micr sec			Greenland Sea (h = N).	
		Mx	N 0.5 18	"	9	Up iP	11 53 53.0
		D = 6800 km = 61°				iS	11 57 32.8
		Ki iP	05 04 03.4			Ki iP	11 54 59.9
		ipP	05 04 10.5			iPn	11 55 20.6
		(cont.)				Sk iP	11 54 43.8
						i	11 55 27.3
						Gb eP	11 54 01
						(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Sep. 9	(cont.)			Sep. 10	Ki iP	05 39 05.8	
	Um iP	11 54 25.5			New Guinea (h = 50 km).		
	Ud iP	11 54 09.8		" 10	Um iP	06 11 37.5	
	Turkey (h = N).				Ud iP	06 12 09.1	
" 9	Ka iPg	16 28 13.9			ipP	06 12 22.6	
	iSg	16 28 43.0			Kurile Islands. h = 50 km (Ud).		
	Ud eSg	16 30 38		" 10	Ki iP	06 19 08.8	
	Near south coast of Baltic Sea. Explosion?			" 10	Sk eP	08 03 07	
" 9	Sk eP	18 07 44		" 10	Ka iPg	12 09 32.3 D	
" 9	Up iP	18 37 08.0			iSg	12 10 01.2	
	Ki iP	18 36 14.0			Ud iSg	12 12 13.4	
	Sk eP	18 36 48			Near south coast of the Baltic Sea. Explosion?		
	Ka iP	18 37 31.4		" 10	Sk eP	13 03 23	
	Ud iP	18 37 09.4		" 10	Up eP	15 42 37	
	Aleutian Islands (h = 45 km).			" 10	Ki ^R eSg	16 19 17	
" 9	Sk e(Sg)	18 45 12			Sk ^A eSg	16 19 22	
" 9	Um iSKP	20 26 42.5			i	16 19 33	
	Ud iPKP	20 24 01.7 C			Um ^E iSg	16 19 45.8	
	Tonga-Kermadec Islands (h = 560 km).				Nordlands Fylke, Norway, 66.4°N, 14.8°E. Origin time = 16 17 49.		
" 9	Ki i	20 31 15.9		" 10	Up iP	17 25 31.8	
	i(Sg)	20 31 19.6			ipP	17 26 19.0	
" 9	Ki eP	20 53 26			Sk iP	17 25 57.1 C	
" 10	Up iP	01 53 16.1			ipP	17 26 45.3	
	Ki iP	01 54 21.1			isP	17 27 07.9	
	iPn	01 54 42.1			Gb iP	17 25 52.6	
	Sk iP	01 54 04.0			Um iP	17 25 30.0 C	
	Gb eP	01 53 21			ipP	17 26 17.4	
	i	01 53 24.7			Ka iP	17 25 36.0 C	
	Um eP	01 53 46			ipP	17 26 22.5	
	Ud iP	01 53 34.8			Ud iP	17 25 47.8 C	
	Turkey (h = N).				ipP	17 26 35.8	
" 10	Ud i(P)	01 57 26.6			Hindu Kush. h = 230 km (Up, Sk, Um, Ka, Ud).		
" 10	Sk iP	02 34 07.9		" 10	Up eP	18 56 50	
" 10	Up iP	05 16 06.7			i	18 57 35.5	
	Ki iP	05 16 05.7 C		" 10	Ki iP	19 21 02.1	
	Sk iP	05 16 23.4		" 10	Up eP	20 39 12	
	Um eP	05 16 02			iPP	20 40 34.1	
	Ka iP	05 16 12.6			(cont.)		
	Ud iP	05 16 18.8 C					
	Bay of Bengal (h = N).						

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968								
Sep. 10 (cont.)					Sep. 11								
Up			micr	sec	Up	iP		03	17	23.2			
	Mx	E	0.4	12	Sk	iP		03	17	36.8			
	Mx	N	0.5	12	Ud	iP		03	17	35.4			
	Mx	Z	0.7	12	Tibet (h = 40 km).								
Ki	eP		20	39	37	"	11	Ki	e(Sg)	04	18	16	
	i		20	42	05.0	"	11	Up	iP	04	45	58.3	
			micr	sec				ipP	04	46	08.9		
	Mx	E	0.5	13				P	Z'	0.1	0.6		
	Mx	N	1.3	20	Ki	iP		04	45	06.4			
	Mx	Z	0.6	14	Sk	iP		04	45	37.4			
Sk	iP		20	39	45.2	Gb	iP		04	46	14.1		
Gb	iP		20	39	29.0	Um	iP		04	45	31.5		
Um	eP		20	39	19	Ud	iP		04	45	58.5		
	iS		20	45	22		ipP		04	46	09.0		
Ud	iP		20	39	28.6	Aleutian Islands.							
Iran (h = 20 km).					h = 40 km (Up,Ud).								
M = 4.8 (Up,Ki).					"	11	Ki	iP	07	56	45.2		
"	10	Ki	iP	21	36	10.5	"	11	Ki	iPn	10	12	59.5
			ipP	21	36	42.3				iP ^x	10	13	12.1
	Um	iP	21	36	23.5				iSn	10	13	57.6	
		ipP	21	36	58.9				iLg1	10	14	18.0	
Mariana Islands.					D = 530 km = 4.8°.								
h = 130 km (Ki,Um).					Sk	eSg		10	16	47			
"	10	Um	iP	22	14	58.9	Probably northwest Russia.						
		Ud	iP	22	14	30.5	Origin time = 10 11 46.						
"	10	Up	iP	22	43	36.8	Explosion?						
		Sk	eP	22	43	24	"	11	Ud	i(Sg)	12	21	25.2
		Um	iP	22	43	20.5 C	"	11	Ki	iPn	13	26	02.3
		i	22	43	24.0				iP ^x	13	26	10.9	
		Ud	iP	22	43	33.1				iSn	13	26	59.7
"	10	Up	iP	23	26	28				i(Lg1)	13	27	13.3
			micr	sec	D = 530 km = 4.8°.								
		Mx	E	0.6	21	Sk	eSg		13	29	49		
		Mx	N	0.9	17	Probably northwest Russia.							
		Mx	Z	1.8	22	Origin time = 13 24 46.							
Ki			---			Explosion?							
			micr	sec	"	11	Ki	ePKP	18	45	45		
		Mx	E	1.5	20				i	18	45	46.4	
		Mx	N	0.8	20				i(PP)	18	47	55	
		Mx	Z	2.5	20				iPP	18	48	04	
Sk	iP		23	26	10.8				ePKS	18	49	09	
Um	iP		23	26	26.6 C	micr sec							
	iS		23	36	57	PKP	Z'	0.4	1.8				
Ud	iP		23	26	19.1	PP	E	0.4	5				
Mexico (h = 70 km).							(PP)	Z	0.6	6			
M = 5.3 (Up,Ki).							PKS	E	1.3	6			
"	11	Ki	eP	02	12	58	(cont.)						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

Sep. 11 (cont.)
 Sk iPKP 18 45 37.6
 Gb iPKP 18 45 31.7
 Um iPKP 18 45 43.0
 i 18 47 26
 iPP 18 47 55
 iPKS 18 49 04
 Ka ePKP 18 45 34
 i 18 45 43.5
 Ud iPKP 18 45 34.0
 Chile (h = 30 km).
 m = 6.2 (Ki).
 " 11 Up iP 19 24 25.5
 iPP 19 25 48.8
 iS 19 30 16
 iSa 19 32 10
 iSS 19 32 52
 micr sec
 P Z' 0.1 0.8
 PP Z' 0.2 0.9
 S N 0.8 8
 Mx E 3.8 20
 Mx N 18 22
 Mx Z 4.3 22
 D = 4150 km = 37 1/2°.
 Ki eP 19 24 49
 i 19 24 52.1
 iPP 19 26 22.6
 iS 19 31 04
 iSS 19 33 46
 micr sec
 PP Z' 0.1 1.2
 S N 0.8 9
 Mx E 21 21
 Mx N 28 20
 Mx Z 14 14
 D = 4500 km = 40 1/2°.
 Sk iP 19 24 58.1
 i 19 24 59.5
 Gb iP 19 24 42.5
 i 19 24 44.8
 Um iP 19 24 32.4
 iPP 19 25 58.2
 iS 19 30 29
 Ka iP 19 24 23.2
 iPP 19 25 47.8
 Ud iP 19 24 41.8
 iPP 19 26 09.8
 Iran (h = N).
 m = 5.7, M = 6.1 (Up, Ki).
 Double P (Ki, Sk, Gb).
 " 11 Up ePKP 20 54 43
 (cont.)

1968

Sep. 11 (cont.)
 Sk ePKP 20 54 35
 Um ePKP 20 54 25
 Ud iPKP 20 54 40.7
 i 20 54 46.0
 " 11 Ud iP 21 34 51.7
 " 11 Up iP 21 59 04.3
 micr sec
 Mx E 0.6 17
 Mx N 0.7 18
 Mx Z 1.1 17
 Ki iP 21 58 43.2
 micr sec
 Mx E 0.4 13
 Mx N 0.4 15
 Mx Z 0.7 15
 Sk eP 21 59 15
 Gb iP 21 59 27.2
 Um iP 21 58 53.0
 Ud iP 21 59 16.7
 Formosa (h = 40 km).
 M = 5.1 (Up, Ki).
 " 12 Up iP 02 31 35.3
 " 12 Ki iP 11 53 49.1
 i 11 54 17.7
 Kamchatka (h = N).
 " 12 Ki iP 12 10 41.8
 i 12 10 46.1
 " 12 Up iP 12 34 46.5
 Ki iP 12 34 27.1
 Ud iP 12 34 55.0 C
 i 12 35 02.0
 " 12 Ud iSg 12 40 24.8
 " 12 Up iP 13 47 47.7 C
 ipP 13 47 56.2
 micr sec
 P Z' 0.1 1.0
 Mx E 0.6 21
 Mx N 1.0 20
 Mx Z 0.9 18
 Ki ----
 micr sec
 Mx E 1.5 18
 Mx N 0.8 18
 Mx Z 1.1 15
 Sk iP 13 47 40.3
 (cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
Sep. 12	(cont.)				Sep. 12	(cont.)			
	Gb	iP	13 48 09.1			Um	iPKS	23 05 48	
	Um	iP	13 47 24.0				ipPKS	23 08 08	
		iS	13 56 19				isPKS	23 09 13	
	Ud	iP	13 47 54.5 C				i	23 20 04	
		ipP	13 48 03.4				iSS	23 22 15	
	Japan. h = 30 km (Up,Ud).					Ka	iPKP	23 02 29.4	
	M = 5.3 (Up,Ki).						i	23 02 44.8	
"	12	Sk	eP	14 30 58		Ud	iPKP	23 02 18.5	
			i	14 32 25.2			iSKKP	23 13 32.8	
						Fiji Islands (h = 640 km). A smaller phase, (PKP), and a bigger one, PKP, at Ki,Um,Sk, but not at the other stations.			
"	12	Up	eP	15 44 45					
			iLg1	15 58 50					
				micr sec					
		Mx	E	0.6 20		"	13	Up	iP
		Mx	Z	1.0 20				Ki	iP
	Ki	iP	15 44 38.6					Um	iP
		iLg1	15 58 44					Ud	iP
			micr sec					Japan (h = 60 km).	
		Mx	E	1.4 17		"	13	Ud	iP
		Mx	N	0.4 11					
		Mx	Z	1.6 16		"	13	Up	iPKP
	Sk	iP	15 45 02.2					Ki	
	Um	iLg1	15 58 24						micr sec
	Ud	iP	15 44 57.5					Mx	E
	Sinkiang (h = 10 km).							Mx	N
	M = 4.8 (Up,Ki).							Mx	Z
"	12	Up	iPKP	23 02 17.4				Sk	ePKP
			iPP	23 05 27.1				Um	iPKP
			iPKS	23 05 59					i
			iSKKP	23 13 38.5				Ud	ePKP
				micr sec					i
		PKP	Z'	0.2 0.7				Kermadec Islands (h = 40 km).	
		PP	Z'	0.4 1.5		"	13	Ud	iPKP
		SKKP	Z'	0.2 1.5				Kermadec Islands (h = N).	
	Ki	i(PKP)	23 01 57.7			"	13	Up	iP
		iPKP	23 02 08.9						iS
		iSKP	23 04 38.7						
		iPKS	23 05 37						micr sec
			micr sec					Mx	E
		PKP	Z'	0.4 1.0				Mx	N
		SKP	Z	0.4 5				Mx	Z
		SKP	Z'	0.2 1.0				D = 9700 km = 87 1/2°.	
		PKS	E	0.8 7				Ki	iP
		PKS	N	0.9 8					i
	Sk	i(PKP)	23 02 09.6						iS
		iPKP	23 02 19.7						micr sec
	Gb	iPKP	23 02 26.6					P	Z
	Um	i(PKP)	23 02 06.0					P	Z'
		iPKP	23 02 16.1					(cont.)	
		iSKP	23 04 50.8						
	(cont.)								

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

Sep. 13

(cont.)

Ki			micr	sec
	S	E	0.6	9
	S	N	0.5	9
	Mx	E	1.2	18
	Mx	N	0.7	18
	Mx	Z	1.5	18
	D = 9500 km = 85 1/2°.			
Sk	eP		07 43	09
Gb	iP		07 43	23.7
Um	iS		07 53	55
Ud	eP		07 43	15
Mexico (h = 30 km).				
m = 5.8, M = 5.4 (Up, Ki).				

" 13

Ud	iP		12 29	19.0
Aleutian Islands				
(h = 40 km).				

" 13

Up	ePKP		13 08	50
Ki	iPKP		13 08	36.2
Sk	iPKP		13 08	47.4
Ud	iPKP		13 08	51.8 C
Santa Cruz Islands				
(h = 60 km).				

" 13

Sk	iP		14 54	46.5
----	----	--	-------	------

" 13

Sk	eP		20 18	08
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" 13

Ki	eP		21 59	49
			micr	sec
	Mx	E	0.3	15
	Mx	N	0.3	12
	Mx	Z	0.5	14
Sk	iP		21 59	20.8 C
Um	iP		21 59	55.0
Ud	iP		21 59	34.6
North Atlantic Ocean				
(h = N).				

" 14

Ki	eP		01 43	04
Sk	iP		01 42	34.2
Gb	iP		01 42	48.2
Um	iP		01 43	10.5
Ud	iP		01 42	49.6 C
North Atlantic Ocean.				
Origin time = 01 37 44.				

" 14

Up	iP		01 44	10.2
			micr	sec
	P	Z'	0.1	1.4
	Mx	E	0.6	20
	Mx	N	1.2	20
	Mx	Z	1.0	16
(cont.)				

1968

Sep. 14

(cont.)

Ki	iP		01 44	07.0
	eS		01 48	35
			mic	sec
	P	E	0.4	6
	P	Z	0.5	7
	P	Z'	0.1	1.3
	S	E	0.8	7
	Mx	E	1.0	16
	Mx	N	0.6	17
	Mx	Z	1.1	15

D = 2800 km = 25°.

Sk	iP		01 43	36.2
Gb	iP		01 43	47.3
Um	iP		01 44	11.0
	iS		01 48	44
Ka	iP		01 44	08.6
Ud	iP		01 43	50.1

North Atlantic Ocean
(h = 30 km).

m = 5.4, M = 4.4 (Up, Ki).

" 14

Ki	iPn		08 19	07.5
	eSn		08 20	02
	iSg		08 20	26.2
			D = 500 km = 4.5°.	

Probably northwest Russia.
Origin time = 08 17 57.
Explosion?

" 14

Up	iP		13 55	59.5
	i		13 56	02.5
	iPP		13 57	33
	iS		14 01	55

micr sec

P	E	0.3	3
---	---	-----	---

P	N	0.3	3
---	---	-----	---

P	Z	1.0	3
---	---	-----	---

P	Z'	0.2	0.5
---	----	-----	-----

PP	E	0.9	4
----	---	-----	---

PP	N	1.7	5
----	---	-----	---

PP	Z	1.7	4
----	---	-----	---

Mx	E	8.4	20
----	---	-----	----

Mx	N	17	21
----	---	----	----

Mx	Z	18	19
----	---	----	----

D = 4400 km = 39 1/2°.

Ki	iP		13 56	35.7 C
----	----	--	-------	--------

	i		13 56	39.2
--	---	--	-------	------

	iPP		13 58	20
--	-----	--	-------	----

	iS		14 03	09
--	----	--	-------	----

micr sec

P	E	0.8	6
---	---	-----	---

P	N	0.9	6
---	---	-----	---

P	Z	1.6	4
---	---	-----	---

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Sep. 14	(cont.)			Sep. 15			
	Ki		micr sec		Ki	iPKP	01 48 23.2 C
		P	Z' 1.9 2.3				South Sandwich Islands
		PP	E 1.7 5				(h = 140 km).
		PP	N 1.7 5	" 15	Up	iP	05 01 27.7
		PP	Z 2.0 5			i	05 01 30.6
		PP	Z' 0.6 1.5			eS	05 05 54
		S	N 1.2 7				micr sec
		Mx	E 17 19			P	Z' 0.1 1.0
		Mx	N 11 17			S	N 1.3 11
		Mx	Z 12 15			Mx	E 4.8 21
		D = 4900 km = 44°				Mx	N 4.1 20
	Sk	iP	13 56 34.5			Mx	Z 5.3 13
		i	13 56 36.2			D = 2850 km = 25 1/2°	
		ePP	13 58 13		Ki	iP	05 02 34.2
		i	14 02 14.5			i	05 02 39.3
	Gb	iP	13 56 10.4			eSa	05 09 07
	Um	iP	13 56 13.2 C				micr sec
		i	13 56 16.0			P	Z' 0.1 1.0
		i	13 56 25.4			Mx	E 11 18
		iPP	13 57 51.5			Mx	N 3.2 10
		iS	14 02 20			Mx	Z 3.5 10
		iSS	14 05 17		Sk	iP	05 02 04.4
	Ka	iP	13 55 50.8			i	05 02 11.9
		i	13 55 53.4		Gb	eP	05 01 18
		iPP	13 57 20.7			i	05 01 22.6
	Ud	iP	13 56 13.8			iPP	05 01 55.6
		i	13 56 18.1		Um	iP	05 02 03.4
		iPP	13 57 55.8			iPP	05 02 55
	Iran (h = N).					iS	05 06 45
	m = 6.1, M = 6.0 (Up,Ki).				Ka	iP	05 00 54.1
	Double P.				Ud	iP	05 01 32.1
" 14	Up	iP	19 27 51.1 C			i	05 01 34.7
			micr sec			Crete (h = N).	
		P	Z' 0.1 0.5			m = 5.5, M = 5.2 (Up,Ki).	
	Ki	iP	19 28 27.5 C			Double P.	
			micr sec	" 15	Sk	iP	05 14 43.5
		Mx	E 0.5 15		Um	iP	05 14 26.1
		Mx	N 0.4 14		Ud	iP	05 14 54.7
		Mx	Z 0.6 13			Japan (h = 140 km).	
	Sk	iP	19 28 25.7 C	" 15	Up	eP	05 40 25
	Gb	iP	19 28 02.6		Ud	iP	05 40 46.9
	Um	iP	19 28 04.3 C	" 15	Up	eP	06 22 27
		iSS	19 37 15		Ki	iP	06 23 04.7
	Ka	iP	19 27 41.4 C		Ud	iP	06 22 43.2
	Ud	iP	19 28 05.7 C			Iran (h = 30 km).	
		iPP	19 29 44.5	" 15	Up	iP	06 39 01.3
	Iran (h = 40 km).			" 15	Up	eP	09 49 29
" 14	Up	iP	20 38 03.3			ePP	09 50 50
	Ud	iP	20 38 20.2			(cont.)	
	Hindu Kush (h = 190 km).						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
Sep. 15	(cont.)		micr	sec	Sep. 15	(cont.)	micr	sec	
	Up					Up			
		Mx	N	0.6 13			Mx	N	1.5 15
		Mx	Z	0.5 15		Ki	iP		14 24 45.4
	Ki	eP		09 49 53					
		Mx	E	0.8 18			Mx	E	0.4 11
		Mx	N	0.9 19			Mx	N	0.9 14
		Mx	Z	0.3 11			Mx	Z	0.4 13
	Sk	iP		09 50 02.9		Sk	iP		14 25 06.8
	Ud	iP		09 49 44.4		Um	eP		14 24 37
		iPP		09 51 13.3		Ud	iP		14 24 55.5
							i		14 24 58.4
	Iran (h = 20 km).					Tadzhik SSR (h = N).			
	M = 4.7 (Up,Ki).					M = 5.0 (Up,Ki).			
"	15	Up	iP	11 01 22.6 C	"	15	Up	iP	15 04 16.5
			iPP	11 03 59				ipP	15 04 31.0
			iS	11 10 32			Ki	iP	15 03 39.5
							Sk	iP	15 04 10.4
							Um	eP	15 03 55
		P	Z'	0.2 1.3				ipP	15 04 09.5
		S	E	0.4 7			Ud	iP	15 04 23.0 D
		Mx	E	1.6 21				ipP	15 04 38.1
		Mx	N	4.3 23			Japan. h = 50 km (Up,Um, Ud).		
		Mx	Z	3.9 20					
		D = 7800 km = 70°.				"	15	Ki	iPn 15 31 00.5
	Ki	iP		11 00 41.6 C				iSn	15 31 46.9
		eS		11 09 12				iLg1	15 32 02.0
								D = 420 km = 3.8°.	
								Origin time = 15 30 00.	
		P	Z'	0.2 1.6		"	15	Ki	iP 17 40 38.8 C
		S	E	0.7 7				Ud	eP 17 41 03
		S	N	0.5 7				Molucca Passage (h = N).	
		Mx	E	10 17		"	15	Ki	iP 22 12 53.4
		Mx	N	8.0 17				Um	iP 22 12 44.0
		Mx	Z	6.8 17				Ka	iP 22 12 54.0
		D = 7050 km = 63 1/2°.						Ud	iP 22 13 04.0
	Sk	iP		11 01 15.6				Tadzhik SSR.	
		ipP		11 01 26.4		"	16	Ki	e(P) 00 59 33
		iPP		11 03 45.9				Ud	eP 00 58 52
	Gb	iP		11 01 45.2 C				North Atlantic Ocean	
		i		11 02 43.6				(h = N).	
	Um	iP		11 01 00.2 C		"	16	Up	iP 03 00 43.1
		iS		11 09 43				i	03 00 46.5
	Ka	iP		11 01 43.6				Sk	eP 03 01 29
		ipP		11 01 55.4				Ud	iP 03 00 50.5
	Ud	iP		11 01 30.5 C				Ionian Islands.	
	Japan. h = 40 km (Sk,Ka).					"	16	Ki	iP 03 20 52.3
	m = 6.0, M = 6.0 (Up,Ki).							(cont.)	
"	15	Ki	iP	12 11 54.0					
		Ud	iP	12 12 16.3					
		i		12 13 39.4					
		Molucca Passage (h = N).							
"	15	Up	eP	14 24 41					
		(cont.)							

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Sep. 16 (cont.)				Sep. 16 (cont.)			
	Um	iP	03 20 53.8		Ud	iPKKP	14 24 45.1
	Ud	iP	03 21 07.3		New Britain (h = 60 km).		
	Celebes (h = N).				m = 6.9, M = 7.0 (Up, Ki).		
"	16	Ki	iP 11 20 56.9		X (Up, Ud) belongs to the		
		Um	iP 11 21 10.0		group of unidentified		
		Ud	iP 11 21 35.8 C		phases arriving before PP,		
	Bonin Islands.				especially in this distance		
					range.		
"	16	Ki	iP 11 49 32.6	"	16	Ki	iSg 14 29 03.9
		Um	i(P) 11 50 23.7			Gb	iSg 14 28 12.7
						Um	iSg 14 27 05.6
"	16	Up	iP 14 10 21 C			Ud	iSn 14 27 07.1
		ePKP	14 14 10			iSg	14 27 36.4
		eX	14 14 49		Esthonia. Explosion?		
		iPP	14 15 11.3	"	16	Um	iSKP 14 32 09.1
		i	14 24 38			i	14 32 15.8
		iPKKP	14 24 51.0			Ud	iPKP 14 29 36.5
						iSKP	14 32 30.0
					Fiji Islands (h = 580 km).		
		Mx	E 18 23	"	16	Ud	iP 16 13 57.8
		Mx	N 21 20			Crete.	
		Mx	Z 23 20	"	16	Up	----
		(D = 12700 km = 114 1/2°).					micr sec
	Ki	iP	14 09 56 C			Mx	E 1.5 20
		iPKP	14 14 02.5			Mx	N 2.4 23
		iPP	14 14 26.9			Mx	Z 3.2 20
		iPS	14 23 55		Ki	----	
		iPKKP	14 25 07.2				micr sec
						Mx	E 2.9 21
						Mx	N 3.2 22
		P	Z 0.4 7			Mx	Z 6.9 23
		PP	E 1.6 8		Sk	iPKP	16 19 28.5
		PP	N 0.9 9		Um	i(PKP)	16 19 32.6
		PP	Z 3.7 9		Ud	ePP	16 20 48
		PP	Z' 1.1 3.0		New Britain (h = 70 km).		
		Mx	E 37 24		M = 6.0 (Up, Ki).		
		Mx	N 26 22	"	16	Up	iP 17 12 41.0
		Mx	Z 59 23			Ki	iP 17 12 30.6
		(D = 12050 km = 108 1/2°).				Sk	iP 17 12 55.5 C
	Sk	iPKP	14 14 11.5			Um	iP 17 12 31.1 C
		iPP	14 15 06.8			Ud	iP 17 12 54.7
		iPKKP	14 24 50.9			i	17 13 01.8
	Gb	iPKP	14 14 19.8		Tibet (h = 60 km).		
		iPP	14 15 45.8	"	16	Ki	R eSg 17 36 07
		iPKKP	14 24 38.1			Sk	A eSg 17 36 12
	Um	iP	14 10 07 C		(cont.)		
		iPKP	14 14 05.2				
		iPP	14 14 49				
		i	14 15 02.5				
		iPS	14 24 04				
		i	14 25 01.0				
		iPKKP	14 25 10.6				
	Ud	ePKP	14 14 14				
		iX	14 15 12.6				
	(cont.)						

Handwritten red annotations: A circle around the number '16' in the last entry, with arrows pointing to the corresponding data row.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
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1968
Sep. 16

(cont.)

Um iSg 17 36 34.6
Nordland's Fylke, Norway,
66.4 N, 14.8 E.
Origin time = 17 34 39.
Explosion?

" 16 Up iP 18 35 59.9
i 18 36 05.0
Ki iP 18 35 06.0
Sk iP 18 35 36.0
Gb iP 18 36 13.4
Ud iP 18 35 58.0
Unimak Island (h = 25 km).

" 16 Ud iP 22 31 49.1
Japan (h = 40 km).

" 17 Ki iPn 04 50 17.0
iP^x 04 50 24.6
iSn 04 51 02.9
iLg1 04 51 16.0
D = 420 km = 3.8°.
Origin time = 04 49 17.

" 17 Ud iP 08 47 25.5
Japan (h = 270 km).

" 17 Ki i(Sg) 10 17 27.3

" 17 Ki iP 14 11 14.3
Ud iP 14 11 40.8
Nevada.
Origin time = 14 00 00.
Underground explosion?

" 17 Ud iP 14 32 21.5

" 17 Ki eL 15 57
micr sec
Mx E 0.6 20
Mx N 0.4 18
Mx Z 1.1 19
Easter Island Rise
(h = N).

" 17 Um iP 16 24 22.2

" 17 Ud iP 17 51 46.6
Rhode Island.

" 17 Up iPKS 18 12 39
(cont.)

1968

Sep. 17

(cont.)

Up micr sec
PKS N 0.3 6
Mx E 0.8 20
Mx N 1.7 21
Mx Z 1.7 21

Ki

micr sec
Mx E 1.1 20
Mx N 0.8 19
Mx Z 1.9 20
Um ePP 18 11 05
iPKS 18 12 11
iPKS 18 12 22
iSS 18 28 31

Tonga Islands (h = 15 km).
M = 5.8 (Up, Ki).

" 17 Sk eP 19 34 06
Um iP 19 34 11.1
Ud iP 19 33 36.6
Rhode Island.

" 17 Ki iP 21 20 25.9
Ud iP 21 19 35.0
Cyprus (h = N).

" 18 Up iP 04 07 28.3
micr sec
Mx E 0.7 16
Mx N 0.8 13
Mx Z 1.2 15
Ki iP 04 08 31.6
micr sec
Mx E 1.5 18
Mx N 0.4 13
Mx Z 0.6 11
Sk iP 04 08 03.8
Gb eP 04 07 18
Ka iP 04 06 56.3
Ud iP 04 07 34.1
Crete (h = 35 km).
M = 4.7 (Up, Ki).

" 18 Up iPP 06 22 47.9
iS 06 26 48
micr sec
Mx E 0.3 15
Mx N 0.8 16
Ki iP 06 23 11.9
micr sec
Mx E 0.6 16
Mx N 0.4 12
Mx Z 0.4 13

(cont.)

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1968				1968			
Sep. 18 (cont.)				Sep. 18 (cont.)			
	Gb	iP	06 22 31.3		Um	iSg	16 24 47.3
	Um	iP	06 22 41.5	Nordland's Fylke, Norway, 66.4° N, 14.8° E.			
		iS	06 27 17	Origin time = 16 22 52. Explosion?			
	Ka	iP	06 22 05.3				
	Ud	iP	06 22 35.3				
		iPn	06 22 57.4				
	Turkey (h = 35 km). M = 4.6 (Up, Ki).			"	18	Ud	iP 20 45 19.1
"	18	Up	iP 07 44 52.7	"	18	Ud	iP 21 12 18.0
			micr sec	"	18	Ud	iP 21 31 07.9
		P	Z' 0.1 0.5	"	18	Ki	iP 23 17 50.3
	Ki	iP	07 44 59.5	"	19	Up	iP 04 00 40.7
			micr sec			Sk	iP 04 00 47.3
		P	Z' 0.1 0.9			Um	iP 04 00 28.7
	Sk	iP	07 45 17.5			Ud	iP 04 00 50.0
	Gb	iP	07 45 14.8			Luzon (h = 50 km).	
	Um	eP	07 44 48	"	19	Up	iP 05 07 55.3
		i	07 44 49.7			Ki	iP 05 07 07.9
	Ka	iP	07 44 58.1				micr sec
	Ud	iP	07 45 09.2			Mx	E 0.8 19
		iPP	07 46 48.1			Mx	N 0.5 14
	Hindu Kush (h = 120 km). m = 5.7 (Up, Ki).					Gb	iP 05 08 18.0 C
"	18	Sk	iPKP 12 02 55.4			Um	iP 05 07 28.7 C
		Gb	iPKP 12 03 06.3				iS 05 15 30
		Um	iPKP 12 02 51.1			Ka	iP 05 08 19.0
			ipPKP 12 02 57.6			Ud	iP 05 08 02.2 C
			i 12 03 02.6			Sikhota Alin (h = N).	
	Ud	iPKP	12 03 00.3	"	19	Ki	iPP 05 24 10.6
		ipPKP	12 03 07.2			Gb	iP 05 22 34.2
	New Hebrides Islands. h = 25 km (Um, Ud).					Um	eP 05 22 26
"	18	Ki	iPg 12 36 19.1			Ud	iP 05 22 34.2
			iSg 12 36 50.8			Iran (h = 50 km).	
"	18	Ki	iPn 14 01 26.9	"	19	Um	iP 05 32 41.9
			i 14 01 53.3				i 05 32 48.8
			iSn 14 02 15.0			Ud	iP 05 33 14.9
			iLg1 14 02 29.1			(Sakhalin).	
			D = 440 km = 4.0°	"	19	Ki	iP 07 12 01.8
			Origin time = 14 00 23.	"	19	Ud	iP 09 52 42.6
"	18	Ud	iP 14 59 55.8	"	19	Ud	iP 10 09 22.3
"	18	Up	iP 15 53 54.8	"	19	Ki	iP 11 22 15.4
		Ud	iP 15 53 56.6				i 11 22 40.6
"	18	Ki	R iSg 16 24 21.4				micr sec
		Sk	A iSg 16 24 25.6			Mx	E 0.3 15
			(cont.)			(cont.)	

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Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Sep. 19	(cont.)			Sep. 20	Up		
	Um	eS	11 29 12		iP	06 11 39.1	C
	Ud	iP	11 21 34.7		ipP	06 12 05.2	
		i	11 21 56.4		iPP	06 14 28	
	North Atlantic Ocean				iS	06 21 12	
	(h = N).				ipS	06 21 40	
						micr	sec
"	19	Um	iPKP 12 45 45.3		P	E 0.9	3
		Ud	iPKP 12 45 57.4		P	N 1.0	3
		Kermadec Islands (h = N).			P	Z 4.0	3
					P	Z' 1.3	0.8
"	19	Up	iP 15 14 40.8		pP	E 1.9	5
					pP	Z 5.5	5
"	19	Up	iSg 15 20 12.5		PP	E 0.9	5
		Sk	iSg 15 20 18.4		PP	Z 2.2	6
		Ud	iSg 15 19 15.0		S	E 7.3	10
		Probably off southwest coast of Norway.			S	N 17	13
					Mx	E 13	30
					Mx	N 16	27
"	19	Ki	eP 20 28 59		Mx	Z 18	29
		Ud	iP 20 28 09.8 C		D = 8450 km = 76°.		
		Cyprus (h = 50 km).		Ki	iP	06 11 48.8	C
					ipP	06 12 15	
"	19	Up	iP 22 20 07.3 C		iPP	06 14 40	
			i 22 20 12.8		iS	06 21 31	
			iS 22 26 09		ipS	06 22 08	
			micr sec			micr	sec
		P	Z' 0.1 0.5		P	E 3.4	8
		Mx	E 1.4 19		P	Z 9.7	9
		Mx	N 1.3 21		P	Z' 2.6	1.5
		Mx	Z 2.3 18		pP	E 3.3	6
		D = 4400 km = 39 1/2°.			pP	Z 6.6	7
		Ki	iP 22 20 43.9 C		PP	Z 3.2	8
			micr sec		PP	Z' 3.5	2.8
		Mx	E 1.9 20		S	E 6.7	13
		Mx	N 1.4 18		S	N 7.0	11
		Mx	Z 1.6 16		Mx	E 44	30
		Sk	iP 22 20 42.4		Mx	N 6.6	23
		Gb	iP 22 20 18.6		Mx	Z 58	30
		Um	iP 22 20 20.9		D = 8600 km = 77 1/2°.		
			iS 22 26 30	Sk	iP	06 11 27.7	C
			iSS 22 29 25		ipP	06 11 53.6	
		Ka	iP 22 19 57.3	Gb	iP	06 11 21.2	C
		Ud	iP 22 20 22.6 C		ipP	06 11 47.2	
		Iran (h = 35 km).		Um	iP	06 11 46.2	C
		M = 5.0 (Up,Ki).			ipP	06 12 10.1	
					iS	06 21 28	
"	19	Ki	eP 22 31 17	Ka	iP	06 11 32.0	C
		Ud	iP 22 30 54.3		ipP	06 11 57.9	
"	19	Up	iP 23 43 25.7	Ud	iP	06 11 28.2	C
		Ki	iP 23 44 02.4		ipP	06 11 54.4	
		Ka	iP 23 43 16.2	Venezuela. h = 100 km			
		Ud	iP 23 43 40.4	(Up,Ki,Sk,Gb,Um,Ka,Ud).			
		Iran (h = N).		m = 6.7, M = 6.4 (Up,Ki).			
				M not corrected for focal depth.			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Sep. 20 (cont.)				Sep. 21			
	Sk	iP	23 46 28.9	Up	iP	13 16 59.3	C
	Um	iP	23 46 10.7		ipP	13 17 18.4	
	Ud	iP	23 46 41.3		iS	13 25 55	
	Japan (h = 50 km).					micr	sec
"	21	Up	iP	02 22 44.6	P	E	1.3 6
		Sk	eP	02 22 47	P	N	2.0 5
					P	Z	5.8 4
"	21	Up	iPKP	03 51 49.8	P	Z'	0.9 1.0
			ipPKP	03 51 58.3	pP	Z'	1.0 1.0
	Ki	ePKP	03 51 34	S	E	4.0 10	
	Sk	iPKP	03 51 44.6	S	N	6.3 8	
		ipPKP	03 51 53.5	Mx	E	22 21	
	Um	iPKP	03 51 39.7	Mx	N	49 22	
		ipPKP	03 51 47.9	Mx	Z	55 22	
	Ud	iPKP	03 51 51.5	D = 7600 km = 68 1/2°.			
		ipPKP	03 52 00.2	Ki	iP	13 16 16.4	C
	South of Kermadec Islands. h = 30 km (Up,Sk,Um,Ud).				ipP	13 16 34.2	
					iS	13 24 38	
						micr	sec
"	21	Ud	iP	05 40 28.9	P	E	2.4 7
		Tadzhik SSR.		P	N	2.4 8	
				P	Z	7.5 8	
"	21	Up	iP	11 09 20.1	P	Z'	0.6 1.2
			i	11 09 39.9	pP	Z'	1.1 1.5
			ipP	11 09 57.7	S	E	3.4 8
	Ki	iP	11 10 42.9	S	N	12 10	
	Sk	iP	11 10 13.4	Mx	E	57 24	
	Um	iP	11 10 01.7	Mx	N	35 22	
	Ka	iP	11 08 54.2	Mx	Z	46 18	
	Ud	iP	11 09 36.1	D = 6900 km = 62°.			
	Rumania (h = 130 km).			Sk	iP	13 16 49.8	
"	21	Up	iPn	11 31 48.1	Gb	iP	13 17 20.5
			iSg	11 33 00.1	i		13 19 45.0
			iSx	11 33 17.3	Um	iP	13 16 35.3
			iSg	11 33 35.9		ipP	13 16 53.9
	Ki	e(Pn)	11 32 07		iS	13 25 12	
			iSx	11 33 45.8	Ka	iP	13 17 20.5
			iSg	11 34 07.0		ipP	13 17 39.8
	Sk	iPn	11 32 18.4	Ud	iP	13 17 06.4	C
		iSg	11 34 36.9		ipP	13 17 23.9	
	Um	iP ^x	11 31 36.2	Japan. h = 70 km (Up,Ki, Um,Ka,Ud). m = 6.9, M = 6.8 (Up,Ki).			
		i	11 32 29.6	"	22	Ud	iPKP
		iSg	11 32 48.0			Tonga-Kermadec Islands (h = 570 km).	
	Ka	iPn	11 32 25.1	"	22	Ki	iPKP
		iSn	11 34 06.3			South Sandwich Islands (h = 180 km).	
	Ud	iPn	11 32 13.2	"	22	Up	iP
		iSn	11 33 46.0			(cont.)	
		eSg	11 34 35			06 10 51.6	
	Near Lake Ladoga, 61.9°N, 29.7°E. Origin time = 11 30 12. Explosion?						

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Sep. 22	(cont.)			Sep. 22	(cont.)		
	Up	ipP	06 11 03.5		Ki	iP	13 51 53.6
	Ki	eP	06 10 19		Um	iP	13 52 10.1
		ipP	06 10 29.0		Ud	eP	13 52 39
	Ud	eP	06 10 58		Japan (h = 60 km).		
		epP	06 11 08				
	Bonin Islands. h = 40 km (Up,Ki,Ud).			" 22	Ud	iP	15 15 29.4
					Venezuela (h = 100 km).		
" 22	Ki	iPKP	08 18 30.8	" 22	Um	iP	16 29 11.4
		i	08 18 43.5				
		iSKP	08 20 56.3	" 22	Um	i(P)	20 43 47.5
	Ud	iPKP	08 18 37.6				
		i	08 18 47.3	" 22	Ki	eL	21 28
	Fiji Islands (h = 630 km).						micr sec
" 22	Up	iP	09 32 53.3		Mx	E	0.8 21
		ipP	09 33 03.1		Mx	N	0.7 20
			micr sec		Mx	Z	1.8 21
	Mx	E	1.0 17		Tonga Islands (h = N).		
	Mx	N	1.4 18	" 22	Up	iP	22 22 30.5
	Mx	Z	1.2 15		Ki	eP	22 22 04
	Ki	iP	09 32 34.1			i	22 22 13.7
		ipP	09 32 41.6		Ud	iP	22 22 22.0
		iS	09 42 40			i	22 22 28.7
			micr sec	" 23	Up	iP	00 42 54.6
	pP	Z'	0.2 1.5		Ud	i(P)	00 43 12.5
	S	E	0.6 7				
	Mx	E	1.4 19	" 23	Up	iP	05 15 04.1
	Mx	N	2.0 22			iS	05 24 14
	Mx	Z	0.9 13				micr sec
	D = 8900 km = 80°.				Mx	E	1.3 23
	Sk	iP	09 32 58.2		Mx	N	2.3 22
	Gb	iP	09 33 11.0		Mx	Z	1.5 16
		ipP	09 33 17.6		D = 7850 km = 70 1/2°.		
	Um	iP	09 32 40.7		Ki	iP	05 14 22.4
		ipP	09 32 47.7			eS	05 22 58
		iS	09 42 51				micr sec
	Ud	iP	09 33 00.7		S	E	1.0 16
		i	09 33 03.2		S	N	0.5 9
		ipP	09 33 09.9		Mx	E	7.7 25
	Luzon. h = 30 km (Up,Ki, Gb,Um,Ud).				Mx	N	3.6 18
	M = 5.5 (Up,Ki).				Mx	Z	4.5 17
" 22	Ud	iP	11 44 16.4		D = 7100 km = 64°.		
	Aleutian Islands (h = 40 km).				Gb	iP	05 15 26.6
					Um	iP	05 14 40.8
" 22	Ki	iP	13 41 38.4			iS	05 23 31
	Alaska (h = N).				Ud	iP	05 15 11.4 C
					Japan (h = 30 km).		
" 22	Up	iP	13 52 31.5		M = 5.7 (Up,Ki).		
	(cont.)			" 23	Ki	iP	10 42 35.5

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968						
Sep. 23	Ud	eP i	19 36 16 19 36 31.3	Sep. 24	(cont.)					
"	23	Ki Sk	iP e(P)	21 33 55.9 21 33 56	Up	Mx Z	2.4 15			
Jordan-Syria (h = 30 km).						D = 2850 km	= 25 1/2°			
"	23	Ud	iP ipP	22 18 22.5 22 18 31.4	Ki	iP	04 26 09.5			
Japan. h = 35 km (Ud).										
"	24	Ud	iP	00 57 14.0		P Z'	0.1 1.2			
Crete (h = 70 km).						Mx E	4.6 18			
"	24	Up	iP ipP iS	03 46 03.6 03 46 14.2 03 55 17	Sk	i	04 26 23.5			
						iPP	04 26 53.8			
						iSn	04 32 06.1			
						Gb	iP			
						i	04 25 27.5			
						Um	iP			
						i	04 25 30.9			
						i	04 25 42.5			
						i	04 25 47.1			
						iSn	04 30 58.5			
						Ka	iP			
						i(Pn)	04 25 02.2			
						Ud	iP			
						iPn	04 25 20.3			
							04 25 36.5			
							04 25 53.9			
						Turkey (h = 15 km).				
						m = 5.5, M = 5.1 (Up, Ki).				
		Ki	iP eS	03 45 20.0 03 53 56	"	24	Up	iP	04 57 18.4	
							ipP	04 57 27.4		
							Mx E	1.0 20		
							Mx N	1.1 19		
						Ki	iP	04 56 36.5 C		
							Mx E	1.8 18		
							Mx N	1.3 17		
							Mx Z	1.4 17		
						Gb	iP	04 57 39.7		
						Um	iP	04 56 55.1 C		
						Ud	iP	04 57 25.2 C		
							ipP	04 57 34.2		
						Japan. h = 35 km (Up, Ud).				
						M = 5.3 (Up, Ki).				
"	24	Up	iP iPn iS	04 25 19.9 04 25 30 04 29 55	"	24	Ki ^R	iPn	10 54 24.1	
								iSn	10 55 22.6	
								iSg	10 55 46.8	
								D = 540 km = 4.9°		
							Sk ^A	eSg	10 58 14	
							Um ^E	iSg	10 56 38.7	
						Northwest Russia, 67.5° N, 33.4° E.				
						Origin time = 10 53 07.				
						Explosion?				
						"	24	Up	iPKP	13 12 22.6
								i	13 12 29.1	
						(cont.)				
						(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968				
Sep. 24	(cont.)			Sep. 25	Ki	iPKP	09 35 40.6	
	Sk	iPKP	13 12 16.8		South Sandwich Islands (h = 35 km).			
	Gb	iPKP	13 12 31.5					
	Um	iPKP	13 12 11.0	"	25	Up	iP	10 51 07.5
		i	13 12 21.4				ipP	10 51 37.1
	Ud	iPKP	13 12 24.7				i	10 52 16
	Kermadec Islands (h = N).						iPP	10 54 58.1
"	24	Ud	iP	15 26 31.6			eS	11 01 20
"	24	Ud	iP	17 16 39.9 C				micr sec
"	24	Ki	iP	17 32 58.1			P	N 0.6 6
		i	17 33 02.2				P	Z 0.9 6
	Sk	eP	17 33 03				P	Z' 0.1 0.5
		i	17 33 11.7				pP	Z 0.5 2
	Um	eP	17 33 15				pP	Z' 0.8 1.5
		i	17 33 30.4				PP	Z' 2.0 2.5
"	24	Up	iPKP	00 33 45.1			S	E 17 25
	Ki	iPKP	00 33 40.3				S	N 10 24
	Ud	ePKP	00 33 46				Mx	E 19 27
	Fiji Islands (h = 580 km).						Mx	N 9.7 27
							Mx	Z 35 27
"	25	Up	i (PKP2)	07 23 14.5			D = 9600 km = 86 1/2°.	
		iPKP2	07 23 18.1		Ki	iP	10 50 57.6	
			micr sec			ipP	10 51 25.4	
		PKP2	Z' 0.1 0.7			iPP	10 54 38.0	
		Mx	E 1.8 23			iS	11 01 06	
		Mx	N 2.7 22			ipS	11 02 04	
		Mx	Z 4.5 23			iSKPP'	11 20 30	
	Ki	i (PKP)	07 22 42.0				micr sec	
		iPKP	07 22 45.7			P	E 1.1 6	
		iPKP2	07 22 56.7			P	Z 2.0 6	
		eSS	07 45 56			P	Z' 0.8 2.0	
			micr sec			pP	Z' 1.8 1.8	
		PKP	Z' 0.3 1.0			PP	Z' 1.2 1.8	
		Mx	E 3.3 24			S	E 22 17	
		Mx	N 1.8 21			S	N 4.8 16	
		Mx	Z 4.2 21			SKPP'	Z 1.5 5	
	Sk	iPKP	07 22 47.7			Mx	E 32 26	
		i	07 22 58.4			Mx	N 12 24	
		iPKP2	07 23 18.9			Mx	Z 40 26	
	Gb	i (PKP2)	07 23 27.4			D = 9350 km = 84°.		
		iPKP2	07 23 34.6		Sk	iP	10 50 49.2	
	Um	iPKP	07 22 50.8			ipP	10 51 18.8	
		iSS	07 46 16			iPP	10 54 26.6	
	Ud	i (PKP2)	07 23 15.7		Gb	iP	10 50 57.7	
		iPKP2	07 23 25.3			i	10 51 06.4	
	New Zealand (h = N).					ipP	10 51 27.7	
	M = 6.2 (Up,Ki).					iPP	10 54 42.2	
"	25	Ki	iP	08 23 01.8		Um	iP	10 51 06.3 C
		Ud	iP	08 22 04.5			ipP	10 51 35.8
	East of Crete (h = 30 km).					i	10 54 01	
						iPP	10 54 52.8	
						iS	11 01 15	
						(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

Sep. 25 (cont.)
 Ka iP 10 51 11.1
 ipP 10 51 37.3
 iPP 10 55 01.8
 Ud eP 10 50 58
 i 10 51 02.0
 ipP 10 51 27.2
 Mexico-Guatemala. $h = 110$ km
 (Up, Ki, Sk, Gb, Um, Ka, Ud).
 $m = 7.0$, $M = 6.5$ (Up, Ki).
 m is calculated only from
 PP and S; the P-wave
 magnitude is much less,
 $m = 6.0$, probably due to
 location near a nodal line
 for P. M is not corrected
 for focal depth.

" 25 Ki iSKP 14 56 10.8
 micr sec
 SKP Z' 0.1 1.0
 Tonga Islands ($h = 230$ km).

" 25 Up iP 18 09 56.2
 Ki iP 18 09 02.9
 Ud iP 18 09 55.7
 Aleutian Islands
 ($h = 25$ km).

" 25 Up i(P) 19 03 24.5
 Ki iP 19 02 52.2
 i 19 02 57.0
 Mariana Islands
 ($h = 50$ km).

" 25 Ki iP 20 55 25.3

" 25 Up iP 20 57 37.6
 iPn 20 57 56.9
 micr sec
 P Z' 0.2 1.5
 Mx E 0.4 13
 Mx N 0.7 14
 Ki iP 20 58 26.9
 micr sec
 Mx E 0.9 18
 Mx N 0.5 13
 Mx Z 0.5 11
 Sk ePn 20 58 54
 Gb iP 20 57 46.8
 Um iP 20 57 59.3
 iPn 20 58 14.4
 Ud iP 20 57 55.5
 Turkey ($h = 50$ km).
 $M = 4.6$ (Up, Ki).
 (cont.)

1968

Sep. 25 (cont.)
 It should be noted that
 earthquakes in Turkey
 along the North Anatolian
 belt, of which there are
 many examples this month,
 often give Pn and Sn
 phases at our stations.

" 25 Up iP 21 47 48.0 C
 ipP 21 48 09.7
 Ki iP 21 47 05.3
 ipP 21 47 26.8
 Sk iP 21 47 39.9
 Um iP 21 47 23.4
 Ud iP 21 47 55.1 C
 ipP 21 48 19.8
 Japan. $h = 80$ km (Up, Ki,
 Ud).

" 25 Up iP 00 54 07.3 C
 ipP 00 54 15.9
 iPP 00 55 50.2
 iS 01 00 27
 micr sec
 P Z' 0.1 0.9
 pP Z' 0.2 0.6
 PP Z' 0.1 0.9
 Mx E 1.0 18
 Mx N 0.7 14
 Mx Z 1.6 17
 $D = 4700$ km = $42 \frac{1}{2}^\circ$.
 Ki iP 00 54 19.5 C
 ipP 00 54 27.3
 iPP 00 56 01.8
 micr sec
 PP Z' 0.1 1.0
 Mx E 1.3 11
 Mx N 0.6 12
 Mx Z 1.5 12
 Sk iP 00 54 34.0 C
 ipP 00 54 41.9
 iPP 00 56 20.4
 Gb iP 00 54 27.7
 ipP 00 54 35.9
 iPP 00 56 14.1
 Um iP 00 54 07.7 C
 ipP 00 54 15.2
 iPP 00 55 42.8
 iS 01 00 24
 Ka iP 00 54 10.6
 Ud iP 00 54 24.0 C
 ipP 00 54 32.1
 i 00 55 12.8
 (cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå, Ka = Karlskrona, Ud = Uddeholm

1968

Sep. 26 (cont.)
 Ud iPP 00 56 01.8
 Afghanistan. h = 40 km
 (Up, Ki, Sk, Gb, Um, Ud).
 m = 5.6, M = 5.0 (Up, Ki).

" 26 Ud iP 01 48 47.7
 Kurile Islands (h = 40 km).

" 26 Up iPKP 02 58 08.9
 Ki iPKP 02 58 03.2 C
 iSKP 03 00 34.5
 Sk iPKP 02 58 05.1
 iSKP 03 00 53.3
 Gb iPKP 02 58 17.1
 Um iPKP 02 58 01.9 C
 i 02 58 10.4
 Ka iPKP 02 58 21.2
 Ud iPKP 02 58 08.5
 Fiji Islands (h = 560 km).

" 26 Up iP 06 47 07.6
 Ki iP 06 48 08.3 D
 Sk iP 06 47 48.1
 Gb iP 06 47 08.5
 Um iP 06 47 33.9
 i 06 47 36.9
 Turkey (h = 35 km).

" 26 Ki iP 08 03 34.9

" 26 Up iP 08 20 11.4 C
 Ud iP 08 20 26.1
 Sunda Strait (h = N).

" 26 Up iP 08 34 37.5
 Ki iP 08 33 51.1
 Sk iP 08 34 27.4
 Um iP 08 34 12.8
 Ud iP 08 34 44.2 C
 Kurile Islands (h = 45 km).

" 26 Up P iPg 08 49 25.9
 iSg 08 49 42.1
~~i(Rg) 08 49 49.6~~
~~Sk A iLg1 08 52 03.2~~
 Ud D iPg 08 49 55.0
~~iLg1 08 50 30.2~~
 Baltic Sea, 58.7° N, 18.7° E.
 Origin time = 08 49 01.
 Probably underwater explosion.

" 26 Up P iPg (cont.) 08 54 33.1

1968

Sep. 26 (cont.)
~~Up iSg 08 54 48.1~~
~~i(Rg) 08 54 56.5~~
~~Sk A iLg1 08 57 08.6~~
~~Um iLg1 08 56 48.4~~
~~Ud iLg1 08 55 37.8~~
 Baltic Sea, 58.7° N, 18.7° E.
 Origin time = 08 54 08.
 Probably underwater explosion.

" 26 Sk ePKP 08 59 21
 i 08 59 33.2
 iSKP 09 02 09.9
 Gb iPKP 08 59 36.0
 Um iPKP 08 59 28.6
 iSKP 09 02 04.6
 Ka iPKP 08 59 38.0
 Ud iPKP 08 59 29.0
 iSKP 09 02 19.9
 Fiji Islands (h = 580 km).

" 26 Up P iPg 09 02 14.9
 iSg 09 02 27.3
~~i(Rg) 09 02 34.9~~
~~Um iLg1 09 04 27.4~~
~~Ud D iLg1 09 03 17.5~~
 Baltic Sea, 58.7° N, 18.7° E.
 Origin time = 09 01 48.
 Probably underwater explosion.

" 26 Up P iPg 09 09 27.6
 iSg 09 09 40.4
~~i(Rg) 09 09 47.7~~
~~micr sec~~
~~Pg Z' 0.1 0.6~~
 Sk A eSn 09 11 40
 Ud D iPg 09 09 52.6
~~i 09 10 12.4~~
~~iLg1 09 10 30.2~~
 Baltic Sea, 58.7° N, 18.7° E.
 Origin time = 09 09 01.
 Probably underwater explosion.

" 26 Um iP 11 11 13.7
 Ud iP 11 11 45.2
 Kurile Islands (h = 50 km).

" 26 Ki iP 11 32 17.9
 Um iP 11 32 39.4
 Ud iP 11 33 11.5
 Kurile Islands (h = 45 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968
Sep. 26 Sk eSg 12 43 53
Um iSg 12 42 34.9
Esthonia. Explosion?

" 26 Sk iP 12 59 03.0

" 26 Ki ePn 13 02 53
iSn 13 03 31.0
iSg 13 03 47.2
D = 340 km = 3.1°
Um iSg 13 05 18.8
Origin time = 13 02 03.

" 26 Sk i(Sg) 13 19 48.6

" 26 Up iPKP 14 56 36.4
iSKP 14 59 57.3
micr sec
PKP Z' 0.1 0.6
SKP Z' 0.3 1.5
Ki iPKP 14 56 28.9
iSKP 14 59 32.3
iPKS 14 59 55
micr sec
PKP Z' 0.5 1.5
SKP Z 1.1 5
SKP Z' 1.4 2.7
PKS N 0.7 6
Sk iPKP 14 56 30.9
i 14 56 39.1
iSKP 14 59 50.7
Gb iPKP 14 56 45.3
iSKP 15 00 05.7
Um i(PKP) 14 56 23.4
iPKP 14 56 29.8
i 14 56 36.0
iPP 14 59 13
iSKP 14 59 45.8
iPKS 15 00 08
Ka iPKP 14 56 48.1
iSKP 15 00 08.2
Ud iPKP 14 56 37.2
iSKP 14 59 59.1
Fiji Islands (h = 250 km).

" 26 Up P iPg 15 13 41.5
iSg 15 14 18.6
~~i(Rg) 15 14 35.0~~
Ki R i 15 16 55.4
iSg 15 17 29.9
Sk A iSg 15 16 24.5
Um i iPg 15 14 16.6
~~iSg 15 15 03.2~~
(cont.)

1968
Sep. 26 (cont.)
Um iSg 15 15 19.3
Ka S iSg 15 15 32.1
Ud D iPn 15 14 09.5
iSn 15 15 06.9
~~iSg 15 15 26.7~~

Gulf of Finland, near
59.4°N, 22.7°E.
Origin time = 15 12 48.
Probably underwater explosion.

" 26 Ki P iSg 16 18 34.5
Sk A iSg 16 18 39.2
Um C iSg 16 19 01.3

Nordland's Fylke, Norway,
66.4°N, 14.8°E
Origin time = 16 17 06.

" 26 Up iP 17 00 27.5 C

" 26 Up i(PKP) 18 22 29 C
iPKP 18 22 33.0

micr sec
PKP E 1.8 14
PKP N 3.8 16
PKP Z 13 14
PKP Z' 1.3 1.0
Mx E 12 23
Mx N 45 24
Mx Z 45 24

Ki iPKP 18 22 13.9
i 18 22 19.0
i 18 22 33

micr sec
PKP N 0.8 9
PKP Z 1.5 8
PKP Z' 0.3 1.3
Mx E 18 21
Mx N 19 21
Mx Z 37 21

Sk iPKP 18 22 26.3 C

Gb i(PKP) 18 22 35.2

iPKP 18 22 42.3

Um iP 18 19 57

iPKP 18 22 21.2 C

i 18 22 30.8

Ka i(PKP) 18 22 37.5

iPKP 18 22 43.4

Ud i(PKP) 18 22 30.9 C

iPKP 18 22 34.8

Kermadec Islands (h = N).

M = 7.2 (Up, Ki).

Note the diffracted P at
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968

Sep. 28 Up iP 09 34 04.5
i 09 34 13.8
Ud iP 09 34 15.5
West Pakistan (h = N).

" 28 Up iP 10 07 13.4
Ki iP 10 06 53.6
micr sec
P Z' 0.1 1.2
Mx E 0.7 15
Mx N 0.6 16
Mx Z 1.0 14
Ud iP 10 07 22.4
Luzon (h = 25 km).

" 28 Up iSKS 14 17 57
iS 14 19 10
micr sec
SKS E 0.8 6
S N 1.6 8
Mx E 3.4 22
Mx N 1.8 18
Mx Z 6.0 23
Ki iP 14 07 55.7
eSKS 14 18 09
i(SKS) 14 18 53
iS 14 19 23
iPS 14 21 02
micr sec
SKS E 1.4 12
(SKS) E 1.1 8
S N 1.0 7
Mx E 2.4 18
Mx N 1.8 23
Mx Z 2.5 18
Um iSKS 14 18 09
iS 14 19 22
iPS 14 20 59
Peru (h = 70 km).
M = 5.9 (Up, Ki).

" 28 Ud iP 14 21 49.6

" 28 Up iP 18 31 25.7
Ki iP 18 30 43.8
Sk iP 18 31 18.8
Um iP 18 31 02.9
Ud iP 18 31 33.8
Japan (h = 80 km).

" 29 Sk iP 00 01 08.0

" 29 Up iP 01 43 01.9
(cont.)

1968

Sep. 29 (cont.)
Ki iP 01 43 34.5
Sk eP 01 43 31
Ud iP 01 43 18.2
Indian Ocean (h = N).

" 29 Ki R iSn 03 27 37.1
~~iLg1 03 27 59.7~~
Sk A iSg 03 30 28.0
Um C iSg 03 28 51.7
Northwest Russia,
67.4° N, 34.3° E.
Origin time = 03 25 12.
Explosion?

" 29 Up iP 03 49 52.7 C
iPn 03 51 00.0
iPP 03 51 10.9
iLg1 04 01 17
micr sec
P Z' 0.1 0.5
PP Z' 0.2 0.6
Ki iP 03 49 37.0 C
iPn 03 50 37.4
micr sec
P Z' 0.6 0.7
Sk iP 03 50 08.0 C
iPn 03 51 30.0
Gb iP 03 50 21.6
iPn 03 51 42.2
Um iP 03 49 37.7 C
Ka iP 03 50 08.9 C
i 03 50 19.4
iPn 03 51 31.1
Ud iP 03 50 09.1 C
iPn 03 51 21.9
Kazakh SSR.
m = 6.3 (Up, Ki).
Underground explosion.

" 29 ~~Up P iLg1 05 05 01.2~~
Ki R iPn 05 00 47.6
iSn 05 01 44.6
~~iLg1 05 02 05.1~~
~~D = 530 km = 4.8~~
Sk A iSg 05 04 41.2
Um E eSg 05 03 04
~~Ud P eLg1 05 05 24~~
Northwest Russia,
67.6° N, 33.1° E.
Origin time = 04 59 33.
Explosion?

" 29 Ki iP 05 25 22.6
Ud iP 05 25 47.9
Halmaheera (h = 110 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Sep. 29	Ki	iPn	06 17 38.0	Sep. 30	Sk	eSg	02 16 19
		iSn	06 18 35.0		Ud	eSg	02 16 19
		iLg1	06 18 57.2				Probably south Norway.
			Probably northwest Russia. Explosion?				
" 29	Up	i	07 20 29.3	" 30	Up	iPKP	11 56 57.8
		i	07 20 43.2			i	11 57 06.2
		i	07 20 48.3		Sk	iPKP	11 56 55.6
			Sonic boom.		Ud	iPKP	11 57 01.6
							Kermadec Islands (h = 70 km).
" 29	Up ^D	iSg	08 21 11.1	" 30	Ki	iP	14 18 33.0
	Ki ^R	iPn	08 16 54.2		Ud	iP	14 18 59.3
		iSn	08 17 50.1				Molucca Passage (h = N).
		iLg1	08 18 10.8	" 30	Ki	iP	14 28 56.6 C
		D = 530 km = 4.8°					micr sec
	Sk ^A	eSg	08 20 42			P	Z' 0.1 1.0
	Um ^E	iSg	08 19 07.9		Ud	iP	14 29 22.0 C
	Ud ^D	iSg	08 21 43.9				Halmahera (h = 160 km).
			Northwest Russia, 67.5°N, 33.1°E. Origin time = 05 15 39. Explosion?	" 30	Up	iPKP	19 02 55.1
					Sk	iPKP	19 02 49.8
" 29	Ki	iP	08 51 15.7		Ud	ePKP	19 02 56
			Mariana Islands (h = N).				Kermadec Islands (h = 50 km).
" 29	Ki	iP	08 58 52.1	" 30	Ud	iP	19 53 46.6
			Mariana Islands (h = N).				Markus Båth March 14, 1969
" 29	Up	iPKP	13 02 29.6				
	Um	iPKP	13 02 21.4				
			New Hebrides Islands (h = 190 km).				
" 29	Up	iP	13 40 23.0				
	Ki	iP	13 40 04.3 C				
	Ud	iP	13 40 28.1				
			Molucca Passage (h = N).				
" 29	Up	ePKP	13 57 43				
	Sk	ePKP	13 57 40				
	Um	iPKP	13 57 32.0				
	Ud	e(PKP)	13 57 41				
		iPKP	13 57 47.3				
			South of Kermadec Islands (h = 15 km).				
" 29	Up	eP	21 58 33				
	Ki	iP	21 57 40.5				
	Ud	iP	21 58 35.0				
			Aleutian Islands (h = 20 km).				

Plid

Uppsala

SEISMOLOGICAL BULLETIN

UPPSALA, KIRUNA, SKALSTUGAN, GÖTEBORG,
 UMEÅ, KARLSKRONA, UDDEHOLM and DELARY

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.3'N,	13°52.1'E;	h = 150 m

Remark. Delary is a new station, located inland in south Sweden. Its coordinates are: 56°28.3'N, 13°52.1'E, height = 150 m above m.s.l. The bedrock is granite. The station is equipped with a short-period vertical-component Grenet seismograph ($T_0 = 1.4$ sec, $T_g = 0.7$ sec, $V_{max} = 13510$) and a quartz clock. The station was installed already in August, 1967, and after a test period up to the present month, it will henceforth be included in the monthly bulletins. Comparisons with the stations in Göteborg and Karlskrona during the test period have demonstrated considerably higher sensitivity for Delary. Göteborg and Karlskrona were closed down this month (October 11 and 12, respectively).

OCTOBER 1 - 31, 1968

1968					1968			
Oct.	1	Ud	iP	02 22 38.9	Oct.	1	(cont.)	
			i	02 22 54.6			Ka	iP 16 34 31.1 C
		South of Japan					i	16 34 39.8
		(h = 35 km).					Ud	iP 16 35 12.9 D
"	1	Ud	iP	03 25 45.9			Italy (h = 290 km).	
"	1	Um	iP	03 39 13.1	"	1	Ud	iP 18 41 38.3
		Ud	eP	03 39 33	"	1	Up	iPKP 21 30 54.9
"	1	Ki	iP	10 17 20.5			i	21 31 00.0
"	1	Ki	iP	13 37 29.4			i	21 31 12.4
"	1	Up	iP	16 35 12.8 D			Sk	iPKP 21 30 49.0
				micr sec			i	21 31 02.0
		P	Z'	0.1 0.5			Um	iPKP 21 30 43.3
		Ki	iP	16 36 25.9			i	21 30 56.4
		Sk	iP	16 35 47.5 D			Ud	iPKP 21 30 57.1
		Um	iP	16 35 50.5			i	21 31 15.9
		(cont.)					Kermadec Islands	
							(h = 15 km).	
"	1	Ki	iP	23 15 07.4 C	"	1	Ki	iP 23 15 07.4 C
		(cont.)					(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968			
Oct.				Oct.			
1	(cont.)			3	(cont.)		
	Um	iP	23 15 44.3		Um	iP	08 18 35.5
	Greenland (h = N).				Ud	iP	08 19 28.5
					Ceram (h = 100 km).		
"	2	Up	iP 09 21 19.5 D	"	3	Ki	iP 10 25 56.0
			micr sec			Ud	iP 10 26 48.8
		P	Z' 0.1 0.5		Alaska (h = 50 km).		
		Ki	iP 09 20 48.5 D		3	Up	iP 11 19 37.2
			micr sec				micr sec
		P	Z' 0.1 1.0			P	Z' 0.2 1.0
		Sk	iP 09 21 16.8			Ki	iP 11 18 44.1
		Gb	iP 09 21 37.5			Um	iP 11 19 10.4
		Um	iP 09 21 02.1 D			Ka	iP 11 20 00.1
		Ud	iP 09 21 26.7 D			i	11 20 07.2
	Bonin Islands (h = 440 km).					Ud	iP 11 19 37.0
	m = 5.6 (Up, Ki).					ipP	11 19 50.2
"	2	Up	iP 10 58 44.9		Aleutian Islands.		
		Gb	iP 10 59 03.0		h = 50 km (Ud).		
		Ud	iP 10 58 51.8		3	Ki	iP 12 36 59.8
"	2	Ud	iP 14 25 52.9			Ud	iP 12 37 30.6
"	2	Up	iPKP 14 59 13.7 C		Luzon (h = 40 km).		
		Ud	iPKP 14 59 16.1		3	Up	iPKP 12 37 53.6
	Tonga-Kermadec Islands						micr sec
	(h = 530 km).					PKP	Z' 0.1 0.8
"	2	Ki	i(Sg) 15 26 40.5			Sk	iPKP 12 37 48.5 C
"	2	Ud	iP 19 11 20.1			i	12 38 03.3
"	2	Ud	iP 19 11 20.1			Um	iPKP 12 37 43.6
"	2	Ki	eP 20 03 17			Ud	iPKP 12 37 55.5
		Sk	iP 20 03 45.6		South of Kermadec Islands		
	Mariana Islands				(h = N).		
	(h = 45 km).			"	3	Ki	iP 15 31 42.3
"	2	Ud	iPKP 21 34 25.7		Burma (h = 30 km).		
	Fiji Islands (h = 300 km).			"	3	Up	iP 18 23 02.8
"	3	Ki	i(Sn) 04 52 57.3			Sk	iP 18 23 44.8
		i(Lg1)	04 53 09.7			Ka	iP 18 22 22.4
"	3	Ki	eP 05 12 27			Ud	eP 18 23 08
		i	05 12 46.7		Greece.		
"	3	Um	iP 06 00 10.5	"	3	Ki	eP 18 23 12
"	3	Um	iP 06 00 10.5			Ud	iP 18 23 47.7
"	3	Up	iP 08 19 08.1			ipP	18 23 56.0
		Ki	iP 08 18 31.0		Luzon. h = 30 km (Ud).		
		i	08 19 03.6	"	3	Up	iP 19 14 32.6
			micr sec			Ud	iP 19 14 47.1 D
		P	Z' 0.1 1.0	"	4	Up	iP 00 51 05.3
	(cont.)				(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968						
Oct.	4	(cont.)		Oct.	4	Up	iP	12 01 52.8		
		Ki	iP	00 50 21.8		"	4	Sk	iP	14 59 26.3
		Um	iP	00 50 40.9		"	4	Ka	eP	15 58 03
		Ud	iP	00 51 11.9 D		"	4	Ki	iP	16 36 21.4
		Japan (h = 50 km).				"	4	Sk	iP	16 36 48.6
"	4	Ud	iP	02 30 51.8		"	4	Gb	eP	16 37 25
"	4	Um	iP	04 34 58.4		"	4	i		16 37 29.3
		Ud	iP	04 35 29.6		"	4	Ka	iP	16 37 41.2
		Japan (h = 30 km).				"	4	Ud	iP	16 37 15.2
"	4	Up	iP	05 57 20.2		"	4	Alaska (h = 45 km).		
				micr sec		"	4	Ki	iP	18 00 40.4
		Mx	E	1.9 20		"	4	Ki	iP	19 23 48.8
		Mx	N	3.0 21		"	4	Mariana Islands		
		Ki	iP	05 56 54.6		"	4	(h = 40 km).		
				micr sec		"	5	Up	iPKP	06 25 28.9
		Mx	E	1.8 16		"	5	Sk	iPKP	06 25 24.2
		Mx	N	2.0 16		"	5	Um	iPKP	06 25 19.0
		Mx	Z	4.1 16		"	5	Ud	iPKP	06 25 31.1
		Ud	iP	05 57 29.8		"	5	South of Kermadec Islands		
		Formosa (h = 25 km).				"	5	(h = N).		
		M = 5.7 (Up,Ki).				"	5	Ud	iPKP	14 46 32.2
"	4	Up	iPKP	06 23 15.6 C		"	5	Tonga-Kermadec Islands		
			ipPKP	06 23 47.5		"	5	(h = 540 km).		
			i(PKKP)	06 33 14.6		"	5	Ki	iPn	14 52 08.7
			iPKKP	06 33 20.9		"	5	iSn		14 52 57.6
				micr sec		"	5	iLg1		14 53 11.2
		Mx	E	1.8 19		"	5	D = 460 km = 4.1°		
		Mx	N	2.7 19		"	5	Probably northwest Russia.		
		Mx	Z	3.6 19		"	5	Origin time = 14 51 03.		
		Ki	e(PKP)	06 23 28		"	5	Explosion?		
			iPKP	06 23 31.1		"	5	Up	iP	15 18 27.6
			ipPKP	06 24 02.4		"	5	ipP		15 18 43.2
			iSKP	06 26 39.4		"	5	iPn		15 18 56.4
				micr sec		"	5	micr sec		
		PKP	Z'	0.3 1.0		"	5	pP	Z'	0.1 0.5
		SKP	Z'	0.6 2.0		"	5	Ki	iP	15 18 59.6 C
		Mx	E	3.3 20		"	5	ipP		15 19 16.2
		Mx	N	2.4 19		"	5	iSn		15 25 02.6
		Mx	Z	4.6 19		"	5	micr sec		
		Sk	iPKP	06 23 18.6		"	5	pP	Z'	0.1 1.0
		Um	iPKP	06 23 23.7		"	5	Sk	eP	15 19 04
			ipPKP	06 23 55.5		"	5	ipP		15 19 19.3
			iPP	06 25 15		"	5	iPn		15 19 47.5
			iSKS	06 30 12		"	5	iSn		15 25 18.0
			iSP	06 35 11		"	5	Gb	iP	15 18 42.5
		Ud	iPKP	06 23 14.0		"	5	(cont.)		
			iPP	06 24 39.1		"	5			
			iPKKP	06 33 21.5		"	5			
		South Sandwich Islands.				"	5			
		h = 120 km (Up,Ki,Um).				"	5			
		M = 6.2 (Up,Ki). M not				"	5			
		corrected for focal depth.				"	5			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968					1968				
Oct.	5	(cont.)			Oct.	6	(cont.)		
		Gb	ipP	15 18 57.4			Um	iP	07 53 47.9
			iPn	15 19 16.2			Ud	iP	07 54 02.8 C
			eSn	15 24 06			Andaman Islands		
		Um	iP	15 18 35.9			(h = 110 km).		
			ipP	15 18 51.4		"	6	Up	---
			iPn	15 19 07.8					micr sec
			iSn	15 23 53.6				Mx	E 1.2 21
		Ka	iP	15 18 23.8				Mx	N 2.4 20
			ipP	15 18 37.5				Mx	Z 2.7 21
		Ud	iP	15 18 43.1			Ki	---	
			ipP	15 18 57.4					micr sec
			iPn	15 19 17.8				Mx	E 2.3 22
			iSn	15 24 10.8				Mx	N 2.2 23
		Caspian Sea. h = 80 km						Mx	Z 3.1 22
		(Up,Ki,Sk,Gb,Um,Ka,Ud).					Um	iSS	09 25 49
		pP is considerably bigger					Samoa Islands (h = 35 km).		
		than P on all Z'-records.					M = 6.0 (Up,Ki).		
		Very clear Pn and Sn phases.							
"	5	Ud	iP	18 53 37.1	"	6	Up	iP	15 11 54.6
		Aleutian Islands						iS	15 16 08
		(h = 60 km).							micr sec
"	5	Ud	iP	20 16 47.4				Mx	E 0.8 14
"	6	Up	iP	00 45 45.9				Mx	N 1.4 12
		Sk	iP	00 46 24.4				Mx	Z 1.5 12
		Ka	iP	00 45 10.0				D = 2650 km = 24°.	
		Ud	iP	00 45 52.4			Ki	iP	15 13 01.5
		Greece (h = 60 km).							micr sec
"	6	Ud	iP	01 01 38.0				Mx	E 0.5 12
		Japan (h = N).						Mx	N 0.4 12
"	6	Up	eL	06 19				Mx	Z 0.5 12
				micr sec			Sk	eP	15 12 35
		Mx	E	0.9 19				i	15 12 48.6
		Mx	N	1.2 20			Gb	iP	15 11 45.1
		Mx	Z	1.6 20			Um	iS	15 17 15
		Ki	eL	06 17			Ud	iP	15 12 01.6
				micr sec			Dodecanese Islands		
		Mx	E	1.8 22			(h = 40 km).		
		Mx	N	1.3 23			M = 4.8 (Up,Ki).		
		Mx	Z	2.0 18		"	6	Up	iP
		Tonga Islands (h = N).						ipP	19 52 09.4
		M = 5.8 (Up,Ki).							19 52 35.5
"	6	Up	iP	07 53 51.0 C				P	Z' 0.1 0.7
		Ki	iP	07 53 52.5 C			Ki	iP	19 51 34.4
				micr sec				ipP	19 52 01.1
		P	Z'	0.1 1.0					micr sec
		Sk	iP	07 54 07.5				P	Z' 0.1 1.0
		(cont.)					Sk	iP	19 52 06.6
							Um	iP	19 51 49.4
								ipP	19 52 15.8
							Ud	iP	19 52 15.8
		South of Japan.					h = 100 km (Up,Ki,Um).		
		M = 5.7 (Up,Ki).							

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
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1968
Oct. 6 Up iP 22 12 14.9
Ki iP 22 13 15.7
Sk iP 22 12 55.8
Gb iP 22 12 16.2
Um iP 22 12 44.1
Ud iP 22 12 26.6
Turkey (h = 40 km).

" 7 Up ~~iSn~~ 06 58 12.0
~~i~~ 06 58 27.4
~~iSg~~ 06 58 50.4
~~micr sec~~
~~Sg Z' 0.1 0.5~~
Ki ~~iLg1~~ 07 00 06.6
Sk ~~iPn~~ 06 56 24.8
~~i~~ 06 56 32.2
~~i~~ 06 57 10.4
iSn 06 57 17.6
~~iLg1~~ 06 57 26.5
GOT eSn 06 57 43
~~iSg~~ 06 58 06.7
Um ~~iSn~~ 06 58 42.1
~~iLg1~~ 06 59 16.2
Ka ~~iSg~~ 06 59 26.3
Ud ~~i(Pn)~~ 06 56 27.7
~~iPn~~ 06 56 31.2
iSn 06 57 26.4
~~iSg~~ 06 57 49.0

West coast of Norway,
61.3°N, 5.0°E.
Origin time = 06 55 22.
Solution checked with
readings at Norwegian and
Finnish stations. - To
judge from this case, the
existence of Sg or Lg1
appears to be rather a
matter of direction than
distance from the epicenter.

" 7 Ud iP 08 06 18.8
i 08 06 27.1
Ryukyu Islands
(h = 90 km).

" 7 Um iP 12 11 55.9

" 7 Ud iPKP 13 42 52.0
Tonga-Kermadec Islands
(h = 620 km).

" 7 Up iP 19 31 47.1 D ✓
i 19 31 51
(cont.)

1968
Oct. 7 (cont.)
Up i 19 33 49
iPP 19 35 08
iS 19 41 16
isS 19 44 28
micr sec
P E 2.9 2
P N 4.9 1
P Z' 1.2 0.5
PP E 12 8
PP N 11 8
PP Z 24 8
S E 14 6
S N 20 6
Mx E 35 20
Mx N 51 20
Mx Z 39 22
(D = 9100 km = 82°).
Ki iP 19 31 16.7 D
isP 19 34 02
iS 19 40 22
isS 19 43 29
micr sec
P E 14 8
P N 9.0 9
P Z 44 8
P Z' 5.0 0.8
S E 11 8
S N 38 9
Mx E 47 15
Mx N 49 16
Mx Z 36 16
(D = 8500 km = 76 1/2°).
Sk iP 19 31 44.2 D
i 19 31 47.7
Gb iP 19 32 04.0 D
i 19 32 08.5
iPP 19 35 38.4
Um iP 19 31 29.4 D
is 19 40 48.1
Ka iP 19 32 02.5 D
i 19 32 06.1
Ud iP 19 31 53.8 D
i 19 31 57.4

Bonin Islands.
h = 520 km (Up,Ki).
m = 7.1, M = 7.1 (Up,Ki).
M uncorrected for focal
depth; remarkably large
surface waves for this
depth. Double P; average
interval = 3.8 sec.

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

1968				1968					
Oct.	7	Up	iP	19 58 31.2	Oct.	8	(cont.)		
		Ki	iP	19 58 00.0			Um	iPKP	08 02 02.1
		Um	iP	19 58 13.9 D				iPP	08 03 08.3
		Ud	iP	19 58 37.2				iPS	08 12 51
		Bonin Islands						iSS	08 19 01
		(h = 500 km).					Indian Ocean (h = N).		
"	7	Up	i(P)	20 47 34.2	"	8	Um	i(P)	12 57 02.0
				micr sec				iSg	12 57 37.6
			(P)	Z' 0.2 0.7					
"	7	Up	iP	21 00 02.1 C	"	8	Ki	eP	13 02 09
			i(PcP)	21 00 32.1	"	8	Ki	iPn	15 09 40.2
				micr sec				iP ^x	15 09 48.0
			P	Z' 0.4 0.9				iSn	15 10 26.7
			Mx	E 18 23				iLg1	15 10 41.6
			Mx	N 30 23				D = 430 km = 3.9°.	
			Mx	Z 25 23			Sk	iSg	15 13 37.1
		Ki	iP	20 59 20.8 C			Probably northwest Russia.		
				micr sec			Origin time = 15 08 38.		
			P	Z' 0.4 1.0			Explosion?		
			Mx	E 27 23	"	9	Up	eL	04 44
			Mx	N 18 22					micr sec
			Mx	Z 23 18				Mx	E 1.5 20
		Sk	iP	20 59 55.0				Mx	N 2.8 20
			iPP	21 02 22.1				Mx	Z 2.7 21
		Gb	iP	21 00 25.1 C			Ki	eL	04 43
		Um	iP	20 59 39.8 C					micr sec
		Ka	eP	21 00 25				Mx	E 1.1 20
		Ud	iP	21 00 10.2 C				Mx	N 1.0 20
		Japan (h = 30 km).						Mx	Z 1.9 20
		m = 6.6, M = 6.6 (Up,Ki).					Samoa Islands (h = 10 km).		
"	8	Ki	iP	00 00 38.8			M = 5.9 (Up,Ki).		
		Ud	iP	00 01 13.4	"	9	Ki	iP	07 16 26.9
		Mariana Islands (h = N).							
"	8	Up	iP	01 02 07.9	"	9	Ki	iPn	12 38 16.1
		Ki	iP	01 01 30.3				iSn	12 38 54.7
			ipP	01 01 52.3				iSg	12 39 07.5
		Sk	iP	01 02 02.7				D = 360 km = 3.2°.	
			i	01 02 14.0			Um	iSg	12 40 51.1
		Gb	eP	01 02 29			Origin time = 12 37 23.		
		Um	iP	01 01 46.4	"	9	Um	iP	12 54 04.5
		Ud	iP	01 02 15.2			Ud	eP	12 54 48
		Japan. h = 80 km (Ki).							
"	8	Up	iPS	08 12 26	"	9	Sk	iP	15 43 05.7
			iSS	08 18 49			Um	iP	15 42 58.9
		Ki	iPKP	08 02 07.9				i	15 43 02.4
				micr sec			Ud	iP	15 43 11.8
			PKP	Z' 0.1 1.3				i	15 43 15.9
		Sk	ePKP	08 02 09	"	9	Ki ^R	iSg	16 22 51.6
		(cont.)					(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona, Ud = Uddeholm

Year	Date	Station	Type	Time	Location	
1968	Oct. 9	(cont.)				
		Sk ^A	eSg	16 22 56	Nordland, Norway, 66.4°N, 14.8°E. Origin time = 16 21 22. Explosion?	
		Um ^E	iSg	16 23 17.4		
"	9	Ud	iP	18 13 42.1	Iran (h = 25 km).	
"	9	Um	iP	20 30 23.9	Hindu Kush (h = 190 km).	
			i	20 30 34.5		
"	9	Ud	iP	20 40 52.7		
"	10	Up	iP	07 59 06.2		
		Ki	iP	07 58 27.7		
		Ud	eP	07 59 19		
"	10	Ud	iP	08 56 21.1		
			i	08 56 28.4		
"	10	Um	iP	11 53 21.1		
"	10	Up	iP	15 15 34.0		
"	10	Up		---		
				micr sec		
		Mx	E	1.1 19		
		Mx	N	1.4 22		
		Mx	Z	1.6 20		
		Ki	iPKP	15 24 14.6		
			iSP	15 34 09		
				micr sec		
		Mx	E	2.7 24		
		Mx	N	2.2 23		
		Mx	Z	3.5 23		
		Um	ePKP	15 24 18		
			i(PP)	15 24 48		
			eSP	15 34 28		
			iSS	15 40 24		
			i	15 40 49		
					New Britain (h = 70 km). M = 5.8 (Up, Ki).	
"	10	Up	iP	22 56 35.6	C	
		Sk	iP	22 57 00.9		
		Um	iP	22 56 33.4		
		Ka	iP	22 56 40.3	C	
		Ud	iP	22 56 51.6		
					Afghanistan - USSR (h = 30 km).	
1968	Oct. 11	Up	iP	00 08 43.9	Formosa (h = 80 km).	
		Ud	iP	00 08 51.8		
"	11	Sk	iP	02 49 42.7	Cuba (h = N).	
		Um	iP	02 50 02.5		
"	11	Up	iP	03 24 13.5	D	
		Um	iP	03 24 12.5		
		Ud	iP	03 24 29.9		
"	11	Up	iP	08 01 06.3		
		Ki	eP	08 01 45		
		Ud	iP	08 01 17.4		
			i	08 01 21.7		
"	11	Ki ^R	iPn	11 20 02.0	Northwest Russia, 67.8°N, 32.6°E. Origin time = 11 18 47. Explosion?	
			iSn	11 20 59.1		
			iSg	11 21 20.1		
				B = 520 km = 4.7°		
		Sk ^A	eSg	11 23 48		
		Um ^E	eSg	11 22 17		
"	11	Um	iP	12 15 31.6		
"	11	Up	ePKP	15 33 01	Kermadec Islands. h = 45 km (Sk, Um).	
		Sk	iPKP	15 32 50.9		
			ipPKP	15 33 04.0		
		Um	iPKP	15 32 44.6		C
			ipPKP	15 32 56.5		
		Ud	iPKP	15 33 02.8		
"	11	Um	iP	16 22 36.4		
"	11	Up	iPKP	17 31 19.5	Kermadec Islands. h = 80 km (Up).	
			ipPKP	17 31 42.0		
		Sk	iPKP	17 31 12.2		
		Um	iPKP	17 31 07.4		
		Ud	iPKP	17 31 20.3		C
			i	17 31 30.5		
"	11	Up	iP	19 04 00.9		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968

Oct. 11 Up ~~P~~ i(Lg1) 19 24 23.9
Sk ~~A~~ eSg 19 25 13
Ud ~~D~~ iPg 19 23 18.9
iSg 19 23 27.4
~~D = 80 km = 0.7°~~
De ~~L~~ iSg 19 24 48.4
 Värmland, Sweden,
 59.7°N, 12.3°E.
 Origin time = 19 23 04.

" 11 Ud iP 22 12 20.9

" 11 Ud eP 22 21 48

" 12 Ki eP 02 32 16
 Colombia (h = 190 km).

" 12 Ki iP 08 12 02.0
 Ud iP 08 12 28.6
 Luzon (h = 25 km).

" 12 Ki iPn 11 12 39.0
 iPg 11 12 57.2
 iSn 11 13 26.6
 iLg1 11 13 42.4
 D = 440 km = 4.0°.
 Probably northwest Russia.
 Origin time = 11 11 36.
 Explosion?

" 12 Ud iP 11 18 56.8

" 12 Um iP 11 31 48.8

" 12 Up iP 12 26 14.4
 Ud iP 12 26 22.6
 Ryukyu Islands (h = 25 km).

" 12 Ud iP 15 17 37.9

" 12 Ki ~~P~~ ePg 15 52 50
iSg 15 53 09.6
~~D = 170 km = 1.5°~~
Sk ~~A~~ eSg 15 54 24
Um ~~C~~ eSg 15 54 03
 Lapland, Sweden,
 66.8°N, 17.9°E.
 Origin time = 15 52 20.

" 12 Ki iP 19 15 00.9
 Ud iP 19 15 09.8
 Kashmir.

" 12 Ud iP 19 30 55.9
 De iP 19 30 54.4
 Venezuela (h = 100 km).

1968

Oct. 12 Up iPKP 19 35 50.9
 iSKP 19 38 39.7
 micr sec
 PKP Z' 0.1 1.0
 SKP Z' 0.3 1.3

Ki iPKP 19 35 44.1
 iSKP 19 38 15.6
 micr sec
 SKP Z' 0.8 1.8

Sk iPKP 19 35 46.7
 i 19 35 53.9
 iSKP 19 38 30.8

Um iPKP 19 35 45.9
 iSKP 19 38 27.5

Ud iPKP 19 35 52.2
 iSKP 19 38 40.9

De iPKP 19 36 04.0
 iSKP 19 38 50.4

Fiji Islands (h = 610 km).

" 12 Up iP 23 27 42.8
 micr sec
 P Z' 0.5 1.2

Ki iP 23 27 51.9 C
 micr sec
 P Z' 0.4 1.2

Sk iP 23 28 08.4 C
 iPP 23 29 53.4

Um iP 23 27 41.0

Ud iP 23 27 59.3 C
 iPP 23 29 43.7

De iP 23 27 55.8
 Hindu Kush (h = 200 km).
 m = 5.9 (Up, Ki).

" 12 Up iP 23 33 12.6
 Ki iP 23 33 20.3
 Sk iP 23 32 59.3
 Ud iP 23 33 00.3
 iP 23 33 21.7

De iP 23 32 59.1
 Venezuela. h = 80 km (Ud).

" 13 Ki e 01 02 54
 i(Sg) 01 02 58.9

" 13 Ki iP 05 00 48.4
 Ud iP 05 00 18.1

" 13 Ud iP 08 13 13.9
 i 08 13 40.5

" 13 Up iPKP 08 24 48.5
 i 08 24 52.6
 (cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Oct. 13	(cont.)			Oct. 14	(cont.)		
	Up		micr sec	Um	i	03 17 45.4	
		PKP	Z' 0.1 0.5		iS	03 27 02	
	Ki	ePKP	08 24 27		iPS	03 29 01	
	Sk	iPKP	08 24 42.3 C		i	03 35 09	
	Um	iPKP	08 24 36.9 C	Ud	iPKP	03 17 47.0	
		i	08 24 41.1		i	03 17 50.5	
	Ud	iPKP	08 24 49.7 C		iPP	03 19 21.7	
	De	iPKP	08 24 58.7	De	ePKP	03 17 50	
	Kermadec Islands (h = 60 km).			Australia (h = 1 km). M = 7.0 (Up,Ki). Um long-period N shows a diffracted S (SH-com- ponent), epicentral distance about 121°. - Double PKP, the two phases being about 4 sec apart (Ki,Sk,Um,Ud).			
"	13	Up	iSg 10 16 50.6				
		Ki	eSg 10 19 35				
		Sk	iSg 10 18 44.0				
		Um	iSg 10 17 33.7				
		Ud	iSg 10 17 52.2				
	Esthonia-Gulf of Finland. Explosion?						
"	13	Up	iSg 10 17 12.7	"	14	Up	iP 05 34 18.6 D
		Ki	eSg 10 19 58				micr sec
		Sk	iSg 10 19 05.9			P	Z' 0.1 1.0
		Um	iSg 10 17 55.1	Ki	iP	05 34 16.6	
	Esthonia-Gulf of Finland. Explosion?						micr sec
						P	Z' 0.2 1.5
"	13	Up	iP 10 34 52.2	Sk	iP	05 34 27.6	
		Ki	eP 10 34 11	Um	iP	05 34 14.1	
		Um	iP 10 34 29.0	Ud	iP	05 34 23.1	
		Ud	iP 10 34 58.4 D		i	05 34 31.0	
	Japan (h = 40 km).			Andaman Islands (h = N). m = 6.0 (Up,Ki).			
"	13	Ud	iP 16 42 25.8	"	14	Up	iP 07 40 19.0
"	14	Up	iPKP 03 17 46.9			Ki	iP 07 39 46.6
		ePP	03 19 11			Sk	eP 07 40 14
			micr sec				ipP 07 40 23.3
		PKP	Z' 0.1 1.0	Um	iP	07 39 59.7	
		Mx	E 11 23		ipP	07 40 09.9	
		Mx	N 27 28	Ud	iP	07 40 23.2	
		Mx	Z 24 30	Volcano Islands. h = 35 km (Sk,Um).			
	Ki	iPKP	03 17 42.9	"	14	Up	iP 09 22 44.9
		i	03 17 46.8			ipP	09 22 57.5
		iPKKP	03 27 51.4				micr sec
			micr sec			P	Z' 0.2 1.4
		PKP	Z' 0.2 1.0	Ki	iP	09 22 05.9	
		Mx	E 17 20				micr sec
		Mx	N 26 25			P	Z' 0.4 2.0
		Mx	Z 18 21	Um	iP	09 22 23.6	
	Sk	iPKP	03 17 49.3		ipP	09 22 34.7	
		i	03 17 53.1	Ud	iP	09 22 51.4	
	Um	iPKP	03 17 41.2		ipP	09 23 04.2	
	(cont.)			Japan. h = 45 km (Up,Um,Ud). m = 6.2 (Up,Ki).			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm
De = Delary

1968				1968			
Oct. 14	Up	iP	11 30 34.5	Oct. 15	Up	iP	17 59 38.6
"	14	Ki	iP 17 43 58.4		Ki	iP	17 59 40.3
			Formosa (h = 40 km).		Ud	iP	17 59 50.1
"	15	Up	iP 02 23 09.1 C				Nicobar Islands
			micr sec				(h = 35 km).
		P	Z' 0.3 0.6	"	15	Up	iP 20 22 08.1
		Ki	iP 02 23 08.6 C				iS 20 32 56
			micr sec				D = 10050 km = 90 1/2°.
		P	Z' 0.5 1.0		Ki	iP	20 21 50.0
		Sk	iP 02 23 22.9 C				micr sec
		Um	iP 02 23 05.8 C			P	Z' 0.1 1.0
			i 02 23 19.9			Mx	E 0.8 16
			isP 02 23 44.6		Sk	iP	20 22 12.1
			iSKS 02 33 17		Um	iP	20 21 55.9
			iS 02 33 30			ipP	20 22 11.1
		Ud	iP 02 23 18.9 C			iS	20 32 37
		De	iP 02 23 18.2 C		Ud	iP	20 22 15.5
			Sumatra (h = 100 km).			i	20 22 52.7
			m = 6.5 (Up,Ki).				Mindanao. h = 60 km (Um).
"	15	Ki	iPn 10 12 45.1	"	16	Ki	eP 02 06 56
			iPg 10 13 03.1			Um	eP 02 06 58
			iSn 10 13 43.6			Ud	eP 02 06 48
			iLg1 10 14 03.0				Haiti (h = 35 km).
			D = 540 km = 4.9°.	"	16	Ud	iP 04 43 04.9
		Sk	eSg 10 16 31	"	16	Up	iP 07 57 29.4
			Probably northwest Russia.				micr sec
			Origin time = 10 11 29.			Mx	E 1.9 20
			Explosion?			Mx	N 4.5 22
"	15	Um	iP 12 43 59.1			Mx	Z 4.9 17
"	15	Um	iP 17 22 28.6		Ki	iP	07 56 59.4
"	15	Ki	iSg 17 32 50.4				micr sec
		Sk	eSg 17 32 55			Mx	E 3.2 22
		Um	iSg 17 33 17.7			Mx	N 2.5 18
			Nordland, Norway,			Mx	Z 3.4 19
			66.4° N, 14.8° E.		Um	iP	07 57 08.6
			Origin time = 17 31 22.			iS	08 06 31
			Explosion?			iSKS	08 07 18
						iSS	08 11 23
"	15	Up	iPKP 17 49 57.3		Ud	iP	07 57 37.1
			i 17 50 00.3				Ryukyu Islands
		Sk	ePKP 17 49 49				(h = 15 km).
			i 17 49 55.4				M = 5.9 (Up,Ki).
		Um	iPKP 17 49 44.8	"	16	Ki	iP 10 11 18.3
			i 17 49 48.2			Ud	iP 10 11 44.4
		Ud	iPKP 17 49 58.3				Mindanao (h = 100 km).
			Kermadec Islands	"	16	De	iP 10 47 34.9
			(h = 50 km).	"	16	De	iP 11 09 13.2

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Oct. 16	Sk	iSg	12 49 53.0	Oct. 17	Ud	i(P)	17 47 01.4
	Ud	iSg	12 48 52.7				
	Probably southern Norway.			" 17	Ud	iPKP	22 26 47.4
" 16	Ki	eP	15 34 56		Tonga-Kermadec Islands (h = 450 km).		
	Ud	iP	15 34 27.5 C	" 17	Up	ePKP	23 33 05
	De	iP	15 34 13.8		Sk	iPKP	23 32 57.3
	Iran (h = N).				Um	ePKP	23 32 55
" 16	Ud	iP	19 47 53.7		Ud	iPKP	23 33 07.1 D
	Aleutian Islands (h = 70 km).				De	ePKP	23 33 18
" 17	Ki		---		Kermadec Islands (h = 150 km).		
			micr sec	" 18	Up	iP	00 00 54.4
	Mx	E	0.6 18			iX	00 01 06.5
	Mx	N	0.4 17		Ki	iP	00 02 14.0
	Mx	Z	0.7 17			iX	00 02 22.6
	Um	iSS	05 43 45		Sk	eP	00 01 34
		i	05 44 05			iX	00 01 49.3
	New Ireland (h = 20 km).				Um	iP	00 01 35.7
" 17	Up	iP	07 06 15.7			iX	00 01 45.7
			micr sec		Ud	eP	00 01 01
	P	Z'	0.1 0.8			iX	00 01 04.3
	Ki	iP	07 05 46.1		De	eP	00 00 25
			micr sec		Greece (h = 30 km). The second phase, marked X above, is much more pronounced than the first one.		
	P	Z'	0.1 1.0	" 18	Up	iP	03 00 01.9
	Sk	iP	07 06 11.7		Ki	eP	02 59 34
	Um	iP	07 05 59.2			i	02 59 36.2
		i	07 06 06.5		Mariana Islands (h = 230 km).		
	Ud	iP	07 06 21.5	" 18	Up	iP	06 05 48.7
	De	iP	07 06 33.4			i	06 05 54.9
	Mariana Islands (h = 70 km). m = 6.1 (Up,Ki).					P	Z' 0.1 1.2
" 17	Up	iP	07 23 11.1		Ki	iP	06 05 23.5
" 17	Ki	iP	12 41 12.0			i	06 05 28.1
		i	12 41 28.7				micr sec
" 17	Ki	iP	13 38 54.9		P	Z'	0.2 1.5
	Um	iP	13 39 13.0 C		Mx	E	0.5 11
	Ud	iP	13 39 43.2		Mx	N	0.3 10
	Japan (h = 70 km).				Mx	Z	0.6 11
" 17	Ki ^R	iSg	17 33 25.1		Sk	iP	06 05 51.0
	Sk ^A	iSg	17 33 29.5		Um	iP	06 05 32.2
	Um ^E	iSg	17 33 52.7			i	06 05 37.8
	Nordland, Norway, 66.4° N, 14.8° E. Origin time = 17 31 57. Explosion?				Ud	iP	06 05 56.8
					Formosa (h = 45 km). m = 5.9 (Up,Ki).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Oct. 18	Up	i	10 06 37.0	Oct. 19	(cont.)		
		iSg	10 06 42.1		Up	Mx N	2.9 16
	Ud	iSg	10 07 25.4			Mx Z	0.9 15
	Baltic coast of Södermanland, Sweden. Felt.				Ki	iP	02 41 16.2
	Probably explosion.						micr sec
"	18	Up	iP 10 08 02.4			Mx E	0.8 14
		Ki	iP 10 07 19.6			Mx N	1.8 16
		Sk	iP 10 07 54.0		Sk	Mx Z	0.8 12
		Um	iP 10 07 38.9			iP	02 41 34.6
			ipP 10 07 58.1			i	02 41 39.4
		Ud	iP 10 08 09.6		Um	iPP	02 43 17.6
	Japan. h = 70 km (Um).					iP	02 41 07.0
"	18	Ki	iP 11 34 12.9			i	02 41 11.5
	Molucca Passage (h = 10 km).					iPP	02 42 40.1
"	18	Ud	iP 12 19 47.4			iSa	02 49 34
	Japan (h = 80 km).					iLg1	02 54 54
"	18	Ud	i(Pg) 15 31 32.9			iLg2	02 55 41
			iSg 15 31 55.6		Ud	iP	02 41 26.6
						i	02 41 32.0
"	18	Up	iP 16 06 58.6	"	19	Um	i(P) 03 27 17.6
		Ki	iP 16 06 58.2			Ud	e(P) 03 26 09
		Sk	eP 16 07 19	"	19	Up	iP 07 09 16.7 C
		Um	iP 16 06 56.0			iPP	07 10 53.5
		Ud	iP 16 07 15.6			i	07 11 10.1
"	18	Ki	eP 19 04 53			iS	07 15 25
		Um	iP 19 04 44.6				micr sec
		Ud	iP 19 05 05.9 C			P	Z' 0.1 0.5
	Andaman Islands (h = N).					Mx E	1.1 15
"	18	Ud	iP 21 30 39.2			Mx N	3.8 16
"	18	Up	i(P) 21 46 08.2			Mx Z	1.8 14
			micr sec				D = 4600 km = 41 1/2°
			(P) Z' 0.1 0.6		Ki	iP	07 09 21.5
"	19	Ki	iP 00 33 21.0			i	07 09 31.9
		Um	iP 00 33 25.7				micr sec
		Ud	iP 00 33 44.2			Mx E	2.1 15
			ipP 00 33 49.1			Mx N	3.4 16
	Molucca Passage.					Mx Z	2.2 15
	h = 20 km (Ud).				Sk	iP	07 09 40.0
"	19	Up	iP 02 41 11.1			iPP	07 11 22.8
			i 02 41 15.2		Um	iP	07 09 12.0
			iPP 02 42 39.2			i	07 09 18.1
			micr sec			iS	07 15 22
		Mx E	0.8 17			iSS	07 18 11
	(cont.)				Ud	iP	07 09 32.1
					Tadzhik SSR (h = 50 km).		
					M = 5.4 (Up, Ki).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Oct. 19	Ki	i(Sn)	09 58 22.0	Oct. 19	(cont.)		
		i(Lg1)	09 58 47.4		Ki		micr sec
" 19	Up	iP	09 59 46.8		Mx	E	1.5 16
		i	10 00 16.2		Mx	N	1.0 13
		iPP	10 01 24.5		Mx	Z	1.3 12
		iS	10 05 56		Sk	iP	15 40 54.7 C
			micr sec		i		15 41 00.2
		P	Z' 0.1 0.7		Um	iP	15 40 54.3
		Mx	E 2.0 15		Ud	iP	15 40 25.0
		Mx	N 7.0 16		De	iP	15 39 48.7
		Mx	Z 2.8 15		i		15 39 56.8
		D = 4600 km = 41 1/2°.			Crete (h = 20 km).		
	Ki	iP	09 59 51.9		M = 4.8 (Up,Ki).		
		i	09 59 57.2	" 19	Ki	iP	17 48 03.5 C
			micr sec		Um	iP	17 48 11.4
		P	Z' 0.1 0.8		Ud	eP	17 48 09
		Mx	E 2.7 15	" 19	Up	iP	19 27 46.2
		Mx	N 5.7 16		Ki	iP	19 27 02.6
		Mx	Z 3.1 13		Sk	iP	19 27 38.0
	Sk	iP	10 00 11.4		Um	iP	19 27 22.2
		i	10 00 29.2		Ud	iP	19 27 53.1
		iPP	10 01 53.5		De	iP	19 28 09.8
		i	10 01 57.2		Japan (h = 70 km).		
	Um	iP	09 59 43.6 D	" 19	Up	iPKP	21 50 37.1
		i	09 59 47.5		Ki	iPKP	21 50 50.9
		iPP	10 01 25.1		Um	iPKP	21 50 42.8
		iS	10 05 51		i		21 50 54.5
		eSa	10 08 10		Ud	iPKP	21 50 35.3 C
		iSS	10 08 53		South Sandwich Islands (h = N).		
	Ud	iP	10 00 03.7	" 19	Up	i(P)	23 51 46.3
		i	10 00 06.5		Ud	iP	23 51 29.0
		iPP	10 01 48.4	" 20	Ud	iP	02 08 21.3 C
	De	iP	10 00 01.6	" 20	Up	iP	07 20 05.1
		i	10 00 05.1		i		07 20 09.5
		i	10 00 14.1		i		07 21 23.4
	Tadzhik SSR (h = N).				iS		07 29 45
	m = 5.7, M = 5.6 (Up,Ki).					micr sec	
" 19	Um	iP	12 35 03.1		P	Z' 0.7 1.5	
" 19	Up	i(P)	14 54 27.6		Mx	E 6.8 18	
" 19	Up	iP	15 40 15.1		Mx	N 15 21	
		i	15 40 23.8		Mx	Z 4.7 15	
		iPP	15 40 52		D = 8500 km = 76 1/2°.		
			micr sec		Ki	iP	07 19 38.7
		P	Z' 0.1 1.0		i		07 19 44.2
		Mx	E 0.7 13		iS		07 28 59
		Mx	N 1.1 11			micr sec	
		Mx	Z 1.4 11		P	Z' 0.6 1.5	
	Ki	iP	15 41 25.1	(cont.)			
		i	15 41 30.7				
	(cont.)						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968					1968					
Oct. 20	(cont.)				Oct. 21					
	Ki		micr	sec		Ki	i	12 17	17.2	
	S	E	0.9	10		Ud	i	12 16	42.4	
	Mx	E	6.0	15			i(Sg)	12 16	44.7	
	Mx	N	7.7	16	"	21	Ki	iP	14 16 21.2 C	
	Mx	Z	3.2	14			Sk	iP	14 16 06.3 C	
	D = 8000 km = 72°						Um	iP	14 16 23.2	
	Sk	iP	07 20	09.7			Ud	iP	14 16 09.7 C	
		i	07 20	12.1			Colombia (h = 25 km).			
	Um	iP	07 19	52.4 C	"	21	Sk	eP	15 54 54	
		iS	07 29	09				i	15 54 58.9	
	Ud	iP	07 20	12.7	"	21	Ki	R e	17 51 10	
		i	07 20	18.6				iSg	17 51 15.4	
	De	iP	07 20	27.5			Sk	Δ iSg	17 51 18.9	
	Formosa (h = 15 km).						Um	← iSg	17 51 41.7	
	m = 6.4, M = 6.2 (Up, Ki).						Ud	D iSg	17 53 11.3	
	Double P, small and big (Up, Ki, Sk, Ud).						Nordland, Norway, 66.4°N, 14.8°E. Origin time = 17 49 46. Explosion?			
"	20	Up			"	21	Up	eP	18 22 05	
			micr	sec			Ki	iP	18 23 14.0	
		Mx	E	3.1 20				i	18 23 18.9	
		Mx	N	3.1 19			Sk	iP	18 22 45.4	
		Mx	Z	2.9 18				i	18 22 48.4	
		Ki					Um	iP	18 22 42.9	
			micr	sec			Ud	iP	18 22 11.7	
		Mx	E	4.1 15				i	18 22 12.5	
		Mx	N	3.3 18			De	eP	18 21 37	
		Mx	Z	5.4 17				i	18 21 44.4	
		Ud	iP	12 33 10.3			Crete (h = 5 km).			
		Japan (h = 15 km).				"	21	Up	iP	22 30 44.5
		M = 5.8 (Up, Ki).						Um	iP	22 30 55.1
"	20	Up	iP	23 18 30.8			Ud	eP	22 30 56	
			i	23 18 42.9			Caucasus.			
			iS	23 21 10.9	"	21	Up	iP	23 27 54.8 C	
		Ki	iP	23 19 52.1			Ki	eP	23 28 37	
			isS	23 24 24.8			Sk	iP	23 28 27.0	
			i!	23 25 13.1			Ud	iP	23 28 10.2 C	
		Sk	eP	23 19 24			De	iP	23 27 54.6	
			iS	23 23 04.3	"	21	Up	iP	23 44 25.6 D	
			isS	23 24 08.7				i	23 44 30.9	
			iLg1	23 25 15.9			Ud	iP	23 44 40.8	
		Um	iP	23 19 10.9	"	21	Up	iP	23 44 25.6 D	
			i	23 19 16.0				i	23 44 30.9	
			iS	23 22 49.2			Ud	iP	23 44 40.8	
			i	23 23 23.5	"	21	Up	iP	23 44 25.6 D	
		Ud	iP	23 18 45.7				i	23 44 30.9	
			i	23 18 58.8			Ud	iP	23 44 40.8	
			iS	23 21 40.6	"	21	Up	iP	23 44 25.6 D	
			iPcP	23 23 34.5				i	23 44 30.9	
		De	iP	23 18 05.4	"	22	Ud	iP	02 34 34.4	
			i	23 18 13.8			De	iP	02 33 59.6	
		Rumania (h = 120 km).					Crete.			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm
De = Delary

1968				1968			
Oct. 22	Um	iP	07 28 02.6	Oct. 23	(cont.)		
	Ud	iP	07 27 16.7		Ki	eP	21 18 51
	Yugoslavia.					i	21 18 54.3
" 22	Up	iP	20 12 26.5			iX	21 22 22
		i	20 13 21.2			iPP	21 23 02
" 22	Up	iP	20 40 32.8			i	21 23 34
" 23	Ud	iP	01 01 29.0			iSKS	21 29 31
" 23	Ki	ePKP	02 13 45			iPKKP	21 34 34.6
		i	02 13 47.2				micr sec
		i	02 14 06.3			P	Z' 0.7 2.5
			micr sec			PP	E 0.9 8
		PKP	Z' 0.1 1.5			PP	N 0.6 6
		Mx	E 0.9 20			SKS	E 7.4 13
		Mx	N 0.7 20			SKS	N 3.4 13
		Mx	Z 0.8 18			Mx	E 88 19
	Um	iPKP	02 13 49.1			Mx	N 79 20
		i	02 13 53.6			Mx	Z 100 19
	South of Australia (h = N).				Um	iP	21 18 59
" 23	Up	iP	05 46 23.9			iPP	21 23 22
	Ud	iP	05 46 31.9			iSKS	21 29 38
	South of Japan (h = 400 km).				Ud	iPKP	21 23 19.9
" 23	Ki	iSg	13 35 09.4			iPP	21 23 57.3
		i	13 35 18.9		De	iPKP	21 23 23.1
	Um	iSg	13 33 07.3			iPP	21 24 19.0
	Ud	iSg	13 33 39.9			New Guinea (h = 10 km).	
	Esthonia-Gulf of Finland.					m = 6.8, M = 7.5 (Up, Ki).	
	Explosion?					X (Ki) is probably	
" 23	Ki	eP	13 39 35			another instance of the	
	Um	iP	13 39 34.7			unidentified phases	
	Ud	iP	13 39 49.4			arriving ahead of PP,	
	Java (h = 45 km).					especially in this	
" 23	Up	i(P)	15 30 47.1			distance range (distance	
		(P)	micr sec			to Ki about 104 ⁰).	
			Z' 0.1 0.9	" 23	Up	iP	21 30 40.0 D
" 23	Up	iP	21 19 12	" 23	Up	iP	21 32 53.1 C
		iPP	21 23 46			i	21 32 56.5
		i(SKS)	21 30 00				micr sec
		iPS	21 33 04			P	Z' 0.2 0.8
			micr sec		Ki	iP	21 32 29.8
		PP	E 1.0 6			i	21 32 36.5
		PP	Z 1.5 7		Sk	iP	21 32 47.0
		(SKS)	N 2.6 10			i	21 32 55.5
		Mx	E 87 21		Um	iP	21 32 41.2 C
		Mx	N 90 21		Ud	iP	21 32 55.3 C
		Mx	Z 140 21		De	iP	21 33 03.6 C
(cont.)						i	21 33 07.0
				" 23	Ud	iP	22 08 18.3
				" 24	Um	iP	00 00 59.6
					New Guinea (h = 45 km).		

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968

Oct. 24 Up

 micr sec
 Mx E 2.1 22
 Mx N 2.0 20
 Mx Z 2.2 22
 Ki iP 00 55 09.8

 micr sec
 P Z' 0.1 1.0
 Mx E 1.7 19
 Mx N 1.4 18
 Mx Z 2.0 18
 Sk i(pP) 00 55 42.6
 Um iP 00 55 20.7
 Ud iP 00 55 35.7
 Mindanao (h = 80 km).
 M = 5.7 (Up,Ki).

" 24 Up iP 02 30 52.7

" 24 Up iP 04 27 53.0
 Ki iP 04 27 52.1
 Um iP 04 27 49.7
 Ud iP 04 28 03.0
 De iP 04 28 02.3
 Sumatra (h = N).

" 24 Up

 micr sec
 Mx E 0.9 23
 Mx N 1.0 20
 Mx Z 1.2 19
 Ki

 micr sec
 Mx E 1.2 18
 Mx N 0.8 19
 Mx Z 0.9 17
 Um iPS 05 36 29
 Prince Edward Island
 (h = N).
 M = 5.6 (Up,Ki).

" 24 Ki iPn 10 41 35.7
 iSn 10 42 33.9
 iSg 10 42 58.4
 D = 540 km = 4.9°.
 Sk i 10 44 59.4
 iSg 10 45 18.4
 Um iSn 10 43 13.7
 iSg 10 43 51.9
 Ud iSg 10 46 19.9
 Northwest Russia.
 Origin time = 10 40 18.
 Explosion?

1968

Oct. 24 Up i(Sg) 13 44 15.4
 i 13 44 30.0
 Ki iSg 13 47 00.8
 Sk eSg 13 46 18
 Um iSg 13 45 00.8
 Ud iSg 13 45 29.7
 Esthonia-Gulf of Finland.
 Explosion?

" 24 Ki iP 14 11 51.1
 Um iP 14 11 56.0
 Ud iP 14 12 14.4
 Molucca Passage
 (h = 50 km).

" 24 Up eP 16 04 31
 i 16 04 35.6
 iP 16 04 43.9
 iSKS 16 14 58
 iS 16 15 27
 iScS 16 16 08

 micr sec
 P Z 0.7 6
 pP Z' 0.2 1.2
 SKS E 0.5 4
 S N 0.5 6
 Mx E 7.2 22
 Mx N 17 22
 Mx Z 7.6 23
 D = 10450 km = 94°.

Ki eP 16 04 15
 i 16 04 16.1
 iP 16 04 26.3
 iSKS 16 14 37
 eS 16 15 10

 micr sec
 P E 0.5 8
 P Z 1.3 9
 pP Z' 0.2 1.0
 SKS E 0.9 6
 S N 1.2 6
 Mx E 19 20
 Mx N 11 23
 Mx Z 22 20
 D = 10000 km = 90°.

Sk i(P) 16 04 38.4
 Um iP 16 04 22.7
 i(pP) 16 04 32.6
 iP 16 07 55
 iSKS 16 14 47
 iS 16 15 01
 Ud iP 16 04 38.6
 i 16 04 45.3
 De eP 16 04 45
 (cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968

Oct. 24 (cont.)
De ipP 16 04 59.8
Mindanao. h = 50 km (Up,
Ki,De).
m = 6.1, M = 6.5 (Up,Ki).

" 24 Ki^R iPg 20 13 38.7
iSn 20 14 22.9
~~iLg1 20 14 51.5~~
~~D = 710 km = 6.4°~~
~~Sk^A iLg1 20 17 31.1~~
Um^E iSg 20 16 09.0
Ud^D iSg 20 18 46.1
North coast of Kola Pen-
insula, 69°N, 37°E.
Origin time = 20 11 31.
Explosion?

" 24 Up^P iSg 20 19 34.2
Ki^R iPg 20 15 04.0
iSn 20 15 48.2
~~iLg1 20 16 16.8~~
~~D = 710 km = 6.4°~~
~~Sk^A iLg1 20 18 57.0~~
Um^E iSg 20 17 34.1
Ud^D i 20 20 02.0
iSg 20 20 11.3
North coast of Kola Pen-
insula, 69°N, 37°E.
Origin time = 20 12 56.
Explosion?

In this and the preceding case, the existence of Sg or Lg1 appears to be rather a matter of direction than distance from the source; cf similar remark to Oct. 7, 06 58.

" 24 Ki eP 21 08 14
ipP 21 08 32.3
Ud iP 21 08 38.6
Mindanao. h = 70 km (Ki).

" 24 Up iP 21 56 35.2
Ki iP 21 55 57.7
i 21 56 10.8
Um iP 21 56 15.0
Ud iP 21 56 41.8
Japan (h = 30 km).

" 24 Up
Mx E micr sec
(cont.) 0.9 23

1968

Oct. 24 (cont.)
Up micr sec
Mx N 1.3 21
Mx Z 1.9 23
Ki iP 22 45 41.4
Sk iP 22 46 21.8
Um iP 22 46 03.2
iPcP 22 46 47.7
Ud iP 22 46 37.2
i 22 46 40.3
De iP 22 46 57.5
Kurile Islands
(h = 35 km).

" 25 Up iPKP 02 41 16.4
Um iPKP 02 41 24.7
Ud iPKP 02 41 15.5
South Sandwich Islands
(h = N).

" 25 Up iP 05 53 48.5
Um iP 05 53 33.0
Ud iP 05 53 54.2

" 25 Ud iP 06 25 15.6

" 25 Up iP 07 30 45.9
Ki iP 07 29 53.1
Ud iP 07 30 50.9

" 25 Up iP 10 41 32.4
Ki iP 10 41 33.5 D
iPP 10 44 37.5

micr sec
Z' 0.2 1.3
Um iP 10 41 29.9
ipP 10 41 49.7
Ud iP 10 41 43.6
ipP 10 42 04.4
De iP 10 41 40.6
ipP 10 42 00.2
Sumatra. h = 70 km (Um,Ud,De)

" 25 Ki iPn 11 00 44.8
iSn 11 01 23.8
iSg 11 01 38.8
D = 360 km = 3.2°
Um iSg 11 03 23.6
Origin time = 10 59 52.
Explosion?

" 25 Up iP 11 49 17.3
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Oct. 25	(cont.)			Oct. 26	Ki	iP	19 26 53.0
	Up		micr sec			i	19 27 10.7
	P	Z'	0.1 0.5		Um	iP	19 27 19.1
	Ki	iP	11 48 25.4			ipP	19 27 30.6
	Um	iP	11 48 50.3		Ud	iP	19 27 45.2
	Ud	iP	11 49 18.6 D		De	iP	19 28 08.0
	De	iP	11 49 40.4		Aleutian Islands.		
	Aleutian Islands				h = 40 km (Um).		
	(h = 25 km).						
"	25	Ki	eP 14 07 29	"	26	Ki	ePn 20 50 02
		Ud	iP 14 08 22.3 C				iSn 20 50 39.9
		Aleutian Islands (h = N).					iSg 20 50 51.8
							D = 340 km = 3.1°.
							Origin time = 20 49 11.
							Explosion?
"	25	Up	eP 14 27 13				
"	25	Ud	iP 14 43 43.9	"	26	Up	iP 23 09 09.6
"	25	Up	i(P) 14 48 29.0			Ryukyu Islands.	
"	25	Ki	eP 16 08 15	"	27	Ki	iSn 04 47 07.7
		Ud	iP 16 08 38.2 C				iLg1 04 47 28.7
		Talaud Islands				Sk	iSg 04 49 55.9
		(h = 80 km).				Um	eSg 04 48 26
"	25	Up	eP 19 52 09			Northwest Russia.	
"	25	Ki	eP 21 43 33			Explosion?	
"	26	Up	iP 01 51 58.2	"	27	Up	iP 11 34 52.6
"	26	Up	iPKP 14 28 50.6			Um	iP 11 34 46.2
		Sk	iPKP 14 28 43.8			Ud	iP 11 35 06.2
		Um	iPKP 14 28 38.2 C	"	27	Up	iP 13 55 21.4
		Ud	iPKP 14 28 52.5			Ki	iP 13 55 04.7
		De	iPKP 14 29 01.3 C			Sk	iP 13 55 25.6
		Kermadec Islands				Um	iP 13 55 09.9
		(h = 170 km).				Ud	iP 13 55 29.6
"	26	Up	iP 16 07 28.7 C			Mindanao (h = 190 km).	
			micr sec	"	27	Ud	iP 22 11 55.6
		Ki	P Z' 0.2 0.6			Dodecanese Islands.	
			iP 16 06 44.5	"	28	Ud	iP 02 30 49.1
			ipP 16 06 55.6			Kurile Islands	
			micr sec			(h = 70 km).	
		Sk	P Z' 0.1 1.0	"	28	Ud	iP 11 22 01.8
		Um	iP 16 07 19.7			Unimak Island (h = 40 km).	
		Ud	iP 16 07 04.5	"	28	Up	iS 13 03 16
			ipP 16 07 35.0 C				micr sec
			i 16 07 46.6			Mx	E 1.7 13
		De	iP 16 07 51.7			Mx	N 1.3 13
		Japan. h = 40 km (Ki, Ud).				Mx	Z 0.8 10
		m = 6.2 (Up, Ki).				Ki	eP 13 00 30
							i 13 00 37.0
						(cont.)	

ppjala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968
Oct. 28 (cont.)

			micr	sec
Ki	Mx	E	2.1	14
	Mx	N	0.7	13
	Mx	Z	0.6	12
Sk	iP		13 00	04.6
Um	eS		13 04	22
Ud	iP		12 59	30.1

Aegean Sea (h = N).
M = 5.0 (Up, Ki).

			micr	sec
" 28	Up	iP	14 52	22.3
		i	14 52	29.2
		P		
		Z'	0.2	0.9
Ki	iP		14 51	45.7 C
		P		
		Z'	0.1	1.0
Sk	iP		14 52	18.4 C
		ipP	14 52	35.0
Um	iP		14 52	01.6
Ud	iP		14 52	29.5 C
De	iP		14 52	43.5

South of Japan.
h = 60 km (Sk).
m = 6.1 (Up, Ki).

			micr	sec
" 28	Up	iP	17 58	04.7
	Ki	iP	17 58	04.0
	Sk	iP	17 58	24.4
	Ud	iP	17 58	19.2 C
		i	17 58	28.1

Nepal (h = 35 km).

			micr	sec
" 28	Sk	eSg	20 58	56
	Ud	iSg	20 58	32.0

Southwest coast of Norway.

			micr	sec
" 28	Ki	eP	21 46	20

			micr	sec
" 28	Up	iPKP	23 51	27.5
		i	23 51	28.5
		ipPKP	23 51	41.9
		iPP	23 53	28
		iPKS	23 54	40
		iSKS	23 58	31

			micr	sec
	PKP	Z'	0.8	1.5
	PP	Z'	0.2	1.5
	PKS	E	0.6	5
	PKS	N	0.9	5
	SKS	E	0.5	4
	Mx	E	7.2	22
	Mx	N	12	23

(cont.)

1968
Oct. 28 (cont.)

			micr	sec
Up			19	23
Ki	Mx	Z	23 51	13.6
	iPKP		23 51	28.5
	ipPKP		23 52	51
	ePP		00 01	20.8
	iPKKP			

			micr	sec
	PKP	Z'	0.5	1.2
	Mx	E	4.5	21
	Mx	N	9.2	22
	Mx	Z	12	23
Sk	iPKP		23 51	24.2 C
	i		23 51	35.1
	i		23 51	56.6
Um	eP		23 47	51
	iPKP		23 51	19.5 C
	ipPKP		23 51	33.4
	iPP		23 53	02
	iPS		00 02	53
	iSS		00 09	51
Ud	iPKP		23 51	29.5
	i		23 51	39.5
	iPP		23 53	38.4
De	iPKP		23 51	35.8
	ipPKP		23 51	51.2
	iPKS		23 55	00.5

Santa Cruz Islands.
h = 50 km (Up, Ki, Um, De).
M = 6.5 (Up, Ki).

			micr	sec
" 29	Up	iP	04 18	03.5 D
		iPcP	04 18	15.9

			micr	sec
	P	Z'	0.2	1.0
	Mx	N	1.3	21
	Mx	Z	1.1	18
Ki	iP		04 17	28.3

			micr	sec
	P	Z'	0.2	1.0
	Mx	E	1.1	15
	Mx	N	1.4	18
	Mx	Z	1.8	17
Sk	iP		04 17	58.6
Um	iP		04 17	43.6
	i		04 17	48.4
Ud	iP		04 18	10.2 D
De	iP		04 18	23.4

South of Japan (h = 15 km)
m = 6.2, M = 5.3 (Up, Ki).

			micr	sec
" 29	Ki	iP	06 38	13.2 D
	Um	iP	06 38	28.2
		iPcP	06 38	46.1
	Ud	iP	06 38	55.6

South of Japan (h = 40 km)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Oct. 29	Up	iP	06 57 12.3	Oct. 29	Up	iP	22 25 46.9
		i	06 57 32.9			i	22 25 49.9
	Ki	iP	06 56 36.9 C			iS	22 33 24
			micr sec				micr sec
		P	Z' 0.2 1.5			P	N 1.5 3
	Um	iP	06 56 52.7			P	Z 2.0 3
	Ud	iP	06 57 19.0			P	Z' 2.7 2.0
		i	06 57 28.1			S	E 9.6 20
			South of Japan (h = N).			Mx	E 18 22
"	29	Ki	iPKP 07 39 19.8 C			Mx	N 25 19
			micr sec			Mx	Z 29 20
		PKP	Z' 0.2 1.5			D = 6100	km = 55°
	Sk	iSKP	07 42 07.3		Ki	iP	22 24 45.6
	Um	iPKP	07 39 26.2			i	22 24 49.7
		iSKP	07 42 03.1			iS	22 31 38
	Ud	i(PKP)	07 39 24.2				micr sec
		iPKP	07 39 34.2			P	N 1.9 3
		iSKP	07 42 17.1			P	Z 4.9 3
	De	iPKP	07 39 34.6			P	Z' 5.6 2.0
			Fiji Islands (h = 570 km).			S	E 12 12
"	29	Up	iP 10 09 57.7			S	N 4.4 11
		i	10 10 04.2			Mx	E 65 23
	Ki	iP	10 10 14.5			Mx	N 26 20
	Sk	iP	10 10 23.0			Mx	Z 26 19
	Um	iP	10 10 01.6			D = 5200	km = 47°
	Ud	iP	10 10 11.6		Sk	iP	22 25 15.6
			India (h = 1 km).			i	22 25 18.6
"	29	De	iPKP 11 46 28.7			i	22 25 44.0
		i	11 46 34.7		Um	iP	22 25 16.4
			Tonga Islands (h = N).			i	22 25 21.3
"	29	Um	iPKP 11 58 42.6			i	22 25 50.8
	De	iPKP	11 59 03.3			iS	22 32 32
			Tonga Islands (h = N).			iSS	22 35 59
"	29	Up	i(P) 17 14 15.8		Ud	iP	22 25 40.9 C
	Ki	iP	17 13 56.6			i	22 25 46.4
	Sk	i(pP)	17 14 26.6		De	iP	22 26 07.5
	Um	iP	17 14 01.3			i	22 26 12.0
		iSKS	17 24 32				Alaska (h = 5 km).
		iS	17 25 08				m = 6.9, M = 6.4 (Up, Ki).
	Ud	iP	17 14 20.0 C				Double P, average interval
			Molucca Passage (h = N).				about 4 sec. - Relatively
"	29	Ki	iSg 17 34 42.0				long periods dominate the
	Sk	eSg	17 34 47		"	30	P Z' motion.
	Um	iSg	17 35 09.1			Ki	iP 00 20 33.8
			Nordland, Norway,				Molucca Passage (h = N).
			66.4 N, 14.8° E.		"	30	Ki i(P) 00 56 01.4
			Origin time = 17 33 13.				Sumatra (h = 60 km).
			Explosion?		"	30	Ki iPn 04 08 25.8
							iSn 04 09 12.2
							iSg 04 09 29.4
							D = 420 km = 3.8°
							Origin time = 04 07 24.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968

Oct. 31

(cont.)

Up iS 03 31 54
micr sec
S N 3.2 8
Mx E 3.7 12
Mx N 7.8 14
Mx Z 7.7 13
D = 2700 km = 24 1/2°.
Ki iP 03 28 38.2
micr sec
Mx E 4.7 12
Mx N 2.1 13
Mx Z 2.9 15
Sk iP 03 28 11.6
Um iP 03 28 03.1
iS 03 32 51
i 03 33 01
Ud iP 03 27 40.6
De iP 03 27 07.5 C
Dodecanese Islands
(h = 10 km).
M = 5.4 (Up, Ki).

" 31 Up iP 07 51 37.3
Ki iP 07 50 56.8
Um iP 07 51 14.6 D
Ud iP 07 51 44.1
Japan (h = 70 km).

" 31 Up iP 09 20 10.6
i 09 24 37.9
iSKS 09 30 45
iS 09 31 30
micr sec
P Z' 0.1 1.0
Mx E 5.0 20
Mx N 5.6 21
Mx Z 5.5 19
D = 10900 km = 98°.
Ki iP 09 19 55.0 C
i 09 20 05.6
iS 09 31 05
micr sec
P Z' 0.4 1.0
S N 1.2 7
Mx E 2.8 17
Mx N 2.6 21
Mx Z 4.5 17
D = 10550 km = 95°.
Sk iP 09 20 16.0
Um iP 09 20 00.0
i 09 20 12.8
iSKS 09 30 30
(cont.)

1968

Oct. 31

(cont.)

Um iS 09 31 09
iPS 09 32 37
Ud iP 09 20 18.4
iY 09 23 26.0
De iP 09 20 24.2
i 09 20 30.2
iX 09 22 59.4
iY 09 23 39.8
Molucca Passage (h = N).
m = 6.6, M = 6.1 (Up, Ki).
X and Y (Ud, De) belong
to the group of un-
identified phases
arriving ahead of PP in
this distance range.

" 31 Ki iPn 10 19 05.1
iSn 10 20 04.1
iSg 10 20 29.8
D = 560 km = 5.0°.
Um iSg 10 21 17.6
Northwest Russia.
Origin time = 10 17 46.
Explosion?

" 31 Um iP 12 59 56.6 C

" 31 Um iP 14 42 35.3
Mona Passage (h = 45 km).

" 31 Ki iPn 16 34 34.9
iSn 16 35 21.3
iLg1 16 35 34.4
D = 420 km = 3.8°.
Sk A iSg 16 38 25.1
Um iSg 16 37 01.7
Northwest Russia,
68.8°N, 30.5°E.
Origin time = 16 33 34.
Explosion?

" 31 Up iP 18 57 38.7

Markus Båth
March 28, 1969

FW
660 7

SEISMOLOGICAL INSTITUTE
Uppsala

SEISMOLOGICAL BULLETIN
UPPSALA, KIRUNA, SKALSTUGAN, UMEÅ,
UDDEHOLM and DELARY

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.3'N,	13°52.1'E;	h = 150 m

NOVEMBER 1 - 30, 1968

1968				1968							
Nov.	1	Up	iP	00 02 45.5	Nov.	1	Up	iP	10 35 47.6		
			iPcP	00 03 19.5			Ki	eP	10 34 58		
		Ki	iP	00 01 40.9				ipP	10 35 08.7		
			i	00 01 48.5			Sk	eP	10 35 14		
		Um	iP	00 01 09.4			Ud	iP	10 35 35.1		
								ipP	10 35 43.4		
"	1	Ki	iP	00 33 08.2			British Columbia.				
		Sk	iP	00 32 35.3			h = 35 km (Ki, Ud).				
		Um	iP	00 32 48.0			"	1	Um	iPS	13 45 43
		Ud	iP	00 32 17.0			Banda Sea (h = 50 km).				
		Atlantic Ocean (h = N).					"	1	Um	iP	14 09 19.3
"	1	Up	iPKP2	01 52 44.3			Japan (h = 30 km).				
		Ki	iPKP	01 52 10.7			"	1	Up	iP	15 16 43.6
				micr sec			"	1	Up	ePKP	20 22 05
			PKP	Z' 0.3 1.0					i	20 22 12.5	
		Sk	iPKP2	01 52 40.0			Sk	iPKP	20 21 58.4		
		Um	iPKP	01 52 17.1			Um	iPKP	20 21 52.2		
		Ud	iPKP2	01 52 49.6			Ud	iPKP	20 22 05.8		
		New Zealand (h = 30 km).						i	20 22 10.2		
"	1	Ki	iP	03 26 12.7			De	iPKP	20 22 14.4		
		Molucca Passage (h = N).					"	1	Up	iP	20 56 55.0
"	1	Up		-----			Ud	iP	20 57 11.8		
				micr sec			De	iP	20 57 09.1		
		Mx	E	1.1 19			Tadzhik SSR (h = 40 km).				
		Mx	N	1.4 23			"	1	Ki	eP	22 49 04
		Mx	Z	1.7 18				i	22 49 09.3		
		Ki		-----			Ud	iP	22 48 38.0		
				micr sec			"	1	Ki	eP	22 49 04
		Mx	E	1.8 18				i	22 49 09.3		
		Mx	N	1.0 17			Ud	iP	22 48 38.0		
		Mx	Z	2.0 18			"	2	Ud	iP	08 39 37.5
		Um	iS	04 19 30				i	08 39 45.9		
		Mexico (h = N).					De	iP	08 39 30.3		
		M = 5.6 (Up, Ki).						i	08 39 34.8		
"	1	Um	iP	04 57 37.7			North Atlantic Ocean				
							(h = N).				

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968							
Nov.	2	Ki	iP	09 31	41.6	Nov.	3	(cont.)			
		Ud	eP	09 32	10			Ud	iP		
									01 30 27.6 C		
"	2	Ki	eP	09 47	02	"	3	Up	iP		
		Ud	iP	09 47	28.6				i		
		Luzon (h = 45 km).							02 37 05.7		
"	2	Ki	iPn	12 43	17.0			Ki	eP		
		iP	iP	12 43	24.9			Um	iP		
		iSn		12 44	02.0			Ud	iP		
		iLg1	iLg1	12 44	16.5	"	3	Ki	iP		
		D = 410 km = 3.7°							03 10 35.6		
		SkA	eSg	12 46	44	"	3	Ud	iPKP		
		Um	iSn	12 44	42.8			De	iPKP		
		iSg		12 45	13.8			Solomon Islands (h = 90 km)			
		Northwest Russia, 67.4°N, 30.0°E. Origin time = 12 42 18. Explosion?					"	3	Up	iP1	
"	2	Up	iPKP	12 52	19.0				iP2	04 53 38.4	
		i		12 52	24.2				iP3	04 53 40.0	
		Sk	iPKP	12 52	13.3				iS	04 53 46.1	
		Um	iPKP	12 52	07.7				i	04 56 51	
		Ud	iPKP	12 52	20.3 C					04 56 59	
		i		12 52	26.7					micr sec	
		De	iPKP	12 52	29.4			P3	N	0.7 2	
		Kermadec Islands (h = 260 km).							P3	Z	0.7 2
"	2	Ki	iPn	13 07	42.6			P3	Z'	1.1 1.5	
		iSn		13 08	30.8			S	E	3.9 8	
		iLg1		13 08	44.0			S	N	1.6 8	
		D = 440 km = 4.0°.						Mx	E	24 12	
		Probably northwest Russia. Origin time = 13 06 39. Explosion?						Mx	N	11 16	
"	2	Ud	iP	18 23	05.5			Mx	Z	13 16	
"	2	Ud	eP	19 51	22			D = 1950 km = 17 1/2°.			
		Alaska (h = 15 km).					Ki	iP1	04 55 02.0		
"	2	Up	iP	20 14	39.2			iP3	04 55 09.6		
		Um	iP	20 14	13.4			iS	04 59 28		
		Ud	iP	20 14	44.2			iLg2	05 03 24		
		Alaska (h = N).							micr sec		
"	2	Ki	eP	22 45	38 C			P3	N	0.5 6	
		Ud	eP	22 46	05			P3	Z'	0.5 1.7	
		Molucca Passage (h = 40 km).						S	E	1.6 11	
"	3	Up	iP	01 30	13.6			S	N	0.8 9	
		Um	iP	01 30	30.1			Mx	E	37 12	
		(cont.)						Mx	N	16 11	
								Mx	Z	20 11	
								D = 2850 km = 25 1/2°.			
							Sk	iP1	04 54 22.8 C		
								iP2	04 54 25.7		
								iP3	04 54 32.9		
								eLg1	05 00 57		
							Um	iP1	04 54 23.1		
								i	04 54 28.7		
								iP3	04 54 31.7		
								iS	04 58 06		
								i	04 58 12		
								i	04 58 18		
								iLi	05 00 21		
								(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968					1968						
Nov.	4	(cont.)			Nov.	5	(cont.)				
		Ki	micr	sec			Ki	micr	sec		
		PKP	Z	0.5 4			Mx	N	0.8 14		
		PKP	Z'	0.5 0.9			Mx	Z	1.0 14		
		SKP	Z'	0.1 1.0			Sk	iP	02 11 38.7		
		PKS	N	0.2 7			Um	iP	02 11 11.0		
		(D = 13650 km = 123°).						i	02 11 15.2		
		Sk	i(PKP)	09 25 34.3			Ud	iP	02 11 30.1		
			iPKP	09 25 40.7				i	02 11 33.0		
			iSKP	09 28 07.9			De	eP	02 11 30		
		Um	iPKP	09 25 36.5 C			Kashmir-India (h = N).				
			iPP	09 27 36		"	5	Ki	iP	03 15 46.1	
			iSKP	09 28 00.7				Sk	eP	03 16 03	
			iPKS	09 28 47				Ud	iP	03 15 54.5	
			iX	09 33 34			Kashmir-India (h = N)				
			iSP	09 36 45			"	5	Ud	iP	05 15 12.9
		Ud	i(PKP)	09 25 32.4			"	5	Up	iP	05 24 27.0
			iPKP	09 25 45.8 C				i(PP)	05 24 56.4		
			iSKP	09 28 18.1			Sk	iP	05 25 11.3		
		De	i(PKP)	09 25 40.6			Um	iP	05 25 10.0		
			iPKP	09 25 51.9				i	05 25 12.5		
			iSKP	09 28 29.1			Ud	iP	05 24 33.2		
		New Hebrides Islands						i(PP)	05 25 08.0		
		(h = 590 km).				"	5	Up	iSg	12 23 23.0	
"	4	Ki	iPKP	10 54 11.2			Ki	iSg	12 25 58.4		
		Ud	iPKP	10 54 26.0			Um	iSg	12 23 56.3		
		New Hebrides Islands					Ud	iSn	12 23 56.9		
		(h = 590 km).						iSg	12 24 25.7		
"	4	Ki	iP	15 26 14.8			De	iSg	12 24 52.0		
		Ud	iP	15 26 41.1 C			Esthonia-Gulf of Finland.				
		Nevada.					Explosion?				
		Origin time = 15 15 00.					"	5	Sk	iSg	13 38 56.6
		Probably underground explosion.						Ud	iSg	13 39 31.9	
"	4	Ki	iP	20 12 18.8			"	5	De	iP	15 07 15.6
		Sk	iP	20 11 52.1			"	5	Up	iP	18 43 44.9
			i	20 11 55.4				Ud	iP	18 43 47.6	
		Ud	iP	20 11 21.7 C			Kamchatka.				
			i	20 11 25.1			"	5	Ud	iP	21 56 30.7 C
		De	iP	20 10 48.8			South of Japan (h = 370 km).				
		Dodecanese Islands					"	6	Ud	iP	00 56 39.8
		(h = 40 km).					Talaud Islands				
"	4	Ud	eP	20 21 35			(h = 60 km).				
"	5	Sk	eP	00 52 03			"	6	Ud	iP	01 05 54.4
		Ud	iP	00 51 26.2			"	6	Up	iP	01 40 01.1
		Ionian Islands.					(cont.)				
"	5	Up	eP	02 11 15							
		Ki	iP	02 11 20.0							
			i	02 11 24.2							
				micr sec							
		Mx	E	0.7 12							
		(cont.)									

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Nov. 6	(cont.)			Nov. 7	Ki	iP	00 58 24.1
	Ki	---				iPcP	00 59 16.1
					Um	iP	00 58 54.7
	Mx	E	0.7 17		Ud	iP	00 59 16.4
	Ud	iP	01 40 07.5		De	eP	00 59 41
		ipP	01 40 17.4		Unimak Island (h = 40 km).		
	Japan. h = 35 km (Ud).						
" 6	Sk	eP	05 17 45	" 7	Ki	eP	05 45 01
	Ud	iP	05 17 11.2			i	05 45 03.7
	Aegean Sea (h = 20 km).						
" 6	Ki	iP	06 32 28.7	" 7	Up	i(P)	09 30 10.8
	Ud	iP	06 33 18.1			iP	09 30 16.1
	Japan (h = 50 km).						micr sec
					Mx	N	1.5 19
					Mx	Z	1.6 20
" 6	Up	iP	13 46 38.1 C		Ki	iP	09 29 33.7
	Ki	iP	13 47 39.3 C				micr sec
		i	13 47 45.8			P	Z' 0.1 1.3
			micr sec			Mx	E 2.3 22
		P	Z' 0.4 0.6			Mx	N 1.1 18
	Sk	iP	13 47 18.2			Mx	Z 2.3 17
		i	13 47 25.4		Sk	iP	09 30 08.3
	Um	iP	13 47 05.3 C		Um	iP	09 29 52.5 C
		i	13 47 12.0		Ud	iP	09 30 22.4 C
	Ud	iP	13 46 49.0			i	09 30 31.2
		i	13 46 56.0		Japan (h = 60 km).		
	De	iP	13 46 22.6 C		M = 5.4 (Up,Ki).		
	Cyprus (h = 50 km).			" 7	Up	iP	10 06 32.6
" 6	Ki	i	14 03 39.7			iS	10 10 00
		iLg1	14 04 01.8			iLg1	10 12 34
	Sk	iSg	14 06 30.4				micr sec
	Um	iSg	14 04 58.7			P	Z' 1.4 0.5
	Northwest Russia. Explosion?					Mx	E 2.0 10
						Mx	N 4.8 9
" 6	Up	iP	17 13 02.3			Mx	Z 4.2 8
		i	17 13 04.0			D = 2200 km = 20°.	
	Ud	iP	17 13 15.3		Ki	iP	10 05 02.5 C
		i	17 13 23.3			iS	10 07 09.9
	De	iP	17 13 00.4			i	10 07 13
		i	17 13 06.2			iSS	10 07 33
	Iran (h = 40 km).					iLg2	10 09 07
							micr sec
" 6	Ki	iP	20 14 33.9 D			P	Z' 1.7 0.7
" 6	Up	iP	20 48 51.7			S	E 7.9 2
	Ki	i(P)	20 47 03.0			S	N 7.4 2
						S	Z' 3.6 1.0
						Mx	E 4.5 6
" 6	Sk	eP	22 33 53			Mx	N 3.8 6
	Um	iP	22 33 35.3			Mx	Z 4.4 6
	Ud	iP	22 33 55.5			D = 1400 km = 12 1/2°.	
	Mindoro (h = 70 km).				Sk	iP	10 06 11.4 C
						i	10 06 13.7
					(cont.)		

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1968				1968					
Nov.	7	(cont.)		Nov.	7				
		Sk	iS 10 09 23.7			Up	iP 23 16 03.1		
			iLg2 10 11 59.0			Ki	iP 23 15 10.0		
			i 10 12 43.7			Sk	iP 23 15 39.7		
		Um	iP 10 05 40.3 C			Um	iP 23 15 37.0		
			iS 10 08 22.8				ipP 23 15 48.9		
			iSS 10 08 45			Ud	iP 23 16 01.9 C		
			i 10 09 59			Aleutian Islands.			
			iLg1 10 10 12			h = 45 km (Um).			
			iPcP 10 10 46		"	8	Up	iPKP 08 01 41.9	
		Ud	iP 10 06 42.9 C				Ki	iPKP 08 01 27.9 C	
			i 10 06 44.6				Sk	iPKP 08 01 38.7 C	
		Novaya Zemlya.					Um	iPKP 08 01 33.9	
		m = 6.5, M = 5.2 (Up).					Ud	iPKP 08 01 43.3	
		Underground explosion.						iSKP 08 04 48.4	
"	7	Ki	iP 10 20 09.1			De	iPKP 08 01 50.4		
						New Hebrides Islands			
						(h = 190 km).			
"	7	Ki	iP 14 29 00.0			"	8	Ud	iP 15 31 47.7
		Um	iP 14 29 04.6			Aegean Sea.			
		Ceram (h = 40 km).							
"	7	Up	iP 14 47 35.3 C			"	8	Ki	iP 16 15 02.1
			micr sec					Sk	e(P) 16 14 33
		P	Z' 0.2 0.5					Um	iP 16 15 06.7
		Ki	iP 14 46 48.6 C					Ud	eP 16 14 53
			micr sec						i 16 15 06.8
		P	Z' 0.1 1.0			Iceland (h = N).			
		Sk	iP 14 47 24.1 C			"	8	Up	iP 17 16 10.8
			iPcP 14 47 56.2						i 17 16 12.9
		Um	iP 14 47 09.7 C					Sk	iP 17 16 51.5
		Ud	iP 14 47 40.9 C					Ud	iP 17 16 18.5
			i 14 48 19.1			Greece.			
		Kurile Islands				"	8	Up	e(PKP) 18 45 29
		(h = 60 km).							iPKP 18 45 38.3
		m = 6.1 (Up, Ki).							iSKP 18 48 19.3
"	7	Ki	iP 17 11 30.3					Ki	iPKP 18 45 21.7 C
		Ud	iP 17 12 21.6					Sk	e(PKP) 18 45 21
		Unimak Island (h = 50 km).							iPKP 18 45 34.0
"	7	Um	iPKP 18 01 59.3					Um	iPKP 18 45 28.5
		South Sandwich Islands							iSKP 18 48 01.1
		(h = 150 km).						Ud	i(PKP) 18 45 28.5
									iPKP 18 45 37.0
"	7	Ki ^R	iSg 18 11 03.2			De	iPKP 18 45 42.8		
		Sk ^A	ePg 18 10 28			Fiji Islands			
			iSg 18 11 07.0			(h = 670 km).			
		Um ^E	iPg 18 10 42.5			"	8	Ud	iPKP 19 03 46.3
			iSg 18 11 29.7			Fiji Islands (h = 600 km).			
		Ud ^D	eSg 18 13 00			"	8	Up	iP 22 21 22.8
		Nordland, Norway,				"	9	Ud	iP 01 18 26.0
		66.4°N, 14.8°E.							
		Origin time = 18 09 34.							
		Explosion?							

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Nov.	9	Ki eP	02 31 40	Nov.	9	(cont.)	
		Molucca Passage				Um iP	13 52 26.6
		(h = 40 km).				iPP	13 54 23
"	9	Up iP	03 00 54.8			iS	13 59 31
		Ki iP	03 00 37.5			Ud iP	13 52 36.1
		Sk iP	03 01 08.3 C			De eP	13 52 23
		Um iP	03 00 38.5			iX	13 52 44.4
		Ud iP	03 01 09.5 C			Arabian Sea (h = N).	
		Kazakh SSR. Underground explosion.				M = 5.5 (Up, Ki).	
"	9	Ki eP	04 23 06			The phase X (Up, Sk, De)	
		Sk iP	04 23 16.3			could be due to re-	
		iS	04 25 06.4	"	9	Um iP	14 53 37.4
		Um iP	04 23 45.2			Ud iP	14 53 37.0
		Ud iP	04 24 03.2				
		i	04 24 14.9	"	9	Up iP	17 12 19.1 C
		Jan Mayen (h = N).				i	17 12 26.6
"	9	Ki eP	04 45 04				micr sec
		Molucca Passage (h = N).				P Z'	0.1 0.6
"	9	Um iP	12 44 18.1			i Z'	0.3 0.6
		Ud eP	12 43 54			Mx N	0.9 18
		Turkey (h = 40 km).				Ki iP	17 11 57.4 C
"	9	Ki iSKP	13 34 02.9			i	17 12 04.7
			micr sec				micr sec
		SKP Z'	0.1 1.5			P Z'	0.1 0.8
		Sk eSKP	13 34 19			i Z'	0.2 0.7
		Um iSKP	13 34 15.4			Mx E	1.4 17
		Ud iPKP	13 31 41.2			Mx N	0.8 18
		iSKP	13 34 29.0			Mx Z	1.4 17
		De iPKP	13 31 53.8			Sk iP	17 11 52.3 C
		iSKP	13 34 39.8			i	17 11 59.4
		Fiji Islands (h = 620 km).				Um iP	17 12 11.4 C
"	9	Up iP	13 52 21.1			i	17 12 18.7
		iX	13 52 46.0			Ud iP	17 12 07.1 C
		iS	13 59 20			i	17 12 14.5
			micr sec			i	17 13 36.7
		Mx E	1.8 16			De iP	17 12 21.0 C
		Mx N	1.8 18			i	17 12 28.5
		Mx Z	2.2 17			Illinois.	
		D = 5400 km = 48 1/2°.				m = 6.1, M = 5.2 (Up, Ki).	
		Ki iP	13 52 43.1			There are 7.4 sec between	
			micr sec			the two phases, of which	
		P Z'	0.2 1.2			the second one is the	
		Mx E	3.4 18			larger. If the second	
		Mx N	2.5 18			phase is interpreted as	
		Mx Z	6.1 18			pP, the depth is around	
		Sk iP	13 52 48.7 C			25 km. However, the magni-	
		iX	13 53 02.7			tude difference m - M	
		(cont.)				suggests a focal depth of	
						70 km (cf. also Gutenberg-	
						Richter, Seismicity of the	
						Earth, 1954, p. 84).	

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1968				1968			
Nov. 10	Up	iP	21 37 50.2	Nov. 11	(cont.)		
	Ki	iP	21 37 50.2 C		Ud	iP	09 04 11.3 C
	Sk	iP	21 38 03.5		De	iP	09 04 35.4 C
		ipP	21 38 20.2		Alaska (h = 60 km).		
	Um	iP	21 37 47.0 C				
		ipP	21 38 03.2	" 11	Ud	i(Sg)	12 22 08.4
	Ud	iP	21 37 59.5				
		ipP	21 38 17.3	" 11	Up	iP	14 52 29.2 C
	Sumatra. h = 60 km (Sk, Um, Ud).					iPcP	14 52 48.6
						iPP	14 55 06
" 11	Up	iP	02 12 05.5 C			iS	15 01 38
			micr sec				micr sec
		P	Z' 0.1 0.5			P	N 0.3 3
	Sk	iP	02 11 43.2			P	Z 0.8 4
	Um	iP	02 11 37.9			P	Z' 0.2 0.9
		iPcP	02 12 13.1			PP	N 0.5 5
	Ud	iP	02 12 04.6 C			PP	Z 0.4 4
	De	iP	02 12 30.4			S	E 0.8 7
	Aleutian Islands (h = 220 km).					S	N 0.6 6
" 11	Sk	iSKP	02 19 17.7			Mx	E 10 18
	Um	iPKP	02 16 42.5			Mx	N 12 19
		iSKP	02 19 10.9			Mx	Z 9.5 21
	Ud	iPKP	02 16 44.2			D = 7850	km = 70 1/2°.
	De	iPKP	02 16 57.0		Ki	iP	14 51 47.8 C
	Fiji Islands (h = 670 km).					iPP	14 54 01
" 11	Up	iP	03 14 42.4			iS	15 00 22
	Sk	iP	03 14 35.2				micr sec
	Ud	iP	03 14 43.7			P	Z 1.2 6
" 11	Up	iP	06 31 50.0			P	Z' 0.2 0.9
	Sk	eP	06 31 44			PP	Z 1.1 4
	Ud	iP	06 31 51.6			S	E 2.8 7
" 11	Sk	iP	07 01 42.8 C			S	N 1.2 7
	Um	iP	07 01 28.4			Mx	E 12 17
		i	07 01 41.7			Mx	N 9.8 17
	Ud	iP	07 01 52.0			Mx	Z 18 20
	Volcano Islands (h = 20 km).					D = 7100	km = 64°.
" 11	Up	iP	09 04 14.1 C		Sk	iP	14 52 21.8 C
			micr sec			i	14 52 34.2
		P	Z' 0.1 0.7			iPP	14 54 51.4
	Sk	iP	09 03 47.3 C	" 11	Um	iP	14 52 06.0 C
		i	09 04 08.4			iPa	14 56 35
		i	09 04 16.9			iS	15 00 57
	Um	iP	09 03 47.5 C			iPS	15 01 17
		iPcP	09 04 34.7		Ud	iP	14 52 36.2 C
	(cont.)				De	iP	14 52 47.7 C
" 11	Up	iP	09 04 14.1 C		Japan (h = 35 km).		
			micr sec		m = 6.3, M = 6.3 (Up, Ki).		
		P	Z' 0.1 0.7	" 11	Ki	iPKP	15 57 01.5
	Sk	iP	09 03 47.3 C		New Zealand (h = N).		
		i	09 04 08.4	" 11	Up	iP	17 16 45.2
		i	09 04 16.9			i	17 16 50.5
	Um	iP	09 03 47.5 C		(cont.)		
		iPcP	09 04 34.7		(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968						1968					
Nov. 11	(cont.)					Nov. 12	(cont.)				
	Up		micr	sec		Ki	iP	00 55	27.5	C	
	P	Z'	0.1	0.6				micr	sec		
	Ki	iP	17 16	14.5	C		P	Z'	0.3	0.9	
	Sk	iP	17 16	42.2	C		Mx	E	2.2	17	
	Um	iP	17 16	27.4	C		Mx	N	2.6	21	
		ipP	17 17	08.6			Mx	Z	3.2	17	
	Ud	iP	17 16	51.7	C	Sk	iP	00 55	56.8	C	
	De	iP	17 17	00.9		Um	iP	00 55	38.8	C	
	Volcano Islands.						iPa	01 00	26		
	h = 160 km (Um).						iS	01 04	49		
"	11	Up	eP	23 39	35	Ud	iP	00 56	05.2	C	
			iPP	23 40	03.3		ipP	00 56	21.7		
			iS	23 43	44	De	iP	00 56	15.2	C	
			iLg1	23 47	14		ipP	00 56	29.1		
				micr	sec	Ryukyu Islands. h = 60 km					
		S	E	0.3	5	(Ud,De).					
		S	N	2.0	10	m = 6.6, M = 5.7 (Up,Ki).					
		Mx	E	2.0	15	"	12	Ud	iP	03 42 10.8	
		Mx	N	3.3	14	"	12	Up	iP	03 42 51.2	
		Mx	Z	3.9	14			iS	03 47	12	
		D = 2650 km = 24 ⁰ .							micr	sec	
	Ki	iP	23 40	42.2			S	N	1.0	7	
		i	23 40	44.3			Mx	E	2.1	14	
				micr	sec		Mx	N	2.5	14	
		Mx	E	1.7	12		Mx	Z	2.6	14	
		Mx	N	0.8	10		D = 2700 km = 24 1/2 ⁰ .				
		Mx	Z	0.8	10	Ki	eP	03 43	57		
	Sk	iP	23 40	15.1			i	03 43	58.0		
		i	23 40	27.1				micr	sec		
	Um	eP	23 40	08			Mx	E	1.9	12	
		iPP	23 40	58.6			Mx	N	0.8	12	
		iS	23 44	54			Mx	Z	0.7	11	
	Ud	iP	23 39	43.7		Sk	iP	03 43	31.2		
	De	iP	23 39	10.0		Um	eP	03 43	24		
	Dodecanese Islands						i	03 43	44.7		
	(h = 25 km).						iS	03 48	08		
	M = 5.1 (Up,Ki).						i	03 48	25		
"	11	Ki	iP	23 59	26.1	C	Ud	iP	03 42	59.6	
		Sk	iP	23 58	58.8			i	03 43	08.9	
		Ud	iP	23 58	27.8		De	iP	03 42	27.0	
		De	iP	23 57	56.3		Dodecanese Islands				
	Dodecanese Islands					(h = 15 km).					
	(h = 20 km).					M = 5.1 (Up,Ki).					
"	12	Up	iP	00 55	56.4	C	"	12	Ud	iP	03 47 16.3
			iS	01 05	33			De	iP	03 46 44.9	
				micr	sec	Dodecanese Islands.					
		P	Z'	0.6	1.0	Origin time = 03 41 53.					
		Mx	E	3.2	19	"	12	Ud	iP	04 06 25.1	
		Mx	N	2.6	21	Dodecanese Islands.					
		Mx	Z	4.1	21						
		D = 8400 km = 75 1/2 ⁰ .									
	(cont.)										

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De = Delary

1968	Nov. 12	Up	iP	06 14 10.6	1968	Nov. 12	(cont.)			
			iS	06 18 21			Ki		micr	sec
				micr sec			P	Z'	0.2	1.6
			S	E 0.2 5			S	N	0.3	8
			S	N 1.0 7			Mx	E	1.6	21
			Mx	E 1.5 14			Mx	N	1.1	18
			Mx	N 3.6 14			Mx	Z	1.7	19
			Mx	Z 3.9 14			D = 7050 km = 63 1/2°.			
			D = 2700 km = 24 1/2°.				Sk	iP	09 08 30.8	
		Ki	eP	06 15 15				ipP	09 08 42.6	
				micr sec			Um	iP	09 08 14.9	
			Mx	E 1.6 12				ipP	09 08 27.2	
			Mx	N 0.7 11				eS	09 16 59	
			Mx	Z 1.1 11			Ud	iP	09 08 45.6	
		Sk	iP	06 14 48.9			De	eP	09 09 05	
		Um	iP	06 14 46.7				iPP	09 11 56.3	
			iS	06 19 25			Japan. h = 45 km (Up,Sk,Um).			
			i	06 19 43			m = 5.8, M = 5.5 (Up,Ki).			
		Ud	iP	06 14 17.1			" 12 Ki ^R iPn 09 54 26.8			
			i	06 15 32.9			iSn 09 55 25.8			
		De	iP	06 13 46.1			iLg1 09 55 45.1			
		Dodecanese Islands					D = 540 km = 4.9°.			
		(h = 25 km).					Sk ^A eSg 09 58 14			
		M = 5.1 (Up,Ki).					Um ^E iSg 09 56 39.8			
"	12	Ki	iP	07 01 16.4			Northwest Russia,			
			i	07 01 20.6			67.3°N, 33.1°E.			
		Sk	e(P)	07 00 41			Origin time = 09 53 11.			
			iP	07 00 48.2			Explosion?			
		Um	iP	07 00 39.5			" 12 Up ---			
		Ud	iP	07 00 16.6 C			micr sec			
		Dodecanese Islands.					Mx	E	1.5	20
		Origin time = 06 54 54.					Mx	N	2.4	20
"	12	Ki	iP	07 36 36.6			Mx	Z	1.8	14
		Sk	iP	07 37 07.5			Ki ---			
		Um	iP	07 36 37.2			micr sec			
		Ud	iP	07 37 08.6			Mx	E	2.0	19
		Kazakh SSR.					Mx	N	1.9	15
		Origin time = 07 30 00.					Mx	Z	1.6	14
		Underground explosion.					Sk	iP	10 05 22.0	
"	12	Up	iP	09 08 38.3			Ud	iP	10 05 34.7	
			ipP	09 08 52.1			Ryukyu Islands			
			eS	09 17 46			(h = 20 km).			
				micr sec			M = 5.6 (Up,Ki).			
			pP	Z' 0.1 1.0			" 12 Ud i 10 28 48.8			
			Mx	E 0.8 15			i(Sg) 10 28 49.7			
			Mx	N 1.8 18			" 12 Ki eSg 13 20 59			
			Mx	Z 1.3 17			Sk eSg 13 20 19			
			D = 7800 km = 70°.				Um iSg 13 18 59.1			
		Ki	iP	09 07 56.5			Ud iSg 13 19 31.4			
			i	09 08 00.0			De eSg 13 19 55.3			
			iPcP	09 08 36.6			Esthonia. Explosion?			
			iS	09 16 28			(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Nov. 12	Up	iP	14 15 45.5 C	Nov. 13	Ud	iP	14 32 08.3
	Ki	iP	14 15 04.0 C			i	14 32 37.9
		ipP	14 15 16.0				
			micr sec	" 13	Ud	iP	15 22 20.7
		P	Z' 0.1 1.0		Crete (h = 120 km).		
	Sk	iP	14 15 38.3 C	" 13	Ud	iP	15 43 14.3
	Um	iP	14 15 22.5 C	" 13	Up	iPKP	16 07 38.9
		ipP	14 15 35.2			iSKP	16 10 25.6
	Ud	iP	14 15 52.4 C	" 13	Ki	iPKP	16 07 30.8
		i	14 16 00.0			iSKP	16 10 02.7
		ipP	14 16 05.5				micr sec
	De	iP	14 16 09.5			SKP	Z' 0.2 1.5
	Japan. h = 45 km (Ki,Um, Ud).				Sk	iPKP	16 07 37.9
" 12	Ki ^R	iSg	17 34 16.5			iSKP	16 10 19.6
	Sk ^A	iSg	17 34 21.3		Um	iPKP	16 07 33.1
	Um ^E	iSg	17 34 46.1			iSKP	16 10 14.9
	Nordland, Norway, 66.4°N, 14.8°E. Origin time = 17 32 49. Explosion?				Ud	iPKP	16 07 39.8
" 12	Um	iP	22 14 58.6			iSKP	16 10 27.0
" 12	Ki		---	" 13	Ud	iP	17 36 32.0
			micr sec		De	iP	17 35 51.6
		Mx	E 0.5 16		Crete.		
		Mx	N 0.5 16	" 13	Ud	iP	17 53 56.2
		Mx	Z 0.5 15		Dodecanese Islands.		
	Um	iPKP	22 19 46.0	" 13	Ud	iP	18 24 47.6
		iPKS	22 23 06	" 13	Up	iP	18 52 57.8 C
	Ud	iPKP	22 19 53.1			iPP	18 55 34.9
	Samoa Islands (h = 50 km).					iPS	19 02 30
" 13	Ki	eP	02 07 36				micr sec
" 13	Ki	eP	12 09 03			P	N 0.6 4
			micr sec			P	Z' 0.2 1.2
		Mx	E 0.5 15			PP	N 0.6 4
		Mx	N 0.3 15			PP	Z 0.8 4
		Mx	Z 0.7 17			Mx	E 5.1 18
	Sk	iP	12 08 35.5			Mx	N 9.7 20
	Um	iP	12 09 06.0			Mx	Z 10 21
	Ud	iP	12 08 44.1		Ki	iP	18 52 16.3 C
		i	12 08 48.0			ipP	18 52 30.3
	North Atlantic Ocean (h = N).					iPP	18 54 38.0
" 13	Ki	iPn	13 26 50.1			ePa	18 56 22
		iSn	13 27 37.5			iS	19 00 48
		iLg1	13 27 55.2				micr sec
	D = 440 km = 4.0°.					P	Z 1.1 5
	Probably northwest Russia. Origin time = 13 25 47. Explosion?					P	Z' 0.4 1.7
						pP	Z' 0.6 2.0
						PP	Z 1.1 5

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Nov. 13	(cont.)			Nov. 14	Ki	iPn	13 10 49.6
	Ki		micr sec			iSn	13 11 36.0
	S	E	1.7 6			iSg	13 11 53.1
	S	N	1.2 9			D = 420 km = 3.8°	
	Mx	E	11 20		Um	iSg	13 13 29.2
	Mx	N	6.3 18			Probably northwest Russia.	
	Mx	Z	13 16			Origin time = 13 09 48.	
			D = 7050 km = 63 1/2°			Explosion?	
	Sk	iP	18 52 50.7 C	" 14	Um	iP	23 20 10.6
		ipP	18 53 04.8		Ud	iP	23 19 43.0
		ePP	18 55 18			Yugoslavia-Albania.	
	Um	iP	18 52 35.0 C	" 14	De	iPKP	23 28 07.3
		iPP	18 54 55			Loyalty Islands	
		iS	19 01 23			(h = 100 km).	
	Ud	iP	18 53 05.4 C	" 15	Up	iP	00 17 33.3
		i	18 53 12.0		Ki	eP	00 16 32
		ipP	18 53 18.5			ipP	00 16 39
		iPP	18 55 34.2				micr sec
	De	iP	18 53 30.2			pP	Z' 0.1 1.0
		Japan. h = 50 km (Ki,Sk, Ud).			Sk	iP	00 17 04.8
		m = 6.4, M = 6.2 (Up,Ki).			Um	iP	00 17 00.2
		PP appears early by about 9-10 sec at Um,Sk,Ud.				ipP	00 17 07.4
" 13	Um	iPKP	21 54 00.5		Ud	iP	00 17 24.0
		Fiji Islands (h = 550 km).			De	iP	00 17 47.5
" 14	Ki	iP	06 53 41.2			Gulf of Alaska.	
		Alaska (h = 60 km).		" 15	Up	iP	01 58 19.6
" 14	Um	iPKP	11 54 06.1		Um	iP	01 57 54.6
	Ud	iPKP	11 54 10.7		Ud	iP	01 58 24.2
	De	iPKP	11 54 16.4			i	01 58 32.4
		Fiji Islands (h = 220 km).				Japan (h = 60 km).	
" 14	Up	iP	12 23 35.2	" 15	Up	iP	06 32 25.9 C
			micr sec			iPP	06 33 25
	P	Z'	0.1 1.0			iS	06 37 41
	Mx	E	1.7 18			iSS	06 39 21
	Mx	N	1.7 17				micr sec
	Mx	Z	2.2 17			PP	E 0.5 4
	Ki	eP	12 22 53			PP	Z' 0.1 1.0
			micr sec			Mx	E 4.2 11
		Mx	E 3.4 19			Mx	N 11 13
		Mx	N 1.7 20			Mx	Z 5.8 11
		Mx	Z 4.6 19		Ki	iP	06 32 48.1
	Um	iP	12 23 08.1			iPP	06 33 54.7
		i	12 23 14.5			iLg2	06 45 28
	Ud	iP	12 23 36.2				micr sec
		i	12 23 44.2			Mx	E 19 12
	De	iP	12 23 57.0			Mx	N 31 13
		Japan (h = 5 km).				Mx	Z 19 13
		M = 5.6 (Up,Ki).				(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968					1968					
Nov. 15	(cont.)				Nov. 16	(cont.)				
	Sk	iP	06 32 56.2			Ki	eSg	13 39 18		
		iPP	06 34 10.8				D = 400 km = 3.6°			
	Um	iP	06 32 29.3			Um	i(Pg)	13 39 31.2		
		iPP	06 33 40.4				i(Sn)	13 40 15.5		
		iS	06 37 43				Probably northwest Russia.			
		i(Sn)	06 40 03.1				Origin time = 13 37 20.			
	Ud	iP	06 32 40.0				Explosion?			
		i	06 32 43.4		"	16	Up	iP	14 05 28.9	
		iSn	06 40 08.2							
	De	iP	06 32 32.3		"	17	Up	iP	00 28 09.5	
		iPP	06 33 38.1				ipP	00 28 54.7		
	Iran-USSR.						iS	00 38 08		
	m = 5.9, M = 5.8 (Up,Ki).						isS	00 39 20		
"	15	Ud	iP	06 59 23.3 D				micr sec		
"	16	Ki	ePKP	00 42 21			P	Z' 0.1 0.5		
			i	00 42 53.9			pP	Z' 0.5 0.9		
		Sk	iPKP	00 42 33.9			S	N 0.9 4		
		Um	iPKP	00 42 28.6		Ki	iP	00 28 12.3		
			iSKP	00 45 36.5			ipP	00 28 54.7		
		Ud	iPKP	00 42 38.1				micr sec		
		De	iPKP	00 42 45.1			P	Z' 0.2 0.8		
		New Hebrides Islands					pP	Z' 0.7 1.3		
		(h = 170 km).				Sk	iP	00 27 56.2 D		
"	16	Ud	iP	02 37 20.5			ipP	00 28 39.9		
"	16	Up	iP	04 51 49.8 C		Um	iP	00 28 14.0		
		Um	iP	04 51 31.0			i	00 28 55.0		
		Ud	iP	04 51 57.1			ipP	00 28 58.0		
		South of Japan					iS	00 38 18		
		(h = 470 km).					isS	00 39 31		
"	16	Up		----		Ud	iP	00 27 59.0 D		
				micr sec			ipP	00 28 43.2		
		Mx	E	0.6 16		De	iP	00 28 03.3		
		Mx	N	2.1 21			ipP	00 28 46.8		
		Mx	Z	3.4 21			Venezuela. h = 180 km			
		Ki		----			(Up,Ki,Sk,Um,Ud,De).			
				micr sec			m = 5.9 (Up,Ki).			
		Mx	E	2.4 25	"	17	Up	iSg	04 28 22.2	
		Mx	Z	4.2 25			Ki	iSg	04 25 21.4	
	Um	iPKP	08 04 55.5				Sk	iSg	04 27 50.9	
		iSS	08 24 36				Um	iSg	04 26 17.1	
	Fiji Islands (h = 70 km).						Kola Peninsula. Explosion?			
	M = 5.9 (Up,Ki).				"	17	Ki	iP	05 32 35.5	
"	16	Sk	iP	10 11 00.3				Ceram (h = 70 km).		
			i	10 11 01.8		"	17	Up	eP	07 51 58
"	16	Ki	iPn	13 38 18.8				ipP	07 52 07.3	
			iSn	13 39 02.6				i	07 52 24.5	
	(cont.)							iS	08 00 50	
								micr sec		
							P	N 0.3 3		
							P	Z 0.4 4		
							(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968					1968				
Nov. 17 (cont.)					Nov. 17 (cont.)				
	Up		micr	sec	Up	i	20	35	41.1
	pP	Z'	0.1	1.0	Sk	eP	20	36	24
	Mx	E	6.5	19	Ud	iP	20	35	44.4
	Mx	N	10	24	Turkey.				
	Mx	Z	13	24	Origin time = 20 30.3.				
	D = 7350 km = 66°.								
	Ki	iP	07 52	47.8	"	17	Ud	iP	21 22 29.3
		iS	08 02	14	Vancouver Island				
			micr	sec	(h = 10 km).				
	P	Z'	0.3	1.5	"	17	Um	iP	23 13 45.9 C
	S	E	1.9	12	Ud	iP	23	14	04.8
	S	N	2.7	12	Molucca Passage				
	Mx	E	5.8	17	(h = 30 km).				
	Mx	N	5.0	17					
	Mx	Z	8.7	18	"	18	Ud	ipP	00 21 13.6
	D = 8150 km = 73 1/2°.				Aleutian Islands				
	Sk	iP	07 52	10.3	(h = 170 km).				
		ipP	07 52	19.8					
	Um	iP	07 52	23.0	"	18	Ud	iP	00 55 04.2
		ipP	07 52	32.4					
		iS	08 01	21					
	Ud	iP	07 51	51.8	"	18	Up	iPKP	03 00 39.6
		ipP	07 52	01.5				ipPKP	03 00 53.0
	De	eP	07 51	32			Um	iPKP	03 00 33.0
	Atlantic Ocean.						Ud	iPKP	03 00 41.9
	h = 35 km (Up,Sk,Um,Ud).							ipPKP	03 00 56.1
	m = 6.2, M = 6.1 (Up,Ki).						De	iPKP	03 00 48.1
								ipPKP	03 01 02.2
"	17	Up	iP	10 47 55.4	Solomon Islands.				
		Ki	iP	10 47 02.0	h = 50 km (Up,Ud,De).				
		Um	iP	10 47 27.3					
		Ud	iP	10 47 56.4	"	18	Up	iP	05 13 06.6
		Aleutian Islands (h = N).					Sk	iP	05 13 32.9
"	17	Um	i(Sg)	13 02 53.7			Um	iP	05 13 06.0
							Ud	iP	05 13 22.8
					West Pakistan (h = 40 km).				
"	17	Up	iP	13 10 25.7	"	18	Sk	iP	05 42 13.2
			ipP	13 10 34.7					
		Um	iP	13 10 02.4	"	18	Ki	iP	06 13 15.3
			ipP	13 10 11.0			Sk	iP	06 13 49.2
		Ud	iP	13 10 32.6				ipP	06 14 00.7
		Japan. h = 30 km (Up,Um).					Um	iP	06 13 32.2
								ipP	06 13 41.5
"	17	Up	iP	13 19 48.6			Ud	iP	06 14 02.3
		Ki	iP	13 19 33.7				ipP	06 14 14.4
		Um	iP	13 19 37.9	Japan. h = 40 km (Sk,Um, Ud).				
		Ud	iP	13 19 56.4					
		Molucca Passage (h = N).							
"	17	Um	iP	13 43 18.5	"	18	De	iP	08 36 28.7
		Mona Passage (h = N).							
"	17	Up	iP	20 35 28.8 C	"	18	Up	iP	08 59 04.1
		(cont.)					(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Nov. 18	(cont.)			Nov. 19	Sk e	12 47 33	
	Sk eP	08 59 30			iSg	12 47 43.8	
	Um iP	08 58 55.5			Um iSg	12 46 14.9	
	Ud iP	08 59 17.7 C			Ud iSn	12 46 19.6	
	India (h = 70 km).				iSg	12 46 48.7	
" 18	Ud iP	14 30 48.6			Esthonia-Gulf of Finland.		
	Persian Gulf.				Explosion?		
" 18	Up iP	15 33 16.9		" 19	Sk i(Sg)	13 05 48.8	
	Ki eP	15 32 33		" 19	Ki iPg	13 45 40.1	
	Sk iP	15 33 08.7			iSg	13 46 11.4	
	Um iP	15 32 52.3			D = 270 km = 2.4°		
	Ud iP	15 33 23.6			Sk iSg	13 48 49.9	
	Japan (h = 220 km).				Um iSg	13 48 19.0	
" 18	Um iP	17 28 21.3			North coast of Norway.		
	Ud eP	17 28 52			Origin time = 13 44 52.		
	Japan (h = 60 km).			" 19	Ki iPg	13 47 22.4	
" 18	Ki eP	19 38 42			iSg	13 47 53.1	
" 18	Ud iP	21 58 05.0			D = 270 km = 2.4°		
" 18	Up iP	22 33 57.7			Sk eSg	13 50 33	
	Sk iP	22 33 49.4			Um iSg	13 49 58.0	
	Ud iP	22 33 57.3			North coast of Norway.		
" 19	Ud iP	00 37 48.8			Origin time = 13 46 34.		
" 19	Up iP	03 09 50.5		" 19	Ki iSg	13 48 50.6	
	i	03 09 52.2			Um iSg	13 51 00.4	
		micr sec			North coast of Norway.		
	P	Z' 0.1 0.5			Origin time = 13 47 32.		
" 19	Up iP	04 04 22.0 C		" 19	Up iSg	14 12 42.5	
	Ki iP	04 03 28.9			Ud iSg	14 12 12.4	
	Sk iP	04 04 02.1		" 19	Ud iP	22 00 23.2	
	Um iP	04 03 54.5 C		" 19	Up iP	22 59 47.1	
	Ud iP	04 04 23.7			ipP	22 59 54.0	
	Aleutian Islands.				Ki iP	22 59 41.0	
" 19	Ud iP	04 21 50.8			Sk iP	23 00 10.4	
" 19	Up ePKP	10 34 37			Um iP	22 59 44.1	
	Um iPKP	10 34 20.1 C			ipP	22 59 51.2	
	Ud iPKP	10 34 32.5			Ud iP	22 59 58.9	
	i	10 34 41.0			ipP	23 00 05.5	
	South of Kermadec Islands				De iP	23 00 06.9	
	(h = 50 km).				Nicobar Islands.		
" 19	Ki eP	11 24 20			h = 25 km (Up,Um,Ud).		
	Ud iP	11 24 49.2		" 20	Up iP	01 54 42.3	
" 19	Ud iP	11 38 34.7			ipP	01 54 55.8	
					Sk eP	01 55 37	
					Um iP	01 55 24.2	
					ipP	01 55 40.4	
					Ud iP	01 54 58.2	
					ipP	01 55 15.3	
					(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Nov. 20	(cont.)			Nov. 21	Um	iP	10 22 17.6
	Ud	iS	01 58 13.8	" 21	Up	eSg	11 36 52
	De	iP	01 54 20.0 C		Ud	iPg	11 36 32.8
	Rumania. h = 100 km (Up, Um, Ud).					i	11 36 58.6
" 20	Sk	iP	04 43 47.4			iSg	11 36 59.8
" 20	Sk	iP	09 37 04.0	" 21	Um	iSg	11 47 57.9
	Um	iP	09 36 56.0		Probably Esthonia-Gulf of Finland. Explosion?		
	Ud	iP	09 37 11.3	" 21	Up	iP	14 44 41.6
" 20	Ud	iP	11 48 21.6				micr sec
" 20	Ud	iP	17 13 47.8			P	Z' 0.1 0.7
" 20	Up	iP	18 11 49.2		Ki	iP	14 44 13.8 D
	Ki	iP	18 11 15.6				micr sec
	Sk	iP	18 11 24.0			P	Z' 0.1 0.8
	Um	iP	18 11 35.5		Sk	iP	14 44 39.2
	Ud	iP	18 11 41.6		Um	iP	14 44 25.6
	De	iP	18 11 58.8			ipP	14 45 33.0
	Nevada.				Ud	iP	14 44 47.7
	Origin time = 18 00 00.				De	iP	14 44 53.6
	Underground explosion.				Mariana Islands.		
" 20	Sk	eP	19 56 29	" 21	Ki ^R	iSg	17 32 45.0
	Ud	iP	19 56 30.3		Sk ^A	iSg	17 32 50.7
	Leeward Islands (h = 50 km).				Um ^E	iSg	17 33 15.0
" 21	Ud	iP	01 05 12.5		Nordland, Norway, 66.4° N, 14.8° E.		
" 21	Up	iP	03 12 02.2 D		Origin time = 17 31 18. Explosion?		
		ipP	03 12 42.2	" 21	Ud	iP	21 52 46.6
		isP	03 13 09.4		Hindu Kush (h = 220 km).		
	Ki	iP	03 12 11.0	" 21	Ud	iP	23 15 32.9
	Sk	iP	03 12 27.4	" 21	De	iPKP	23 50 49.0
		ipP	03 13 11.4		Fiji Islands (h = 270 km).		
		isP	03 13 37.4	" 22	Um	iP	01 47 34.1
	Um	iP	03 12 00.5 D	" 22	Sk	iP	03 59 53.8
		ipP	03 12 45.0	" 22	Up	iPKP	04 02 52.3
		isP	03 13 07.4			i	04 03 02.5
	Ud	iP	03 12 18.5 D		Ki	ePKP	04 02 34
		ipP	03 13 00.6		Sk	iPKP	04 02 47.9
		i	03 13 21.8		Um	iPKP	04 02 42.5
		isP	03 13 26.5			i	04 02 49.8
	De	iP	03 12 15.3			i	04 03 23.6
		ipP	03 12 58.3		Ud	iPKP	04 02 54.3
		isP	03 13 21.9		(cont.)		
" 21	Ud	iP	07 41 36.2				
	Hindu Kush. h = 210 km (Up, Sk, Um, Ud, De).						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Nov. 22	(cont.)			Nov. 22	Ud	iP	09 26 00.5
	Ud	i	04 03 06.5				
	De	iPKP	04 02 56.3	" 22	Sk	i	09 51 16.8
	South of Kermadec Islands (h = N).					i	09 51 19.6
						i	09 51 29.2
" 22	Up	iP	05 08 40.0		Probably local.		
	Um	iP	05 08 19.3	" 22	Ud	iP	09 53 48.8
	Ud	iP	05 08 47.2		Luzon (h = 45 km).		
	South of Japan (h = 180 km).			" 22	Ki	iPn	10 42 22.8
" 22	Sk	iP	05 11 07.0			i	10 42 36.3
						iSn	10 43 20.2
" 22	Um	iP	07 42 41.2			iSg	10 43 43.8
						D = 530 km = 4.8°.	
" 22	Up	iSg	08 13 50.4		Um	iSg	10 44 37.1
	Ud	ePg	08 12 38		Probably northwest Russia.		
		iSg	08 13 09.6		Origin time = 10 41 07.		
	De	iPn	08 12 21.2		Explosion?		
		iSn	08 12 42.2	" 22	Up	iP	10 45 20.1 C
		iSg	08 12 51.4		Ki	iP	10 45 05.1 C
	West coast of Sweden, 57.9°N, 11.8°E.					P	Z' 0.1 1.0
	Origin time = 08 11 51.				Sk	iP	10 45 26.7
	Explosion?					iX	10 47 56.9
" 22	Up	iP	09 11 47.7		Um	iP	10 45 10.4
		iS	09 22 03		Ud	iP	10 45 28.6 C
			micr sec			i	10 45 38.4
		P	Z' 0.1 0.7		De	iP	10 45 33.4
		S	E 0.7 5			eX	10 47 53
		S	N 4.2 14		Molucca Passage (h = 5 km).		
		Mx	E 6.8 22		X (Sk,De) is another case		
		Mx	N 17 24		of the unidentified phase		
		Mx	Z 7.1 20		arriving before PP.		
		D = 9300 km = 83 1/2°.		" 22	Ki	iP	11 00 05.7
	Ki	iP	09 11 28.3 C		Ud	iP	11 01 03.5
		iS	09 21 26	" 22	De	iP	11 21 36.1
			micr sec	" 22	Up	iP	11 50 57.4
		P	Z 1.0 8				micr sec
		P	Z' 0.2 1.1			P	Z' 0.3 0.9
		S	E 3.8 13		Ki	iP	11 50 39.4 C
		S	N 4.0 14				micr sec
		Mx	E 6.4 18			P	Z' 0.3 1.2
		Mx	N 7.7 21		Sk	iP	11 51 03.2
		Mx	Z 7.6 20		Um	iP	11 50 45.4 C
		D = 8850 km = 79 1/2°.			Ud	iP	11 51 06.0 C
	Sk	iP	09 11 51.8			i	11 51 09.4
	Um	iP	09 11 34.5 C			i	11 51 32.5
		iS	09 21 39		De	iP	11 51 11.6 C
	Ud	iP	09 11 56.4 C		Luzon (h = 15 km).		
	De	iP	09 12 01.7		m = 6.3 (Up,Ki).		
	Luzon (h = 25 km).						
	m = 6.1, M = 6.2 (Up,Ki).						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968

Nov. 22 Up iPKP 16 02 32.3
i 16 02 54.2
ipPKP 16 04 45.5
iSKP 16 05 24.2
micr sec
PKP Z' 0.1 0.6
Ki iPKP 16 02 13.2
i 16 02 21.7
iSKP 16 05 03.5
Sk ePKP 16 02 26
iSKP 16 05 18.9
Um iPKP 16 02 23.2
iSKP 16 05 14.1
i 16 05 22.1
Ud iPKP 16 02 34.7 C
iSKP 16 05 26.7
De iPKP 16 02 45.6 C
iSKP 16 05 35.5
Tonga-Kermadec Islands.
h = 600 km (Up).

" 22 Sk iP 16 10 35.3
i 16 10 37.8

" 22 KiR iSg 17 36 58.2
SkA iSg 17 37 02.8
UmE iSg 17 37 26.2
UdD ~~i 17 38 52.9~~
iSg 17 38 59.0

Nordland, Norway,
66.4°N, 14.8°E.
Origin time = 17 35 30.
Explosion?

" 22 De iP 18 47 45.4

" 22 Up iP 23 33 52.7
Ki iP 23 33 33.7 C
i 23 33 44.5
Ud iP 23 34 00.9

" 23 Ki iP 05 32 40.4
Um iP 05 32 58.5 C
Ud iP 05 33 28.5
ipP 05 33 37.6
Japan. h = 35 km (Ud).

" 23 Ud iP 05 36 39.3
Japan (h = 50 km).

" 23 Um iP 10 14 04.7
i 10 14 14.5

" 23 Ki eP 15 26 46
Molucca Passage (h = N).

1968

Nov. 23 UpP iSg 16 29 47.6
UdD iPg 16 28 33.4
iSg 16 29 04.4
DeL iPg 16 28 22.6
iSg 16 28 47.8

West coast of Sweden,
57.9°N, 11.5°E.
Origin time = 16 27 45.
Explosion?

" 23 Ki iPn 20 56 39.4
iP^X 20 56 47.5
iSn 20 57 25.4
iSg 20 57 42.9
D = 420 km = 3.8°.

Probably northwest Russia.
Origin time = 20 55 38.
Explosion?

" 24 UpP iSg 13 09 18.4
UdD iPg 13 08 01.9
iSg 13 08 35.5
~~i 13 08 44.3~~
DeL iPg 13 07 51.8
iSg 13 08 16.2

West coast of Sweden,
57.9°N, 11.5°E.
Origin time = 13 07 15.
Explosion?

" 24 UpP iSg 14 09 00.4
DeL iPg 14 07 32.8
iSg 14 07 58.1

West coast of Sweden,
57.9°N, 11.5°E.
Origin time = 14 06 56.
Explosion?

" 24 Up iP 21 32 08.9 C
ipP 21 32 22.2
iPP 21 34 39.1
iPS 21 41 43

micr sec
P Z 1.2 2
P Z' 0.7 1.0
PP Z' 0.3 1.2
Mx E 2.4 18
Mx N 4.5 20
Mx Z 4.8 21

Ki iP 21 31 27.6 C
i(pP) 21 31 37.4
iS 21 40 01

micr sec
P Z 1.1 4

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968					
Nov. 24 (cont.)				Nov. 25 (cont.)					
Ki				Ki	i	18 54 06.2			
	P	Z'	0.9 1.0		iSKS	19 00 27			
	S	E	0.9 10		iS	19 00 48			
	S	N	0.6 7		i	19 00 58			
	Mx	E	4.5 21				micr sec		
	Mx	N	2.7 20		P	Z	0.9 5		
	Mx	Z	7.7 17		P	Z'	0.1 1.0		
	D = 7050 km = 63 1/2°.				PP	Z	1.4 6		
Sk	iP		21 32 01.5 C		Mx	E	13 18		
	ipP		21 32 14.4		Mx	N	22 23		
	iPP		21 34 30.4		Mx	Z	18 19		
Um	iP		21 31 45.9 C		D = 10100 km = 91°.				
	ipP		21 31 57.5	Sk	eP		18 50 18		
	iS		21 40 33	Um	iP		18 50 01.8		
Ud	iP		21 32 16.0 C		iSKS		19 00 47		
	ipP		21 32 28.1	Ud	iP		18 50 21.1		
	iPP		21 34 50.2	Mindanao (h = 30 km).					
	iP'P'		22 00 00.7	m = 6.4, M = 6.4 (Up,Ki).					
De	iP		21 32 31.7 C	"	25	Um	iP	18 50 29.5	
	i(pP)		21 32 41.8	Mexico-Guatemala					
	iPP		21 35 16.3	(h = 110 km).					
Japan. h = 45 km (Up,Sk, Um,Ud).				"	25	Ud	iP	21 26 21.1	
m = 6.6, M = 5.9 (Up,Ki).				"	26	Ki	iPKP	00 22 13.6	
"	25	Ki	eP	01 05 36	South Atlantic Ocean				
Revilla Gigedo Islands				"	26	Um	iPKP	01 28 41.1 D	
(h = N).				New Britain (h = 70 km).					
"	25	Ud	iP	06 18 37.2	"	26	Ki	iSKP	02 10 25.2
Aegean Sea.				"	26	Um	iPKP	02 07 56.8	
"	25	Up	iP	17 11 06.6			iSKP	02 10 36.6	
	Ki	iP	17 10 35.5		Ud	iPKP	02 08 04.6		
	Um	iP	17 10 48.5			eSKP	02 10 49		
	Ud	iP	17 11 13.8		De	iPKP	02 08 13.5 D		
	De	iP	17 11 26.7	Fiji Islands (h = 670 km).					
Bonin Islands (h = 500 km).				"	26	Ud	iP	04 35 25.3	
"	25	Up	iP	18 50 13.0		De	iP	04 34 50.7	
		iSKS	19 01 02	Dodecanese Islands					
		iS	19 01 19	(h = 60 km).					
			micr sec	"	26	Ud	i(Sg)	05 39 58.2	
	SKS	E	0.5 5	"	26	Up	iP	09 57 22.2	
	S	E	0.7 5			i	09 57 28.3		
	S	N	1.5 6			iSn	10 00 04.0		
	Mx	E	5.8 19			iS	10 00 21.2		
	Mx	N	15 18			iLg1	10 01 53.5		
	Mx	Z	9.7 20	D = 1700 km = 15 1/2°.					
	D = 10550 km = 95°.			(cont.)					
Ki	iP		18 49 55.7						
	iPP		18 53 40						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968

Nov. 27 (cont.)
 Ki micr sec
 P Z' 0.1 1.0
 Sk iP 13 05 56.5
 Um iP 13 05 55.2
 Ud iP 13 06 20.3 D
 De iP 13 06 42.1
 Alaska (h = 60 km).

" 27 Um iP 13 11 46.1 C

" 27 Ki iPn 20 44 06.2
~~iP^x 20 44 14.2~~
 iSn 20 44 52.4
~~iLg1 20 45 06.6~~
~~D = 420 km = 3.8°~~
 SkA iSg 20 48 01.5
 UmE iSg 20 46 45.6
 Ud iLg1 20 49 09.4

Russia-Norway border region,
 69.5°N, 29.9°E.
 Origin time = 20 43 06.
 Explosion?

" 28 Ki iP 01 22 03.0
 Um iP 01 22 15.3
 Ud iP 01 22 47.7
 USSR-Mongolia.

" 28 Up iP 07 11 18.0
 ipP 07 11 31.6
 Ki iP 07 10 37.3 C
 ipP 07 10 49.8
 micr sec
 P Z' 0.1 1.0
 Sk iP 07 11 10.9
 Um iP 07 10 55.4
 i 07 11 02.8
 ipP 07 11 08.0
 Ud iP 07 11 25.8 C
 ipP 07 11 39.5
 Japan. h = 50 km (Up, Ki,
 Um, Ud).

" 28 Up iP 08 15 37.8
 i 08 15 43.9
 Ki iP 08 15 18.2
 Sk iP 08 15 42.5
 Um iP 08 15 24.9
 Ud iP 08 15 46.9
 Luzon (h = 70 km).

" 28 Ki ePn 10 32 27
 (cont.)

1968

Nov. 28 (cont.)
 Ki iSn 10 33 13.7
 iSg 10 33 36.4
 D = 430 km = 3.9°
 Um iSg 10 34 20.5
 Ud i(Sg) 10 36 53.2
 Northwest Russia.
 Origin time = 10 31 25.
 Explosion?

" 28 Up iP 10 48 52.5
 i 10 48 57.9
 iSKS 10 59 20
 iS 10 59 26
 i 10 59 52

micr sec

P Z 2.5 8

S E 5.0 11

Mx E 11 23

Mx N 8.5 24

Mx Z 17 23

D = 9700 km = 87 1/2°

Ki eP 10 48 45

iSKS 10 59 08

iPS 11 00 30

micr sec

P Z 5.8 10

SKS E 12 12

SKS N 8.7 12

Mx E 16 24

Mx N 14 24

Mx Z 34 24

Sk iP 10 48 36.1

Um iP 10 48 49.7

ipP 10 48 57.2

iSKS 10 59 18

Ud iP 10 48 41.8

i 10 48 54.2

i 10 49 40.9

Mexico. h = 30 km (Um).

m = 6.6, M = 6.4 (Up, Ki).

" 28 Um iP 13 03 13.8

" 28 Up iSn 13 21 23.4

iSg 13 21 36.6

Ki iSg 13 24 12.1

Sk eSg 13 23 32

Um iSg 13 22 08.8

Ud eSn 13 22 02

iSg 13 22 39.0

Esthonia-Gulf of Finland.

Explosion?

" 28 Ud iP 14 10 16.8

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Nov. 28	Up	iP	15 09 50.7	Nov. 29	Ud	iP	16 06 58.4
	Ki	eP	15 09 30				
	Ud	iP	15 09 59.1	" 29	Up	iP	17 29 17.7
	Luzon (h = 40 km).				Um	iP	17 29 09.5
" 28	Up	iPKP	16 48 58.7		Ud	iP	17 29 21.7 C
		ipPKP	16 49 42.1	" 29	Ki ^R	iSg	17 51 22.2
		iPKKP	16 59 17.3		Sk ^A	iSg	17 51 26.8
	Ki	ePKP	16 48 49		Um [←]	iSg	17 51 51.5
	Sk	ePKP	16 48 58		Nordland, Norway, 66.4° N, 14.8° E. Origin time = 17 49 54. Explosion?		
		ipPKP	16 49 42.6	" 29	Ud	iPKP	22 10 24.9
		i	16 50 54.1		De	iPKP	22 10 36.0
	Um	iPKP	16 48 53.0		Fiji Islands (h = 580 km).		
		ipPKP	16 49 36.0	" 30	Um	iSKP	01 20 15.5
		iPKKP	16 59 31.4		Ud	iPKP	01 17 37.5 D
	Ud	iPKP	16 49 01.9		De	iPKP	01 17 48.4
		ipPKP	16 49 45.5		Tonga Islands.		
		i	16 51 07.2	" 30	Ki ^R	iPn	13 00 45.6
		iPKKP	16 59 12.8			iSn	13 01 22.9
	Solomon Islands. h = 170 km (Up,Sk,Um,Ud).					iSg	13 01 37.5
" 28	Um	iP	17 42 51.0 C			D = 330 km = 3.0°	
" 28	Sk	iP	18 10 30.7			Sk ^A	eSg 13 04 31
	Ud	ePP	18 11 40			Um [←]	iSg 13 03 17.1
	Iran.				Northern Finland, 69.3° N, 28.0° E. Origin time = 12 59 57. Explosion?		
" 28	Um	iP	22 18 59.9	" 30	Ud	iP	18 24 34.4
	Mexico (h = 120 km).				Japan (h = 50 km).		
" 29	Ki	iP	04 42 04.6 C	" 30	Up	iP	19 32 52.1 C
	Molucca Passage (h = N).				Ud	iP	19 33 02.9
" 29	Ud	iSg	11 49 05.9		Indian Ocean (h = N).		
	De	iSg	11 47 17.4	" 30	Up	iP	21 01 59.6
" 29	Up	iP	12 59 05.2		Aleutian Islands (h = N).		
	Um	iP	12 59 39.9	" 30	Up	iP	21 01 59.6
" 29	Ki	iP	12 59 27.7		Aleutian Islands (h = N).		
	Um	iP	13 00 00.1				
	Ud	iP	13 00 20.1				
	De	iP	13 00 44.1 C				
	Kodiak Island (h = 25 km).						
" 29	Ki	i(Sg)	14 36 22.9		Markus Båth May 3, 1969		
	Ud	i	14 35 00.9				
		i(Sg)	14 35 17.2				
" 29	Ud	i(Sg)	14 58 55.9				
	De	i	14 58 37.8				
		i(Sg)	14 58 45.1				

*Pwd
662*

15 JUL 1969

Seismological Institute
Uppsala

SEISMOLOGICAL BULLETIN
UPPSALA, KIRUNA, SKALSTUGAN, UMEÅ,
UDDEHOLM and DELARY

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.3'N,	13°52.1'E;	h = 150 m

DECEMBER 1 - 31, 1968
.....

1968	Dec. 1	Um	iP	01 18 43.2	1968	Dec. 1	Up	iP	13 22 42.7	
		Ud	iP	01 19 02.5		"	1	Ki	e(P)	13 28 57
		Afghanistan-USSR						i	13 29 05.7	
		(h = 140 km).					Sk	iP	13 28 33.7	
	"	1	Ud	iP	03 00 00.5		Ud	iP	13 28 30.7	
		Molucca Sea (h = 130 km).					i	13 28 46.1		
	"	1	Up	iSg	04 47 59.7		De	i(P)	13 28 46.8	
		Ki	iPn	04 43 47.8			Peru (h = 5 km).			
			iSn	04 44 44.8		"	1	Up	iP	13 42 18.7
			iLg1	04 45 06.7			i	13 42 43.2		
			D = 530 km = 4.8°				Mx	E	1.5 20	
		Sk	iSg	04 47 34.2			Mx	Z	1.9 20	
		Um	iSn	04 45 24.7			Um	iP	13 42 00.1	
			iSg	04 45 56.5			Bonin Islands (h = N).			
		Ud	iLg1	04 48 25.9		"	1	Up	iP	14 57 33.9
		Northwest Russia,				"	1	Um	iP	16 24 54.4
		67.2°N, 33.0°E.					i	16 25 10.9		
		Origin time = 04 42 34.				"	1	Ki	iPn	16 27 31.3
		Explosion?					iSn	16 28 17.8		
	"	1	Up	eSg	10 18 36		iLg1	16 28 32.0		
			i	10 18 38.5			D = 430 km = 3.9°			
		Ki	ePn	10 14 25			Probably northwest Russia.			
			iSn	10 15 23.5			Origin time = 16 26 29.			
			iLg1	10 15 45.8			Explosion?			
			D = 540 km = 4.9°			"	1	Ud	iP	16 37 41.2
		Sk	iSg	10 18 10.2		"	1	Up	iPKP	23 14 18.3
			i	10 18 15.1				mich	sec	
		Um	iSn	10 16 00.5			PKP	Z'	0.1 0.5	
			iSg	10 16 37.0			Ud	iPKP	23 14 20.6 C	
		Ud	iLg1	10 19 00.3			De	iPKP	23 14 30.8	
			i	10 19 07.5			Tonga-Kermadec Islands			
		De	iSg	10 20 39.8			(h = 530 km).			
		Northwest Russia,								
		67.2°N, 33.0°E.								
		Origin time = 10 13 10.								
		Explosion?								

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Dec.	2	Up	i(P)	00 41 24.9	Dec.	2	(cont.)
		Ud	iP	00 40 54.2			Ud iP 13 48 13.7
"	2	Up	iP	02 45 17.2 D			De iP 13 48 36.4
			iX	02 45 21.9			Aleutian Islands
			iS	02 54 49			(h = 60 km).
				micr sec	"	2	Ud iP 21 52 04.6
			P	Z' 0.3 0.8			
			Mx	E 1.7 18	"	3	Ud iP 01 22 36.0
			Mx	N 1.9 19			
			Mx	Z 1.8 19	"	3	Ud iP 01 39 16.8
			D = 8200 km = 74°		"	3	Um iP 02 11 34.0
		Ki	iP	02 46 01.4	"	3	Ki iP 09 46 57.5
				micr sec			i(Sg) 09 47 27.0
			P	Z' 0.2 1.0	"	3	Ki iPn 11 38 35.6
			Mx	E 2.0 19			iSn 11 39 35.2
			Mx	N 0.7 16			iLg1 11 39 57.2
			Mx	Z 1.2 16			D = 540 km = 4.9°
		Sk	iP	02 45 40.4			Um eSg 11 40 47
			iX	02 46 47.3			i 11 40 53.0
			i	02 47 28.4			Probably northwest Russia.
		Um	iP	02 45 39.7			Origin time = 11 37 21.
			iX	02 45 43.5			Explosion?
			iS	02 55 28	"	3	Sk iP 13 06 23.9
		Ud	iP	02 45 20.2	"	3	Up eP 14 11 28
			iX	02 45 25.1	"	3	Um iP 18 50 44.0
			i	02 45 45.8			Kamchatka (h = N).
		De	iP	02 44 59.5	"	3	Ki eP 19 40 04
			iX	02 45 04.2			South of Java
			iPcP	02 45 19.1			(h = 25 km).
			Zambia (h = 7 km).		"	3	Ud iP 20 41 35.7
			m = 6.3, M = 5.5 (Up, Ki).		"	3	Up i(P) 21 01 15.6
			If X (Up, Sk, Um, Ud, De) is				micr sec
			interpreted as pP, the				Mx E 0.8 9
			depth becomes nearly 20				Mx Z 0.8 10
			km.				---
"	2	Um	iP	04 40 44.6			micr sec
"	2	Ud	iP	06 00 04.0			Mx E 1.1 11
			Venezuela (h = 120 km).				Mx N 0.6 11
"	2	Ki	iP	07 44 57.9			Sk iP 21 01 47.1
"	2	Sk	iSg	13 01 46.5			Um i(P) 21 02 00.8
		Ud	i	13 00 29.4			Ud iP 21 01 18.7
			iSg	13 00 46.6			De iP 21 00 28.3
			Probably southern Norway.				i 21 00 35.6
"	2	Up	iP	13 48 12.4			Yugoslavia (h = 7 km).
		Ki	iP	13 47 18.8			M = 4.6 (Up, Ki).
		Sk	iP	13 47 52.5			
		Um	iP	13 47 45.4			
			(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968							
Dec.	3	Up	iP	21 17 24.7	C	Dec.	4	Up	iP	19 42 39.8	
		Ki	iP	21 16 39.6	C			Ki	iP	19 43 46.4	
		Um	iP	21 17 00.0	C			Sk	iP	19 43 15.0	
		Ud	iP	21 17 31.1				Ud	iP	19 42 44.2	
		Kurile Islands (h = N).						De	iP	19 42 11.1	
			i						i	19 42 14.5	
"	3	Ud	iP	23 16 50.8				Dodecanese Islands (h = 50 km).			
"	3	Ud	iP	23 27 16.9							
"	4	Um	iP	04 00 44.0		"	4	Ud	iP	20 16 21.6	
"	4	Ud	iP	04 31 37.4				De	iP	20 15 48.8	
"	4	De	iP	07 42 39.5				Dodecanese Islands.			
"	4	De	eP	09 01 04		"	4	Ud	iP	20 23 02.5	
"	4	Up	iSg	11 51 25.0		"	4	Ud	iP	20 35 44.5	
			i	11 51 33.6					i	20 35 48.1	
		Ki	eSg	11 54 10				De	eP	20 35 11	
			i	11 54 13.6				Dodecanese Islands (h = N).			
		Sk	eSg	11 53 20		"	4	Up	iP	21 34 44.3	
		Um	iSg	11 52 11.0		"	4	Up	iP	21 51 35.4	C
		Ud	iSg	11 52 35.2				Ki	iP	21 52 07.3	
		Esthonia-Gulf of Finland. Explosion?						Sk	iP	21 52 04.9	
"	4	Ud	iP	12 20 05.8				Um	eP	21 51 48	
			i	12 20 15.5				Ud	iP	21 51 47.4	C
"	4	De	eP	12 34 28		"	5	De	iP	21 51 31.5	
			i	12 34 37.6				Indian Ocean (h = N).			
"	4	Ki	iPn	12 54 19.0		"	5	Ki	iPKP	00 52 08.1	
			iSn	12 55 07.3				Um	iPKP	00 52 14.8	
			iLg1	12 55 21.2				Santa Cruz Islands (h = 290 km).			
			D = 440 km = 4.0°.			"	5	Up	iP	03 55 42.4	
		Probably northwest Russia. Origin time = 12 53 15. Explosion?						Ud	iP	03 55 17.4	
"	4	Um	iP	18 12 08.8		"	5	Up	iP	07 57 24.4	
"	4	Sk	iP	18 49 19.8					iS	08 01 41	
		Ud	iP	18 48 48.8					iLg1	08 05 07	
		De	iP	18 48 16.0						micr	sec
			i	18 48 19.9				P	E	0.9	6
		Dodecanese Islands (h = 50 km).						P	N	2.6	6
"	4	Ud	iP	18 57 39.8				P	Z	1.9	4
		De	iP	18 57 08.4				P	Z'	0.5	1.5
			i	18 57 10.8				S	E	1.5	6
		Dodecanese Islands (h = 40 km).						S	N	7.9	10
								S	Z	3.2	13
								Mx	E	7.8	14
								Mx	N	8.5	13
								Mx	Z	8.2	12
								D = 2650 km = 24°.			
								Ki	iP	07 58 31.8	C
								(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968
Dec. 5 (cont.)

Ki	iS	08 03 38
	i	08 06 20
	iLg1	08 08 31
		micr sec
	P	Z' 0.3 1.5
	S	E 0.9 7
	Mx	E 6.9 14
	Mx	N 3.7 11
	Mx	Z 5.0 11
		D = 3500 km = 31 1/2°.
Sk	iP	07 58 02.8
	i	07 58 04.6
Um	iP	07 57 55.2
	i	07 57 56.6
	i	07 57 59.8
	iS	08 02 33
	i	08 04 13
Ud	iP	07 57 32.2
	i	07 57 33.9
De	iP	07 57 00.1
	iS	08 01 03.7

Dodecanese Islands
(h = 35 km).
m = 6.0, M = 5.6 (Up, Ki).
Multiple P (Sk, Um, Ud).

" 5

Up	iP	09 13 30.9
Ki	iP	09 13 32.5
Um	iP	09 13 28.2
Ud	iP	09 13 42.5
De	eP	09 13 38
	i	09 13 40.6

Sumatra (h = N).

" 5

Up	iP	09 48 33.1
	iS	09 52 03
		micr sec
	P	E 0.9 5
	P	N 0.7 4
	P	Z 0.6 4
	P	Z' 0.6 1.8
	S	E 7.7 12
	S	N 16 11
	S	Z 6.0 12
	Mx	E 15 12
	Mx	N 26 13
	Mx	Z 22 13
		D = 2100 km = 19°.
Ki	iP	09 48 17.2
	i	09 48 49.0
	iS	09 51 38
		micr sec
	P	E 4.2 8

(cont.)

1968
Dec. 5 (cont.)

Ki			micr	sec
	P	N	0.6	9
	P	Z	4.3	8
	P	Z'	0.9	1.7
	S	E	5.3	6
	S	N	3.4	10
	S	Z	4.3	6
	Mx	E	41	14
	Mx	N	21	11
	Mx	Z	47	14
				14°.
				D = 2000 km = 18°.
Sk	iP		09 47	46.7
	i		09 47	52.7
	iS		09 50	59.0
Um	iP		09 48	26.6 D
	i		09 48	28.8
	iS		09 51	45
Ud	iP		09 48	11.2
	iS		09 51	39.9
De	iP		09 48	34.4
	i		09 48	37.4

Iceland (h = 5 km).
m = 5.7, M = 6.0 (Up, Ki).

" 5

Ki	R	iPn	10 13 22.7
		i	10 13 36.2
		iSn	10 14 22.0
		iLg1	10 14 45.4
			D = 540 km = 4.9°.
Um	E	iSg	10 15 30.2
		i	10 15 39.4

Northwest Russia.
Origin time = 10 12 08.
Explosion?
In the explosions of Dec. 1, 04 42 and 10 13, Dec. 3, 11 37, and Dec. 5, 10 12, the Lg1 group velocity is remarkably low, 3.44 km/sec. All these events occurred nearly at the same place.

" 5

Ud	iP	11 01 23.5
----	----	------------

Dodecanese Islands.

" 5

Up	iP	12 27 38.2
----	----	------------

" 5

Up	iP	12 52 40.8
----	----	------------

" 5

Up	iP	13 09 57.2
Ki	iP	13 09 14.1

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968				
Dec.	5	(cont.)		Dec.	7	Up	iP	01 50 49.9
		Um	iP 13 09 32.9			Up	i	05 16 47.2
		Ud	iP 13 10 04.2	"	7		iPP	05 17 11.2
		De	iP 13 10 20.9				ePS	05 26 19
		Japan (h = 70 km).					iSS	05 32 40
"	5	Um	iP 15 56 58.2					micr sec
"	5	Ud	eP 17 32 44			Mx	E	23 19
			i 17 32 48.4			Mx	N	20 19
		De	eP 17 32 11			Mx	Z	34 18
		Dodecanese Islands				Ki	e(P)	05 12 14
		(h = N).					iPP	05 16 31
"	5	Up	iP 23 12 14.0				ePS	05 25 34
		Ki	iP 23 13 24.3				eSS	05 31 18
		Sk	iP 23 12 52.3			Mx	E	13 20
		Um	iP 23 12 48.2			Mx	N	16 17
		Ud	iP 23 12 20.0			Mx	Z	27 20
		De	eP 23 11 46			Um	iPP	05 16 44
			i 23 11 49.8				iSKS	05 22 51
		South of Greece.					iPS	05 25 59
"	6	Ud	iP 08 30 02.8				iSS	05 32 00
		De	iP 08 30 13.7			Ud	i(P)	05 12 47.0
"	6	Ud	iP 09 28 35.5	"	7	Up	iP	06 05 52.7
"	6	Ud	iP 11 00 40.1			Ki	iP	06 05 28.3
		De	iP 11 00 51.1				epP	06 05 46
"	6	Ud	iPg 14 29 45.2			Sk	eP	06 05 56
			iSg 14 30 17.0			Um	iP	06 05 36.5
		De	iPg 14 29 40.7			Ud	iP	06 06 01.9
			iSg 14 30 05.8			De	iP	06 06 10.8
		Probably off west coast of Sweden.				Formosa. h = 70 km (Ki).		
"	6	Ud	iP 15 04 25.8	"	7	Up	iP	06 29 57.9
			i 15 04 36.1			Ud	iP	06 30 00.1
"	6	Up	eP 18 56 44	"	7	Up	iP	15 51 51.1
"	6	Ki	iPg 21 29 35.7				i	15 52 02.3
			eSn 21 30 12				eS	16 00 51
			iLg1 21 30 27.6					micr sec
		D = 510 km = 4.6°				P	Z'	0.2 1.0
		Sk	iPn 21 30 24.6			Mx	E	0.7 16
		Um	iSg 21 31 38.3			Mx	N	1.0 17
		Probably northwest Russia.				Mx	Z	1.3 16
		Origin time = 21 28 05.				D = 7500 km = 67 1/2°.		
		Explosion?				Ki	eP	15 50 57
"	7	Ud	iP 00 08 53.0				i	15 51 04.1
								micr sec
						Mx	E	1.5 18
						Mx	N	0.8 17
						Mx	Z	1.8 15
						(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968						1968						
Dec.	7	(cont.)				Dec.	7	(cont.)				
		Sk	eP	15 51 31				Ki	iPKP	17 28 39.7		
			i	15 51 32.9				Sk	iPKP	17 28 51.4		
		Um	iP	15 51 23.5				Um	iPKP	17 28 45.5		
			i	15 51 25.0				Ud	iPKP	17 28 56.7		
			eS	15 59 52					iPKS	17 32 18.7		
		Ud	iP	15 51 52.1				De	iPKP	17 29 03.1		
			i	15 51 53.7					iPKS	17 32 29.6		
		De	iP	15 52 14.5					i	17 32 37.4		
		Aleutian Islands (h = N).						New Hebrides Islands				
		M = 5.2 (Up,Ki).						(h = 60 km).				
		Double P (Sk,Um,Ud).										
"	7	Up	iP	15 57 35.3	C	"	7	Up	iPKS	20 57 53		
				micr	sec					micr sec		
			P	Z'	0.1 1.0				Mx	E 0.7 18		
									Mx	Z 1.3 20		
		Ki	iP	15 56 41.8				Ki	iPKP	20 54 36.0		
			i	15 56 44.0				Sk	iPKP	20 54 27.2		
				micr	sec			Um	iPKP	20 54 34.6		
			P	Z'	0.7 2.5				iPKS	20 58 01		
		Sk	eP	15 57 16					iSS	21 15 15		
		Um	iP	15 57 08.5				Ud	iPKP	20 54 24.8		
		Ud	iP	15 57 37.5				Chile (h = N).				
		De	iP	15 57 59.3				"	7	Up	e(PKP)	21 54 54
		Aleutian Islands									iPKP	21 54 58.8
		(h = 60 km).									micr	sec
		m = 6.1 (Up,Ki).									Mx	E 0.8 20
"	7	Up	e(P)	16 03 58							Mx	N 2.4 23
			iP	16 04 00.0							Mx	Z 1.8 22
		Ki	iP	16 03 07.8				Ki	iPKP	21 54 45.3		
		Sk	eP	16 03 40					i	21 55 04.2		
		Um	iP	16 03 32.9					iPKS	21 58 06.4		
		Ud	iP	16 04 00.5						micr	sec	
		Aleutian Islands								PKP	Z' 0.1 1.2	
		(h = N).						Sk	e(PKP)	21 54 43		
"	7	Up	iP	16 07 07.4					iPKP	21 54 54.3		
		Sk	iP	16 06 47.8					iPKS	21 58 20.7		
		Ud	iP	16 07 08.8					i	21 58 49.3		
		Aleutian Islands						Um	i(PKP)	21 54 44.2		
		(h = N).							iPKP	21 54 49.7		
"	7	Up	iP	16 11 18.9					iPKS	21 58 12.0		
		Um	iP	16 10 51.5					i	21 58 41.7		
		Ud	iP	16 11 19.9				Ud	iPKP	21 54 50.6		
		Aleutian Islands							iPKS	21 58 27.2		
		(h = N).						De	iPKP	21 54 58.7		
"	7	Up	iPKP	17 28 54.0					iPKS	21 58 36.1		
				micr	sec			New Hebrides Islands				
				1.6	20			(h = 60 km).				
		Mx	N	1.7	21			"	7	Up	iPKP	23 05 12.3
		Mx	Z							Ud	iPKP	23 05 14.2
		(cont.)								De	iPKP	23 05 23.7
								Kermadec Islands (h = N).				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Dec.	8	Ki	iP	00 13 34.3	Dec.	8	(cont.)
"	8	Sk	iP	01 16 34.8			Sk iP 15 59 49.9
		Colombia (h = 60 km).					Ud iP 15 59 43.1 C
"	8	Ud	iP	05 05 37.3			De eP 15 59 44
		Kirghiz SSR (h = N).			"	8	Ud iP 16 11 40.1
"	8	Ki	ePKP2	07 47 05			Nevada.
		Um	iPKP2	07 47 03.0			Origin time = 16 00 00.
		Ud	iPKP2	07 47 13.2			Underground explosion.
		West of Macquarie Islands (h = N).			"	8	Sk iP 16 54 47.2
"	8	Ud	iP	07 56 47.9			Ud iP 16 55 00.2
		Japan (h = 30 km).			"	8	Ud iP 17 29 10.0
"	8	Up	iP	09 20 18.1			
				micr sec	"	8	Ki iP 18 44 17.0 C
		P	Z'	0.1 0.9			Sk eP 18 44 34
		Ki	iP	09 19 48.8			Ud iP 18 44 24.4
		Sk	iP	09 20 18.7 C			De eP 18 44 22
		Um	iP	09 20 00.3			Hindu Kush (h = 190 km).
		Ud	iP	09 20 26.8 C	"	8	Up iP 22 43 19.9
		De	iP	09 20 37.6 C	"	8	Ud iP 23 41 09.4
		i		09 21 06.9	"	9	Up iS 01 45 47
		Ryukyu Islands (h = 50 km).					Ki eP 01 42 42
"	8	Um	eP	09 50 04			micr sec
		Ud	iP	09 50 37.0			Mx E 1.5 14
		De	iP	09 50 57.5			Mx N 1.5 14
		Kamchatka (h = 30 km).					Um iP 01 42 09.2
"	8	Sk	iP	10 54 38.2			iS 01 46 54
		Mexico (h = 60 km).					i 01 47 13
"	8	Ud	iP	13 25 39.1			Ud eP 01 41 25
		Banda Sea (h = 250 km).					Spain (h = N).
"	8	Up	iSg	14 42 44.8	"	9	Up i(P) 09 57 51.2
		Ud	ePg	14 41 31	"	9	Ud iP 12 06 00.4
			iSg	14 42 08.0			i 12 06 27.8
		i		14 42 15.1	"	9	Up i 13 18 41.1
		D = 280 km = 2.5°					iSg 13 18 53.0
		DeL	iPg	14 41 17.3			Sk iSg 13 20 49.9
			iSg	14 41 38.7			Um iSg 13 19 27.6
		iPg		14 41 48.3			i 13 19 32.6
		D = 180 km = 1.6°					Ud iSg 13 19 57.3
		West coast of Sweden, 57.7°N, 11.8°E.					Esthonia-Gulf of Finland.
		Origin time = 14 40 44.					Explosion?
"	8	Up	iP	15 59 29.0	"	9	Ud iP 13 42 10.6
		Ki	iP	15 59 26.1 C			
		(cont.)					

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968					1968				
Dec.	9	Sk	eSg	13 42 56	Dec.	10	(cont.)		
		Ud	iSg	13 44 04.2			Sk	iP	11 33 57.4
"	9	Ki	iP	15 54 20.9				i	11 34 01.0
"	9	Ud	i(P)	20 16 50.8			Um	iP	11 33 58.4
"	9	Up	iS	20 31 46			Ud	iP	11 33 22.2
				micr sec				i	11 33 28.7
			Mx	E 0.5 13			De	iP	11 32 49.5
			Mx	N 0.8 14			Greece (h = 70 km).		
			Mx	Z 0.9 12			M = 4.7 (Up, Ki).		
		Ud	iP	20 27 38.7	"	10	Up	iP	11 41 07.9
		De	eP	20 27 07	"	10	Up	i(P)	12 59 34.2
		Dodecanese Islands					Ud	i(P)	13 00 24.5
		(h = 90 km).			"	10	Ki	iPn	13 09 32.3
"	10	Ud	iP	04 39 35.7			iP	13 09 41.1	
		Banda Sea (h = 110 km).						iSn	13 10 18.6
"	10	Up	iP	05 00 42.4			iSg	13 10 35.8	
		Um	ipP	05 00 28.4			D = 430 km = 3.9°		
		Ud	iP	05 00 48.8			Sk	eSg	13 13 20
		ipP		05 00 59.6			Um	iSn	13 11 24.1
		Japan. h = 40 km (Ud).					iSg	13 12 01.1	
"	10	Ki	iPKP	05 35 24.0			Ud	i(Sg)	13 14 32.1
		New Hebrides Islands					Northwest Russia,		
		(h = 30 km).					68.7°N, 30.8°E.		
"	10	Um	iP	06 20 11.8			Origin time = 13 08 29.		
		Off coast of Central					Explosion?		
		America (h = 25 km).			"	10	Up	iPg	13 20 11.5
"	10	Ud	i(P)	06 50 27.8				iSg	13 20 33.8
"	10	Ud	iP	07 59 30.9				D = 190 km = 1.7°	
		Japan (h = 15 km).					Ud	iPg	13 20 18.9
"	10	Ki	iP	08 29 03.3				i	13 20 33.5
"	10	Ud	iP	08 39 54.5				iSg	13 20 45.9
"	10	Up	iP	09 33 12.1				D = 230 km = 2.1°	
"	10	Ud	iP	11 33 19.0			De	i(Sg)	13 20 57.8
				micr sec			South-central Sweden.		
			Mx	E 0.8 14			Origin time = 13 19 38.		
		Ki	eP	11 34 43	"	10	Ud	iP	15 41 21.7
			i	11 34 46.1	"	10	Ud	i(P)	18 16 11.3
				micr sec	"	10	Ud	i(P)	18 20 46.9
			Mx	E 1.8 15	"	10	Up	eP	19 55 22
			Mx	N 0.3 12	"	10	Ud	iP	20 02 55.5
		(cont.)						i	20 03 03.6
								i	20 03 14.8
					"	10	Ud	i(P)	20 16 23.2

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Dec. 10	De	eP i	20 17 49 20 17 57.9	Dec. 11	Sk	iP	15 29 48.0
		Greece.		" 11	Sk	eP	17 35 31
" 10	Ud	iP	20 26 50.4		Um	i(P) i	17 35 16.3 17 35 53.3
" 10	Up	eP	21 58 25	" 11	Up	iP	20 21 43.9
	Ud	iP	21 58 11.2		Ud	iP	20 21 44.5 C
" 10	Up	iP	22 54 15.3		Aleutian Islands (h = 150 km).		
		i	22 54 22.6	" 11	Sk	iP	20 37 44.2
	Ud	iP	22 54 01.1		Ud	iP	20 37 39.4
		i	22 54 10.8		North Atlantic Ocean (h = N).		
" 11	Ud	iP	00 22 05.8	" 11	Up	iP	21 50 29.3 C
" 11	Ud	iP i	00 45 01.7 00 45 05.6	" 11	Up	iPKP	21 53 27.0
" 11	Up	iP	00 53 26.1		Ud	iPKP	21 53 28.0
	Um	iPcP	00 53 30.5		De	iPKP	21 53 39.5 C
	Ud	iP	00 53 25.7			i	21 54 58.6
	De	iP	00 53 47.9		Tonga-Kermadec Islands (h = 100 km).		
	Aleutian Islands (h = 70 km).			" 11	Ud	iPKP	22 50 18.9
" 11	Ud	iPKP	03 10 47.6			iPKS	22 54 32.5
	De	iPKP	03 10 58.5		De	iPKP	22 50 31.8
	Tonga-Kermadec Islands (h = 240 km).				Tonga-Kermadec Islands (h = N).		
" 11	Up	iP	11 56 58.9	" 11	Um	iP	23 31 47.7
		ipP	11 57 08.8		Ud	iP	23 32 08.2
			micr sec		Samar (h = 10 km).		
		P	Z' 0.1 1.0	" 12	Up	iP	05 38 26.0
		Mx	E 0.8 15				micr sec
		Mx	N 1.0 13			P	Z' 0.1 1.1
		Mx	Z 1.3 14		Sk	iP	05 38 30.2
	Sk	iP	11 56 56.2		Um	iP	05 38 14.3
	Um	iP	11 56 38.6 C			ipP	05 38 46.7
		ipP	11 56 48.5		Ud	iP	05 38 34.4
	Ud	iP	11 57 07.5			ipP	05 39 00.1
		ipP	11 57 16.0		De	iP	05 38 41.1
	De	eP	11 57 21		Mindanao. h = 120 km (Um, Ud).		
		ipP	11 57 30.0	" 12	Up	iPKP	07 38 16.6
		isP	11 57 44.7			iSKP	07 41 07.2
	Japan. h = 35 km (Up, Um, Ud, De).						micr sec
" 11	Ud	iP	14 44 14.7			SKP	Z' 0.1 1.0
" 11	Ud	iP	15 00 01.8		Ki	iPKP	07 37 59.9
	Aleutian Islands (h = N).				Sk	iSKP	07 40 58.2
					Um	iPKP	07 38 05.6
					(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Dec. 12	(cont.)			Dec. 12	(cont.)		
	Um	iSKP	07 40 52.4		Um	iP	19 01 34.3 C
		isPKS	07 44 05		Ud	iP	19 01 40.6 C
		iPS	07 50 55		De	iP	19 01 26.7 C
		iPPS	07 52 31		Iran (h = N).		
		isPS	07 52 54	" 12	Um	i(Sg)	20 18 15.7
	Ud	i(PKP)	07 38 03.2	" 12	Ud	iP	23 39 59.4
		iPKP	07 38 16.0	" 13	Up	iP	02 00 17.8
		iSKP	07 41 08.8	" 13	Ud	iP	02 53 25.3
	De	iPKP	07 38 18.1		i		02 53 33.9
		i	07 38 25.7				
	Fiji Islands (h = 430 km).						
" 12	Ki	i(P)	11 05 05.6 C	" 13	Um	iP	03 45 59.3
" 12	Ud	e(P)	11 08 17	" 13	Ud	eP	09 28 54
		i	11 08 18.8		i		09 28 56.9
" 12	Up	i(P)	12 50 20.0	" 13	Ud	eP	10 30 55
" 12	Ud	iP	12 56 23.6		i		10 30 58.3
" 12	Ud	iP	14 16 49.5		Resembles the preceding event; probably same source.		
" 12	Ud	iP	15 21 41.0	" 13	Um	i(P)	11 59 45.7
	Nevada. Origin time = 15 10 00. Underground explosion.				Ud	e(P)	12 01 19
" 12	Up	iP	16 12 52.3	" 13	Ud	iSg	12 30 27.0
		iS	16 23 14		De	iSg	12 30 46.9
		D = 9200 km = 83°.		" 13	Ki	iSg	12 36 38.7
	Ki	iP	16 12 32.3		Sk	iSg	12 35 56.7
		i	16 12 38.9		Um	iSg	12 34 35.6
	Sk	iP	16 12 57.2		Ud	eSn	12 34 38
	Um	iP	16 12 39.3			iSg	12 35 07.0
		iS	16 22 44		De	eSg	12 35 32
	Ud	iP	16 13 00.9 D		i		12 35 37.0
		i	16 13 07.8		Esthonia-Gulf of Finland. Explosion?		
		ipP	16 13 15.7	" 13	Sk	iP	18 26 09.9
	Luzon. h = 50 km (Ud).						
" 12	Up	iP	17 39 38.0	" 14	Up	iPKP	01 34 10.4
	Um	iP	17 39 56.1		Sk	iPKP	01 34 05.5
		i	17 40 03.3		Um	iPKP	01 33 56.4
	Ud	iP	17 39 49.2		Ud	iPKP	01 34 09.1
	Gulf of Aden (h = N).				South of Kermadec Islands (h = 100 km).		
" 12	Up	iP	19 01 23.6	" 14	Up	iP	03 50 11.5
	Ki	iP	19 01 57.4 C		Um	iP	03 49 53.0
	Sk	iP	19 01 58.0		Ud	iP	03 50 08.9
	(cont.)						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968									1968										
Dec. 14	Up	iP	05 09	26.6					Dec. 15	(cont.)									
	Um	i(P)	05 09	15.5						Ki	iP	02 24	18.0	C					
	Ud	iP	05 09	37.0															
			Japan (h = 25 km).																
"	14	Up	iP	10 09	56.2	C					P	Z'	0.9	2.0					
			iS	10 18	52						Mx	E	6.7	18					
											Mx	N	9.1	19					
											Mx	Z	11	19					
			P	Z'	0.1	1.0					Sk	iP	02 24	50.9	C				
			Mx	E	1.5	16					Um	iP	02 24	43.1	C				
			Mx	N	2.9	18						iS	02 33	12					
			Mx	Z	2.9	18					Ud	iP	02 25	12.5	C				
			D = 7500 km = 67 1/2°.									De	iP	02 25	34.5	C			
		Ki	iP	10 09	06.3						Aleutian Islands (h = N).								
			Mx	E	3.0	19				"	15	Up	iP	02 39	24.8				
			Mx	N	3.0	18													
			Mx	Z	8.1	16						P	Z'	0.6	1.5				
		Sk	iP	10 09	37.3						Ki	iP	02 38	31.9					
		Um	iP	10 09	29.9														
			iS	10 18	00							P	Z'	3.2	3.0				
		Ud	iP	10 09	57.8	C					Sk	iP	02 39	05.1	C				
		De	iP	10 10	20.4						Um	iP	02 38	57.9					
			i	10 10	52.1						Ud	iP	02 39	26.7	C				
		Aleutian Islands (h = N).									De	iP	02 39	48.4					
		M = 5.6 (Up,Ki).									Aleutian Islands (h = N).								
"	14	Ud	iP	11 29	18.0						m = 6.7 (Up,Ki).								
"	14	Ud	iP	11 55	39.9					"	15	Ud	iP	07 52	25.5				
			i	11 55	49.8						"	15	Up	iP	08 37	55.1			
		Indian Ocean (h = N).										Ud	iP	08 38	09.8				
"	14	Um	iP	13 50	31.5							i	08 38	33.3					
"	14	Up	iP	13 55	41.8					"	15	Ud	iPKP	09 20	59.6				
"	14	Up	iP	17 49	02.0							De	iPKP	09 21	08.6				
		Ud	iP	17 49	06.0						Fiji Islands (h = 470 km).								
"	14	Italy.								"	15	Ud	iP	09 41	24.4				
"	14	Ud	iP	20 23	27.4					"	15	Ud	iP	13 06	40.1				
"	14	Ud	i(Sg)	21 00	14					"	15	Up	iP	14 12	23.5				
"	15	Up	iP	02 25	10.8	C					Ki	iP	14 11	31.9					
			iS	02 34	05						Um	iP	14 11	56.7					
												i	14 12	03.1					
			P	Z'	1.5	1.7					Ud	iP	14 12	28.0					
			Mx	E	3.6	15						i	14 12	31.4					
			Mx	N	4.3	18					Kurile Islands (h = 50 km).								
			Mx	Z	5.7	18				"	15	Up	iP	21 49	27.3				
		D = 7500 km = 67 1/2°.										ipP	21 49	34.0					
		(cont.)									(cont.)								

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Dec.	Day	Station	Time	Dec.	Day	Station	Time
1968	Dec. 15	(cont.)		1968	Dec. 16	Up	iP 21 34 14.2
		Ki	iP 21 50 11.3				micr sec
		Um	iP 21 49 50.5 C			Mx	E 1.5 20
			ipP 21 49 55.0			Mx	N 2.1 15
		Ud	iP 21 49 31.9			Mx	Z 1.5 16
		Zambia. h = 20 km (Up,Um).				Ki	eP 21 33 33
"	16	Ki	eP 00 33 55				i 21 33 41.4
							micr sec
"	16	Ki	iP 00 37 16.1			Mx	E 2.7 19
		Sk	iP 00 37 33.3 C			Mx	N 1.7 18
		Ud	iP 00 37 23.7			Mx	Z 3.6 16
		Hindu Kush (h = 100 km).				Um	iP 21 33 51.4
"	16	Ki	iP 03 20 15.4			Ud	iP 21 34 21.9
		Sk	eP 03 20 08			Japan (h = 25 km).	
		Um	iP 03 20 21.9			M = 5.6 (Up,Ki).	
		Ud	iP 03 20 12.5	"	17	Ki	ePg 00 20 03
		Panama (h = 15 km).					iSg 00 20 20.2
"	16	Ki	iP 04 17 07.5	"	17	Um	iP 06 18 22.5
"	16	Ud	iP 04 57 35.4	"	17	Ki	eP 10 24 35
			i 04 57 39.5				iP 10 29 56.0
"	16	Ud	iP 06 42 49.5				i 10 30 14.9
"	16	Ki	iP 10 09 28.5			Sk	iP 10 25 14.5
		Um	iP 10 10 17.9				eS 10 26 59
			i 10 10 26.5			Um	iP 10 25 23.6
		Ud	iP 10 10 54.8			Ud	iP 10 26 03.7
		Svalbard (h = N).				Norwegian Sea, near	
"	16	Ki	iPKP 11 05 43.0			72.8° N, 6.9° E.	
		Sk	iPKP 11 05 54.5			Origin time = 10 23 00.	
		Um	iPKP 11 05 49.2			Solution checked with	
		Ud	iPKP 11 05 59.6			readings from Norwegian	
		De	iPKP 11 06 05.4			and Finnish stations.	
		New Hebrides Islands		"	17	Up	iP 12 12 13.8
		(h = 50 km).					i 12 12 30.6
"	16	Up	iPKP 11 45 38.6				isP 12 12 51
		Ki	iPKP 11 45 28.5				iPcP 12 13 03
			iSKP 11 48 08.1				iScP 12 16 49.4
		Um	i(PKP) 11 45 26.9				iS 12 20 16
			iSKP 11 48 18.6				e(P'P') 12 41 38
		Ud	iPKP 11 45 40.6 D				iP'P' 12 41 45.5
			iSKP 11 48 30.9				micr sec
		De	iPKP 11 45 51.2 D			P	N 0.8 3
		Tonga-Kermadec Islands				P	Z 1.5 4
		(h = 550 km).				P	Z' 0.2 0.6
"	16	Up	iP 14 12 39.4			S	E 4.4 10
"	16	Ud	iP 21 29 08.0			S	N 5.9 10
						P'P'	Z' 0.2 1.0
						Mx	E 4.5 25
						Mx	N 7.3 21
						Mx	Z 9.4 22
						D = 6650 km = 60°.	
						(cont.)	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Dec. 17	(cont.)			Dec. 17	Ki	i(P)	18 53 15.9
	Ki	iP	12 11 16.5	"	17	Up	iP 22 27 41.3
		i	12 11 37.1			Ki	iP 22 26 59.5 C
		ipP	12 11 44			Um	iP 22 27 18.0
		iS	12 18 28			Ud	iP 22 27 47.9
		isS	12 19 16				iPcP 22 28 09.0
			micr sec			Japan (h = 60 km).	
	P	N	1.3 5	"	17	Up	iP 22 42 00.5
	P	Z'	0.7 0.9			Ud	iP 22 42 06.8
	S	E	9.8 10				i(PcP) 22 42 22.9
	S	N	6.8 9			Japan (h = N).	
	S	Z	3.5 10	"	18	Sk	eP 01 17 02.8
	Mx	E	3.3 17	"	18	Up	iP 05 08 53.3
	Mx	N	14 22				iPn 05 09 55.9
	Mx	Z	25 22				micr sec
	D = 5800 km = 52°					Ki	P Z' 0.1 1.0
	Sk	e(P'P')	12 41 52				micr sec
		iP'P'	12 41 55.3			Sk	iP 05 09 08.5 C
	Um	iP	12 11 46.4				iPn 05 10 24.5
		i	12 11 50.1			Um	iP 05 08 37.9
		ipP	12 12 11			Ud	iP 05 09 09.5 C
		isP	12 12 25			De	iP 05 09 17.3
		iScP	12 16 32.5			Kazakh SSR.	
		iS	12 19 17			m = 5.7 (Up, Ki).	
		i(P'P')	12 41 31.8			Underground explosion.	
		iP'P'	12 41 54.5	"	18	Sk	eSg 12 28 28
	Ud	iP	12 12 09.2			Um	iSg 12 27 14.5
		i	12 12 12.4			Ud	iSg 12 27 47.7
		isP	12 12 43.0			De	eSg 12 28 11
		iScP	12 16 48.0			Esthonia-Gulf of Finland.	
		e(P'P')	12 41 30			Explosion?	
		iP'P'	12 41 46.8	"	18	Ud	iP 12 44 17.6
	De	iP	12 12 33.7				i 12 44 24.7
		i	12 12 35.2	"	18	Ud	eP 19 52 03
		isP	12 13 13.0				i 19 52 07.0
		iS	12 21 01.3			Japan (h = 60 km).	
		iP'P'	12 41 36.8	"	18	Up	ePKP 20 22 19
	Alaska. h = 105 km (Up, Ki, Um, Ud, De).						iSKP 20 25 27.5
	m = 6.5, M = 6.0 (Up, Ki).						micr sec
	M not corrected for focal depth.					Ki	SKP Z' 0.1 0.9
"	17	Ud	iP 13 05 26.0				iPKP 20 22 10.4
"	17	Ud	e(P) 14 36 02				iSKP 20 25 02.1
			i 14 36 10.5	"	18		micr sec
"	17	Um	iP 15 16 58.6			SKP	Z' 0.5 1.0
"	17	Up	iPKP 17 07 45.2			(cont.)	
		Ud	iPKP 17 07 47.7				
			i 17 07 53.4				
		De	iPKP 17 07 57.4				
	Tonga-Kermadec Islands (h = 510 km).						

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Dec. 18	(cont.)			Dec. 19	(cont.)		
	Sk	ePKP	20 22 15		Um	i(PP)	05 27 14
		iSKP	20 25 20.0			ipPP	05 27 34
		i	20 25 25.7			iS	05 31 15
	Um	iPKP	20 22 13.1			iSn	05 34 00
		i	20 22 19.1		Ud	iP	05 25 36.3 C
		iSKP	20 25 14.5			iX	05 25 44.1
		i	20 25 22.7			ipP	05 26 11.1
	Ud	iPKP	20 22 18.2			iPP	05 27 16.7
		i	20 22 20.9			iSn	05 35 09.8
		iSKP	20 25 28.7		De	iP	05 25 32.5 C
	De	iPKP	20 22 29.6			ipP	05 26 06.3
		i	20 22 39.4			iPP	05 27 11.0
		iSKP	20 25 38.2			iPcP	05 27 20.2
	Fiji Islands	(h = 370 km).				i	05 27 44.1
"	18	Up	iP 21 06 51.3 C			Hindu Kush. h = 170 km (Sk,Um,Ud,De). m = 6.2 (Up,Ki). The recording of clear Sn-phases is noteworthy (Up,Sk,Um,Ud).	
		Ud	iP 21 07 02.5				
		Indian Ocean	(h = N).				
"	18	Up	iP 21 37 35.9				
"	19	Ki	iP 00 39 57.4	"	19	Ki	eP 11 38 20
		Sk	iP 00 40 17.3			Ud	iP 11 38 42.9
		Um	iP 00 39 59.5			Mindanao	(h = 70 km).
		Ud	iP 00 40 17.4				
		i	00 40 19.8	"	19	Up	eP 13 49 16
		De	iP 00 40 24.7	"	19	De	iP 13 53 42.9
		Molucca Sea	(h = 45 km).	"	19	Um	iP 14 28 22.1
"	19	Up	iP 05 25 19.4 C	"	19	Up	iP 15 26 22.0 C
		iX	05 25 27.4			iS	15 34 47
		iPP	05 27 00.3				micr sec
		iS	05 31 19			P	Z' 0.2 0.5
		iSn	05 34 04.5			Mx	E 2.9 19
		iSS	05 34 24			Mx	N 6.0 21
			micr sec			Mx	Z 7.9 22
		P	Z' 0.5 0.6			D = 7000 km = 63°.	
		PP	E 1.6 4			Ki	iP 15 25 28.0 C
		PP	Z 1.8 4			i	15 25 43.1
		PP	Z' 0.4 1.0				micr sec
	Ki	iP	05 25 29.8 C			P	Z' 0.2 1.0
		iPP	05 27 08.8			Mx	E 4.4 19
			micr sec			Mx	N 3.3 18
		P	Z' 0.8 1.2			Mx	Z 4.5 16
		PP	Z' 0.7 1.5		Sk	iP	15 26 04.7 C
	Sk	iP	05 25 46.3 C		Um	iP	15 25 53.1 C
		iX	05 25 54.8			i(Pa)	15 29 49
		ipP	05 26 19.7			iS	15 33 49
		iSn	05 35 16.4		Ud	iP	15 26 25.2 C
	Um	iP	05 25 18.9 C		De	iP	15 26 47.3 C
		iX	05 25 25.6			Kamchatka (h = N). m = 6.4, M = 5.8 (Up,Ki).	
		ipP	05 25 52.0				
	(cont.)						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Dec. 19	Ud	iP	15 35 19.9	Dec. 20	(cont.)		
"	19	Up	iP 16 41 47.8 C		Ki	iP	23 45 29.9
			iPP 16 44 34.3		Um	iP	23 45 19.2
			micr sec		Ud	iP	23 45 37.7
			P Z' 0.4 0.9		Hindu Kush (h = 200 km).		
			Mx E 1.4 18	"	21	Ud	iP 00 27 18.5
			Mx N 1.8 18	"	21	Up	i(P) 00 42 01.4
			Mx Z 2.2 14				micr sec
	Ki	iP	16 41 13.9 C			Mx	N 2.5 14
			iP'P' 17 09 09.4			Mx	Z 3.1 14
			micr sec		Ki	eP	00 43 03
			P Z' 0.4 1.1				micr sec
			P'P' Z' 0.3 1.7			Mx	E 1.2 12
			Mx E 2.3 15		Ud	iP	00 41 56.5
			Mx N 1.6 16			i	00 42 13.2
			Mx Z 2.6 13		Dodecanese Islands		
	Sk	iP	16 41 22.1 C		(h = 15 km).		
			iX 16 41 32.0		M = 4.9 (Up, Ki).		
	Um	iP	16 41 33.4 C	"	21	Sk	iP 03 10 34.7
			i 16 42 02.6		Dodecanese Islands.		
			iPP 16 44 12.6	"	21	Ki	iPn 11 49 36.4
	Ud	iP	16 41 40.4 C				iP ^x 11 49 44.5
			iX 16 41 49.0				iSn 11 50 21.4
			i 16 42 02.1				iSg 11 50 40.4
	De	iP	16 41 57.1 C				D = 410 km = 3.7°
			iX 16 42 03.9		Um	e(Sn)	11 51 32
	Nevada.				Probably northwest Russia.		
	m = 6.5, M = 5.6 (Up, Ki).				Origin time = 11 48 37.		
	Underground explosion.				Explosion?		
"	19	Ki	iPKP 17 06 01.5	"	21	Up	iP 13 05 41.8 C
			i 17 06 31.9				
	New Hebrides Islands						
	(h = 40 km).						
"	19	Um	iP 21 13 08.8	"	21	Up	iSg 17 35 58.3
	Alaska (h = 120 km).					Ki	ePg 17 33 22
"	20	Sk	eSg 12 36 52				iSg 17 33 57.2
		Um	iSg 12 35 29.9			SkA	ePg 17 33 23
	Esthonia-Gulf of Finland.						iSg 17 34 01.9
	Explosion?					Um	iSg 17 34 23.7
						Ud	eSg 17 35 51
"	20	Up	iPKP 17 00 59.1		Nordland, Norway,		
	Tonga-Kermadec Islands				66.4° N, 14.8° E.		
	(h = 60 km).				Origin time = 17 32 28.		
	Explosion?						
"	20	Up	iP 20 39 41.3	"	21	Um	i(P) 17 49 34.0
"	20	Ki	eP 21 54 37	"	21	De	iPKP 21 22 48.4
	Mindanao (h = 90 km).				Fiji Islands		
					(h = 570 km).		
"	20	Up	iP 23 45 21.1				
	(cont.)						

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Dec. 22	Um	iPKP	02 06 15.4	Dec. 22	(cont.)		
					De	ipP	16 55 43.9
							Kodiak Island. h = 25 km
							(Up,Sk,Ud,De).
" 22	Ud	iP	04 10 48.1				m = 6.1 (Up,Ki).
" 22	Ud	eP	04 24 19	" 22	Up	---	
" 22	Up	iP	09 16 17.2				micr sec
		i	09 16 20.5		Mx	E	1.9 20
			micr sec		Mx	N	5.0 24
		P	Z' 0.2 1.0		Mx	Z	3.6 22
	Ki	iP	09 15 56.6		Ki	---	
			micr sec				micr sec
		P	Z' 0.1 1.0		Mx	E	2.5 23
		Mx	E 3.4 13		Mx	N	2.6 21
		Mx	N 1.3 12		Mx	Z	3.2 20
		Mx	Z 4.0 13		Um	iSS	18 12 04
	Sk	iP	09 16 25.7				New Guinea (h = 25 km).
	Um	iP	09 16 02.3				M = 6.0 (Up,Ki).
		i	09 16 04.7	" 22	Up	iP	23 16 37.2
	Ud	iP	09 16 30.5		Ki	eP	23 16 20
	De	iP	09 16 39.0 C		Sk	eP	23 16 32
			Tsinghai, China (h = N).			i	23 16 38.6
			m = 6.0 (Up,Ki).		Um	iP	23 16 26.1 C
" 22	Up	eP	12 56 24			i	23 16 32.2
" 22	Ud	iPKP	13 00 00.7		Ud	iP	23 16 38.9 C
			Fiji Islands	" 23	Ud	iP	00 20 22.4
			(h = 530 km).	" 23	Ud	iP	00 34 03.2
" 22	Ki		---	" 23	Up	iP	00 36 09.8
			micr sec		Ki	eP	00 35 50
		Mx	E 1.9 17		Ud	iP	00 36 18.4
		Mx	N 1.8 19				Luzon (h = 50 km).
		Mx	Z 4.4 20	" 23	Up	iP	04 16 11.4
	Um	iSS	16 01 30		Ki	iP	04 15 17.8
			Bismarck Sea (h = N).			ipP	04 15 24.8
" 22	Up	iP	16 55 14.6		Sk	iP	04 15 45.8
		ipP	16 55 22.4			ipP	04 15 52.8
			micr sec		Um	iP	04 15 45.6
		P	Z' 0.1 1.0		Ud	iP	04 16 09.0
	Ki	iP	16 54 21.5 C			ipP	04 16 16.1
			micr sec				Kodiak Island. h = 25 km
		P	Z' 0.3 1.1				(Ki,Sk,Ud).
	Sk	iP	16 54 48.7 C	" 23	Up	eP	06 06 25
		ipP	16 54 55.8			i	06 06 32.2
	Um	iP	16 54 49.6 C		Ki	iP	06 06 07.5
	Ud	iP	16 55 12.2 C				micr sec
		ipP	16 55 19.9				Mx E 1.1 20
	De	iP	16 55 36.8				Mx Z 6.3 22
			(cont.)				(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968					1968				
Dec. 23	(cont.)	Um	iP	06 06 11.7	Dec. 24	(cont.)	Ud	iP	12 12 34.9 C
			i	06 10 40.1				i	12 12 52.3
		Ud	iP	06 06 32.5			Kurile Islands		
			i	06 06 38.2			(h = 40 km).		
		Molucca Passage			"	24	Um	iP	12 49 15.7
		(h = 35 km).							
"	23	Up	iP	08 19 44.9	"	24	Up	iP	13 11 46.3 C
			i	08 20 00.8				ipP	13 12 02.9
"	23	Up	iP	08 56 29.2			Ki	iP	13 11 27.3
"	23	Ud	iP	09 00 11.9			Sk	i(P)	13 11 59.4
"	23	Sk	iP	11 39 54.2			Um	iP	13 11 33.4
		Um	iP	11 39 54.4				ipP	13 11 50.2
			i	11 40 08.0			Ud	iP	13 11 56.1
		Ud	iP	11 39 17.1 C			De	iP	13 12 02.9
		Italy (h = N).			"	24	Up	ePn	14 00 43
"	23	Sk	iP	16 38 05.4				iPg	14 00 57.7
"	23	Up	iP	21 06 35.9				iSg	14 01 44.8
			i	21 08 37.5			Sk	iSg	14 03 29.1
		Ki	R	21 05 21.5			Um	iSg	14 02 14.0
		Sk	A	21 05 30.1			Southwest Finland.		
			iS	21 07 13.8			Explosion?		
		Um	E	21 06 00	"	24	Up	iP	14 23 22.6
		Ud	D	21 06 28.3	"	24	Ud	iP	15 16 07.4
		Northeast of Jan Mayen,			"	24	Up	iP	16 38 33.3
		near 72°N, 1°W.					Um	iP	16 38 15.8
		Origin time = 21 03 15.					Ud	iP	16 38 40.1
		Solution checked with			"	24	Up	iPKP	19 04 49.9
		readings from Norwegian					Sk	ePKP	19 04 44
		and Finnish stations.					Um	ePKP	19 04 37
"	23	Up	iP	23 27 21.6			Ud	iPKP	19 04 49.7
		Ki	iP	23 27 30.8 C			De	ePKP	19 04 59
		Sk	iP	23 27 47.2			Kermadec Islands		
		Um	iP	23 27 19.5			(h = 130 km).		
		Ud	iP	23 27 38.2	"	24	Ud	iP	19 20 35.6
		Hindu Kush (h = 230 km).			"	24	Up	iP	22 38 32.4
"	24	Up	iP	00 44 03.3			Um	iP	22 38 17.9
			i	00 44 22.2				i	22 38 27.1
		Sk	iP	00 43 59.1			Ud	iP	22 38 38.0
		Um	iP	00 43 50.7	"	25	Ud	iP	00 45 13.7 C
			i	00 44 01.4	"	25	Ud	iP	00 52 26.8
		Ud	iP	00 44 03.5	"	25	Ud	iPKP	00 54 22.4
			i	00 44 25.8			De	iPKP	00 54 33.2 D
"	24	Up	iP	12 12 27.9			Fiji Islands (h = 570 km).		
		Ki	iP	12 11 43.3					
		Um	iP	12 12 04.0					
		(cont.)							

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1968				1968			
Dec. 25	Ud	iP	01 16 43.5 C	Dec. 25	(cont.)		
" 25	Ud	iP	01 56 28.4		Ki R	iPn	11 44 01.2
" 25	Up	iP	04 07 42.8			iSn	11 45 00.1
			micr sec			iLg1	11 45 19.4
		P	Z' 0.1 0.9			D = 540 km = 4.9°	
		Mx	E 1.9 17		Sk A	eSg	11 47 48
		Mx	N 2.0 17		Um E	iSn	11 45 28.6
	Ki	iP	04 06 59.9			iSg	11 46 09.1
		i	04 08 08.6		Ud D	iSg	11 48 44.9
			micr sec		Northwest Russia, 67.0°N, 33.1°E. Origin time = 11 42 45. Explosion?		
		P	Z' 0.1 1.0	" 25	Up	iP	12 22 39.3
		Mx	E 3.0 20		Ki	iP	12 23 48.0
		Mx	N 3.0 19			i	12 24 03.7
		Mx	Z 3.2 17		Sk	iP	12 23 19.0
	Sk	iP	04 07 35.1		Um	iP	12 23 12.8
	Um	iP	04 07 18.3			i	12 23 22.6
	Ud	iP	04 07 49.5		Ud	iP	12 22 46.8
	De	iP	04 08 06.5 C			i	12 22 48.1
	Japan (h = 35 km).				De	iP	12 22 13.7
	m = 6.0, M = 5.6 (Up, Ki).					i	12 22 23.7
" 25	Ud	iP	04 22 41.3		Crete (h = 70 km).		
" 25	Up	iP	07 10 07.3	" 25	Up	iP	12 26 12.3
" 25	Ud	iP	07 12 05.5		Ki	iP	12 26 32.1
" 25	Up	eP	07 55 29		Um	iP	12 26 21.6
	Ud	iP	07 55 27.8		De	iP	12 26 19.8
	Aleutian Islands (h = 40 km).			" 25	Ki R	iPg	15 28 27.0 C
" 25	Ud	iP	08 12 31.6 C			iSg	15 28 32.3
" 25	Up	iPKP	08 45 16.6			micr sec	
		i	08 45 21.6			Sg Z' 0.5 0.5	
	Sk	ePKP	08 45 10			D = 40 km = 0.4°	
	Um	iPKP	08 45 04.7		Sk	iLg1	15 31 15.9
		i	08 45 05.7		Um E	iPg	15 29 38.0
		i	08 45 20.0			iSg	15 30 35.1
	Ud	iPKP	08 45 16.6			D = 460 km = 4.1°	
		i	08 45 26.1		Swedish Lapland, 68.0°N, 21.6°E. Origin time = 15 28 19.		
	South of Kermadec Islands (h = N).			" 25	Up	iP	16 02 59.1
" 25	Ud	iP	08 58 44.2 C		Um	iP	16 02 39.7
	De	iP	08 59 07.1			i	16 02 41.5
	Aleutian Islands (h = 45 km).			" 25	Up	iP	16 26 17.2
" 25	Up	eLg1	11 47 55		Um	iP	16 26 19.8
	(cont.)				Ud	iP	16 26 32.3
					De	iP	16 26 26.6
" 25	Up	iP	19 00 33.4	" 25	Up	iP	19 00 33.4
		i	19 00 38.0			i	19 00 38.0

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968				1968			
Dec. 25	Up	iPKP	19 16 29.4	Dec. 26	Ki	eP	21 19 05
		i	19 16 33.9			Molucca Passage (h = N).	
	Ki	ePKP	19 16 09	" 27	Ud	iP	01 25 50.2
	Sk	iPKP	19 16 23.5 C	" 27	Ud	iP	07 07 31.0
	Um	iPKP	19 16 18.0	" 27	The atmospheric nuclear explosion at 07.30 in Sinkiang, China, did not produce any P waves at our stations, whereas clear surface waves were recorded by the long-period instruments, corresponding to M = 5. These waves were almost identical to those recorded from a similar test on June 17, 1967.		
	Ud	iPKP	19 16 31.4 C				
		i	19 16 36.8				
	De	iPKP	19 16 39.8 C				
		i	19 16 50.5				
	Kermadec Islands (h = 50 km).						
" 25	Ud	iP	20 13 03.4	" 27	Ki	e(Sg)	10 10 28
" 25	De	iP	21 31 53.0	" 27	Up	iPKP	10 26 35.1
" 25	Ud	iP	22 09 38.1			i	10 26 40.6
" 25	Ud	iP	22 36 31.8			micr sec	
" 25	Ud	iP	22 48 31.6			PKP	Z' 0.1 0.5
		i	22 48 45.1		Sk	iPKP	10 26 28.0
" 25	Ud	iP	22 51 36.8			i	10 26 31.0
" 25	Up	iPKP	23 00 57.7 C		Um	iPKP	10 26 22.3
		i	23 01 06.7		Ud	iPKP	10 26 36.7 C
		micr sec			De	iPKP	10 26 45.4 C
		PKP	Z' 0.1 0.5			i	10 26 48.5
	Sk	iPKP	23 00 51.7 C		Kermadec Islands (h = 50 km).		
	Um	iPKP	23 00 46.1	" 27	Um	iSg	12 29 32.1
		i	23 00 51.3		Ud	iSg	12 30 01.8
	Ud	iPKP	23 00 59.9		Esthonia-Gulf of Finland. Explosion?		
		i	23 01 04.8	" 27	Um	e(Sg)	12 47 00
	De	iPKP	23 01 08.1		Ud	i	12 47 41.1
		i	23 01 23.1	" 27	Up	iP	14 48 27.0 C
	Kermadec Islands (h = 40 km).					ipP	14 48 35.9
" 26	Up	iP	09 06 26.9			micr sec	
	Ud	iP	09 06 36.5 C			P	Z' 0.1 0.6
" 26	Ki	ePn	09 56 56		Ki	iP	14 48 22.6
		iSn	09 57 40.5			ipP	14 48 32.4
		iSg	09 57 59.0		Sk	iP	14 48 43.7
		D = 410 km = 3.7°				ipP	14 48 53.6
	Um	iSn	09 58 19.1		Um	iP	14 48 20.0
		iSg	09 58 54.0			ipP	14 48 30.0
	Northwest Russia. Origin time = 09 55 56. Explosion?				(cont.)		
" 26	Up	iP	21 15 30.6				
	Um	iP	21 15 42.0				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968					1968				
Dec. 29	(cont.)				Dec. 29	(cont.)			
	Ki	iS	07 38 10			Ud	iP	17 49 01.5	C
		ePS	07 39 00					Mexico. h = 70 km (Ki,Um).	
			micr sec					M = 5.5 (Up,Ki).	
		S	E 0.7 9						
		S	N 0.6 12		" 29	Up	iP	18 06 55.5	
		Mx	E 3.4 19			Ki	iP	18 06 56.8	
		Mx	N 3.0 19				ipP	18 07 10.3	
		Mx	Z 4.0 19			Ud	iP	18 07 05.6	C
			D = 9050 km = 81 1/2°.				ipP	18 07 20.2	
	Sk	eP	07 28 31				i	18 07 31.8	
		i	07 28 51.0			De	iP	18 07 03.9	
	Um	eP	07 28 10					Sumatra. h = 50 km (Ki, Ud).	
		i	07 28 14.7						
		i	07 38 00		" 29	Sk	iP	19 02 17.5	
		iS	07 38 19			Um	iP	19 02 33.5	
	Ud	iP	07 28 31.7					Mexico (h = N).	
		i	07 28 36.0						
	De	iP	07 28 44.3		" 29	Up	iP	19 54 43.3	
			Mindoro (h = N).						
			m = 6.1, M = 6.0 (Up,Ki).		" 29	Ud	iPKP	20 21 35.7	
" 29	Up	iPKP	08 08 53.4			De	iPKP	20 21 47.5	C
		i	08 08 59.5					Fiji Islands	
	Sk	iPKP	08 08 50.0					(h = 550 km).	
	Um	iPKP	08 08 41.4		" 29	Ud	iP	20 31 49.3	
		i	08 08 46.5						
	Ud	iPKP	08 08 54.1		" 30	Ud	iP	03 25 14.9	
		i	08 09 01.9						
	De	iPKP	08 09 03.1		" 30	Up	iP	07 13 32.9	
			South of Kermadec Islands				ipP	07 13 43.0	
			(h = 170 km).				iPcP	07 14 12.1	
" 29	Up	iP	17 49 10.7				ipPcP	07 14 21.2	
		iS	17 59 35				eP'P'	07 42 35	
			micr sec					micr sec	
		Mx	E 1.3 21					P Z' 0.1 0.9	
		Mx	N 0.8 20			Ki	iP	07 12 39.0	C
		Mx	Z 2.0 21				ipP	07 12 48.9	
			D = 9600 km = 86 1/2°.				i	07 13 01.6	
	Ki	iP	17 49 00.4					micr sec	
		ipP	17 49 18.0					P Z' 0.2 1.0	
		iS	17 59 24			Sk	iP	07 13 05.5	C
			micr sec				ipP	07 13 15.5	
		Mx	E 1.1 17				iPcP	07 13 55.7	
		Mx	N 1.4 18				ipPcP	07 14 05.7	
		Mx	Z 2.5 20			Um	iP	07 13 07.4	
			D = 9400 km = 84 1/2°.				ipP	07 13 16.7	
	Sk	iP	17 48 53.4				iPcP	07 13 55.5	
		i	17 49 05.2				ipPcP	07 14 05.9	
	Um	iP	17 49 08.0	C			iP'P'	07 42 44.8	
		ipP	17 49 28.3				i	07 42 58.4	
		e	17 59 21			Ud	iP	07 13 29.8	C
		iS	17 59 31				ipP	07 13 39.7	
			(cont.)					(cont.)	

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De = Delary

1968

Dec. 30 (cont.)
Ud iPcP 07 14 09.5
 ipPcP 07 14 19.5
De iP 07 13 54.1 C
 ipP 07 14 03.8
 iPcP 07 14 25.3
 ipPcP 07 14 34.8

Kodiak Island.
h = 35 km (Up, Ki, Sk, Um,
Ud, De).
m = 6.1 (Up, Ki).

" 30 Ud iPKP2 09 32 55.9
South Pacific Ocean
(h = N).

" 30 Ud iP 10 05 18.5

" 30 Up iP 10 31 04.0
 i 10 31 06.1
 iS 10 34 15

		micr	sec
P	Z'	0.1	1.0
S	E	1.3	7
S	N	0.4	3
Mx	E	2.7	20
Mx	N	2.8	20
Mx	Z	4.1	21

D = 1850 km = 16 1/2°.

Ki iP 10 29 24.0
 i 10 29 26.2
 iS 10 31 14
 iT 10 37 11.5
 i 10 37 47.9

		micr	sec
P	N	1.6	8
P	Z	1.8	5
P	Z'	0.3	0.8
Mx	E	3.0	12
Mx	N	5.5	18
Mx	Z	9.2	18

D = 1000 km = 9°.

Sk eP 10 30 12
 i 10 30 35.0
Um iP 10 30 14.9 C
 i 10 31 59.7
 iS 10 32 31
 iSS 10 33 01
 i 10 33 39
Ud iP 10 30 59.1
De iP 10 31 40.6
 i 10 31 46.6

Svalbard (h = 25 km).

1968

Dec. 30 UpP ~~i 11 20 50.3~~
 iSg 11 20 57.9
SkA iSg 11 21 40.6
UdD iPg 11 19 32.9 C
 iSg 11 20 06.2
~~D = 280 km = 2.5°.~~
Del ePg 11 19 39
 iSg 11 20 13.7
~~D = 300 km = 2.7°.~~
Skagerrak, 58.3° N, 10.0° E.
Origin time = 11 18 44.

" 30 Ud iP 18 09 41.0

" 30 Ud iP 19 10 29.6

" 30 Ud iP 20 23 38.6

" 30 Up iP 22 23 27.9 C
 Ki iP 22 23 04.7
 Um iP 22 23 13.0
 Ud iP 22 23 37.2 C
 De iP 22 23 45.7
Formosa (h = 2 km).

" 30 Up iP 22 54 13.6
 i 22 54 20.3

" 31 UpP ~~i 05 04 44.8~~
 iSg 05 04 51.0
KiR ePn 05 00 38
 ~~eP^x 05 00 49~~
 iSn 05 01 34.0
 iSg ~~05 01 56.4~~
 ~~D = 520 km = 4.7°.~~
SkA iSg 05 04 21.7
Um e iSn 05 02 15.9
 ~~iS^x 05 02 29.5~~
 ~~iSg 05 02 46.5~~
UdD i(Sg) 05 05 22.1

Northwest Russia,
67.5° N, 32.6° E.
Origin time = 05 59 24.
Explosion?

" 31 Ki eSg 10 33 29
 Um i 10 31 59.5
 iSg 10 32 08.1
Ud e 10 32 56
 iSg 10 33 41.9
Lake Ladoga. Explosion?

" 31 Ud iP 11 19 09.1

" 31 Ud iP 12 32 29.0

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm,
De = Delary

1968

Dec. 31	Ki	iPn	12 45 25.0
		iSn	12 46 11.0
		iSg	12 46 28.4
		D = 420 km = 3.8°.	
		Probably northwest Russia.	
		Origin time = 12 44 23.	
		Explosion?	
"	31	Ud	iP 13 04 58.5
"	31	Ud	iP 16 42 50.8
"	31	Ud	iP 18 31 50.8
		i	18 36 04.1
"	31	Up	iP 20 06 38.7
		Ki	iP 20 06 21.2
		Um	iP 20 06 27.2
		Luzon (h = 110 km).	
"	31	Ud	iP 20 08 19.2
"	31	Ud	iP 23 55 03.6

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July 10, 1969