

POLISH ACADEMY OF SCIENCES

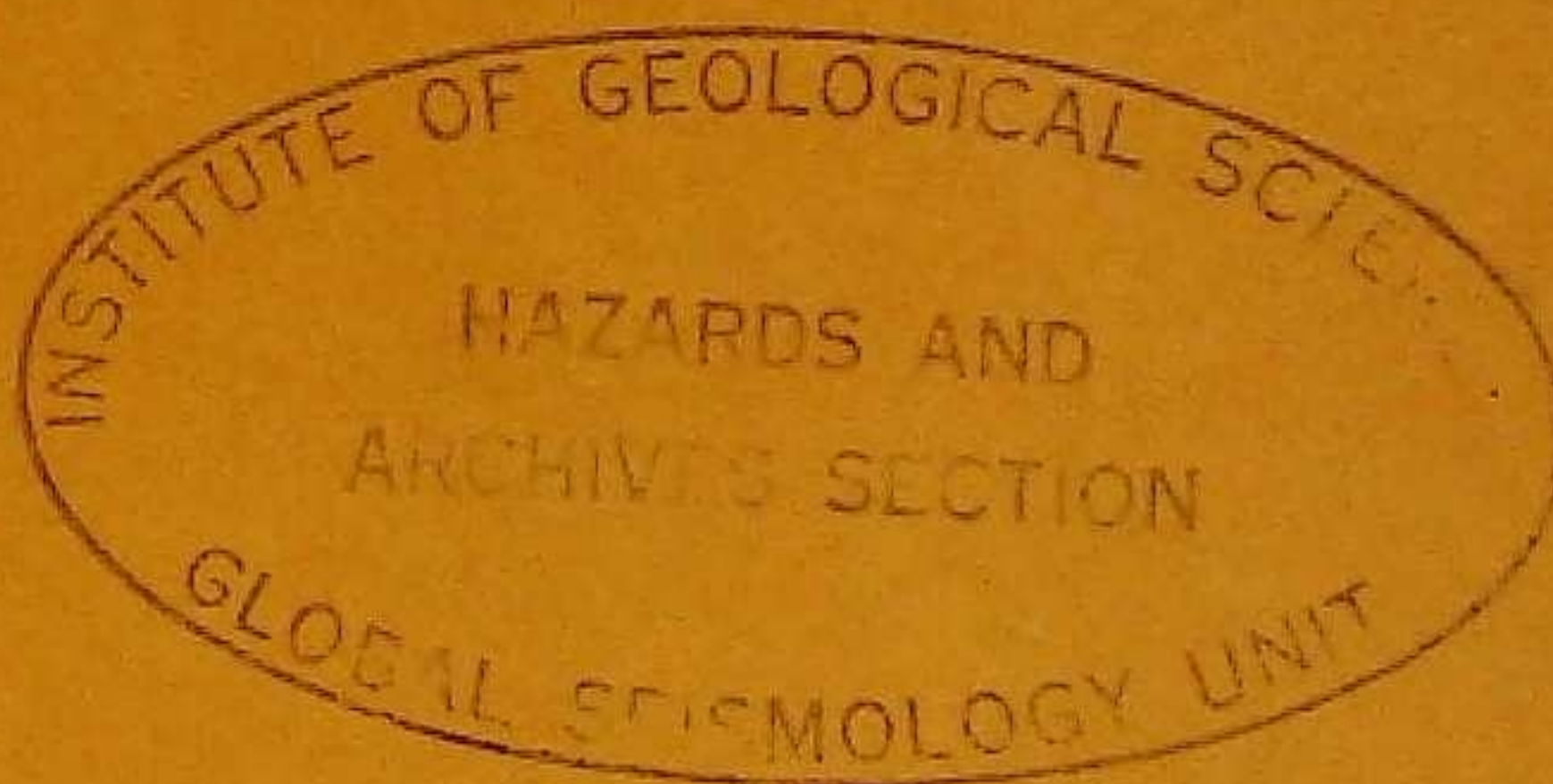


PUBLICATIONS
OF THE INSTITUTE OF GEOPHYSICS

B-5 (145)

part 1

SEISMOLOGICAL BULLETIN
1978
JANUARY FEBRUARY MARCH



PAŃSTWOWE WYDAWNICTWO NAUKOWE
WARSZAWA-LÓDŹ 1979



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WARSZAWA-ŁÓDŹ 1979

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INTRODUCTION

The present Seismological Bulletin contains distant earthquakes recorded by seismological observatories of the Institute of Geophysics, Polish Academy of Sciences. The identification of shocks and interpretation of phases were based on the hypocenter determination given by:

NEIS - U.S. Department of the Interior (Geological Survey),
National Earthquake Information Service, Boulder, USA;

EMSC - European Mediterranean Seismological Centre, Strasbourg;

Moscow - Central Seismological Station "Obninsk", Institute
of the Physics of the Earth, USSR Academy of Sciences, Moscow.

Magnitudes of earthquakes were determined from recordings of horizontal and vertical components of surface waves for epicentral distances $\Delta > 5^\circ$ and depths $h < 80$ km, using the IASPEI formula. The magnitude from body waves was determined only from the recordings of vertical component of the P waves for $\Delta > 20^\circ$ and depths $h < 80$ km, using the calibrating function given by Vanek et al. (1962)*. The maximum value of A/T was determined in the interval up to 40 s from the first arrival of the P wave.

The frequency responses of Warszawa, Kraków, Racibórz, Niedzica and Książ stations are given in Figures 1-5.

* Vanek J., Zatopek A., Karnik V., Kondorskaya N.V., Riznichenko Yu.V., Savarenskiy E.F., Solovev S.L., Shebalin N.V., 1962, Standartizatsiya shkaly magnitud, Izv. AN SSSR, Ser. Geofiz., 2, 153-158.

PARAMETERS OF THE SEISMOGRAPHS

Station	Type of seismo-graph	Comp.	T _s [s]	T _g [s]	D _s	D _g	σ ²	V ₀	V _m	T _m [s]
Warszawa (WAR) φ = 52°14'30" N λ = 21°01'25" E h=110 m	GW	N-S	10.28	12.10	1.08	1.02	0.059	1500	865	4.2-9.0
		E-W	9.68	11.10	0.99	0.98	0.058	1330	820	4.4-9.0
		Z	7.80	11.38	0.50	0.83	0.030	900	855	5.5-9.0
	SKD	N-S	20.3	79.8	1.08	0.47	0.086	535	550	13-32
		F-W	20.4	89.6	1.04	0.50	0.091	513	520	13-32
		Z	21.4	86.5	1.00	0.48	0.104	603	620	14-32.6
Kraków (KRA) φ = 50°03'22" N λ = 19°56'23" E h=223 m	Ch	N-S	1.24	0.281	0.497	1.981	0.132	10600	11420	0.17-1.0
		E-W	1.29	0.280	0.530	1.942	0.139	10750	11300	0.15-1.0
		Z	1.46	0.282	0.579	1.984	0.156	10780	11100	0.15-1.0
	SKM-3	N-S	1.273	0.580	0.515	0.487	0.0125	21800	23260	0.5-0.75
		E-W	1.280	0.575	0.524	0.469	0.0129	22560	24470	0.5-0.75
		Z	1.445	0.580	0.610	0.486	0.0131	22000	22700	0.5-0.75
	GW	N-S	9.70	1.01	0.49	5.00	0.020	1480	1500	0.22-8.0
		E-W	11.10	1.00	0.47	5.00	0.021	1480	1490	0.21-9.0
		Z	10.50	1.01	0.48	5.00	0.025	1010	1020	0.22-8.5
	SKD	N-S	20.0	106.6	1.00	0.50	0.144	600	610	13.5-40
		E-W	20.0	98.2	0.99	0.50	0.149	600	615	13.5-40
		Z	20.0	108.8	1.00	0.50	0.193	690	705	13.5-40

Station	Type of seismo-graph	Comp.	T _s [s]	T _g [s]	D _s	D _g	σ ²	V ₀	V _m	T _m [s]
Racibórz (RAC) φ = 50°05'00" N λ = 18°11'39" E h=209 m	SK-58	N-S	1.22	1.06	0.50	0.73	0.013	2420	2820	0.75-1.19
		E-W	1.23	1.07	0.57	0.50	0.013	2880	2710	0.75-1.17
		Z	1.12	1.07	0.31	0.40	0.020	3110	5220	0.91-1.16
	Mainka (M)	N-S	9.0	-	0.36	-	-	87	130	6-9
		E-W	9.0	-	0.38	-	-	86	120	6-9
		Z	2.0	-	0.13	-	-	165	620	1.8-2.2
Niedzica (NIE) φ = 49°25'25" N λ = 20°19'19" E h=555 m	SK-58	N-S	1.40	0.266	0.70	3.50	0.054	25000	25100	0.10-0.85
		E-W	1.40	0.293	0.70	3.54	0.051	25150	25280	0.10-0.90
		Z	1.09	0.207	0.70	3.50	0.313	64950	73270	0.20-0.85
Książ (KSP) φ = 50°50'6" N λ = 16°17'6" E h=380 m	SU-59	N-S	1.19	0.25	0.50	1.37	0.089	87450	90000	0.15-0.60
		E-W	1.22	0.24	0.62	1.44	0.142	108700	110800	0.15-0.60
		Z	1.00	0.21	0.50	1.53	0.171	106300	110700	0.15-0.65

Abbreviations

T_s - free period of seismometer,

T_g - free period of galvanometer,

D_s - attenuation of seismometer,

D_g - attenuation of galvanometer,

σ² - coupling coefficient,

$$V_0 - \text{static magnification } V_0 = \frac{2A}{10} \sqrt{\frac{K_s}{K_g} \frac{D_s}{D_g} \frac{T_g}{T_s} \sigma^2}$$

$$V_0 - \text{static magnification of SKD instruments } V_0 = \frac{2A}{10} \sqrt{\frac{K_s}{K_g} \frac{D_s}{D_g} \frac{T_s}{T_g} \sigma^2}$$

V_m - maximum magnification,

T_m - interval of periods for magnification range $V \geq 0.9 V_m$.



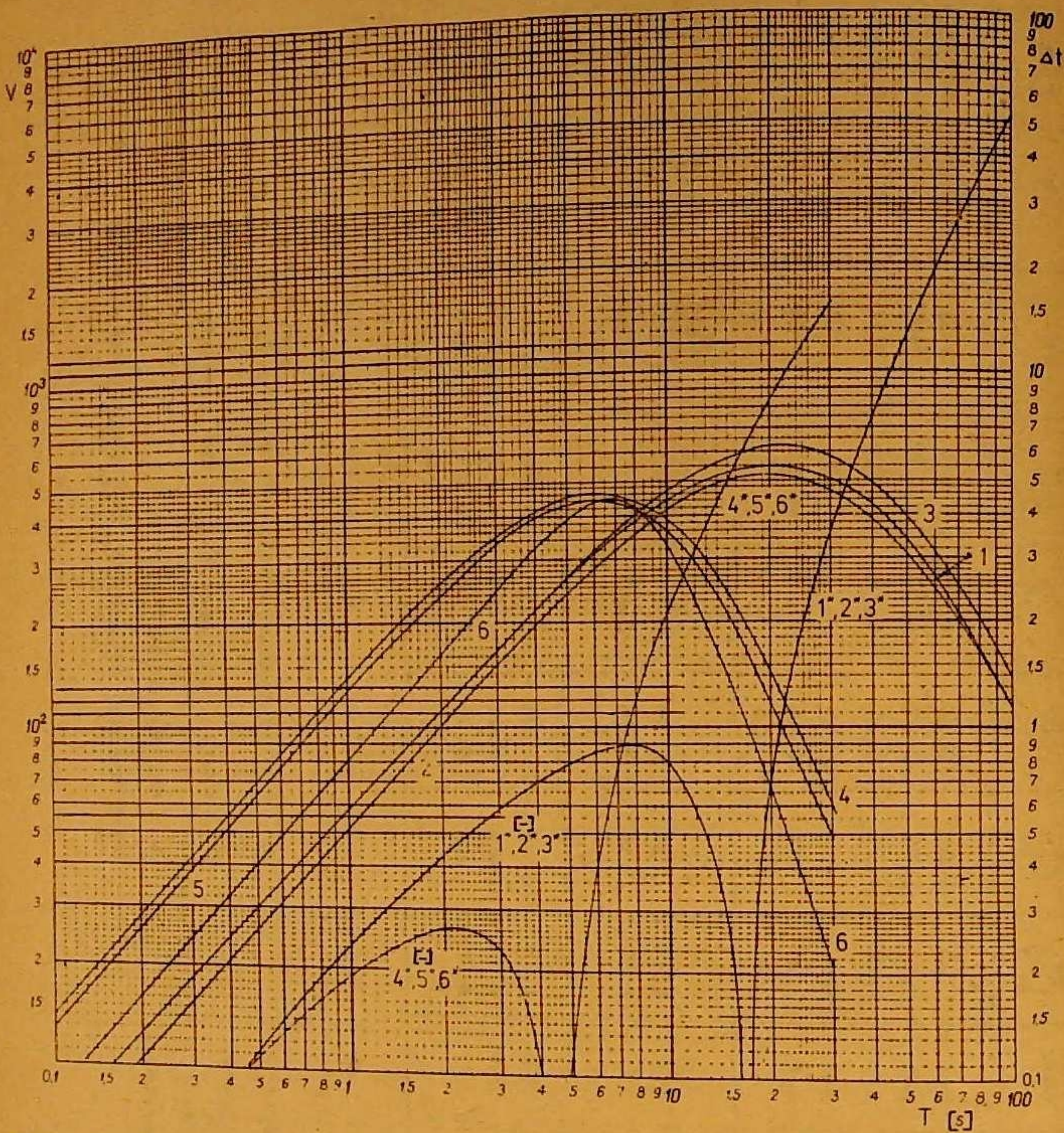


Fig. 1. Frequency responses of the instruments at Warszawa (WAR) station. Phase distortion curves marked by asterisque.
 SKD long-period seismographs: 1) N-S horizontal component, 2) E-W horizontal component, 3) vertical component;
 Galitzin-Wilip seismographs: 4) N-S horizontal component, 5) E-W horizontal component, 6) vertical component.

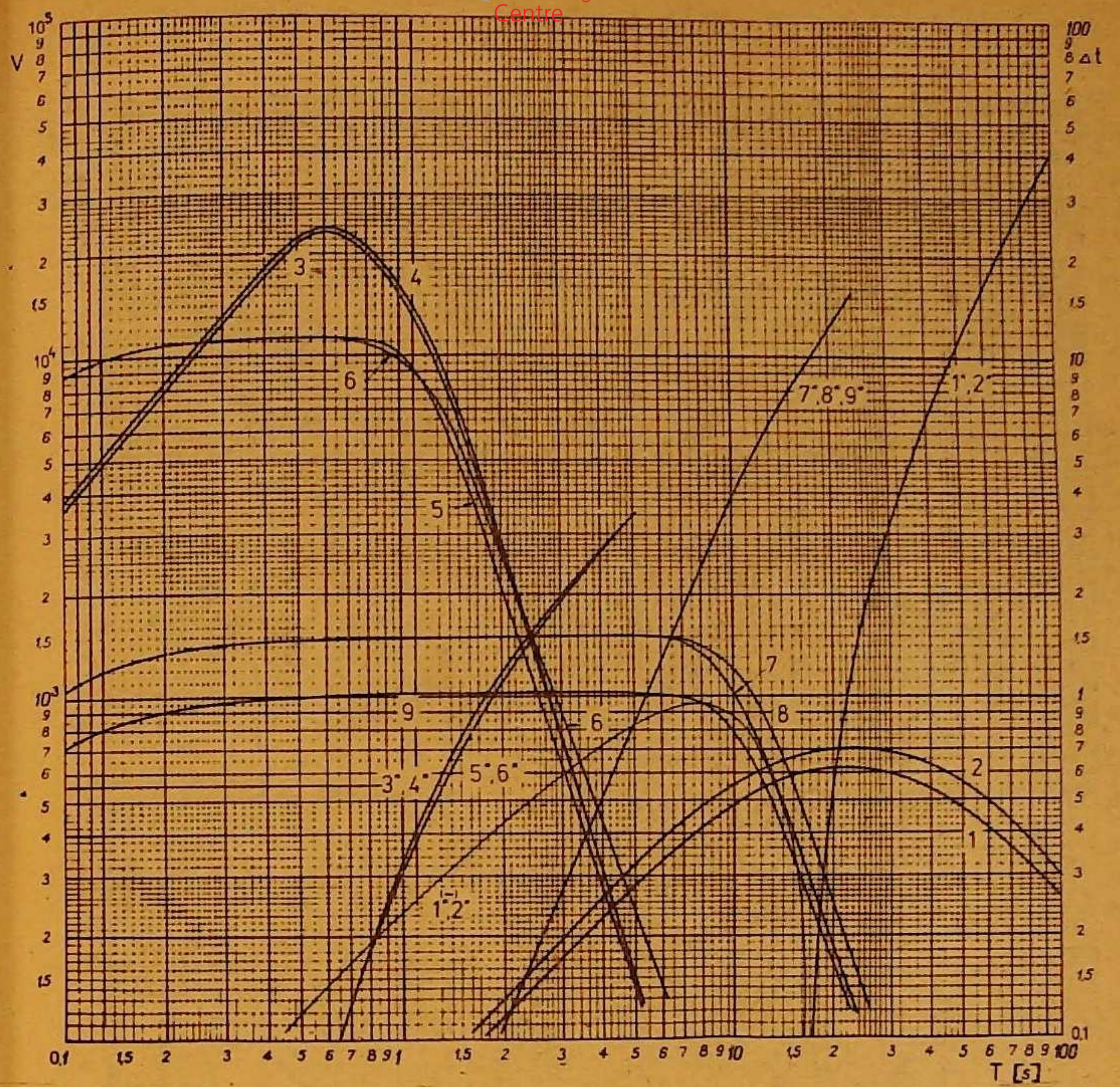


Fig. 2. Frequency responses of the instruments at Kraków (KRA) station. Phase distortion curves marked by asterisque.
 SKD long-period seismographs: 1) horizontal components, 2) vertical component;
 SKM short-period seismographs: 3) N-S horizontal component and vertical component, 4) E-W horizontal component;
 Ch short-period seismographs: 5) horizontal components, 6) vertical component;
 Galitzin-Wilip seismographs: 7) N-S horizontal component, 8) E-W horizontal component, 9) vertical component.

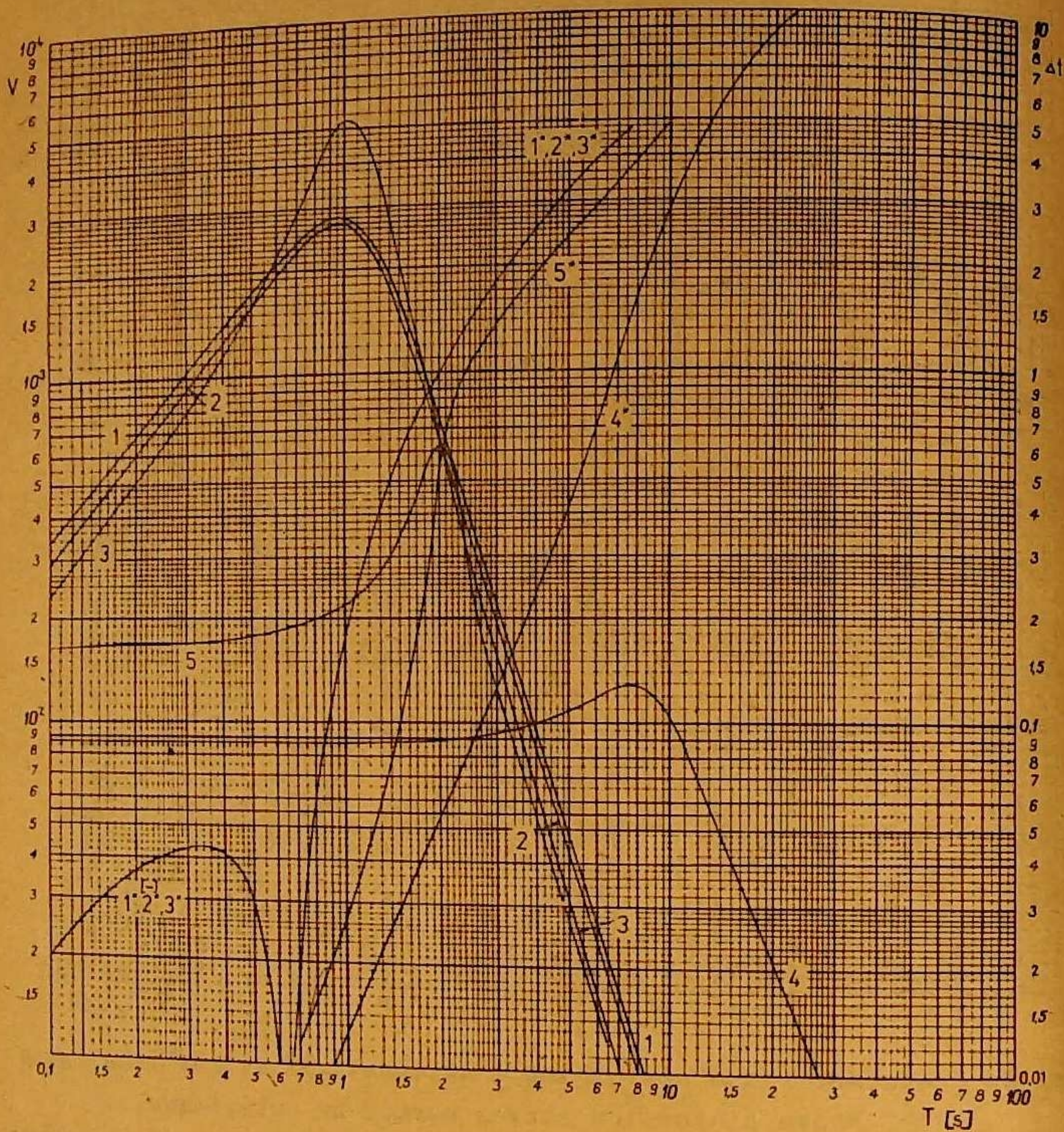


Fig. 3. Frequency response of the instruments at Racibórz (RAC) station. Phase distortion curves marked by asterisque.
SK short-period seismographs: 1) N-S horizontal component, 2) E-W horizontal component, 3) vertical component;
Mainka seismographs: 4) horizontal components, 5) vertical component.

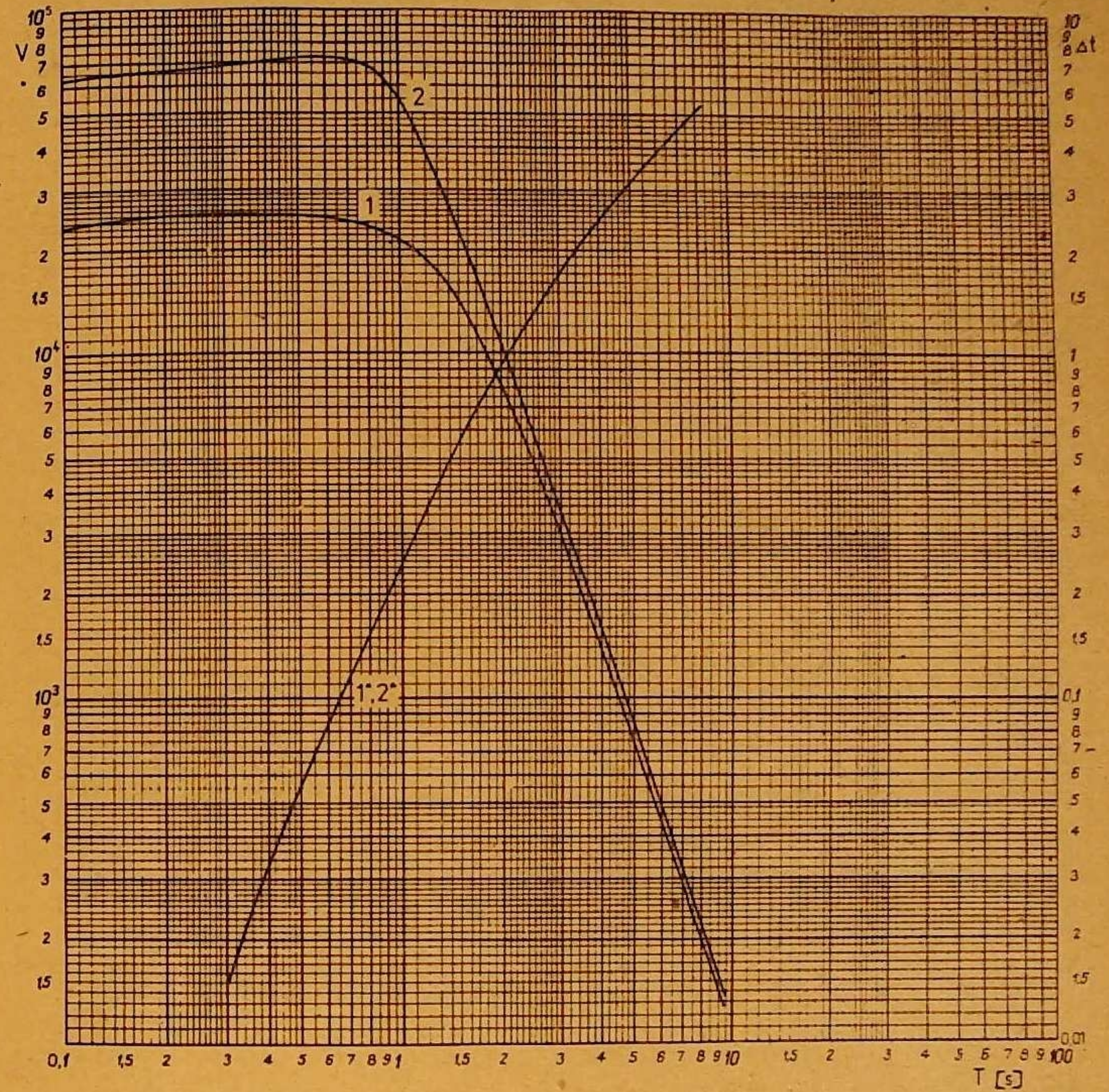


Fig. 4. Frequency responses of the instruments at Niedzica (NIE) station. Phase distortion curves marked by asterisque.
SK short-period seismographs: 1) horizontal components, 2) vertical component.

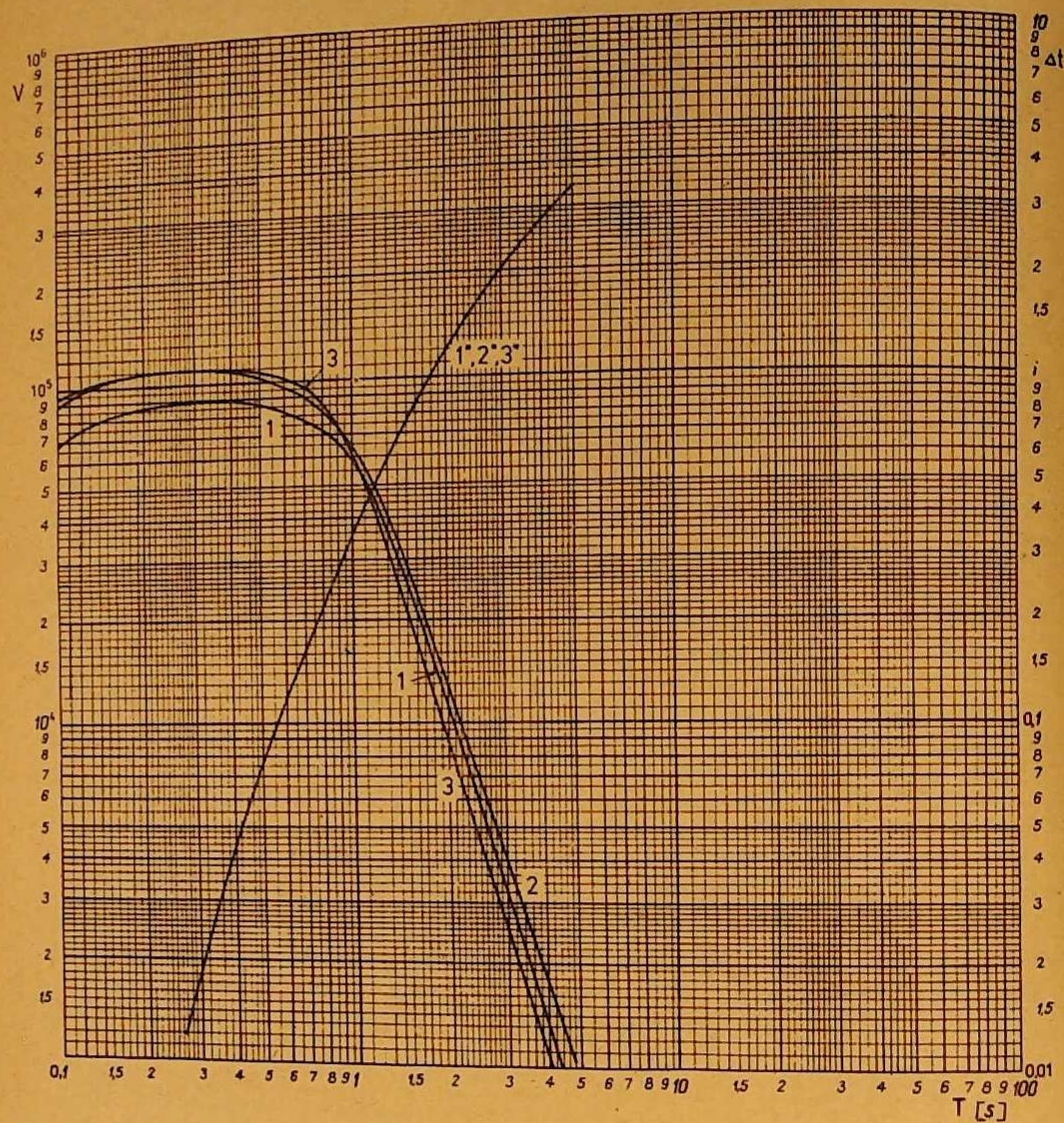


Fig. 5. Frequency responses of the instruments at Książ (KSP) station. Phase distortion curve marked by asterisque. SU short-period seismographs: 1) N-S horizontal component, 2) E-W horizontal component, 3) vertical component.

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
1978 J A N U A R Y 1978							
1.I	Yugoslavia, EMSC: 43.26°N, 17.56°E, H=04 ^h 23 ^m 46.3 ^s , h=10 km			2.I	KSP	eP	06 36 16
	NIE Δ=6.45°					Pm	27
	eiPn	04 25 23.5				Z:	1.5 ^s ; 0.14μ
	i	27 11.0			WAR	Δ=19.08°	
					(SKD)	eL	06 42.0
						Lm	43 10
						NE:	16 ^s ; 33μ, 32μ
1.I	Rumania, EMSC: 45.76°N, 26.62°E, H=07 ^h 40 ^m 16.2 ^s , h=134 km			2.I	Adriatic, EMSC: 42.6°N, 16.22°E, H=18 ^h 05 ^m 20.4 ^s ; h=10 km		
	NIE Δ=5.62°				NIE	Δ=7.40°	
	iPn	07 41 39.9 D			eiPn		18 07 12
	Z:	1.0 ^s ; 0.37μ			eiP*		22
	KRA Δ=6.21°				i		54
	(SKM) eiPn	07 41 44.6 D			iSn		08 38
	Z:	1.2 ^s ; 0.31μ			KRA	Δ=7.89°	
	i	54.6			(SKM) ePn		18 07 41
	i	42 04.6			iSn		08 44.1
	KSP Δ=8.55°				KSP	Δ=8.25°	
	eiP	07 42 15			eiSn		18 08 59
	Pm	27		3.I	KRA		
	Z:	0.6 ^s ; 0.044μ			(SKM) eiP		01 53 51
					Z:	0.8 ^s ; 0.037μ	
2.I	Caucasus, EMSC: 41.64°N, 44.40°E, H=06 ^h 31 ^m 34.9 ^s , h=56 km; MLH=5.2 (Kraków), 5.9 (Warszawa)				NIE		
	NIE Δ=18.52°				eiP		01 53 52
	eiP	06 35 46			Z:	1.0 ^s ; 0.028μ	
	Pm	54			KSP		
	Z:	1.0 ^s ; 0.20μ			eP		01 53 52
	iPP	57.5		4.I	Japan, Moscow: 43.12°N, 145.12°E, H=00 ^h 57 ^m 30.4 ^s , h=130 km, MPV=5.1		
	KRA Δ=18.94°				KRA	Δ=75.59°	
	(SKM) eiP	06 35 50			(SKM) iP		01 08 56.6 C
	Pm	56.8			Z:	0.6 ^s ; 0.035μ	
	Z:	1.4 ^s ; 0.21μ			epP		09 23
	iPP	36 03.3			NIE	Δ=75.94°	
	(SKD) eS	39 27			eiP		01 08 58
	Lm	42.3			Z:	0.9 ^s ; 0.021μ	
	NE:	24 ^s ; 15μ, 6.0μ			eiP		09 27
	Lm	42.3					
	Z:	16 ^s ; 5.7μ					
	KSP Δ=21.40°						

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
4.I	KRA (SKM)	1P	12 46 39.2 Z: 0.6 ^S ; 0.046μ	6.I	NIE	i eiPP	04 54 22.2 57 05.5
4.I	Greenland, EMSC: 85.34 ^N , 27.00 ^W , H=14 ^h 52 ^m 09.4 ^S , h=10 km; MPV=4.9 (Kraków)				KSP	Δ=84.98 ^O eiP	04 53 55
	KRA	Δ=37.06 ^O			Pm		59.6
	(SKM)	1P	14 59 18.2 C Z: 1.5 ^S ; 0.026μ			Z: 0.7 ^S ; 0.052μ	
5.I	Pakistan, Moscow: 29.78 ^N , 68.93 ^E , H=03 ^h 26 ^m 41.1 ^S , MPV(A)=4.9; MPV=5.0 (Niedzica)				ePP		57 17
	NIE	Δ=41.80 ^O			WAR	Δ=81.72 ^O	
	iP		03 34 25.0		(SKD)	eiS	05 03 54
		Z: 1.1 ^S ; 0.022μ			Lm		29 00
	ipP		36			N: 20 ^S ; 29μ	
5.I	NIE				Lm		37 22
	eiP		03 42 56			EZ: 16 ^S ; 46μ, 14μ	
		Z: 0.9 ^S ; 0.017μ		6.I	KSP		
5.I	Iran, EMSC: 27.94 ^N , 53.69 ^E , H=19 ^h 30 ^m 29.4 ^S , h=92 km				eP		13 02 18
	KRA	Δ=33.85 ^O		6.I	Japan, Moscow: 41.97 ^N , 141.76 ^E , H=19 ^h 42 ^m 20.5 ^S , h=50 km; MPV(A)=5.4; MPV=5.5 (Kraków), 5.3 (Niedzica)		
	(SKM)	eP	19 37 02		KRA	Δ=75.17 ^O	
	KSP	Δ=36.29 ^O			iP		19 53 59.9 D
	eP		19 37 20			Z: 1.0 ^S ; 0.042μ	
6.I	Philippine Islands, Moscow: 18.95 ^N , 121.97 ^E , H=04 ^h 41 ^m 17.6 ^S , MPV(A)=6.1; MPV=6.1 (Kraków), 6.0 (Niedzica); MLH=6.4 MLV=6.4 (Kraków), 6.4 (Warszawa)				NIE	Δ=75.49 ^O	
	KRA	Δ=83.13 ^O			iP		19 54 00
	(SKM)	1P	04 53 47.0 D			Z: 1.1 ^S ; 0.026μ	
	Pm		51.0		eiSP		18
		Z: 1.5 ^S ; 0.30μ			KSP	Δ=76.06 ^O	
	ipP		59.5		eP		19 54 04
	(SKD)	eS	05 04 09	7.I	KRA		
	Lm		27.5		(SKM)	eP	03 38 18
		NEZ: 20 ^S ; 21μ, 4.1μ, 4.0μ			i		31.4
	Lm		31.7		NIE		
		NEZ: 20 ^S ; 10μ, 11μ, 16μ			eiP		03 38 23
	NIE	Δ=83.13 ^O				Z: 1.1 ^S ; 0.024μ	
	eiP		04 53 47	7.I	Sumatra Region, Moscow: 4.51 ^S , 102.73 ^E , H=13 ^h 44 ^m 16.0 ^S , MPV(A)=5.3; MPV=5.2 (Niedzica)		
	Pm		52		NIE	Δ=88.46 ^O	
		Z: 1.4 ^S ; 0.18μ			eiP		13 57 12.1
						Z: 1.0 ^S ; 0.015μ	
				8.I	KRA		
					(SKM)	eP	06 42 19
						Z: 0.8 ^S ; 0.032μ	

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
8.I	NIE - continuation			10.I	Iceland, EMSC: 65.71 ^N , 18.45 ^W , H=20 ^h 44 ^m 46.9 ^S , h=10 km		
	eiP		06 42 14		KSP	Δ=23.14 ^O	
		Z: 0.9 ^S ; 0.017μ			eP		20 49 50
8.I	KSP				KRA	Δ=25.17 ^O	
	1P		13 08 20.1 D		(SKM)	eP	20 50 09
		Z: 0.7 ^S ; 0.021μ		11.I	China, Moscow: 40.26 ^N , 77.16 ^E , H=01 ^h 45 ^m 03.4 ^S , MPV(A)=4.5; MPV=5.1 (Kraków), 4.9 (Niedzica)		
9.I	Iceland, EMSC: 65.89 ^N , 17.18 ^W , H=19 ^h 03 ^m 13.2 ^S , h=10 km				KRA	Δ=40.61 ^O	
	KSP	Δ=22.73 ^O			(SKM)	eiP	01 52 41
	eP		19 08 13			Z: 0.7 ^S ; 0.020μ	
	KRA	Δ=24.74 ^O			NIE	Δ=40.46 ^O	
	(SKM)	1P	19 08 33		iP		01 52 44.6 C
10.I	Kuril Islands, Moscow: 47.49 ^N , 151.62 ^E , H=00 ^h 50 ^m 22.7 ^S , h=70 km, MPV(A)=5.6; MPV=5.9 (Kraków), 5.6 (Niedzica); MLH=5.6, MLV=5.4 (Kraków)					Z: 1.0 ^S ; 0.020μ	
	KRA	Δ=74.27 ^O		11.I	Japan, Moscow: 29.92 ^N , 138.78 ^E , H=08 ^h 10 ^m 12.3 ^S , h=410 km; MPV(A)=5.2		
	(SKM)	1P	01 01 54.0 C		KRA	Δ=83.71 ^O	
		Z: 0.7 ^S ; 0.078μ			(SKM)	eiP	08 21 57 C
	ipP		02 11			Z: 0.9 ^S ; 0.026μ	
	eiSP		18		ipP		23 28.5
	(SKD)	eS	10 21		NIE	Δ=83.93 ^O	
	Lm		35.5		1P		08 21 58.0 C
		NE: 25 ^S ; 2.4μ, 3.2μ				Z: 1.0 ^S ; 0.020μ	
	Lm		37.5		i		23 39.2
		Z: 25 ^S ; 2.3μ		11.I	Iceland, EMSC: 65.94 ^N , 17.12 ^W , H=10 ^h 58 ^m 14.3 ^S , h=10 km; MPV=5.1 (Kraków)		
	NIE	Δ=74.67 ^O			KSP	Δ=22.73 ^O	
	1P		01 01 55.7 C		eP		11 03 15
		Z: 0.9 ^S ; 0.051μ			KRA	Δ=24.74 ^O	
10.I	Iceland, EMSC: 65.99 ^N , 16.80 ^W , H=12 ^h 45 ^m 12.9 ^S , h=10 km				(SKM)	eP	11 03 34
	KRA	Δ=24.64 ^O				Z: 1.8 ^S ; 0.10μ	
	eP		12 50 32		i		42.0
10.I	Iceland, EMSC: 66.20 ^N , 17.22 ^W , H=17 ^h 42 ^m 13.2 ^S , h=10 km; MPV=5.5 (Kraków)			11.I	Japan, Moscow: 43.23 ^N , 145.42 ^E , H=20 ^h 26 ^m 54.2 ^S , MPV(A)=5.5; MPV=6.3 (Kraków)		
	KSP	Δ=22.88 ^O			KRA	Δ=75.62 ^O	
	eP		17 47 15		(SKM)	1P	20 38 38.3 C
	KRA	Δ=24.88 ^O				Z: 0.6 ^S ; 0.17μ	
	(SKM)	eP	17 47 35 D		i		39 02.8
		Z: 2.0 ^S ; 0.18μ			KSP	Δ=76.39 ^O	
	Lm		59.3		eP		20 38 43
		NEZ: 15 ^S ; 1.0μ, 1.7μ, 2.2μ					



Date	Station	Phase	T.U. h m s
14.I Japan - continuation			
KRA	Lm		23 14.6
		NEZ: 26 ^S ; 7.0μ, 9.1μ, 2.4μ	
NIE		Δ=78.87°	
	eIP		22 43 57
	Pm		44 03.5
		Z: 1.1 ^S ; 0.037μ	
	ipP		08.5
KSP		Δ=79.73°	
	eP		22 44 01
WAR		Δ=76.63°	
(SKD)	eIS		22 53 36
	eISKS		49
	eIPPS		54 41
	eL		23 04.5
	Lm		15 40
		N: 16 ^S ; 19μ	
	Lm		21 29
		EZ: 16 ^S , 18 ^S ; 42μ, 9.8μ	
14.I Japan, Moscow: 35.83°N, 138.43°E, H=22 ^h 36 ^m 19.8 ^s , MPV(A)=5.7; MPV=5.2 (Niedzica)			
KRA		Δ=78.71°	
(SKM)	iP		22 48 21.1 C
	i		28.3
NIE		Δ=79.00°	
	iP		22 48 24.5
		Z: 1.1 ^S ; 0.024μ	
	ipP		35.0
15.I NIE			
	eIP		01 25 12.5 C
		Z: 1.1 ^S ; 0.032μ	
15.I Kermadec Islands, Moscow: 30.11°S, 177.49°W, H=06 ^h 56 ^m 37.6 ^s , MPV(A)=6.0			
KRA		Δ=156.13°	
(SKM)	ePKIKP		07 16 30
	e(PKIKP)		44
	eIPKP ₂		17 06
(SKD)	Lm		08 29.5
		NEZ: 20 ^S ; 5.0μ, 3.3μ, 5.0μ	
NIE		Δ=156.45°	
	ePKIKP		07 16 30
15.I NIE			
	eIP		07 16 48
			17 02
15.I NIE			
	eIP		08 01 00
15.I Rumania, EMSC: 45.84°N, 26.80°E, H=10 ^h 26 ^m 44.9 ^s , h=130 km			
NIE		Δ=5.66°	
	iPn		10 28 09.0 D
		Z: 1.4 ^S ; 0.36μ	
	i		18.0
	i		28.5
KRA		Δ=6.25°	
(SKM)	eIPn		10 28 13
		Z: 0.7 ^S ; 0.086μ	
	eI		29
KSP		Δ=8.60°	
	eIPn		10 28 46
15.I NIE			
	eIP		13 37 37
		Z: 1.3 ^S ; 0.021μ	
16.I Kuril Islands, Moscow: 45.00°N, 149.43°E, H=01 ^h 34 ^m 24.0 ^s , MPV(A)=5.4; MPV=6.0 (Kraków), 5.2 (Niedzica)			
KRA		Δ=75.64°	
(SKM)	eIP		01 46 07 C
		Z: 1.0 ^S ; 0.11μ	
NIE		Δ=76.02°	
	eIP		01 46 11
		Z: 1.4 ^S ; 0.029μ	
	ipP		20.5
KSP		Δ=76.26°	
	eP		01 46 13
16.I Hindu Kush, Moscow: 36.65°N, 70.71°E, H=03 ^h 20 ^m 06.9 ^s , h=220 km, MPV(A)=5.1			
KRA		Δ=38.53°	
(SKM)	iP		03 27 09.2 C
		Z: 0.7 ^S ; 0.16μ	
	eIP		46.8
NIE		Δ=38.28°	
	iP		03 27 10.0 C
		Z: 1.1 ^S ; 0.13μ	

Date	Station	Phase	T.U. h m s
16.I Hindu Kush - continuation			
	NIE	i	03 27 17.5
			27.5
16.I Japan, Moscow: 39.55°N, 142.91°E, H=05 ^h 32 ^m 49.2 ^s , MPV(A)=5.2; MPV=5.4 (Kra- ków)			
KRA		Δ=77.66°	
(SKM)	eIP		05 44 43
		Z: 0.9 ^S ; 0.032μ	
	eIS		58
KSP		Δ=78.57°	
	eP		05 44 51
16.I Jura, EMSC: 48.31°N, 8.98°E, H=14 ^h 31 ^m 14.7 ^s , h=8 km			
KSP		Δ=5.39°	
	eIPn		14 32 45
	eIP ^x		53
	i		34 06
KRA		Δ=7.39°	
(SKM)	ePg		14 33 32
	eIS ^x		35 02
NIE		Δ=7.56°	
	ePg		14 33 33
	i		34 59
16.I KRA			
(SKM)	eP		18 09 48
		Z: 1.0 ^S ; 0.060μ	
17.I Rumania, EMSC: 45.77°N, 21.06°E, H=02 ^h 29 ^m 32.5 ^s , h=10 km			
KRA		Δ=4.35°	
(SKM)	iPn		02 30 41.2 C
	i		31 07.5
17.I KSP			
	iP		07 52 51 D
		Z: 1 ^S ; 0.032μ	
KRA			
(SKM)	eIP		07 52 52 C
		Z: 0.8 ^S ; 0.023μ	
17.I Kuril Islands, Moscow: 46.50°N, 150.02°E, H=07 ^h 59 ^m 21.3 ^s , h=185 km, MPV(A)=4.9			
17.I KRA			
		Δ=74.57°	
(SKM)	iP		08 10 41.6
		Z: 0.6 ^S ; 0.031μ	
KSP		Δ=75.14°	
	eP		08 10 42
17.I KRA			
(SKM)	iP		15 07 41.1 D
		Z: 0.9 ^S ; 0.053μ	
KSP			
	eP		15 07 57
18.I KRA			
(SKM)	eP		03 16 27
		Z: 0.8 ^S ; 0.023μ	
18.I Kermadec Islands, Moscow: 30.35°S, 177.16°W, H=21 ^h 12 ^m 38.1 ^s			
KRA		Δ=156.48°	
(SKM)	ePKP		21 32 38
KSP		Δ=157.19°	
	ePKP ₂		21 33 00
19.I Tonga Islands, Moscow: 18.29°S, 177.91°W, H=10 ^h 43 ^m 09.4 ^s , MPV(A)=5.6			
KSP		Δ=145.61°	
	ePKP		11 02 47
KRA		Δ=145.23°	
(SKM)	iPKP		11 02 48.0 C
		Z: 0.6 ^S ; 0.043μ	
19.I Turkey, EMSC: 38.86°N, 27.92°E, H=12 ^h 08 ^m 18.7 ^s , h=10 km			
KRA		Δ=12.55°	
(SKM)	iS		12 13 39.0
19.I NIE			
	iP		13 14 54.0
		Z: 0.9 ^S ; 0.014μ	
20.I Solomon Islands, Moscow: 9.95°S, 159.66°E, H=00 ^h 24 ^m 14.9 ^s			
NIE		Δ=128.17°	
	eIPKIKP		00 43 29

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
20.I Chile - Argentine Border Region, Moscow: 34.50°S, 70.95°W, H=04 ^h 42 ^m 46.6 ^s				22.I	KRA	Δ=77.62°	
	(SKM)	ePKIKP	05 01 26 C		(SKM)	eIP	08 21 21 D
	KRA	Δ=116.06°				Z: 0.9 ^S ; 0.063μ	
	(SKM)	ePKIKP	05 01 26 C			eipP	32
		Z: 1.0 ^S ; 0.036μ			NIF	Δ=78.17°	
	NIF	Δ=116.04°				iP	08 21 25.0 D
	(SKM)	ePKIKP	05 01 26 C			Z: 0.9 ^S ; 0.042μ	
		Z: 1.5 ^S ; 0.031μ		24.I	Kuril Islands, Moscow: 45.17°N, 149.32°E, H=05 ^h 54 ^m 24.0 ^s , MPV(A)=6.0; MPV=6.5, MLH=6.2, MLV=6.2 (Kraków); MLH=6.6, MLV=6.2 (Warszawa)		
21.I Peru - Brazil Border Region, Moscow: 5.20°N, 72.35°W, H=08 ^h 19 ^m 25.8 ^s , MPV(A)=5.2; MPV=5.6 (Kraków)					WAR	Δ=73.27°	
	(SKM)	eIP	08 32 12		(SKD)	eIP	06 05 53
		Z: 1.6 ^S ; 0.073μ				eIPoP	06 09
		isP	27.4			eIS	15 32
21.I Japan, Moscow: 42.62°N, 143.17°E, H=20 ^h 09 ^m 18.4 ^s , h=90 km, MPV(A)=5.1; MPV=5.6 (Kraków), 5.2 (Niedzica)						eIPPS	16 11
	KRA	Δ=75.22°			Lm	43 32	
	(SKM)	eIP	20 20 54 C			NEZ: 18 ^S ; 15μ, 31μ, 12μ	
		Z: 0.7 ^S ; 0.037μ			KRA	Δ=75.46°	
		ei	21 13		(SKM)	iP	06 06 06.4 C
		ipP	16.4			Z: 1.0 ¹ ; 0.40μ	
	NIE	Δ=75.55°				eipP	17
	(SKM)	eIP	20 20 57.0 C		(SKD)	eIS	15 49
		Z: 0.9 ^S ; 0.018μ				Lm	45.0
		ipP	21 19.5			NE: 25 ^S ; 5.7μ, 15μ	
	KSP	Δ=76.06°				Lm	55.5
	(SKM)	eIP	20 20 57 D			Z: 20 ^S ; 12μ	
22.I Tonga Islands, Moscow: 15.14°S, 173.30°W, H=00 ^h 33 ^m 53.3 ^s					KSP	Δ=76.08°	
	KRA	Δ=143.55°				iP	06 06 12.5 D
	(SKM)	ePKP	00 53 22 D			Z: 1 ^S ; 0.12μ	
	NIE	Δ=144.04°		24.I	KSP		
	(SKM)	ePKP	00 53 25.5 D			iP	16 27 12.2 D
		Z: 1.1 ^S ; 0.017μ		25.I	Aleutian Islands, Moscow: 52.55°N, 169.93°W, H=21 ^h 43 ^m 02.1 ^s , MPV(A)=5.3; MPV=5.1 (Niedzica)		
22.I Aleutian Islands, Moscow: 50.96°N, 177.90°E, H=08 ^h 09 ^m 21.4 ^s , MPV(A)=5.8; MPV=5.7 (Kraków), 5.5 (Niedzica)						Δ=76.85°	
	KSP	Δ=77.37°				eP	21 54 58
	(SKM)	eIP	08 21 19.1 C			KRA	Δ=77.43°
		Z: 1.2 ^S ; 0.018μ			(SKM)	eP	21 55 01
					NIE	Δ=78.03°	
						eIP	21 55 05
						Z: 1.2 ^S ; 0.018μ	

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
26.I New Britain Region, Moscow: 5.08°S, 151.75°E, H=23 ^h 18 ^m 55.4 ^s , MPV(A)=6.1; MLH=6.6, MLV=6.6 (Kraków); MLV=6.8 (War- szawa)				28.I	KSP	Δ=16.85°	
	WAR	Δ=117.97°			(GW)	eIP	03 33 35
	(SKD)	eIP	23 34 13	28.I	Japan, Moscow: 31.23°N, 142.48°E, H=13 ^h 18 ^m 53.0 ^s , MPV(A)=5.3; MPV=5.4 (Kraków)		
		eIPKIKP	37 43		KRA	Δ=84.41°	
		eI	40 00		(SKM)	eP	13 31 29 C
		eIPKPK	48 36			Z: 0.8 ^S ; 0.023μ	
		eIPPS	48			eipP	42
		eISKSP	57	28.I	Fiji Islands Region, Moscow: 25.88°S, 177.61°W, H=19 ^h 36 ^m 39.0 ^s , h=100 km, MPV(A)=6.4		
	Lm	00 28 20			KRA	Δ=152.32°	
		NEZ: 20 ^S ; 13μ, 54μ, 26μ			(SKM)	eIPKP	19 56 17 C
	KRA	Δ=119.69°				Z: 1.4 ^S ; 0.10μ	
	(SKD)	ePKIKP	23 37 44.1			i	24.0
		Z: 1.5 ^S ; 0.12μ				Z: 1.3 ^S ; 0.28μ	
		ei	57.1			iPKP ₂	49.5
	(SKD)	iPP	23 39 10		(SKD)	Lm	20 51.6
		eIPPS	50 16			NEZ: 44 ^S ; 7.0μ, 6.8μ, 7.7μ	
	Lm	00 29.5			NIE	Δ=152.68°	
		NEZ: 25 ^S ; 7.4μ, 18μ, 20μ				iPKP	19 56 18.0 C
	NIE	Δ=119.80°				Z: 1.5 ^S ; 0.13μ	
	(SKD)	iPKIKP	23 37 45.0 C			i	26.5
		Z: 1.5 ^S ; 0.093μ				iPKP ₂	46.4
	KSP	Δ=121.21°			KSP	Δ=152.89°	
		eIPKIKP	23 37 48			ePKP	19 56 20
28.I Atlantic Ridge, Moscow: 0.43°N, 27.78°W, H=02 ^h 02 ^m 28.4 ^s , MPV(A)=5.2; MLH=5.5, MLV=5.3 (Kraków)						i	28.3
		Z: 0.6 ^S ; 0.11μ			WAR	Δ=150.14°	
	NIE	Δ=64.33°			(SKD)	eIPKP	19 56 28
		eP	02 12 03			Lm	20 53 20
		Z: 36 ^S ; 7.4μ		29.I	Sea of Okhotsk, Moscow: 46.20°N, 148.93°E, H=02 ^h 05 ^m 03.6 ^s , h=150 km, MPV(A)=5.5		
	KRA	Δ=64.47°			KRA	Δ=74.43°	
	(SKM)	eP	02 13' 09		(SKM)	eP	02 16 26 C
	(SKD)	Lm	03 51.3			Z: 0.7 ^S ; 0.070μ	
		NEZ: 20 ^S ; 2.4μ, 1.6μ, 2.1μ			KSP	Δ=75.04°	
28.I Mediterranean Sea, EMSC: 34.89°N, 23.78°E, H=03 ^h 29 ^m 39.2 ^s , h=34 km						iP	02 16 31.8
	NIE	Δ=14.75°		29.I	Kermadec Islands Region, Moscow: 28.69°S, 177.80°W, H=05 ^h 00 ^m 38.5 ^s		
		eP	03 33 04				
		ei	12				
		isP	18.0				
		iPP	29.8				
	KRA	Δ=15.42°					
	(SKM)	eP	03 33 14				



Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
29.I	Kermadec Islands - continuation			29.I	KRA	Lm	15 17.3
	KRA $\Delta=154.76^{\circ}$						NEZ: 34° ; 3.6μ , 3.0μ , 2.3μ
	(SKM) ePKIKP		05 20 32	29.I	Tonga Islands Region, Moscow:		
	ePKHKP		43				24.85° S, 175.84° W, $H=21^{\text{h}}34^{\text{m}}02.6^{\text{s}}$, $MPV(A)=5.5$
	ePKP ₂		58		KRA $\Delta=152.01^{\circ}$		
	KSP $\Delta=155.45^{\circ}$				(SKM) iPKP		21 53 54.1
	ePKP		05 20 46				Z: 1.3^{s} ; 0.082μ
					1		59.1
29.I	Japan, Moscow: 42.76° N, 145.41° E,			(SKD)	Lm		22 47.2
	$H=10^{\text{h}}05^{\text{m}}13.2^{\text{s}}$, $MPV(A)=5.2$; $MPV=5.5$ (Kra-						NEZ: 20° ; 2.8μ , 2.0μ , 4.3μ
	ków)				KSP $\Delta=152.41^{\circ}$		
	KRA $\Delta=76.01^{\circ}$				iPKIKP		21 53 55.0
	(SKM) eiP		10 16 58 C		iPKHKP		56.5
	Z: 0.6^{s} ; 0.027μ				iPKP ₂		54 11.5
	ipP		17 11.4	30.I	Kermadec Islands, Moscow: 29.50° S,		
	KSP $\Delta=76.79^{\circ}$						177.79° W, $H=06^{\text{h}}51^{\text{m}}08.8^{\text{s}}$, $MPV(A)=5.7$
	eP		10 17 00		KRA $\Delta=155.48^{\circ}$		
29.I	Mediterranean, EMSC: 34.86° N,				(SKM) ePKP		07 11 05 D
	25.74° E, $H=10^{\text{h}}23^{\text{m}}45.7^{\text{s}}$, $h=48$ km						Z: 1.5^{s} ; 0.061μ
	KRA $\Delta=15.77^{\circ}$				1		15.7
	(SKM) eiP		10 27 24 D		iPKP ₂		29.1
	Z: 0.9^{s} ; 0.053μ				KSP $\Delta=156.20^{\circ}$		
	iPP		42		ePKP		07 11 05
	(SKD) eiS		10 30 36	30.I	KSP		
	KSP $\Delta=17.39^{\circ}$				eP		07 57 24
	eP		10 27 42	30.I	Philippine Islands, Moscow: 7.07° N,		
29.I	Solomon Islands, Moscow: 5.18° S,						126.62° E, $H=13^{\text{h}}14^{\text{m}}54.3^{\text{s}}$, $h=50$ km, $MPV(A)=5.5$
	154.17° E, $H=14^{\text{h}}17^{\text{m}}25.4^{\text{s}}$				KRA $\Delta=95.17^{\circ}$		
	KRA $\Delta=121.09^{\circ}$				(SKM) eP		13 28 14
	(SKM) ePKIKP		14 36 20		epP		26
	1		26.0				

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1.II	KSP			1.II	NIE		
	eIP		14 19 16		iP		17 28 26.5
1.II	KRA						Z: 1.1^{s} ; 0.048μ
	(SKM) iP		17 28 23.8 C	1.II	Greenland Region, Moscow: 79.90° N,		
	Z: 0.8^{s} ; 0.028μ						0.62° E, $H=18^{\text{h}}05^{\text{m}}30.3^{\text{s}}$, $MPV(A)=5.3$;
	KSP						$MPV=5.1$ (Kraków)
	iP		17 28 24.5		KRA $\Delta=30.69^{\circ}$		
					(SKM) eP		18 11 50 D
							Z: 1.1^{s} ; 0.035μ

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
1.II	Greenland Region - continuation			2.II	Kuril Islands Region, Moscow:		
	NIE $\Delta=31.35^{\circ}$						44.65° N, 149.34° E, $H=12^{\text{h}}52^{\text{m}}24.3^{\text{s}}$,
	eiP		18 11 56				$MPV(A)=5.2$; $MPV=5.6$ (Kraków), 5.4
							(Niedzica)
1.II	KRA				KRA $\Delta=75.91^{\circ}$		
	(SKM) eiP		23 38 52		(SKM) eiP		13 04 09
							Z: 1.0^{s} ; 0.060μ
	KSP				NIE $\Delta=76.29^{\circ}$		
	iP		23 38 53.5 C		iP		13 04 13.0
							Z: 1.1^{s} ; 0.032μ
	NIE				ipP		21.5
	iP		23 38 54.5 D		KSP $\Delta=76.54^{\circ}$		
					eP		13 04 13
	1		39 06.5	3.II	Philippines, Moscow: 5.37° N,		
1.II	Kuril Islands, Moscow: 45.28° N,						125.45° E, $H=14^{\text{h}}33^{\text{m}}39.2^{\text{s}}$, $MPV(A)=5.7$;
	150.26° E, $H=23^{\text{h}}36^{\text{m}}49.7^{\text{s}}$, $MPV(A)=5.7$;						$MPV=5.4$ (Kraków)
	$MPV=5.9$ (Kraków, Niedzica)				KRA $\Delta=95.77^{\circ}$		
	KRA $\Delta=75.70^{\circ}$				(SKM) eiP		14 46 46
	(SKM) eiP		23 48 33 C				Z: 0.9^{s} ; 0.026μ
	NIE $\Delta=76.09^{\circ}$			3.II	Burma, Moscow: 22.62° N, 94.68° E,		
	iP		23 48 36.5 C				$H=23^{\text{h}}46^{\text{m}}40.3^{\text{s}}$, $h=100$ km
					NIE $\Delta=63.11^{\circ}$		
	Z: 1.1^{s} ; 0.12μ				iP		23 57 01.5
	1		48.1				Z: 0.8^{s} ; 0.015μ
	1		56.0		ipP		58 28.5
	KSP $\Delta=76.30^{\circ}$			5.II	Quine Elizabeth Islands, Moscow:		
	(SKM) iP		23 48 37.0 D				78.84° N, 108.99° W, $H=16^{\text{h}}07^{\text{m}}17.0^{\text{s}}$,
							$MPV(A)=5.2$
2.II	New Britain Region, Moscow: 5.05° S,				KRA $\Delta=47.86^{\circ}$		
	151.69° E, $H=07^{\text{h}}58^{\text{m}}07.3^{\text{s}}$, $MPV(A)=5.7$;				(SKM) e(P)		16 15 47
	$MLH=6.0$ (Kraków)				NIE $\Delta=48.53^{\circ}$		
	WAR $\Delta=117.91^{\circ}$				eP		16 15 59
	(SKD) e1		08 14 41		ei		16 18
	eIP		18 13	6.II	Kamchatka, Moscow: 56.35° N,		
	e1		24 40				160.20° E, $H=03^{\text{h}}22^{\text{m}}41.8^{\text{s}}$, $MPV(A)=5.5$;
	Lm		09 07 00				$MPV=5.7$ (Kraków), 5.2 (Niedzica),
	EZ: 24^{s} , 22^{s} ; 8.7μ , 5.6μ						$MLH=5.4$ (Kraków)
	KRA $\Delta=119.63^{\circ}$				KRA $\Delta=68.95^{\circ}$		
	(SKM) ePKIKP		08 16 53		(SKM) eP		03 38 50 D
	(SKD) eSKSP		28 18				Z: 1.4^{s} ; 0.084μ
	Lm		09 08.3		ei		56
	NEZ: 20° ; 2.4μ , 3.6μ , 4.5μ				(SKD) Lm		04 07.9
	NIE $\Delta=119.74^{\circ}$						NE: 20° ; 1.5μ , 1.8μ
	iPKIKP		08 16 56				
	Z: 0.9^{s} ; 0.019μ						
	1		17 12				



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6.II Kamchatka - continuation			
KRA	Lm		04 06.5
		Z: 20 ^S ; 1.4μ	
KSP	Δ=69.07 ⁰		
	eP		03 33 52
NIE	Δ=69.44 ⁰		
	iP		03 33 53.0
		Z: 1.4 ^S ; 0.025μ	
	i		59.0
	i		34 12.5
6.II Tonga Islands, Moscow: 21.14 ⁰ S, 177.98 ⁰ W, H=20 ^h 43 ^m 15.8 ^s , MPV(A)=5.4			
KRA	Δ=147.85 ⁰		
(SKM)	ePKHKP		21 02 54
		Z: 0.9 ^S ; 0.032μ	
	ePKIKP		57
KSP	Δ=148.30 ⁰		
	iPKP		21 02 56.4
	i		59.9
NIE	Δ=148.24 ⁰		
	eIPKHKP		21 02 57 C
		Z: 1.1 ^S ; 0.054μ	
	eIPKIKP		58
7.II Molucca Sea, Moscow: 0.27 ⁰ S, 124.08 ⁰ E, H=07 ^h 01 ^m 37.4 ^s , h=70 km, MPV(A)=6.1; MLH=5.9 (Kraków)			
NIE	Δ=99.14 ⁰		
	eP		07 15 13
	eIP		35
KSP	Δ=101.38 ⁰		
	eP		07 15 24
WAR	Δ=98.20 ⁰		
(SKD)	eIP		07 19 17
	eISK		25 45
	Lm		08 01 16
		NEZ: 22 ^S , 20 ^S , 22 ^S ; 3.6μ, 7.6μ, 4.0μ	
KRA	Δ=99.27 ⁰		
(SKM)	eIP		07 19 17
(GW)	eISK		26 12
(SKD)	Lm		56.8
		NE: 30 ^S ; 5.3μ, 4.2μ	
7.II KRA	Lm		08 00.5
		Z: 25 ^S ; 3.6μ	
7.II Andaman Islands, Moscow: 12.71 ⁰ N, 93.05 ⁰ E, H=12 ^h 30 ^m 39.4 ^s , MPV(A)=5.7; MPV=6.0 (Kraków, Niedzica)			
NIE	Δ=69.22 ⁰		
	iP		12 41 46.2 C
		Z: 1.5 ^S ; 0.18μ	
	i		42 09.5
	i		17.0
KRA	Δ=69.52 ⁰		
(SKM)	eIP		12 41 47 C
		Z: 0.9 ^S ; 0.10μ	
(SKD)	eS		50 52
	Lm		13 17.5
		NEZ: 20 ^S ; 1.1μ, 1.0μ, 1.4μ	
KSP	Δ=71.89 ⁰		
	eP		12 41 53
	iPP		42 01
7.II Andaman Islands, Moscow: 12.79 ⁰ N, 93.10 ⁰ E, H=13 ^h 34 ^m 10.6 ^s , MPV(A)=5.3; MPV=5.2 (Niedzica), 5.5 (Kraków)			
NIE	Δ=69.19 ⁰		
	eIP		13 45 16
		Z: 0.9 ^S ; 0.017μ	
	eI		47
KRA	Δ=69.49 ⁰		
(SKM)	eIP		13 45 17 C
		Z: 0.9 ^S ; 0.032μ	
KSP	Δ=71.86 ⁰		
	eP		13 45 31
7.II KRA	Lm		15 51 38.9 D
(SKM)	iP		
		Z: 0.5 ^S ; 0.057μ	
NIE			
	iP		15 51 41.0 D
		Z: 1.1 ^S ; 0.087μ	
	i		44.0
7.II Andaman Islands, Moscow: 12.89 ⁰ N, 93.07 ⁰ E, H=20 ^h 31 ^m 54.3 ^s , MPV(A)=5.9; MPV=6.0 (Kraków, Niedzica), MLH=5.4, MLV=5.5 (Kraków)			

Date	Station	Phase	T.U. h m s
7.II Andaman Islands - continuation			
WAR	Δ=68.92 ⁰		
(SKD)	eIP		20 42 59
	eI		46 16
	eIS		52 17
	Lm		21 19 20
		NZ: 22 ^S , 24 ^S ; 3.6μ, 3.2μ	
NIE	Δ=69.10 ⁰		
	iP		20 43 00.0
		Z: 1.5 ^S ; 0.18μ	
	i		21.0
KRA	Δ=69.40 ⁰		
(SKM)	eIP		20 43 00
		Z: 1.0 ^S ; 0.11μ	
	iPP		13.1
(SKD)	eS		52 14
	Lm		21 10.5
		NE: 30 ^S ; 2.5μ, 2.4μ	
	Lm		15.1
		Z: 20 ^S ; 2.8μ	
KSP	Δ=71.77 ⁰		
	eIP		20 43 14
7.II Andaman Islands, Moscow: 12.60 ⁰ N, 93.17 ⁰ E, MPV(A)=5.0; MPV=5.7 (Kraków), 5.2 (Niedzica), H=21 ^h 23 ^m 34.3 ^s			
KRA	Δ=69.68 ⁰		
(SKM)	eIP		21 34 42 D
		Z: 0.9 ^S ; 0.053μ	
NIE	Δ=69.38 ⁰		
	eP		21 34 42
		Z: 0.9 ^S ; 0.017μ	
8.II Taiwan Region, Moscow: 24.59 ⁰ N, 122.83 ⁰ E, H=00 ^h 15 ^m 39.5 ^s , MPV(A)=5.7; MPV=5.7 (Kraków, Niedzica), MLH=6.0 (Kraków), MLV=5.9 (Kraków)			
WAR	Δ=77.77 ⁰		
(SKD)	eIP		00 27 35
	eIPcP		48
	eIS		37 27
	Lm		01 05 22
		NEZ: 20 ^S ; 4.6μ, 10μ, 5.7μ	
KRA	Δ=79.31 ⁰		
(SKM)	eP		00 27 42 C
		Z: 1.1 ^S ; 0.076μ	
8.II KRA	eIPcP		00 27 54
(SKD)	eS		37 44
	Lm		01 06.1
		NEZ: 15 ^S ; 3.5μ, 4.7μ, 5.6μ	
NIE	Δ=79.36 ⁰		
	iP		00 27 44.5 C
		Z: 1.8 ^S ; 0.14μ	
KSP	Δ=81.04 ⁰		
	eP		00 27 52
8.II KRA	eP		08 42 53 D
(SKM)			
		Z: 1.0 ^S ; 0.024μ	
NIE			
	iP		13 09 12.4 C
		Z: 1.1 ^S ; 0.052μ	
	eI		34
8.II NIE			
	eIP		13 12 41
		Z: 0.9 ^S ; 0.010μ	
	eI		58
8.II Sumatra, Moscow: 3.78 ⁰ S, 102.80 ⁰ E, H=13 ^h 05 ^m 23.3 ^s , MPV(A)=5.7; MPV=5.6 (Kraków)			
KRA	Δ=88.29 ⁰		
(SKM)	eIP		13 18 13 C
		Z: 1.3 ^S ; 0.054μ	
KSP	Δ=90.69 ⁰		
	eIP		13 18 22
8.II Tunisia, EMSC: 34.13 ⁰ N, 9.31 ⁰ E, H=16 ^h 14 ^m 38.0 ^s			
KSP	Δ=17.46 ⁰		
	eP		16 18 38
NIE	Δ=17.32 ⁰		
	iP		16 18 41.5 D
		Z: 2.0 ^S ; 0.30μ	
	i		52
KRA	Δ=17.73 ⁰		
(SKM)	eP		16 18 45
	ePP		19 53
9.II KRA	eP		04 44 21
(SKM)			
		Z: 1.3 ^S ; 0.027μ	



Date	Station	Phase	T.U. h m s
9.II	Continuation		
	NIF		
	eP		04 44 25
		Z: 1.5 ^S ; 0.049μ	
	i		44.5
9.II	Kuril Islands, Moscow: 45.97°N, 148.91°E, H=08 ^h 02 ^m 10.3 ^s , MPV(A)=5.9; MPV=6.4 (Kraków, Niedzica), MLH=6.0 (Kraków)		
	WAR	Δ=72.44°	
(SKD)	eIP		08 13 35
	eL		41.5
	Lm		42 56
		NE: 22 ^S , 21 ^S ; 6.3μ, 13μ	
	KRA	Δ=74.62°	
(SKM)	iP		08 13 47.0 C
		Z: 1.6 ^S ; 0.59μ	
	ipP		14 00.7
(GW)	eS		23 31
(SKD)	Lm		51.4
		NEZ: 18 ^S ; 4.0μ, 6.2μ, 6.1μ	
	KSP	Δ=75.24°	
	iP		08 13 48.4 D
	eisP		14 02
	NIF	Δ=75.01°	
	iP		08 13 51.0 C
		Z: 1.8 ^S ; 0.65μ	
	ipP		14 02.5
	i		13.5
9.II	Yugoslavia, EMSC: 44.19°N, 16.99°E, H=16 ^h 30 ^m 39.2 ^s		
	NIF	Δ=5.71°	
	ePn		16 32 05
	i		08
	iPg		15
	KSP	Δ=6.67°	
	ePn		16 32 16
	KRA	Δ=6.20°	
(SCh)	ePg		16 32 33
	eiSn		33 24
9.II	Turkey, Moscow: 37.05°N, 36.75°E, H=21 ^h 10 ^m 31.3 ^s , MPV(A)=5.0		
	NIF	Δ=17.16°	
	eP		21 14 39
		Z: 1.5 ^S ; 0.040μ	
9.II	Kermadec Islands, Moscow: 29.93°S, 176.52°W, H=21 ^h 35 ^m 13.4 ^s , MLV=7.1		
	KRA	Δ=156.37°	
(SCh)	ePKIKP		21 55 06
	ePKHKP		17
	ei		57
(SKD)	ePP		59 10
	.eiL		22 59.6
	Lm		23 03.2
		NEZ: 22 ^S ; 36μ, 65μ, 69μ	
	NIF	Δ=156.71°	
	ePKIKP		21 55 07
	i		12
	iPKHKP		18
	WAR	Δ=154.22°	
(SKD)	eiPKP		21 55 11
	ei		56 37
	eiPKS		58 42
	eiPP		59 13
	eiSKKS		22 05 59
	eiSKSP		09 33
	Lm		23 03 00
		NEZ: 22 ^S ; 86μ, 188μ, 113μ	
9.II	Kermadec Islands, Moscow: 30.09°S, 178.73°W, H=22 ^h 21 ^m 48.3 ^s		
	NIF	Δ=155.89°	
	ePKIKP		22 41 38
	i		41.0
	iPKHKP		53.5
	i		42 08.8
	KSP	Δ=156.41°	
	ePKIKP		22 41 39
	eiPKP ₂		42 12
10.II	Kermadec Islands, Moscow: 30.42°S, 177.34°W, H=00 ^h 56 ^m 23.0 ^s		
	WAR	Δ=154.34°	
(SKD)	eiPKP		01 16 13
	eiPKS		19 53

Date	Station	Phase	T.U. h m s
10.II	Kermadec Islands - continuation		
	WAR	Lm	02 21 29
		NEZ: 22 ^S , 20 ^S , 22 ^S ; 3.6μ, 6.7μ, 4.8μ	
	KRA	Δ=156.47°	
(Ch)	ePKIKP		01 16 14
	NIF	Δ=156.79°	
	ePKIKP		01 16 15
		Z: 2.0 ^S ; 0.11μ	
	iPKHKP		27.5
	iPKP ₂		46.5
	KSP	Δ=157.20°	
	ePKIKP		01 16 18
	ePKP ₂		48
	ei		17 03
10.II	Italy, EMSC: 43.73°N, 13.11°E, H=07 ^h 19 ^m 36.6 ^s		
	KRA	Δ=7.87°	
(Ch)	ePn		07 21 29
	NIF	Δ=7.55°	
	eiP ^x		07 21 36
	i		22-15
10.II	Crete, EMSC: 35.61°N, 26.79°E, H=15 ^h 53 ^m 59.4 ^s		
	KRA	Δ=15.28°	
(SKM)	eP		15 57 33
		Z: 1.0 ^S ; 0.030μ	
10.II	Nepal, Moscow: 28.36°N, 84.66°E, H=17 ^h 29 ^m 48.9 ^s , MPV(A)=5.5; MPV=5.4 (Niedzica), 5.3 (Kraków)		
	NIF	Δ=52.62°	
	iP		17 39 08.5 C
		Z: 1.0 ^S ; 0.037μ	
	i		13.5
	KRA	Δ=52.85°	
(SKM)	eP		17 39 08 C
		Z: 1.0 ^S ; 0.030μ	
	KSP	Δ=55.15°	
	eP		17 39 28
10.II	Kermadec Islands, Moscow: 29.99°S, 178.53°W, H=19 ^h 32 ^m 39.0 ^s		
10.II	KRA	Δ=155.59°	
(SKM)	ePKIKP		19 52 29
		Z: 1.8 ^S ; 0.20μ	
	eiPKP ₂		59
(SKD)	ei		56 56
	i		20 08 56
	Lm		58.5
		NEZ: 25 ^S ; 4.9μ, 4.9μ, 7.1μ	
	NIF	Δ=155.89°	
	eiPKIKP		19 52 30 D
	Pm		36
		Z: 2.0 ^S ; 0.11μ	
	KSP	Δ=156.39°	
	ePKIKP		19 52 34
	eiPKP ₂		53 06
10.II	Pakistan, Moscow: 25.46°N, 62.36°E, H=20 ^h 50 ^m 44.4 ^s , MPV(A)=5.4; MPV=5.4 (Kraków)		
	KRA	Δ=40.80°	
(SKM)	eP		20 58 29
		Z: 1.5 ^S ; 0.086μ	
	eiP		38
	KSP	Δ=43.26°	
	iP		20 58 55.0 C
11.II	Kermadec Islands, Moscow: 29.61°S, 178.57°W, H=00 ^h 05 ^m 27.9 ^s		
	KRA	Δ=155.25°	
(SKM)	ePKIKP		00 25 16
	ei		22
	eiPKP ₂		46
(GW)	eiPP		29 31
(SKD)	eiSKSP		39 57
	i		42 55
	Lm		01 36.5
		NEZ: 20 ^S ; 24μ, 11μ, 21μ	
	NIF	Δ=155.55°	
	ePKIKP		00 25 18 D
	ei		24
		Z: 1.3 ^S ; 0.024μ	
11.II	Atlantic Ridge, Moscow: 5.89°N, 32.81°W, H=01 ^h 26 ^m 27.7 ^s , MPV(A)=5.2; MPV=5.8 (Kraków)		



Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
11.II	Atlantic Rise - continuation			11.II	KRA	$\Delta=44.81^\circ$	
	KSP	$\Delta=60.54^\circ$			(SKM)	eP	13 02 33 C
	eP		01 36 44		(GW)	eiPP	04 21
	KRA	$\Delta=62.22^\circ$			WAR	$\Delta=45.91^\circ$	
	(Ch)	eP	01 36 48		(SKD)	eiP	13 02 45
		Z: 1.5^S ; 0.14μ				eiPP	04 32
	ei		56			eiS	09 31
	NIE	$\Delta=62.16^\circ$				eiSS	12 57
	1P		01 36 50.0			Lm	23 12
	ei		58			Z: 24^S ; 3.5μ	
11.II	Kermadec Islands, Moscow: $29.48^\circ S$, $175.18^\circ W$, $H=04^h 12^m 33.4^s$			11.II	Iran, EMSC: $28.26^\circ N$, $55.38^\circ E$, $H=21^h 40^m 17.6^s$, MPV(A)=5.0 (Niedzica), 5.4 (Kraków)		
	KRA	$\Delta=156.48^\circ$			NIE	$\Delta=34.08^\circ$	
	(Ch)	ePKIKP	04 32 26			eiP	21 46 57
	NIE	$\Delta=156.84^\circ$				Z: 1.4^S ; 0.029μ	
	ePKIKP		04 32 28		KRA	$\Delta=34.58^\circ$	
	1PKP ₂		57		(SKM)	1P	21 46 59.1 C
11.II	Hindu Kush, Moscow: $36.40^\circ N$, $71.55^\circ E$, $H=07^h 17^m 05.6^s$, MPV(A)=5.1; MPV=5.4 (Kraków), 5.6 (Niedzica)					Z: 1.0^S ; 0.060μ	
	KRA	$\Delta=39.23^\circ$				eipP	47 10
	(Ch)	eP	07 24 23 C		KSP	$\Delta=37.03^\circ$	
		Z: 1.0^S ; 0.047μ				eP	21 47 33
	1		29.1		12.II	Alaska, Moscow: $59.11^\circ N$, $152.57^\circ W$, $H=08^h 56^m 37.3^s$, $h=75$ km; MPV(A)=5.6; MPV=6.0 (Kraków), 5.8 (Niedzica)	
		Z: 1.4^S ; 0.48μ				KSP	$\Delta=70.03^\circ$
	NIE	$\Delta=38.98^\circ$				eP	09 07 37 D
	1P		07 24 26.5 C			Z: 1^S ; 0.10μ	
	1		48.0		KRA	$\Delta=71.02^\circ$	
	KSP	$\Delta=41.55^\circ$			(SKM)	eiP	09 07 48 C
	eP		07 24 53			Z: 1.0^S ; 0.12μ	
11.II	Aleutian Islands, Moscow: $52.94^\circ N$, $170.71^\circ E$, $H=12^h 10^m 27.6^s$, MPV(A)=5.5; MPV=5.7 (Kraków)					eipP	08 06
	KRA	$\Delta=74.44^\circ$			NIE	$\Delta=71.67^\circ$	
	(SKM)-	eP	12 22 04			1P	09 07 54.0 C
		Z: 1.0^S ; 0.060μ				Z: 1.0^S ; 0.070μ	
11.II	Bay of Aden, Moscow: $13.08^\circ N$, $51.10^\circ E$, $H=12^h 54^m 15.9^s$, MPV(A)=5.6; MPV=5.8 (Kraków)			12.II	Kermadec Islands Region, Moscow: $31.29^\circ S$, $176.84^\circ W$, $H=19^h 18^m 06.1^s$		
	NIE	$\Delta=44.20^\circ$				KRA	$\Delta=157.44^\circ$
	eiP		13 02 30			(SKM)	ePKIKP
							19 38 05.8
							ePKP ₂
							35
						(SKD)	ePKKP
							46 15

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
12.II	Kermadec Islands - continuation			13.II	KRA	ePKHKP	17 28 24
	NIE	$\Delta=157.75^\circ$				eiPKP ₂	41
	ePKIKP		19 38 08		KSP	$\Delta=156.76^\circ$	
	eiPKP ₂		32			ePKHKP	17 28 24
	KSP	$\Delta=158.16^\circ$				1PKP ₂	45.4
	ePKP ₂		19 38 36	13.II	Kamchatka, Moscow: $52.81^\circ N$, $159.21^\circ E$, $H=18^h 19^m 15.1^s$, MPV(A)=5.3; MPV=5.6 (Kraków), 5.1 (Niedzica)		
13.II	Kermadec Islands Region, Moscow: $29.05^\circ S$, $175.54^\circ W$, $H=06^h 15^m 16.3^s$				KRA	$\Delta=71.88^\circ$	
	KRA	$\Delta=155.96^\circ$			(SKM)	eP	18 30 31 D
	(SKM)	ePKIKP	06 35 07			Z: 0.9^S ; 0.042μ	
		ePKP ₂	35			ei	53
	NIE	$\Delta=156.32^\circ$			NIE	$\Delta=72.35^\circ$	
	ePKIKP		06 35 08			eiP	18 30 35 D
		Z: 1.7^S ; 0.032μ				Z: 1.0^S ; 0.015μ	
	1PKP ₂		37.5	14.II	Samoa Islands, Moscow: $14.45^\circ S$, $172.15^\circ W$, $H=02^h 24^m 37.9^s$		
13.II	Kamchatka, Moscow: $56.48^\circ N$, $161.92^\circ E$, $H=13^h 02^m 44.6^s$, MPV(A)=5.6; MPV=5.8, MLH=5.7 (Kraków)				KSP	$\Delta=143.06^\circ$	
	WAR	$\Delta=66.96^\circ$				ePKP	02 44 03
	(GW)	eiP	13 13 42		KRA	$\Delta=143.15^\circ$	
	(SKD)	eiS	22 36		(SKM)	ePKHKP	02 44 04
		eiPS	49			Z: 0.8^S ; 0.028μ	
		Lm	40 38			ei(PKIKP)	21
		NEZ: 22^S , 24^S , 24^S ; 3.6μ , 9.7μ , 2.4μ			NIE	$\Delta=143.65^\circ$	
	KSP	$\Delta=69.32^\circ$				1PKHKP	02 44 07.2
	1P		13 13 52.0 D			Z: 0.9^S ; 0.022μ	
						1PKIKP	16.5
	KRA	$\Delta=69.25^\circ$		14.II	KSP		
	(SKM)	1P	13 13 55.1 C			1P	21 44 17.0 C
		Z: 1.2^S ; 0.087μ		14.II	Black Sea, EMSC: $43.12^\circ N$, $29.88^\circ E$, $H=22 38 41.1$		
		eiP _{oP}	14 16			NIE	$\Delta=9.74^\circ$
	(GW)	eiS	23 03				1(Pn)
		ePS	23				22 40 54.5
	(SKD)	Lm	41.5				1
		NE: 25^S ; 3.3μ , 4.1μ					59.0
		Lm	43.6				1
		Z: 25^S ; 2.5μ					41 04.5
	NIE	$\Delta=69.74^\circ$			KRA	$\Delta=9.14^\circ$	
		1P	13 13 59.5 C		(SKM)	ePn	22 41 00
13.II	Kermadec Islands Region, Moscow: $30.64^\circ S$, $179.16^\circ W$, $H=17^h 08^m 22.9^s$			15.II	KRA		
	KRA	$\Delta=155.88^\circ$			(SKM)	eiP	00 09 50 D
	(SKM)	ePKIKP	17 28 14			Z: 0.9^S ; 0.026μ	
						e	10 09



Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
15.II	NIE	Continuation		15.II	KRA		
	iP		00 09 51.8 D		(SKM) eP		16 05 49
	Z:		0.9 ^s ; 0.011μ		NIE		
	i		10 02		iP		16 05 49.5
	KSP				Z:		0.8 ^s ; 0.012μ
	eP		00 09 55 D		i		06 29
15.II	Turkey, EMSC: 39.78°N, 39.74°E, H=03 ^h 17 ^m 37.6 ^s			15.II	Pamir, Moscow: 37.28°N, 71.76°E, H=18 ^h 00 ^m 07.5 ^s , MPV(A)=4.7, MPV=5.0 (Niedzica), 5.4 (Kraków)		
	NIE	Δ=16.81°			NIE	Δ=38.60°	
	eP		03 21 37		iP		18 07 22.0
	iPP		50.5		Z:		0.8 ^s ; 0.017μ
	KRA	Δ=17.33°			KRA	Δ=38.84°	
	(SKM) eP		03 21 42		(SKM) eiP		18 07 23 D
	KSP	Δ=19.77°			Z:		0.7 ^s ; 0.037μ
	eP		03 22 14		16.II	Columbia, Moscow: 3.55°N, 77.60°W, H=03 ^h 47 ^m 21.5 ^s , MPV(A)=5.6; MPV=5.8 (Kraków), 5.4 (Niedzica)	
15.II	Turkey, EMSC: 40.32°N, 39.28°E, H=03 ^h 27 ^m 47.8 ^s				KRA	Δ=92.14°	
	NIE	Δ=16.19°			(SKM) eP		04 00 28 C
	eP		03 31 40		Z:		1.0 ^s ; 0.054
	Z:		1.5 ^s ; 0.031μ		(SKD) eiS		11 32
	iPP		50		NIE	Δ=92.48°	
	i		32 09.5		iP		04 00 30.0 C
15.II	Turkey, EMSC: 39.62°N, 39.40°E, H=05 ^h 47 ^m 52.2 ^s				Z:		1.2 ^s ; 0.026μ
	NIE	Δ=16.72°		17.II	Pacific Ocean, Moscow: 54.89°S, 127.86°W, H=01 ^h 39 ^m 57.1 ^s		
	eP		05 51 51		NIE	Δ=159.84°	
	KRA	Δ=17.25°			ePKIKP		01 59 57 D
	(SKM) eP		05 51 52		Z:		2.0 ^s ; 0.093μ
15.II	Andaman Islands, Moscow: 12.71°N, 93.21°E, H=08 ^h 19 ^m 21.2 ^s ; MPV(A)=5.2; MPV=5.1 (Niedzica), 5.6 (Kraków)				iPKP ₂		02 00 35.6
	NIE	Δ=69.62°		17.II	Jan Mayen, EMSC: 71.04°N, 6.36°W, H=06 ^h 41 ^m 51.0 ^s		
	iP		08 30 28.0		KRA	Δ=24.30°	
	Z:		0.8 ^s ; 0.012μ		(SKM) eP		06 47 07
	KRA	Δ=69.33°			eI		34
	(SKM) eiP		08 30 29		NIE	Δ=24.98°	
	Z:		0.6 ^s ; 0.027μ		eP		06 47 15
	KSP	Δ=71.99°			i		43
	iP		08 30 42.3		WAR	Δ=22.52°	
15.II	KSP				(SKD) eiS		06 50 57
	iP		16 05 45.6				

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
17.II	Afghanistan, Moscow: 36.67°N, 71.00°E, H=23 ^h 18 ^m 03.3 ^s , MPV(A)=5.1			18.II	NIE	Δ=89.99°	
	KRA	Δ=38.71°			eiP		15 13 37
	(SKM) eP		23 25 15		KRA	Δ=80.01°	
	NIE	Δ=38.46°			(SKM) eiP		15 13 39 D
	eP		23 25 16		Z:		0.6 ^s ; 0.019μ
	Z:		1.0 ^s ; 0.020μ	18.II	Japan, Moscow: 38.33°N, 142.59°E, H=17 ^h 33 ^m 14.2 ^s , MPV(A)=5.4; MPV=5.5 (Kraków, Niedzica); MLV=5.7 (Kraków)		
	iPP		26 57.3		KRA	Δ=78.54°	
18.II	Sumatra, Moscow: 4.21°S, 102.82°E, H=03 ^h 43 ^m 08.7 ^s , MPV(A)=5.7; MPV=5.7 (Niedzica, Kraków)				(SKM) eP		17 45 15 D
	NIE	Δ=88.29°			Z:		1.3 ^s ; 0.054μ
	iP		03 56 04.2 C		epP		26
	Z:		1.0 ^s ; 0.057μ		(SKD) Lm		18 23.2
	iPP		59 34.5		NEZ:		18 ^s ; 1.5μ, 2.7μ, 3.6μ
	KRA	Δ=88.62°			NIE	Δ=78.84°	
	(SKM) eiP		03 56 05 C		eiP		17 45 17
	Z:		1.1 ^s ; 0.069μ		Z:		1.2 ^s ; 0.044μ
	eipP		15		KSP	Δ=79.49°	
	esP		19		eiP		17 45 19
	eiPP		59 36	19.II	Tonga Islands, Moscow: 21.32°S, 179.07°W, H=20 ^h 22 ^m 50.8 ^s ; MPV(A)=5.9		
	KSP	Δ=91.04°			KRA	Δ=147.63°	
	iP		03 56 18.7 C		(SKM) eiPKP		20 42 30
18.II	Indonesia, Moscow: 1.05°N, 123.66°E, H=03 ^h 58 ^m 02.6 ^s , MPV=5.6 (Niedzica)				Z:		0.8 ^s ; 0.069μ
	NIE	Δ=97.86°			NIE	Δ=148.00°	
	eiP		04 11 35		iPKP		20 42 32.0 D
	Z:		1.0 ^s ; 0.019μ		Z:		1.2 ^s ; 0.17μ
	KSP	Δ=100.09°			iPKP ₂		39.2
	eP		04 11 47	20.II	Japan, Moscow: 39.13°N, 141.71°E, H=04 ^h 36 ^m 57.1 ^s , MPV(A)=6.3; MPV=6.0 (Kraków), 6.3 (Niedzica); MLH=6.6 MLV=6.6 (Kraków)		
18.II	NIE				WAR	Δ=75.43°	
	eP		08 18 28		(SKD) iP		04 48 45 C
	KSP				eiPcP		56
	eP		08 18 35		eiPP		51 29
	KRA				eiPPP		53 17
	(SKM) eP		08 18 27		iS		58 15
	Z:		1.2 ^s ; 0.031μ		iSKS		40
18.II	Philippine, Moscow: 12.78°N, 125.46°E, H=15 ^h 00 ^m 35.0 ^s , MPV(A)=5.3; MPV=5.5 (Kraków)				Lm		05 21 00
	NIE				NZ:		22 ^s , 24 ^s ; 27μ, 18μ
	eP		08 18 28		Lm		23 01
	KSP				E:		20 ^s ; 60μ



Date	Station	Phase	T.U. h m s
20.II Japan - continuation			
KRA	$\Delta=77.49^{\circ}$		
(SKM)	e1P		04 48 51
	Pm		54
	Z: 0.9^S ; 0.12μ		
	e1PcP		49 08
(SKD)	e1PP		51 50
	e1PPP		53 30
	iS		58 39
	Lm		05 26.4
	NEZ: 20^S ; 19μ , 24μ , 33μ		
NIE	$\Delta=77.79^{\circ}$		
	iP		04 48 51.7
	Pm		57
	Z: 0.9^S ; 0.28μ		
	i		49 25.0
KSP	$\Delta=78.45^{\circ}$		
	eP		04 48 53
	Pm		57
	Z: 1^S ; 0.22μ		
20.II KSP			
	eP		07 51 09
20.II Yugoslavia, EMSC: $46.46^{\circ}N$, $13.42^{\circ}E$, $H=12^h13^m36.5^s$			
KSP	$\Delta=4.78^{\circ}$		
	e1Pn		12 14 39
	e1S ^x		16 04
	Lm		17
	Z: 1^S ; 0.11μ		
KRA	$\Delta=5.65^{\circ}$		
(SKM)	e1Pn		12 14 53
NIE	$\Delta=5.50^{\circ}$		
	e1Sn		12 16 09
	i		57.2
20.II KSP			
	eP		20 38 37
KRA			
(SKM)	eP		20 38 41
NIE			
	eP		20 38 41
	i		51.2

Date	Station	Phase	T.U. h m s
21.II NIE			
	iP		07 28 02.4 C
	Z: 2.2^S ; 0.27μ		
	e1		31 24
	i		43 53.6
	Z: 1.4^S ; 0.11μ		
21.II Japan, Moscow: $42.12^{\circ}N$, $145.68^{\circ}E$, $H=08^h56^m29.0^s$, MPV(A)=5.2; MPV=5.6 (Kraków), 5.2 (Niedzica)			
KRA	$\Delta=76.66^{\circ}$		
(SKM)	e1P		09 08 23
	Z: 0.6^S ; 0.027μ		
NIE	$\Delta=77.00^{\circ}$		
	e1P		09 08 26
	Z: 0.9^S ; 0.017μ		
22.II Guatemala, Moscow: $14.54^{\circ}N$, $91.08^{\circ}W$, $H=06^h07^m33.2^s$, $h=50$ km; MPV(A)=6.0, MPV=5.9 (Kraków), 5.7 (Niedzica); MLH=6.1, MLV=6.0 (Kraków)			
KSP	$\Delta=89.45^{\circ}$		
	eP		06 20 24 C
KRA	$\Delta=91.90^{\circ}$		
(SKM)	iP		06 20 38.7
	Z: 1.4^S ; 0.10μ		
	isP		56.4
	iPP		24 18.3
(SKD)	e1SKS		31 06
	Lm		53.5
	NEZ: 32^S ; 4.2μ , 11μ , 9.0μ		
NIE	$\Delta=92.40^{\circ}$		
	iP		06 20 40.6
	Z: 1.3^S ; 0.060μ		
	isP		59.5
22.II Japan, Moscow: $29.88^{\circ}N$, $130.30^{\circ}E$, $H=18^h00^m35.4^s$, MPV(A)=6.1; MPV=6.4, MLH=5.8, MLV=5.8 (Kraków)			
WAR	$\Delta=77.61^{\circ}$		
(GW)	e1P		18 12 31
(SKD)	e1S		22 22
KRA	$\Delta=79.39^{\circ}$		
(SKM)	iP		18 12 40.8 C
	Z: 0.9^S ; 0.34μ		
	isP		54.8

Date	Station	Phase	T.U. h m s
22.II Japan - continuation			
KRA	i		18 13 12.5
	ePP		15 40.5
(SKD)	eS		22 42
	Lm		51.5
	NEZ: 20^S ; 2.4μ , 4.1μ , 4.2μ		
NIE	$\Delta=79.53^{\circ}$		
	iP		18 12 42.5 C
22.II Fiji Islands, Moscow: $22.34^{\circ}S$, $177.76^{\circ}W$, $H=19^h37^m08.8^s$			
KSP	$\Delta=149.50^{\circ}$		
	ePKP		19 56 52
	i		56.0
	Z: 0.8^S ; 0.075μ		
	iPKP ₂		57 09.0
KRA	$\Delta=149.03^{\circ}$		
(SKM)	ePKP		19 56 55
	Pm		57 00
	Z: 1.0^S ; 0.096μ		
	i		19.5
22.II Iran, EMSC: $28.28^{\circ}N$, $56.99^{\circ}E$, $H=20^h18^m09.4^s$, MPV=5.7 (Kraków)			
KRA	$\Delta=35.51^{\circ}$		
(SKM)	iP		20 25 00.7 C
	Z: 1.0^S ; 0.12μ		
KSP	$\Delta=37.96^{\circ}$		
	e1P		20 25 15
23.II India, Moscow: $33.72^{\circ}N$, $75.90^{\circ}E$, $H=02^h01^m31.0^s$, MPV(A)=5.3; MPV=5.1 (Niedzica), 5.3 (Kraków)			
NIE	$\Delta=43.68^{\circ}$		
	iP		02 09 33.0
	Z: 1.1^S ; 0.026μ		
KRA	$\Delta=43.44^{\circ}$		
(SKM)	eP		02 09 34
	Z: 1.4^S ; 0.052μ		
23.II Switzerland, EMSC: $46.54^{\circ}N$, $9.79^{\circ}E$, $H=09^h49^m24.2^s$			
KSP	$\Delta=6.09^{\circ}$		
	iPg		09 51 17.7
	iSg		52 39.2

Date	Station	Phase	T.U. h m s
23.II KRA $\Delta=7.63^{\circ}$			
	(Sch)	eSn	09 52 41
		e1	53 24
		e1Sg	36
23.II KSP			
		iP	17 12 27.1
KRA			
(SKM)	iP		17 12 36.8 D
	Z: 1.1^S ; 0.15μ		
	e1		49.6
NIE			
	iP		17 12 41.2
	Z: 1.6^S ; 0.13μ		
23.II Burma, Moscow: $22.31^{\circ}N$, $95.26^{\circ}E$, $H=23^h18^m25.8^s$, $h=100$ km			
NIE	$\Delta=63.70^{\circ}$		
	iP		23 28 50.6
	Z: 1.0^S ; 0.080μ		
	isP		29 20.3
23.II Iran, EMSC: $28.26^{\circ}N$, $57.00^{\circ}E$, $H=23^h25^m00.1^s$, MPV=5.7 (Kraków)			
KRA	$\Delta=35.53^{\circ}$		
	iP		23 31 45.1 C
	Z: 1.0^S ; 0.11μ		
	i		54.0
24.II Atlantic Ridge, Moscow: $4.40^{\circ}S$, $12.34^{\circ}W$, $H=07^h02^m39.1^s$, MPV(A)=5.6; MPV=5.6 (Kraków), 5.7 (Niedzica)			
KSP	$\Delta=60.27^{\circ}$		
	eP		07 12 51
NIE	$\Delta=60.63^{\circ}$		
	e1P		07 12 56
	Z: 1.6^S ; 0.11μ		
	i		13 02.7
KRA	$\Delta=60.98^{\circ}$		
(SKM)	eP		07 12 56 D
	Z: 1.4^S ; 0.073μ		
	i		13 03.3
	i		13.6
26.II Kuril Islands, Moscow: $49.09^{\circ}N$, $155.56^{\circ}E$, $H=00^h05^m43.7^s$, MPV(A)=5.2; MPV=5.8 (Kraków)			



Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
26.II	Kuril Islands - continuation			27.II	KRA		
	KRA $\Delta=74.14^{\circ}$				(SKM) eP		00 56 59
	(SKM) iP		00 17 17.9 D			Z: 0.9^S ; 0.021μ	
			Z: 0.7^S ; 0.062μ	28.II	Caucasus, EMSC: $44.30^{\circ}N$, $42.88^{\circ}E$, $H=22^h58^m16.8^s$;		
26.II	Pacific Ocean, Moscow: $26.06^{\circ}S$, $115.13^{\circ}W$, $H=09^h16^m54.1^s$				NIE $\Delta=16.23^{\circ}$		
	KRA $\Delta=138.12^{\circ}$				eP		23 02 00
	(SKM) iPKIKP		09 36 15.8 C		i		12.5
			Z: 1.4^S ; 0.073μ		KRA $\Delta=16.59^{\circ}$		
	NIE $\Delta=138.55^{\circ}$				(SKM) eP		23 02 02 C
	iPKIKP		09 36 17.5		i		09.9
			Z: 1.2^S ; 0.078μ		KSP $-\Delta=19.03^{\circ}$		
27.II	NIE				eP		23 02 33
	eP		00 56 58				

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1.III	Kuril Islands, Moscow: $46.79^{\circ}N$, $152.58^{\circ}E$, $H=00^h08^m18.0^s$, $MPV(A)=5.5$; $MPV=5.6$ (Niedzica)			1.III	WAR $\Delta=78.69^{\circ}$		
	KRA $\Delta=75.20^{\circ}$				(SKD) eiP		15 57 12
	(SKM) eiP		00 20 04		eiS		16 07 12
	isP		17.9		Lm		31 24
	KSP $\Delta=75.70^{\circ}$					NE: 14^S ; 4.8μ , 9.1μ	
	eP		00 20 07		KRA $\Delta=80.71^{\circ}$		
	NIE $\Delta=75.61^{\circ}$				(SKM) eiP		15 57 24 D
	eiP		00 20 09 C			Z: 1.2^S ; 0.047μ	
			Z: 1.5^S ; 0.089μ		eiPP		16 00 28
	isP		22.4		(SKD) eS		07 24
1.III	Bay of Aden, Moscow: $12.52^{\circ}N$, $50.22^{\circ}E$, $H=01^h58^m35.5^s$, $MPV(A)=5.3$				Lm		38.1
	NIE $\Delta=44.91^{\circ}$					NEZ: 14^S ; 3.0μ , 4.5μ , 7.4μ	
	eP		02 06 52		NIE $\Delta=80.98^{\circ}$		
	KSP $\Delta=47.13^{\circ}$				iP		15 57 26.0
	eP		02 07 12			Z: 1.2^S ; 0.031μ	
1.III	Japan, Moscow: $35.19^{\circ}N$, $141.61^{\circ}E$, $H=15^h45^m06.5^s$, $MPV(A)=5.5$; $MPV=5.5$ (Kraków), 5.3 (Niedzica); $MLH=6.0$ (Kra- ków), 6.2 (Warszawa)				eiSP		38
					eiPP		16 00 31
					KSP $\Delta=81.75^{\circ}$		
					eP		15 57 28
1.III	Tonga Islands Region, Moscow: $17.75^{\circ}S$, $169.94^{\circ}W$, $H=20^h33^m29.6^s$						
	KRA $\Delta=146.81^{\circ}$						

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
1.III	Tonga Islands - continuation			2.III	NIF		
	KRA eiPKP		20 53 11 C		eP		17 53 09
	(SKM)		Z: 0.8^S ; 0.028μ		ei		23
	NIE $\Delta=147.33^{\circ}$			2.III	KRA		
	eiPKP		20 53 13		(SKM) eP		18 42 56
			Z: 0.8^S ; 0.035μ		i		43 09.9
1.III	Greece, EMSC: $36.22^{\circ}N$, $27.22^{\circ}E$, $H=22^h51^m10.3^s$				KSP		
	KRA $\Delta=14.80^{\circ}$				eP		18 42 56
	(SKM) iP		22 54 38.5 D		NIE		
			Z: 1.0^S ; 0.090μ		eiP		18 42 59
	KSP $\Delta=16.60^{\circ}$				i		43 13.0
	eP		22 54 57	2.III	Kamtchatka, Moscow: $55.33^{\circ}N$, $163.87^{\circ}E$, $H=22^h09^m25.1^s$, $MPV(A)=5.2$; $MLH=5.2$ (Kraków)		
1.III	Turkey, Moscow: $40.89^{\circ}N$, $42.91^{\circ}E$, $H=23^h27^m53.4^s$				KRA $\Delta=70.75^{\circ}$		
	NIE $\Delta=18.02^{\circ}$				(SKM) eP		22 20 35
	eP		23 32 10		(SKD) Lm		49.2
						NE: 24^S ; 1.2μ , 1.3μ	
2.III	NIE				KSP $\Delta=70.80^{\circ}$		
	eP		02 19 51		eP		22 20 39
	ei		20 14		NIE $\Delta=71.25^{\circ}$		
2.III	Aleutian Islands, Moscow: $55.08^{\circ}N$, $164.31^{\circ}E$, $H=14^h34^m59.3^s$, $MPV(A)=5.7$; $MPV=5.7$ (Niedzica), $MLH=5.8$ (Kraków)				eP		22 20 44
	KSP $\Delta=71.13^{\circ}$				WAR $\Delta=68.46^{\circ}$		
	eP		14 46 14		(SKD) eS		22 29 29
	KRA $\Delta=71.08^{\circ}$				eL		45.0
	(SKM) eP		14 46 16	2.III	Kuril Islands, Moscow: $43.48^{\circ}N$, $147.75^{\circ}E$, $H=22^h53^m47.1^s$; $MPV=5.0$ (Nie- dzica)		
	isP		30		NIE $\Delta=76.68^{\circ}$		
	(SKD) eS		55 45		eiP		23 05 39
	Lm		15 14.5			Z: 1.0^S ; 0.011μ	
			NE: 26^S ; 4.4μ , 6.5μ	3.III	Kermadec Islands, Moscow: $28.85^{\circ}S$, $176.62^{\circ}W$, $H=01^h59^m35.3^s$		
	Lm		18.1		NIE $\Delta=155.72^{\circ}$		
			Z: 18^S ; 3.2μ		e(PKHKP)		02 19 45
	NIE $\Delta=71.58^{\circ}$				ePKP ₂		20 02
	eiP		14 46 22		ei		15
	Pm		33		KSP $\Delta=155.97^{\circ}$		
			Z: 1.6^S ; 0.11μ		ePKP ₂		02 19 57
2.III	KSP			3.III	Iran, EMSC: $33.26^{\circ}N$, $48.76^{\circ}E$, $H=02^h42^m53.9^s$; $MPV=5.2$ (Niedzica)		
	eP		17 53 07				
	KRA						
	(SKM) eP		17 53 08				

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
3.III	Iran - continuation			3.III	KRA	isP	11 04 50.0
	NIE $\Delta=26.55^\circ$				(GW)	eiS	13 56
	eP	02 48 28			(SKD)	Lm	33.3
	Z: 1.2^S ; 0.075μ					NE: 24^S ; 17μ , 25μ	37.1
	eipP	39				Z: 18^S ; 11μ	
	KRA $\Delta=27.06^\circ$				NIE $\Delta=71.44^\circ$		
	(SKM) iP	02 48 30.1			iP	11 04 43.2	
	Z: 0.8^S ; 0.023μ					Z: 2.0^S ; 0.11μ	
3.III	KSP				isP	55.0	
	eP	07 54 50		4.III	Mariana Islands, Moscow: $12.20^\circ N$, $143.69^\circ E$, $H=01^h 21^m 39.7^s$; $MPV(A)=5.4$		
	KRA				NIE $\Delta=101.08^\circ$		
	(SKM) iP	07 54 50.4 C			eP	01 35 31	
	Z: 1.0^S ; 0.030μ					Z: 1.0^S ; 0.009μ	
	i	55 04.5		4.III	Sumatra, Moscow: $6.85^\circ S$, $103.04^\circ E$, $H=02^h 43^m 59.3^s$, $MPV(A)=5.4$		
	NIE				NIE $\Delta=90.43^\circ$		
	eipP	07 54 54			eP	02 57 02	
	Z: 1.2^S ; 0.037μ			4.III	Tonga Islands, Moscow: $21.62^\circ S$, $175.40^\circ W$, $H=04^h 46^m 38.2^s$, $MPV(A)=6.1$		
3.III	KRA				KRA $\Delta=149.14^\circ$		
	(SKM) eP	08 01 59			(SKM) ePKP	05 06 18	
	Z: 1.2^S ; 0.047μ				e	24	
	i	02 13.5			Pm	25	
	NIE					Z: 2.3^S ; 0.40μ	
	iP	08 02 03.5			iPKP ₂	28.9	
	Z: 1.2^S ; 0.037μ				i	44.3	
	i	16.5			(SKD) Lm	06 15.2	
	i	32.0				NEZ: 20^S ; 3.3μ , 3.3μ , 4.5μ	
3.III	Aleutian Islands, Moscow: $55.13^\circ N$, $163.91^\circ E$, $H=10^h 53^m 21.1^s$, $MPV(A)=5.8$; $MPV=5.7$ (Kraków, Niedzica); $MLH=6.4$, $MLV=6.1$ (Kraków); $MLH=6.8$ (Warszawa)				WAR $\Delta=146.90^\circ$		
	WAR $\Delta=68.66^\circ$				(SKD) iPKP	05 06 22	
	(SKD) eiP	11 04 12			i	44	
	ei	44			eipP	09 40	
	iS	13 28			NIE $\Delta=149.57^\circ$		
	Lm	31 28			ePKP	05 06 24	
	NE: 20^S , 22^S ; 15μ , 54μ				Pm	30	
	Lm	37 12				Z: 2.0^S ; 0.14μ	
	Z: 16^S ; 13μ				i	39.5	
	KSP $\Delta=71.00^\circ$			4.III	New Britain Island Region, Moscow: $4.87^\circ S$, $152.84^\circ E$, $H=14^h 58^m 12.7^s$, $h=50$ km; $MPV(A)=6.6$; $MLV=6.2$ (Kraków), $MLH=6.2$ (Warszawa)		
	eP	11 04 35					
	isP	50					
	KRA $\Delta=70.94^\circ$						
	(SKM) eP	11 04 37 C					
	Z: 1.8^S ; 0.12μ						

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
4.III	New Britain Island - continuation			6.III	Aleutian Islands, Moscow: $54.91^\circ N$, $164.52^\circ E$, $H=01^h 18^m 59.8^s$, $MPV(A)=5.3$		
	KRA $\Delta=120.11^\circ$				KSP $\Delta=71.33^\circ$		
	(SKM) eiPKIKP	15 16 56			eP	01 30 16	
	Z: 0.7^S ; 0.041μ				KRA $\Delta=71.28^\circ$		
	(SKD) iPP	18 23			(SKM) eP	01 30 17	
	Lm	57.6			NIE $\Delta=71.79^\circ$		
	NEZ: 35^S ; 4.5μ , 4.4μ , 3.8μ				eP	01 30 23	
	Lm	16 10.1			eipP	32	
	NZ: 20^S ; 4.4μ , 6.4μ			6.III	KSP		
	NIE $\Delta=120.24^\circ$				eiP	02 34 09	
	iPKIKP	15 16 59.5			NIE		
	Pm	17 03			eiP	02 34 12	
	Z: 1.2^S ; 0.17μ				Z: 1.0^S ; 0.019μ		
	WAR $\Delta=118.36^\circ$				i	17.2	
	(SKD) ei	15 18 12		6.III	New Britain Island, Moscow: $4.88^\circ S$, $151.75^\circ E$, $H=05^h 04^m 07.3^s$, $MPV(A)=5.6$		
	eipP	32			NIE $\Delta=119.64^\circ$		
	eiSKKS	25 22			ePKIKP	05 22 58	
	ei	28 20			eiPKS	26 23	
	Lm	16 00 24		6.III	Sea of Japan, Moscow: $38.53^\circ N$, $133.86^\circ E$, $H=15^h 11^m 38.0^s$, $MPV(A)=5.4$; $h=400-420$ km		
	NEZ: 28^S , 32^S , 32^S ; 4.6μ , 7.2μ , 4.6μ				KRA $\Delta=74.38^\circ$		
4.III	NIE				(SKM) iP	15 22 35.2 D	
	eP	15 28 09			Z: 0.5^S ; 0.10μ		
	ei	14			NIE $\Delta=74.61^\circ$		
5.III	NIE				iP	15 22 37.5 D	
	eipP	01 15 10			Z: 1.0^S ; 0.14μ		
	Z: 1.0^S ; 0.009μ				i	54.2	
	ei	23			ipP	24 12.7	
5.III	Crete, EMSC: $35.24^\circ N$, $23.60^\circ E$, $H=05^h 26^m 14.2^s$, $h=75$ km				KSP $\Delta=75.54^\circ$		
	NIE $\Delta=14.38^\circ$				iP	15 22 41.5	
	eiP	05 29 42		7.III	Japan, Moscow: $31.71^\circ N$, $137.59^\circ E$, $H=02^h 48^m 34.6^s$, $h=400$ km, $MPV(A)=6.1$		
	ei	52			WAR $\Delta=79.74^\circ$		
	KSP $\Delta=16.47^\circ$				(SKD) ciP	03 00 08	
	eP	05 30 02			eipP	01 48	
5.III	NIE				ei	08 36	
	eipP	20 21 26			iS	09 32	
	Z: 0.6^S ; 0.019μ			6.III	Pacific Ocean, Moscow: $35.43^\circ S$, $104.29^\circ W$, $H=00^h 22^m 15.4^s$		
6.III	NIE				NIE $\Delta=137.73^\circ$		
	eiP	00 41 44			ePKIKP	00 41 44	
	ei	53			ei	53	

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
7.III Japan - continuation				7.III	WAR	$\Delta=18.01^\circ$	
	WAR	i	03 12 20		(SKD)	iP	22 37 58 D
		i	14 48			ei	40 44
		Lm	40 08			ei	41 40
		NEZ: 16^S , 16^S , 14^S ;				eL	43.5
		40 μ , 60 μ , 47 μ				Lm	45 44
						E: 14^S ; 18 μ	
	KRA	$\Delta=81.66^\circ$		7.III	Crete, EMSC: $34.35^\circ N$, $25.31^\circ E$,		
	(SKM)	iP	03 00 10.6 C		H= $23^h 00^m 01.1^s$		
		Pm	18.2		NIE	$\Delta=15.50^\circ$	
		Z: 1.1^S ; 0.34 μ				eP	23 03 36
					KRA	$\Delta=16.18^\circ$	
					(SKM)	eP	23 03 43
				8.III	Crete, EMSC: 34.74° , $22.88^\circ E$,		
					H= $23^h 54^m 28.9^s$, h=10 km		
					NIE	$\Delta=14.79^\circ$	
						eP	23 58 04
						ei	11
					KSP	$\Delta=16.79^\circ$	
						eP	23 58 23
	KSP	$\Delta=82.89^\circ$		9.III	Tonga Islands Region, Moscow:		
		iP	03 00 18.0		$21.63^\circ S$, $179.44^\circ W$, H= $14^h 20^m 53.9^s$		
		Pm	30		KSP	$\Delta=148.34^\circ$	
		Z: 0.8^S ; 0.31 μ				ePKP	14 40 29
7.III	Sumatra, Moscow: $1.34^\circ S$, $99.66^\circ E$,				KRA	$\Delta=147.77^\circ$	
	H= $19^h 58^m 47.4^s$, MPV(A)=5.5				(SKM)	eiPKP	14 40 33 C
	NIE	$\Delta=84.08^\circ$				Z: 0.6^S ; 0.043 μ	
		eiP	20 11 18			ePKP ₂	39
		eipP	30	9.III	New Britain Island, Moscow:		
					$5.98^\circ S$, $150.06^\circ E$, H= $21^h 42^m 57.6^s$,		
					MLH=6.0, MLV=6.0 (Kraków)		
					KRA	$\Delta=119.49^\circ$	
					(SKM)	ePKIKP	22 01 52
					(SKD)	Lm	52.6
						NEZ: 25^S ; 3.5 μ , 2.9 μ ,	
						4.2 μ	
					NIE	$\Delta=119.58^\circ$	
						eiPKIKP	22 01 52
						i	55.8
7.III	Crete, EMSC: $34.49^\circ N$, $25.27^\circ E$,			9.III	Kuril Islands, Moscow: $46.85^\circ N$,		
	H= $22^h 33^m 49.4^s$, h=48 km				$153.87^\circ E$, H= $23^h 41^m 57.4^s$, MPV=5.2 (Nie-		
	NIE	$\Delta=15.36^\circ$			dzica)		
		iP	22 37 22.7				
		Z: 1.1^S ; 0.028 μ					
		iPP	30.5				
		iPPP	49.7				
	KRA	$\Delta=16.04^\circ$					
	(SKM)	eiP	22 37 30				
		Z: 1.0^S ; 0.096 μ					
		eiPP	53				
	KSP	$\Delta=17.60^\circ$					
		eP	22 37 48				
		ePP	38 09				

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
9.III Kuril Islands - continuation				11.III	Italy, EMSC: $38.03^\circ N$, $16.09^\circ E$,		
	NIE	$\Delta=75.99^\circ$			H= $19^h 20^m 49.1^s$, h=10 km; MLH=5.0 (Kraków)		
		iP	23 53 45.0		NIE	$\Delta=11.79^\circ$	
		Z: 1.5^S ; 0.031 μ				iP	19 23 37.5
						Z: 1.3^S ; 0.24 μ	
						iPP	50.5
						i	24 04.3
					KRA	$\Delta=12.33^\circ$	
					(SKM)	iP	19 23 45.1 C
						Z: 1.8^S ; 0.27 μ	
						iPP	58.1
						i	24 14.6
					(GW)	ei	25 46
						Lm	28.1
						NEZ: 7.0^S ; 2.8 μ , 5.2 μ ,	
						2.7 μ	
					WAR	$\Delta=14.63^\circ$	
					(GW)	iP	19 24 20 D
					(SKD)	eiS	27 12
				10.III	Crete, EMSC: $35.00^\circ N$, $22.96^\circ E$,		
					H= $00^h 23^m 07.8^s$		
					NIE	$\Delta=14.54^\circ$	
						eiP	00 26 37
						eiPPP	58
					KSP	$\Delta=16.56^\circ$	
						eP	00 26 57
				10.III	Philippine Islands, Moscow:		
					$12.89^\circ N$, $125.21^\circ E$, H= $02^h 59^m 25.4^s$,		
					MPV(A)=5.4; MPV=5.0 (Niedzica)		
					NIE	$\Delta=89.75^\circ$	
						iP	03 12 23.5 C
						Z: 1.0^S ; 0.011 μ	
						eisP	36
				11.III	Philippine Islands, Moscow:		
					$12.91^\circ N$, $125.12^\circ E$, H= $03^h 12^m 47.9^s$;		
					MPV=5.1 (Niedzica)		
					NIE	$\Delta=89.69^\circ$	
						eiP	03 25 44 C
						Z: 1.0^S ; 0.013 μ	
						eisP	57
				11.III	Indonesia, Moscow:		
					$2.11^\circ N$, $125.69^\circ E$, H= $04^h 18^m 07.2^s$, MPV(A)=5.9,		
					h=70 km; MPV=6.2 (Kraków), 6.0 (Niedzica)		
					KRA	$\Delta=98.45^\circ$	
					(SKM)	eP	04 31 39
						Pm	45
						Z: 1.6^S ; 0.12 μ	
					NIE	$\Delta=98.35^\circ$	
						iP	04 31 40.5 D
						Pm	47
						Z: 1.0^S ; 0.044 μ	
						i	50
						ipP	32 04.3
					KSP	$\Delta=100.49^\circ$	
						eP	04 31 47
				12.III	Kermadec Islands, Moscow:		
					$30.60^\circ S$, $178.52^\circ W$, H= $16^h 13^m 07.6^s$		
					KRA	$\Delta=156.12^\circ$	
					(SKM)	ePKIKP	16 33 04 D
						Z: 1.4^S ; 0.052 μ	
						eiPKHKP	14
					NIE	$\Delta=156.41^\circ$	
						eiPKIKP	16 33 06

Date	Station	Phase	T.U. h m s
12.III Japan, Moscow: 39.01°N, 141.75°E, H=17 ^h 59 ^m 46.3 ^s , MPV(A)=5.1; MPV=5.4 (Kraków)			
	KRA	Δ=77.61°	
	(SKM) eiP	18 11 41	
		Z: 0.8 ^s ; 0.023μ	
	NIE	Δ=77.91°	
	eiP	18 11 44	
13.III NIE			
	iP	16 57 23.0	
		Z: 1.2 ^s ; 0.026μ	
	i	31.2	
14.III Taiwan, Moscow: 24.52°N, 122.70°E, H=20 ^h 32 ^m 15.3 ^s , MPV(A)=5.6; MPV=5.5 (Kraków, Niedzica)			
	KRA	Δ=79.29°	
	(SKM) eiP	20 44 19 C	
		Z: 0.8 ^s ; 0.037μ	
	i	40.8	
	(SKD) Lm	21 14.3	
		NE: 26 ^s ; 2.0μ, 1.5μ	
	NIE	Δ=79.33°	
	iP	20 44 21.0 C	
		Z: 1.2 ^s ; 0.044μ	
	i	43	
	KSP	Δ=81.02°	
	eiP	20 44 27	
15.III NIE			
	iP	22 00 02.3	
		Z: 1.0 ^s ; 0.019μ	
15.III Kuril Islands, Moscow: 43.87°N, 145.61°E, H=21 ^h 54 ^m 42.2 ^s , MPV(A)=5.3; MPV=5.8 (Niedzica), 6.0 (Kraków)			
	KRA	Δ=75.16°	
	(SKM) iP	22 06 15.2 C	
		Z: 0.7 ^s ; 0.082μ	
	i	31.3	
	KSP	Δ=75.90°	
	eiP	22 06 18	
	NIE	Δ=75.51°	
	iP	22 06 18.2 C	
		Z: 0.9 ^s ; 0.077μ	
	i	35.0	

Date	Station	Phase	T.U. h m s
15.III Bonin Islands, Moscow: 26.58°N, 140.54°E, H=22 ^h 04 ^m 39.5 ^s , MPV(A)=6.2; MPV=6.6 (Kraków), 6.2 (Niedzica), MLH=6.0, MLV=5.9 (Kraków)			
	WAR	Δ=85.43°	
	(SKD) i(P)	22 16 48 D	
	ei	20 00	
	ei	26 44	
	ei	56	
	eiSKS	27 52	
	KRA	Δ=87.34°	
	(SKM) i(P)	22 16 59.2 D	
		Z: 1.0 ^s ; 0.48μ	
	ei	17 10	
	i	18 07.7	
	(SKD) i(PP)	20 26	
	i(S)	26 59	
	i	28 14	
	eiL	41 06	
	Lm	51.1	
		NE: 25 ^s ; 5.6μ, 6.5μ	
	Lm	52.6	
		Z: 25 ^s ; 6.4μ	
	NIE	Δ=87.55°	
	i(P)	22 17 00	
		Z: 1.0 ^s ; 0.20μ	
	i	11.2	
	i	32.7	
16.III Pakistan, Moscow: 29.89°N, 66.38°E, H=01 ^h 59 ^m 55.8 ^s , MPV(A)=5.5; MPV=5.7 (Niedzica), 5.6 (Kraków), MLH=5.6, MLV=5.3 (Kraków)			
	NIE	Δ=39.73°	
	iP	02 07 33.0	
	Pm	42	
		Z: 1.0 ^s ; 0.11μ	
	i	53.4	
	KRA	Δ=40.11°	
	(SKM) eP	02 07 35	
	i	40.1	
	Pm	41	
		Z: 1.0 ^s ; 0.072μ	
	ei	08 13	
	(SKD) ei(S)	13 53	
	eiL	19	
	Lm	25.4	
		NEZ: 30 ^s ; 8.5μ, 12μ, 7.0μ	

Date	Station	Phase	T.U. h m s
16.III Pakistan - continuation			
	KSP	Δ=42.55°	
	eP	02 07 54	
	WAR	Δ=39.98°	
	(SKD) eiPP	02 09 16	
	Lm	25 32	
		NE: 20 ^s ; 22μ, 33μ	
16.III NIE			
	iP	02 11 50.0	
		Z: 1.4 ^s ; 0.025μ	
16.III Aleutian Islands, Moscow: 52.73°N, 169.21°W, H=02 ^h 09 ^m 39.9 ^s , MPV(A)=5.7; MPV=5.9 (Kraków), 5.8 (Niedzica)			
	KSP	Δ=76.70°	
	eP	02 21 27	
	KRA	Δ=77.30°	
	(SKM) eiP	02 21 31 C	
		Z: 1.0 ^s ; 0.096μ	
	eiSP	43	
	NIE	Δ=77.90°	
	iP	02 21 36.5	
		Z: 1.2 ^s ; 0.10μ	
	ipP	46.5	
16.III Aleutian Islands, Moscow: 52.25°N, 168.84°W, H=03 ^h 30 ^m 00.1 ^s , MPV(A)=5.3; MPV=5.6 (Kraków)			
	KRA	Δ=77.80°	
	(SKM) eP	03 41 55	
		Z: 0.8 ^s ; 0.041μ	
	NIE	Δ=78.40°	
	eiP	03 41 58	
16.III Peloponese, EMSC: 36.73°N, 21.52°E, H=05 ^h 51 ^m 58.0 ^s , h=48 km			
	NIE	Δ=12.72°	
	eP	05 54 55	
	ei	55 29	
	KSP	Δ=14.60°	
	eP	05 55 25	
16.III Yugoslavia, EMSC: 43.09°N, 17.92°E, H=06 ^h 08 ^m 39.9 ^s , h=10 km			
	NIE	Δ=6.55°	

Date	Station	Phase	T.U. h m s
16.III NIE			
	eiP	06 10 18	
		Z: 0.6 ^s ; 0.008μ	
16.III NIE			
	iP	08 41 06.2 C	
		Z: 1.0 ^s ; 0.022μ	
	ei	11	
16.III Caspian Sea, EMSC: 41.28°N, 49.26°E, H=19 ^h 47 ^m 49.4 ^s , h=61 km			
	NIE	Δ=21.80°	
	eiP	19 52 38	
	eiPPP	53 09	
16.III Philippine, Moscow: 17.90°N, 122.45°E, H=22 ^h 50 ^m 01.9 ^s , MPV(A)=5.1; MPV=5.3 (Kraków)			
	NIE	Δ=84.22°	
	eP	23 02 31	
	i	03 06.6	
	KRA	Δ=84.23°	
	(SKM) eP	23 02 37	
	Pm	41	
		Z: 0.8 ^s ; 0.018μ	
18.III Tonga Islands, Moscow: 22.82°S, 176.12°W, H=11 ^h 00 ^m 36.0 ^s , MPV(A)=6.2			
	KSP	Δ=150.40°	
	ePKP	11 20 23	
	i	29.0	
	iPKP ₂	35.5	
	KRA	Δ=150.04°	
	(SKM) ePKP	11 20 24 C	
	i	29.4	
	Pm	30	
		Z: 1.3 ^s ; 0.18μ	
	iPKP ₂	34.9	
	i	49.9	
	NIE	Δ=150.45°	
	iPKP ₂	11 20 32.5	
		Z: 1.2 ^s ; 0.24μ	
18.III Philippine Islands, 12.92°N, 123.87°E, H=23 ^h 47 ^m 33.4 ^s , MPV(A)=5.4			
	NIE	Δ=88.90°	
	iP	00 00 27.2	
		Z: 1.0 ^s ; 0.009μ	

Date	Station	Phase	T.U. h m s
18.III	Philippine Islands, Moscow: 15.59°N, 121.69°E, H=04 ^h 44 ^m 20.9 ^s ,	NIE Δ=85.51° eP	04 57 03
18.III	Yugoslavia, EMSC: 43.92°N, 21.39°E, H=06 34 41.4	NIE Δ=5.55° ePn	06 36 06
19.III	Mexico, Moscow: 17.24°N, 99.70°W, H=01 ^h 39 ^m 09.0 ^s , MPV(A)=5.8; MPV=6.1 (Kra- ków), MLH=6.4, MLV=6.4 (Kraków); MLH=6.6 (Warszawa)	KSP Δ=92.16° eP	01 52 21
		WAR Δ=93.89° (SKD) 1P	01 52 30 C
		iPP	56 16
		eISKKS	02 03 (00)
		eIPS	05 (00)
		Lm	30 00
		NEZ: 26 ^s , 26 ^s , 24 ^s ; 13μ, 31μ, 21μ	
		Lm	44 28
		E: 16 ^s ; 56μ	
		KRA Δ=94.56° (SKM) eiP	01 52 33 C
		Z: 1.1 ^s ; 0.089μ	
		ei	40
		eiPP	56 21
		(SKD) eiSKKS	02 03 14
		i	05 14
		Lm	34.5
		NEZ: 24 ^s ; 11μ, 12μ, 15μ	
		Lm	38.6
		Z: 22 ^s ; 18μ	
		NIE Δ=95.11°	
		1P	01 52 36.6 C
		Z: 1.0 ^s ; 0.019μ	
		i	53 25.2
19.III	NIE		
		1P	03 54 06.2 C
		Z: 1.0 ^s ; 0.070μ	
		i	29.7

Date	Station	Phase	T.U. h m s
19.III	KSP	1P	03 54 20.5 C
19.III	KRA (SKM)	eiP	14 57 54
		Z: 1.1 ^s ; 0.069μ	
	NIE		
		1P	14 57 54.6 C
		Z: 1.2 ^s ; 0.052μ	
19.III	Kuril Islands, Moscow: 49.38°N, 154.54°E, H=14 ^h 49 ^m 52.5 ^s , h=70 km, MPV(A)=5.2; MPV=5.8 (Kraków), 5.5 (Niedzica)	KRA Δ=73.57° (SKM) eiP	15 01 20 D
		Z: 0.8 ^s ; 0.065μ	
		ei	28
	KSP Δ=73.97°	1P	15 01 21.5 C
	NIE Δ=74.00°	1P	15 01 24.0 D
		Z: 0.9 ^s ; 0.032μ	
		ipP	42.8
19.III	Atlantic Ocean, Moscow: 0.25°N, 13.79°W, H=18 ^h 43 ^m 50.5 ^s , MPV(A)=5.7; MPV=5.6 (Kraków), 5.2 (Niedzica)	KSP Δ=56.50° eP	18 53 36
		NIE Δ=57.05°	
		eiP	18 53 42 C
		Z: 1.2 ^s ; 0.026μ	
		ipP	52.0
		1PP	55 52.7
	KRA Δ=57.36°	eiP	18 53 43
		Z: 1.0 ^s ; 0.054μ	
		eipP	54
20.III	Japan, Moscow: 42.67°N, 142.70°E, H=07 ^h 19 ^m 30.9 ^s , h=90 km, MPV(A)=5.3	KRA Δ=75.00° (SKM) eiP	07 31 04 C
		Z: 1.0 ^s ; 0.059μ	
		eipP	22

Date	Station	Phase	T.U. h m s
20.III	Japan - continuation	NIE Δ=75.31° eiP	07 31 07
		Z: 0.8 ^s ; 0.026μ	
	KSP Δ=75.83°	1P	07 31 08.5
20.III	KRA (SKM)	eP	10 20 16
		Z: 1.0 ^s ; 0.060μ	
		ei	20
20.III	Japan, Moscow: 36.60°N, 139.65°E, H=10 ^h 24 ^m 18.5 ^s , h=90 km, MPV(A)=5.8	KRA Δ=78.65° (SKM) 1P	10 36 12.8 C
		Z: 0.7 ^s ; 0.21μ	
	NIE Δ=78.92°	1P	10 36 15.6 C
		Z: 1.0 ^s ; 0.11μ	
		i	21.2
		eisP	46
		i	37 16.2
	KSP Δ=79.71°	1P	10 36 18.0
20.III	Atlantic Ocean, Moscow: 1.95°N, 29.75°W, H=15 ^h 42 ^m 47.6 ^s , MPV(A)=5.7; MPV=5.7 (Kraków), 5.5 (Niedzica); MLH=5.7, MLV=5.6 (Kraków)	KSP Δ=62.23° eP	15 53 13 C
		KRA Δ=63.73° (SKM) 1P	15 53 23.3
		Z: 1.0 ^s ; 0.066μ	
		ei	54 15
	(SKD) eiPS	16 02 19	
		Lm	14.6
		NEZ: 40 ^s ; 3.8μ, 10μ, 9.8μ	
	NIE Δ=63.61°	1P	15 53 23.5
		Z: 1.0 ^s ; 0.041μ	
		i	28.5
20.III	Atlantic Ocean, Moscow: 1.21°N, 29.86°W, H=18 ^h 09 ^m 40.5 ^s , MPV(A)=6.0; MPV=6.3 (Kraków), 6.0 (Niedzica), MLH=5.9, MLV=5.9 (Kraków)		

Date	Station	Phase	T.U. h m s
20.III	KSP Δ=62.81°	1P	18 20 09.5
	KRA Δ=64.30° (SKM) 1P		18 20 20.6 C
		Z: 1.0 ^s ; 0.24μ	
		i	24.5
		i	43.5
	(SKD) eiPS	29 15	
		Lm	51.5
		NEZ: 40 ^s ; 7.5μ, 16μ, 20μ	
	NIE Δ=64.17°	1P	18 20 21.2 C
		Z: 1.2 ^s ; 0.14μ	
		i	30.5
		i	42.7
21.III	Philippine Islands, Moscow: 17.11°N, 122.50°E, H=13 ^h 42 ^m 25.6 ^s , MPV(A)=5.4; MPV=5.9 (Niedzica), 6.0 (Kraków)	KRA Δ=84.86° (SKM) eiP	13 55 04 C
		Z: 1.4 ^s ; 0.16μ	
		i	11.4
		i	25.2
	NIE Δ=84.85°	1P	13 55 05.5 C
		Z: 1.0 ^s ; 0.092μ	
		i	13.2
		i	26.3
	KSP Δ=86.74°	eP	13 55 13 C
21.III	Kamchatka Region, Moscow: 53.99°N, 160.28°W, H=15 ^h 32 ^m 55.0 ^s , h=50 km, MPV(A)=5.2; MPV=5.6 (Kraków), 5.3 (Niedzica)	KSP Δ=71.26° 1P	15 44 10.0
		KRA Δ=71.10° (SKM) 1P	15 44 10.2 C
		Z: 0.7 ^s ; 0.033μ	
		esP	33
	NIE Δ=71.58°	eiP	15 44 14 D
		Z: 0.9 ^s ; 0.019μ	
		eipP	29



Date	Station	Phase	T.U. h m s
21.III	NIE	eP	18 12 35
		Z: 1.0 ^S ; 0.011μ	
21.III	Sakhalin Region, Moscow: 46.68°N, 141.44°E, H=23 ^h 02 ^m 43.1 ^s , MPV(A)=5.1; MPV=5.3 (Niedzica)	KSP	Δ=71.97° eP 23 14 00
		KRA	Δ=71.18° (SKM) eP 23 14 05
		NIE	Δ=71.52° eP 23 14 08 D Pm 13 Z: 1.2 ^S ; 0.031μ ei 24
22.III	Kuril Islands, Moscow: 44.84°N, 148.64°E, H=00 ^h 50 ^m 40.8 ^s , h=70 km, MPV(A)=6.6; MPV=6.8, MLH=7.4, MLV=7.2 (Kraków), MLH=7.5 (Warszawa)	WAR	Δ=73.31° (SKD) iP 01 02 08 C ei 03 32 ei(PP) 05 16 iS 11 36 ei 48 Lm 37 20 NEZ: 18 ^S , 16 ^S , 18 ^S ; 107μ, 230μ, 58μ
		KRA	Δ=75.49° (SKM) eiP 01 02 20 C Z: 1.4 ^S ; 1.17μ ipP 33.1
		(SKD)	eiPP 05 08 iS 12 03 i 17 46 Lm 40.5 NEZ: 15 ^S ; 107μ, 84μ, 107μ
		KSP	Δ=76.14° eP 01 02 21 Pm 26 Z: 1 ^S ; 0.16μ
		NIE	Δ=75.87° iP 01 02 22.4 C Z: 1.0 ^S ; 0.166μ ipP 34.2 i 03 03.2
22.III	KRA	(SKM) eP	01 09 02 Z: 1.0 ^S ; 0.060μ ei 15
	NIE	iP	01 09 05.4 Z: 1.0 ^S ; 0.037μ i 22.4
	KSP	eP	01 09 04 C
22.III	Kuril Islands, Moscow: 44.24°N, 149.12°E, H=01 ^h 13 ^m 32.2 ^s , MPV(A)=5.5; MPV=5.7 (Kraków)	KRA	Δ=76.18° (SKM) eiP 01 25 19 D Z: 0.9 ^S ; 0.053μ eipP 30
		KSP	Δ=76.83° eP 01 25 21 C
		NIE	Δ=76.56° iP 01 25 21.5 C Z: 1.0 ^S ; 0.028μ ipP 34
22.III	Kuril Islands, Moscow: 44.19°N, 149.19°E, H=01 ^h 23 ^m 54.1 ^s , MPV(A)=5.6; MPV=5.7 (Kraków), 5.6 (Niedzica)	KRA	Δ=76.25° (SKM) iP 01 35 41.3 C Z: 0.9 ^S ; 0.053μ eipP 53 isP 56.5
		KSP	Δ=76.89° eP 01 35 43
		NIE	Δ=76.63° iP 01 35 44.5 C Z: 1.0 ^S ; 0.056μ isP 58.0 i 36 15.2
22.III	Kuril Islands, Moscow: 44.29°N, 148.96°E, H=02 ^h 04 ^m 40.9 ^s , MPV(A)=5.3; MPV=5.5 (Kraków)	KRA	Δ=76.08° (SKM) eiP 02 16 27 D Z: 1.1 ^S ; 0.041μ epP 38

Date	Station	Phase	T.U. h m s
22.III	Kuril Islands - continuation	KSP	Δ=76.73° eP 02 16 29
		NIE	Δ=76.45° eiP 02 16 30 D Z: 1.0 ^S ; 0.028μ
22.III	Kuril Islands, Moscow: 44.24°N, 149.23°E, H=02 ^h 31 ^m 28.9 ^s	KRA	Δ=76.22° (SKM) eP 02 43 16
22.III	Kuril Islands, Moscow: 44.25°N, 149.01°E, H=02 ^h 32 ^m 39.5 ^s , MPV(A)=5.7; MPV=6.1 (Kraków), 5.8 (Niedzica)	KRA	Δ=76.13° (SKM) iP 02 44 25.9 C Z: 1.2 ^S ; 0.18μ i 40.2
		NIE	Δ=76.50° eP 02 44 29 Z: 1.0 ^S ; 0.084μ i 42.1
		KSP	Δ=76.78° eP 02 44 29
22.III	Kuril Islands, Moscow: 43.96°N, 149.04°E, H=08 ^h 25 ^m 12.1 ^s , MPV(A)=5.3; MPV=5.7 (Kraków)	KRA	Δ=76.39° (SKM) eiP 08 37 05 C Z: 0.6 ^S ; 0.039μ ipP 18.0
		KSP	Δ=77.05° eiP 08 37 08
22.III	KRA	(SKM) eiP	14 07 05 D Z: 0.5 ^S ; 0.029μ
	NIE	eiP	14 07 06 Z: 1.0 ^S ; 0.022μ i 21.5
22.III	Kuril Islands, Moscow: 45.10°N, 148.85°E, H=21 ^h 34 ^m 42.1 ^s , h=70 km, MPV(A)=6.4; MPV=6.5, MLH=6.9 (Kraków)	WAR	Δ=73.09° (SKD) iP 21 46 08 C ei 42 eiPPP 50 40 iS 55 36 i 44
		KRA	Δ=75.27° (SKM) iP 21 46 19.5 C i 24.3 Pm 26 Z: 0.8 ^S ; 0.35μ ipP 35.0
		(GW)	i 48 i 51 29 iS 56 03 Lm 22 23.4 NEZ: 17 ^S ; 51μ, 21μ, 4.5μ
		NIE	Δ=75.65° iP 21 46 22.5 C Pm 26 Z: 1.0 ^S ; 0.18μ i 31.5 isP 48.4
		KSP	Δ=75.91° eP 21 46 23 ipP 38.5
22.III	Kuril Islands, Moscow: 44.58°N, 148.97°E, H=22 ^h 10 ^m 52.8 ^s , h=60 km, MPV(A)=5.3; MPV=5.5 (Kraków), 5.2 (Niedzica)	KRA	Δ=75.83° (SKM) iP 22 22 35.2 D Z: 0.9 ^S ; 0.037μ eipP 47
		KSP	Δ=76.48° eP 22 22 37
		NIE	Δ=76.21°



Date	Station	Phase	T.U. h m s
22.III	Kuril Islands - continuation		
	NIE	iP	22 22 37.5 C
			Z: 1.0 ^S ; 0.019μ
		eipP	52
23.III	NIE		
		iP	00 30 35.5
23.III	Kuril Islands, Moscow: 44.77°N, 148.79°E, H=00 ^h 31 ^m 05.5 ^s , h=50 km, MPV(A)=6.5; MPV=7.0 (Kraków), 6.3 (Niedzica), MLH=7.5, MLV=6.6 (Kraków)		
	WAR	Δ=73.43°	
		iP	00 42 36
		i	44 44
		iPPP	47 24
		iS	52 22
	KRA	Δ=75.60°	
	(SKM)	iP	00 42 46.8 C
		i	52.4
		Pm	55
			Z: 1.0 ^S ; 1.23μ
		iPcP	59.9
		i	43 08.9
	(GW)	iS	52 27
		Lm	01 49.2
			NEZ: 17 ^S ; 218μ, 110μ, 30μ
	KSP	Δ=76.25°	
		iP	00 42 49.5
		iS	52 30.0
	NIE	Δ=75.98°	
		iP	00 42 50.7
			Z: 2.0 ^S ; 0.93 μ
23.III	KRA		
	(SKM)	iP	00 48 19.6 C
			Z: 1.4 ^S ; 0.36μ
		i	37.6
	NIE		
		iP	00 48 23.5
			Z: 1.0 ^S ; 0.16μ
23.III	KRA		
	(SKM)	eipP	00 56 51
		ei	57 06
	NIE		
		iP	00 56 53.7 D
			Z: 0.9 ^S ; 0.019μ

Date	Station	Phase	T.U. h m s
23.III	Kuril Islands, Moscow: 44.20°N, 149.42°E, H=00 ^h 46 ^m 33.6 ^s , MPV(A)=5.6; MPV=5.9 (Kraków), 5.6 (Niedzica)		
	KRA	Δ=76.33°	
	(SKM)	iP	00 58 20.4 C
			Z: 0.9 ^S ; 0.084μ
		i	39.9
	NIE	Δ=76.70°	
		iP	00 58 23.5 C
			Z: 1.0 ^S ; 0.056μ
		i	37.5
		i	42.7
	KSP	Δ=76.96°	
		eipP	00 58 24
23.III	NIE		
		eipP	01 01 38
			Z: 1.2 ^S ; 0.021μ
23.III	Kuril Islands, Moscow: 44.15°N, 149.25°E, H=00 ^h 54 ^m 23.7 ^s , MPV(A)=5.4; MPV=5.7 (Kraków), 5.6 (Niedzica)		
	KRA	Δ=76.31°	
	(SKM)	iP	01 06 10.7 C
			Z: 1.0 ^S ; 0.060μ
		i	24.9
	KSP	Δ=76.95°	
		eipP	01 06 14
	NIE	Δ=76.68°	
		iP	01 06 14.5 C
			Z: 1.0 ^S ; 0.046μ
		i	28.5
23.III	KRA		
	(SKM)	eP	01 09 10 C
			Z: 0.7 ^S ; 0.020μ
		i	21.4
	NIE		
		eipP	01 09 14
			Z: 0.8 ^S ; 0.017μ
23.III	Kuril Islands, Moscow: 44.16°N, 149.33°E, H=01 ^h 04 ^m 44.1 ^s , MPV(A)=5.5; MPV=5.7 (Kraków), 5.4 (Niedzica)		
	KRA	Δ=76.31°	

Date	Station	Phase	T.U. h m s
23.III	Kuril Islands - continuation		
	KRA	eipP	01 16 31 C
	(SKM)		Z: 0.7 ^S ; 0.041μ
		ipP	44.4
	NIE	Δ=76.68°	
		iP	01 16 35.0 C
			Z: 1.2 ^S ; 0.039μ
		ipP	44.0
23.III	KRA		
	(SKM)	eipP	01 24 04 D
	NIE		
		eP	01 24 08
23.III	Kuril Islands, Moscow: 43.92°N, 148.75°E, H=01 ^h 49 ^m 35.0 ^s , MPV(A)=6.0; MPV=6.3 (Kraków), 6.2 (Niedzica)		
	KRA	Δ=76.32°	
	(SKM)	iP	02 01 21.5 C
			Z: 0.9 ^S ; 0.26μ
		isP	35.8
	KSP	Δ=76.98°	
		iP	02 01 24.0 D
			Z: 1.1 ^S ; 0.14μ
		eipPP	06 19
	NIE	Δ=76.69°	
		iP	02 01 25.0
			Z: 1.0 ^S ; 0.21μ
		i	33.5
23.III	KRA		
	(SKM)	eipP	02 06 17 D
			Z: 0.7 ^S ; 0.041μ
		i	32.3
	NIE		
		eipP	02 06 20 C
			Z: 0.9 ^S ; 0.030μ
		i	35.4
		i	50.7
23.III	NIE		
		eipP	02 11 16 D
		ei	23
23.III	Kuril Islands, Moscow: 44.32°N, 148.75°E, H=02 ^h 36 ^m 59.3 ^s , MPV(A)=6.1; MPV=6.5 (Kraków), 6.4 (Niedzica)		

Date	Station	Phase	T.U. h m s
23.III	KRA	Δ=75.97°	
	(SKM)	iP	02 48 44.5 C
			Z: 0.8 ^S ; 0.34μ
		i	49 01.8
	NIE	Δ=76.35°	
		iP	02 48 48.0 C
			Z: 1.0 ^S ; 0.32μ
		i	49 10.4
	KSP	Δ=76.63°	
		eP	02 48 48
			Z: 1.1 ^S ; 0.31μ
23.III	KRA		
	(SKM)	eP	02 59 07
			Z: 1.0 ^S ; 0.036μ
	NIE		
		eipP	02 59 10
23.III	NIE		
		eipP	03 20 25 D
			Z: 1.1 ^S ; 0.022μ
23.III	Kuril Islands, 44.23°N, 149.23°E, H=03 ^h 14 ^m 17.6 ^s , MPV(A)=6.7; MPV=6.6 (Kraków), 6.2 (Niedzica)		
	WAR	Δ=74.05°	
	(SKD)	iP	03 25 48 C
		iPS	36 16
	KRA	Δ=76.23°	
	(SKM)	iP	03 26 08.8 C
			Z: 1.3 ^S ; 0.69μ
		isP	22.8
		iS	36 47.8
	KSP	Δ=76.87°	
		eP	03 26 11
			Z: 1 ^S ; 0.21μ
	NIE	Δ=76.61°	
		eipP	03 26 12.2
			Z: 1.3 ^S ; 0.30μ
23.III	Kuril Islands, Moscow: 43.33°N, 149.98°E, H=03 ^h 15 ^m 09.0 ^s , MPV(A)=6.4; MPV=6.4 (Kraków)		
	KRA	Δ=77.28°	
	(SKM)	iP	03 27 00.3
			Z: 1.1 ^S ; 0.34μ

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
23.III	Kuril Islands - continuation			23.III	Kuril Islands, Moscow: 44.29°N, 149.85°E, MPV(A)=5.4; MPV=5.6 (Kraków), H=04 ^h 25 ^m 19.0 ^s		
	KRA	i	03 27 04.8		KRA	Δ=76.41°	
		i	25.8		(SKM) 1P	04 37 11.7 C	
		i	43.8			Z: 1.0 ^s ; 0.060μ	
	NIE	Δ=77.66°			eisP	25	
		1P	03 27 04.6 C		KSP	Δ=77.63°	
23.III	KRA				eP	04 37 15	
	(SKM) 1P		03 36 11.6	23.III	KRA		
			Z: 1.0 ^s ; 0.12μ		(SKM) 1P	04 48 30.6 D	
		i	25.8		ei	37	
	NIE			23.III	KSP		
	1P		03 36 15.7		eP	05 00 00	
23.III	NIE				KRA		
	eiP		03 44 07		(SKM) eiP	05 00 03	
23.III	KRA				i	15.7	
	(SKM) 1P		04 01 13.8 D		NIE		
			Z: 1.0 ^s ; 0.078μ		1P	05 00 05.7	
		i	19.5		i	20.8	
		i	26.8	23.III	NIE		
	KSP				1P	05 13 52.8 C	
	eiP		04 01 16			Z: 0.8 ^s ; 0.015μ	
23.III	Kuril Islands, Moscow: 45.55°N, 149.06°E, H=03 ^h 50 ^m 59.2 ^s , h=50 km, MPV(A)=6.3				i	14 10.7	
	KRA	Δ=75.04°		23.III	Kuril Islands, Moscow: 44.10°N, 149.82°E, H=05 ^h 12 ^m 47.0 ^s , MPV(A)=5.4; MPV=5.3 (Kraków), 5.2 (Niedzica)		
	(SKM) 1P		04 02 37.6 D		KRA	Δ=76.56°	
			Z: 2.0 ^s ; 2.7μ		(SKM) eP	05 24 41 D	
	1pP		50.3			Z: 0.7 ^s ; 0.020μ	
	KSP	Δ=75.66°			eipP	53	
	(SKM) 1P		04 02 39.0		KSP	Δ=77.19°	
23.III	KRA				eP	05 24 44	
	(SKM) 1P		04 15 16.4		NIE	Δ=79.94°	
			Z: 1.1 ^s ; 0.069μ		1P	05 24 44.7	
		i	34.3			Z: 1.0 ^s ; 0.019μ	
23.III	KRA				1sP	57.2	
	(SKM) eiP		04 25 27	23.III	Kuril Islands, Moscow: 44.17°N, 149.09°E, H=05 ^h 23 ^m 17.5 ^s , MPV(A)=5.3		
			Z: 0.8 ^s ; 0.028μ		KSP	Δ=76.88°	
	KSP				eP	05 35 00	
	eP		04 25 29				

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
23.III	Kuril Islands - continuation			23.III	KRA	Δ=76.44°	
	NIE	Δ=76.23°			(SKM) 1P	07 15 44.1	
	eiP		05 35 10			Z: 0.8 ^s ; 0.032μ	
	isP		22.7		1pP	56.0	
23.III	NIE				NIE	Δ=76.81°	
	eP		05 42 03		eiP	07 15 47.0	
			Z: 1.0 ^s ; 0.019μ			Z: 1.0 ^s ; 0.037μ	
23.III	Kuril Islands, Moscow: 44.52°N, 149.29°E, H=05 ^h 38 ^m 31.1 ^s , MPV(A)=5.2				1pP	59.2	
	KRA	Δ=76.00°		23.III	KRA		
	(SKM) eP		05 50 17		(SKM) eP	07 28 18	
	eisP		30		ei	31	
	NIE	Δ=76.38°		23.III	Aleutian Islands, Moscow: 53.10°N, 170.33°W, H=07 ^h 23 ^m 16.7 ^s , MPV(A)=5.8; MPV=5.8 (Kraków), 5.6 (Niedzica)		
	eiP		05 50 19		KSP	Δ=76.28°	
	i		26.7		eP	07 35 05	
	isP		33.1		KRA	Δ=76.85°	
	KSP	Δ=76.64°			(SKM) 1P	07 35 11.3 C	
	eP		05 50 19			Z: 1.0 ^s ; 0.072μ	
23.III	NIE				i	35.6	
	eiP		05 54 38.2		NIE	Δ=77.45°	
			Z: 1.0 ^s ; 0.017μ		1P	07 35 15.7	
	i		54.2			Z: 1.0 ^s ; 0.056μ	
	i		55 06.5		isP	28.2	
	KSP			23.III	KRA		
	eP		05 54 57		(SKM) eiP	07 41 16	
23.III	Kuril Islands, Moscow: 44.44°N, 149.67°E, H=06 ^h 05 ^m 44.9 ^s , MPV(A)=5.4; MPV=5.7 (Kraków), 5.4 (Niedzica)					Z: 1.4 ^s ; 0.042μ	
	KRA	Δ=76.21°			NIE		
	(SKM) 1P		06 17 31.6 D		eiP	07 41 20	
			Z: 1.6 ^s ; 0.12μ	23.III	Kuril Islands, Moscow: 44.35°N, 148.79°E, H=07 ^h 32 ^m 15.1 ^s , MPV(A)=5.4; MPV=5.4 (Niedzica)		
	isP		44.2		KRA	Δ=75.96°	
	KSP	Δ=76.84°			(SKM) eiP	07 44 01	
	eP		06 17 33		isP	16.4	
	NIE	Δ=76.59°			NIE	Δ=76.34°	
	1P		06 17 34.5		1P	07 44 03.8	
			Z: 1.0 ^s ; 0.028μ			Z: 1.0 ^s ; 0.028μ	
	1sP		47.2		i	10.4	
23.III	Kuril Islands, Moscow: 43.86°N, 148.93°E, H=07 ^h 03 ^m 50.7 ^s , MPV(A)=5.3; MPV=5.5 (Kraków, Niedzica)				i	27.5	
	KSP	Δ=76.62°			KSP	Δ=76.62°	
	eiP		07 44 04		eiP	07 44 04	

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
23.III	Kuril Islands, Moscow: 44.22°N, 149.72°E, H=07 ^h 51 ^m 58.8 ^s , MPV(A)=5.2; MPV=5.5 (Kraków, Niedzica)			23.III	NIE		
	KRA Δ=76.42°				eP		10 00 43
	(SKM) iP 08 03 52.3 D				i		55.7
	Z: 0.6 ^s ; 0.023μ			23.III	KSP		
	NIE Δ=76.80°				eP		10 38 26
	iP 08 03 55.5 D			23.III	Kuril Islands, Moscow: 44.46°N, 149.91°E, H=10 ^h 52 ^m 18.8 ^s , MPV=5.2 (Niedzica)		
	Z: 1.0 ^s ; 0.037μ				NIE Δ=76.66°		
	i 04 15.7				eiP		11 04 00
23.III	Kuril Islands, Moscow: 44.51°N, 149.01°E, H=08 ^h 14 ^m 31.1 ^s , MPV(A)=5.9; MPV=6.4 (Kraków), 6.3 (Niedzica)				Z: 1.2 ^s ; 0.023μ		
	KRA Δ=75.91°				cipP		21
	(SKM) iP 08 26 15.8 C			23.III	Kuril Islands, Moscow: 44.61°N, 149.73°E, H=11 ^h 26 ^m 37.0 ^s , MPV(A)=5.2; MPV=5.5 (Kraków)		
	Z: 0.8 ^s ; 0.27μ				KRA Δ=76.09°		
	ipP 27.6				(SKM) iP 11 38 23.4 D		
	i 45.5				Z: 0.7 ^s ; 0.029μ		
	NIE Δ=76.28°			23.III	KRA		
	iP 08 26 18.7				(SKM) eiP 13 01 39		
	Pm 23			23.III	Kuril Islands, Moscow: 44.71°N, 149.62°E, H=13 ^h 22 ^m 59.1 ^s , MPV(A)=5.3; MPV=5.8 (Kraków)		
	Z: 1.0 ^s ; 0.22μ				KRA Δ=75.96°		
	ipP 30.0				(SKM) eiP 13 34 44 D		
	i 45.7				Z: 1.7 ^s ; 0.14μ		
	KSP Δ=76.55°				isP 57.5		
	eiP 08 26 19				NIE Δ=76.34°		
23.III	Kuril Islands, Moscow: 44.13°N, 148.98°E, H=08 ^h 55 ^m 25.3 ^s , MPV(A)=5.3; MPV=5.5 (Kraków), 5.2 (Niedzica)				iP 13 34 47.0		
	KRA Δ=76.22°				i 35 08.2		
	(SKM) eP 09 07 11				KSP Δ=76.58°		
	Z: 0.9 ^s ; 0.032μ				eP 13 34 47		
	eisP 24			23.III	Kuril Islands, Moscow: 44.90°N, 149.06°E, H=13 ^h 49 ^m 46.6 ^s , MPV(A)=5.4; MPV=5.5 (Niedzica)		
	NIE Δ=76.60°				NIE Δ=75.97°		
	eP 09 07 15				iP 14 01 32.5		
	Z: 0.9 ^s ; 0.017μ				Z: 1.0 ^s ; 0.037μ		
	i 22.2				KSP Δ=76.23°		
23.III	Kuril Islands, Moscow: 44.08°N, 149.10°E, H=09 ^h 19 ^m 08.3 ^s , MPV(A)=5.3				eiP 14 01 33		
	KRA Δ=76.31°			23.III	NIE		
	(SKM) eP 09 30 56				eiP 14 18 06 C		
	NIE Δ=76.68°				ei 24		
	eP 09 30 59						
	ei 16						

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
23.III	NIE	iP	15 28 42.5 C	23.III	KRA	Δ=76.48°	
		Z: 0.9 ^s ; 0.017μ			(SKM) eiP		17 38 55
23.III	KRA	eP	15 54 08		NIE Δ=76.86°		
	(SKM)	Z: 1.1 ^s ; 0.028μ			eP		17 38 58
23.III	Kuril Islands, Moscow: 44.40°N, 149.92°E, H=16 ^h 22 ^m 54.4 ^s , MPV(A)=5.4; MPV=5.4 (Kraków), 5.3 (Niedzica)				ipP		39 10.4
	KRA Δ=76.34°			23.III	Yugoslavia, Moscow: 43.31°N, 16.87°E, H=18 ^h 45 ^m 35.1 ^s		
	(SKM) iP 16 34 48.2 D				NIE Δ=7.07°		
	Z: 0.8 ^s ; 0.028μ				eiPn		18 47 12.6
	NIE Δ=76.72°				i		24.3
	iP 16 34 50.2				iP ^{xx}		33.0
	Z: 1.0 ^s ; 0.026μ				i		48 23.9
	isP 35 03.7				iSn		37.7
23.III	KSP	iP	16 42 26.0		KRA Δ=6.56°		
	KRA				(SKM) e		18 47 18
	(SKM) iP 16 42 37.0 C				eiP ^{xx}		29
	Z: 1.4 ^s ; 0.19μ				ePg		42
	NIE	iP	16 42 42.0 C		ei		48 33
		Z: 1.4 ^s ; 0.12μ			KSP Δ=7.55°		
	ipP 51.5				eiPn		18 47 28
	i 43 15.3			23.III	Kuril Islands, Moscow: 44.97°N, 149.48°E, H=19 ^h 12 ^m 28.1 ^s , h=50 km, MPV(A)=6.4; MPV=6.6 (Kraków), 6.3 (Niedzica), MLH=7.1, MLV=7.0 (Kraków), MLH=7.5 (Warszawa)		
23.III	Kuril Islands, Moscow: 44.41°N, 149.58°E, H=16 ^h 52 ^m 29.0 ^s , MPV(A)=5.6; MPV=5.7 (Kraków), 5.8 (Niedzica)				WAR Δ=73.50°		
	KRA Δ=76.20°				(SKD) iP		19 23 59
	(SKM) iP 17 04 21.4 C				ei		25 20
	Z: 0.9 ^s ; 0.058μ				iS		33 28
	ipP 33.9				Lm		20 01 36
	isP 35.1				NEZ: 16 ^s ; 96μ, 164μ, 69μ		
	KSP Δ=76.83°				KRA Δ=75.69°		
	iP 17 04 24.5 C				(SKM) iP		19 24 10.5 C
	NIE Δ=76.58°				Z: 1.0 ^s ; 0.54μ		
	iP 17 04 24.7 C				ipP		23.8
	Z: 1.0 ^s ; 0.082μ				i		38.4
	isP 37.2				(SKD) iS		33 56
23.III	Kuril Islands, Moscow: 44.11°N, 149.64°E, H=17 ^h 27 ^m 01.1 ^s , MPV(A)=5.0; MPV=5.4 (Kraków)				ei		39 44
	KRA Δ=76.31°				eiPKKP		43 24
	(SKM) eP				Lm		20 01.8
	NIE Δ=76.68°				NEZ: 20 ^s ; 57μ, 86μ, 74μ		
	eP 09 30 59				KSP Δ=76.31°		
	ei 16				eP		19 24 13

Date	Station	Phase	T.U. h m s
23.III	Kuril Islands - continuation		
	NIE $\Delta=76.07^\circ$		
	iP		19 24 13.7 C
	Z: 1.1^S ; 0.32μ		
	isP		31.5
23.III	Kuril Islands, Moscow: $44.43^\circ N$, $150.08^\circ E$, $H=19^h 20^m 55.2^s$, $MPV(A)=5.3$; $MPV=5.7$ (Kraków)		
	KRA $\Delta=76.37^\circ$		
	(SKM) iP		19 32 48.7 D
	Z: 1.1^S ; 0.069μ		
	eisP		33 02
	NIE $\Delta=76.75^\circ$		
	eiP		19 32 50
23.III	NIE		
	iP		19 51 44.2
	Z: 1.0^S ; 0.009μ		
23.III	Kuril Islands, Moscow: $44.76^\circ N$, $149.66^\circ E$, $H=19^h 46^m 26.1^s$, $MPV(A)=5.7$; $MPV=5.8$ (Kraków), 5.9 (Niedzica)		
	KRA $\Delta=75.93^\circ$		
	(SKM) iP		19 58 11.1 D
	Z: 0.9^S ; 0.079μ		
	isP		24.3
	NIE $\Delta=76.31^\circ$		
	iP		19 58 15.0
	Z: 1.3^S ; 0.14μ		
	i		36.5
	KSP $\Delta=76.55^\circ$		
	eiP		19 58 15
23.III	Kuril Islands, Moscow: $44.78^\circ N$, $149.13^\circ E$, $H=20^h 21^m 11.1^s$, $MPV(A)=5.5$; $MPV=5.5$ (Niedzica)		
	KRA $\Delta=75.72^\circ$		
	(SKM) eiP		20 33 00.3
	Z: 1.0^S ; 0.060μ		
	eipP		12.7
	NIE $\Delta=76.10^\circ$		
	iP		20 33 03.6
	Z: 0.8^S ; 0.029μ		
	ipP		15.7
23.III	USSR, Moscow: $44.65^\circ N$, $79.01^\circ E$, $H=21^h 13^m 12.3^s$, $MPV=5.0$ (Niedzica)		

Date	Station	Phase	T.U. h m s
23.III	NIE $\Delta=39.41^\circ$		
	iP		21 20 46.7
	Z: 0.6^S ; 0.014μ		
	KRA $\Delta=39.47^\circ$		
	(SKM) iP		21 20 46.8 D
	Z: 0.5^S ; 0.029μ		
23.III	KRA		
	(SKM) iP		22 03 48.1 C
	Z: 1.0^S ; 0.079μ		
	KSP		
	iP		22 03 49.0
	NIE		
	iP		22 03 50.7
	Z: 1.2^S ; 0.079μ		
23.III	NIE		
	iP		22 05 46.0
	Z: 1.4^S ; 0.029μ		
23.III	Kuril Islands, Moscow: $44.42^\circ N$, $149.96^\circ E$, $H=23^h 32^m 55.1^s$, $MPV(A)=5.5$; $MPV=5.8$ (Kraków, Niedzica)		
	KRA $\Delta=76.33^\circ$		
	(SKM) iP		23 44 48.0 C
	Z: 1.5^S ; 0.13μ		
	isP		45 01.9
	KSP $\Delta=76.95^\circ$		
	eP		23 44 50.
	NIE $\Delta=76.72^\circ$		
	iP		23 44 51.5
	Z: 1.5^S ; 0.13μ		
	isP		45 03.5
24.III	Atlantic Ocean, Moscow: $29.27^\circ N$, $67.61^\circ W$, $H=00^h 42^m 31.2^s$, $MPV(A)=6.4$; $MPV=6.3$ (Kraków), 5.9 (Niedzica), $MLH=5.9$, $MLV=5.8$ (Kraków)		
	KSP $\Delta=64.21^\circ$		
	eP		00 53 07
	WAR $\Delta=66.65^\circ$		
	(SKD) iP		00 53 24 C
	ei		42
	eiS		01 02 10
	ei		24
	Lm		19 24
	Z: 20^S ; 10μ		

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24.III	Atlantic Ocean - continuation		
	KRA $\Delta=66.67^\circ$		
	(SKM) iP		00 53 24.7 C
	Z: 1.4^S ; 0.34μ		
	ei		32.7
	iPcP		51.7
	(SKD) iS		01 02 16
	ei		09 15
	Lm		14.0
	NEZ: 40^S ; 8.5μ , 15μ , 14μ		
	NIE $\Delta=67.11^\circ$		
	iP		00 53 28.2 C
	Z: 1.2^S ; 0.11μ		
	isP		44.5
	i		54 12.7
24.III	NIE		
	eP		01 21 58
	KRA		
	(SKM) eP		01 21 59 C
	ei		22 09
24.III	NIE		
	iP		02 01 29.5
24.III	NIE		
	eiP		02 52 33
	i		55
	KRA		
	(SKM) eiP		02 52 36 D
	ei		42
24.III	KSP		
	iP		02 58 11.5
24.III	KRA		
	(SKM) eiP		14 35 03
	Z: 1.0^S ; 0.030μ		
	ei		15
	NIE		
	iP		14 35 05.4
	Z: 1.1^S ; 0.032μ		
24.III	Kuril Islands, Moscow: $43.75^\circ N$, $148.85^\circ E$, $H=18^h 30^m 00.6^s$, $MPV(A)=5.4$; $MPV=5.2$ (Niedzica)		
	NIE $\Delta=76.87^\circ$		
	iP		18 41 56.5
	Z: 1.2^S ; 0.026μ		
	isP		42 09.5

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24.III	KRA		
	(SKM) eiP		18 59 34
	ei		56
24.III	Kuril Islands, Moscow: $45.46^\circ N$, $148.26^\circ E$, $H=19^h 48^m 00.7^s$, $h=60$ km, $MPV(A)=6.7$; $MPV=7.1$. $MLH=7.4$, $MLV=6.5$ (Kraków)		
	KRA $\Delta=74.82^\circ$		
	(SKM) eiP		19 59 35 C
	Pm		49
	Z: 1.5^S ; 3.08μ		
	i		20 00 52.7
	(SKD) iS		09 22
	Lm		35
	NEZ: 20^S ; 118μ , 138μ , 30μ		
	KSP $\Delta=75.46^\circ$		
	eP		19 59 38
	NIE $\Delta=75.20^\circ$		
	iP		19 59 40.0
24.III	KRA		
	(SKM) iP		20 12 06.0 D
	Z: 0.8^S ; 0.16μ		
	i		17.9
	i		56.7
24.III	KRA		
	(SKM) iP		20 25 13.7 C
	Z: 0.9^S ; 0.042μ		
24.III	KRA		
	(SKM) iP		20 26 11.5
	Z: 0.7^S ; 0.025μ		
24.III	KRA		
	(SKM) iP		20 28 20.8 C
	Z: 1.2^S ; 0.063μ		
	i		32.1
24.III	KRA		
	(SKM) iP		20 29 57.4 D
	Z: 0.8^S ; 0.051μ		
24.III	KRA		
	(SKM) eiP		20 37 31
24.III	KRA		
	(SKM) iP		20 42 58.1
	ei		43 07



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24.III KRA (SKM) iP 20 43 32.2
 24.III KRA (SKM) iP 20 50 07.2 D
 Z: 0.8^S; 0.037μ
 24.III KRA (SKM) iP 20 53 22.1
 Z: 0.8^S; 0.018μ
 24.III KRA (SKM) eP 20 56 30
 24.III KRA (SKM) iP 20 59 58.6 D
 Z: 0.8^S; 0.032μ
 24.III KRA (SKM) iP 21 13 22.7 C
 KSP eP 21 13 39
 24.III KRA (SKM) iP 22 00 34.2 D
 Z: 0.9^S; 0.037μ
 KSP eIP 22 00 35
 NIE eIP 22 00 39
 ei 49
 24.III KRA (SKM) eIP 22 00 59.1
 Z: 0.9^S; 0.037μ
 24.III KRA (SKM) iP 22 01 30.7 D
 Z: 1.3^S; 0.11μ
 24.III KRA (SKM) iP 22 02 39.7 C
 Z: 0.8^S; 0.11μ
 24.III KRA (SKM) iP 22 04 33.6 D
 Z: 0.7^S; 0.025μ
 24.III KRA (SKM) eP 22 09 11
 i 16.2
 NIE iP 22 09 13.2

24.III KRA (SKM) eIP 22 10 09 D
 Z: 0.7^S; 0.025μ
 NIE iP 22 10 12.0 D
 Z: 1.0^S; 0.017μ
 24.III KRA (SKM) iP 22 11 26.5 D
 Z: 0.4^S; 0.050μ
 i 33.0
 KSP eIP 22 11 28
 NIE iP 22 11 29.5 C
 Z: 0.9^S; 0.022μ
 i 35.0
 24.III KRA (SKM) eIP 22 16 50 D
 Z: 1.0^S; 0.030μ
 NIE iP 22 16 53.3 D
 Z: 0.9^S; 0.022μ
 24.III Kuril Islands, Moscow: 44.27°N,
 149.06°E, H=22^h08^m52.1^s, MPV(A)=5.9;
 MPV=6.2 (Kraków)
 KRA Δ=76.13°
 (SKM) iP 22 20 43.2 C
 Pm 47
 Z: 1.1^S; 0.23μ
 isP 56.1
 KSP Δ=76.78°
 eIP 22 20 46
 Z: 1^S; 0.065μ
 NIE Δ=76.51°
 iP 22 20 46.8
 24.III Kuril Islands, Moscow: 44.84°N,
 149.76°E, H=22^h24^m47.2^s, MPV=5.4 (Niedzica)
 NIE Δ=76.28°
 iP 22 37 34.5
 Z: 1.5^S; 0.049μ



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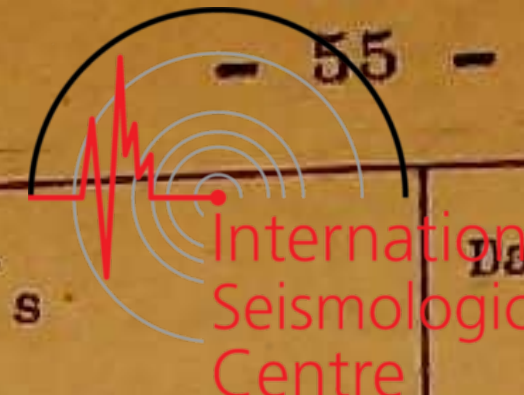
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24.III Kuril Islands, Moscow: 44.04°N,
 149.17°E, H=22^h35^m26.1^s, MPV(A)=5.2;
 MPV=5.5 (Kraków), 5.4 (Niedzica)
 KRA Δ=76.37°
 (SKM) iP 22 47 19.6 D
 Z: 0.9^S; 0.037μ
 NIE Δ=76.75°
 iP 22 47 22.5 C
 Z: 1.2^S; 0.034μ
 KSP Δ=77.02°
 eP 22 47 23
 24.III KRA (SKM) eIP 22 57 21
 Z: 0.8^S; 0.018μ
 ei 32
 NIE eP 22 57 24
 24.III KRA (SKM) eP 23 02 49
 ei 54
 NIE eIP 23 02 53
 Z: 1.0^S; 0.019μ
 i 03 05
 24.III Kuril Islands, Moscow: 43.83°N,
 149.19°E, H=22^h53^m30.5^s, MPV(A)=5.2
 NIE Δ=76.93°
 eP 23 05 24
 ipP 35.5
 i 51.2
 KRA Δ=76.56°
 (SKM) iP 23 05 25.6
 isP 38.6
 24.III NIE iP 23 09 57.5 C
 24.III NIE iP 23 10 02.5
 Z: 1.0^S; 0.019μ
 i 19
 KRA (SKM) eIP 23 10 58.8
 e 11 15

24.III KSP eP 23 11 00
 24.III Kuril Islands, Moscow: 44.89°N,
 148.65°E, H=23^h15^m52.9^s, h=80 km,
 MPV(A)=5.6
 KRA Δ=75.45°
 (SKM) iP 23 27 30.8
 i 33.1
 Z: 0.8^S; 0.060μ
 NIE Δ=75.83°
 iP 23 27 33.5
 KSP Δ=76.10°
 eP 23 27 34
 24.III KRA (SKM) iP 23 27 44.0 C
 Z: 0.9^S; 0.20μ
 24.III Kuril Islands, Moscow: 45.57°N,
 148.34°E, H=23^h40^m14.5^s, h=50 km,
 MPV(A)=5.5; MPV=5.5 (Kraków), 5.7 (Niedzica)
 KRA Δ=74.76°
 (SKM) iP 23 51 51.2 C
 Z: 1.1^S; 0.048μ
 ipP 52 03.9
 KSP Δ=75.39°
 eP 23 51 53
 NIE Δ=75.13°
 iP 23 51 55.5
 Z: 1.5^S; 0.11μ
 25.III KRA (SKM) eIP 00 41 41
 Z: 1.0^S; 0.024μ
 NIE eP 00 41 43
 25.III KRA (SKM) iP 00 49 24.0 D
 Z: 0.7^S; 0.025μ
 KSP eP 00 49 26
 NIE iP 00 49 27.5
 Z: 1.0^S; 0.022μ

Date	Station	Phase	T.U. h m s
25.III	KRA	(SKM) 1P	00 50 00.1 Z: 1.0 ^S ; 0.090μ
	NIE	1P	00 50 03.0 C Z: 1.0 ^S ; 0.22μ
25.III	Kuril Islands, Moscow: 43.67°N, 149.42°E, H=00 ^h 44 ^m 32.6 ^s , MPV(A)=5.5; MPV=5.6 (Kraków)		
	KRA	Δ=76.78°	(SKM) 1P 00 56 28.0 Z: 1.4 ^S ; 0.073μ
			i pP 37.5
	NIE	Δ=77.16°	e1P 00 56 30
	KSP	Δ=77.43°	eP 00 56 30
25.III	KRA	(SKM) eP	01 10 51 Z: 1.0 ^S ; 0.030μ
	NIE	e1P	01 10 54 D Z: 1.0 ^S ; 0.019μ
25.III	KRA	(SKM) eP	01 20 17 ei 20
	NIE	eP	01 20 20 C i 32.7
25.III	Kuril Islands, Moscow: 43.99°N, 149.27°E, H=01 ^h 24 ^m 55.3 ^s , MPV(A)=5.4; MPV=5.5 (Kraków), 5.6 (Niedzica)		
	KRA	Δ=76.45°	(SKM) e1P 01 36 48 Z: 0.7 ^S ; 0.029μ
			i 37 05.0
	KSP	Δ=77.10°	eP 01 36 51
	NIE	Δ=76.83°	e1P 01 36 52 Z: 1.0 ^S ; 0.044μ
			i 37 07
25.III	Kuril Islands, Moscow: 44.31°N, 149.16°E, H=01 ^h 31 ^m 34.3 ^s , MPV(A)=5.2; MPV=5.3 (Kraków)		
	KRA	Δ=76.14°	(SKM) e1P 01 43 20 Z: 0.7 ^S ; 0.016μ
			e1pP 33
	KSP	Δ=76.78°	eP 01 43 21
	NIE	Δ=76.51°	e1P 01 43 24 ipP 35.0
25.III	Kuril Islands, Moscow: 43.94°N, 149.39°E, H=01 ^h 40 ^m 16.2 ^s , MPV(A)=5.0; MPV=5.5 (Kraków), 5.2 (Niedzica)		
	KRA	Δ=76.54°	(SKM) 1P 01 52 04.1 D Z: 0.6 ^S ; 0.023μ
	NIE	Δ=76.91°	eP 01 52 06 Z: 1.2 ^S ; 0.026μ
25.III	Kuril Islands, Moscow: 43.74°N, 148.28°E, H=01 ^h 41 ^m 03.6 ^s , MPV(A)=5.6; MPV=5.9 (Kraków, Niedzica)		
	KRA	Δ=76.29°	(SKM) 1P 01 52 50.1 D Z: 0.8 ^S ; 0.078μ
			isP 53 03.1
	NIE	Δ=76.66°	1P 01 52 53.5 D Z: 1.0 ^S ; 0.092μ
			isP 53 08.5
25.III	KRA	(SKM) eP	01 59 39 Z: 1.1 ^S ; 0.035μ
	NIE	1P	01 59 41.0 Z: 1.0 ^S ; 0.019μ
25.III	USSR, Moscow: 43.01°N, 78.59°E, H=02 ^h 25 ^m 16.3 ^s		
	NIE	Δ=39.94°	1P 02 32 54.5 C i 33 19.0

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25.III	NIE	eP	02 39 19
25.III	Ethiopia, Moscow: 15.43°N, 40.02°E, H=02 ^h 54 ^m 54.7 ^s , MPV(A)=5.4; MPV=5.3 (Kraków)		
	NIE	Δ=37.52°	eP 03 02 12 i 29.5
	KRA	Δ=38.19°	(SKM) e1P 03 02 17 D Z: 0.6 ^S ; 0.023μ
			i 34.5
25.III	KRA	(SKM) e1P	03 06 51 C Z: 1.0 ^S ; 0.036μ
	NIE	eP	03 06 54 C Z: 1.0 ^S ; 0.019μ
25.III	NIE	eP	03 44 37 ei 51
25.III	KRA	(SKM) eP	04 46 25
25.III	NIE	e1P	04 54 18
25.III	KRA	(SKM) e1P	05 27 43 Z: 0.3 ^S ; 0.042μ
			i 54.0
	NIE	e1P	05 27 43 Z: 1.0 ^S ; 0.013μ
			i 57.5
25.III	Kuril Islands, Moscow: 44.13°N, 149.28°E, H=05 ^h 24 ^m 36.9 ^s , MPV(A)=5.8; MPV=5.8 (Kraków), 5.6 (Niedzica)		
	KRA	Δ=76.33°	(SKM) 1P 05 36 29.5 C Z: 1.0 ^S ; 0.072μ
			isP 42.0
	NIE	Δ=76.71°	1P 05 36 32.0 C Z: 1.0 ^S ; 0.056μ
25.III	NIE	1sP	05 36 45
	KSP	Δ=76.98°	eP 05 36 32 D
25.III	Kuril Islands, Moscow: 43.99°N, 148.71°E, H=05 ^h 45 ^m 49.8 ^s , MPV(A)=5.2; MPV=5.5 (Kraków), 5.3 (Niedzica)		
	KRA	Δ=76.24°	(SKM) 1P 05 57 37.0 D Z: 0.8 ^S ; 0.032μ
	KSP	Δ=76.90°	eP 05 57 39
	NIE	Δ=76.61°	1P 05 57 40.0 C Z: 1.2 ^S ; 0.031μ
25.III	Kuril Islands, Moscow: 44.13°N, 148.74°E, H=07 ^h 10 ^m 01.6 ^s , MPV(A)=5.3; MPV=5.6 (Kraków)		
	KRA	Δ=76.13°	(SKM) e1P 07 21 47 C Z: 0.9 ^S ; 0.047μ
	NIE	Δ=76.51°	1P 07 21 51.0
25.III	NIE	eP	07 29 09 ei 20
25.III	Kuril Islands, Moscow: 44.04°N, 149.18°E, H=08 ^h 01 ^m 40.1 ^s , MPV(A)=5.6; MPV=5.8 (Kraków), 5.5 (Niedzica)		
	KRA	Δ=76.37°	(SKM) 1P 08 13 33.4 C Z: 0.6 ^S ; 0.046μ
			1sP 47.9
	NIE	Δ=76.75°	1P 08 13 36.7 C Z: 0.9 ^S ; 0.032μ
			1sP 48.5
	KSP	Δ=77.02°	1P 08 13 37.0 D
25.III	Kuril Islands, Moscow: 44.22°N, 149.19°E, H=08 ^h 48 ^m 49.7 ^s , MPV(A)=5.2; MPV=5.6 (Kraków)		



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25.III	Kuril Islands - continuation		
	KRA	$\Delta=76.22^\circ$	
	(SKM) eiP	09 00 36	C
		Z: 0.9^S ; 0.042μ	
	isP	49.0	
	NIE	$\Delta=76.60^\circ$	
	iP	09 00 39.5	
	isP	52.0	
	KSP	$\Delta=76.87^\circ$	
	eP	09 00 40	
25.III	Kuril Islands, Moscow: $43.95^\circ N$, $149.27^\circ E$, $H=09^h 13^m 52.4^s$, $MPV(A)=5.3$; $MPV=5.6$ (Kraków)		
	KRA	$\Delta=76.48^\circ$	
	(SKM) eiP	09 25 46	D
		Z: 0.7^S ; 0.037μ	
	NIE	$\Delta=76.86^\circ$	
	iP	09 25 49	
	isP	26 02.0	
	KSP	$\Delta=77.13^\circ$	
	eP	09 25 49	
25.III	Nicobar Islands, Moscow: $9.48^\circ N$, $93.35^\circ E$, $H=09^h 21^m 24.0^s$, $MPV(A)=5.0$		
	NIE	$\Delta=71.82^\circ$	
	eP	09 32 51	
	KRA	$\Delta=72.14^\circ$	
	(SKM) eP	09 32 53	
25.III	Kuril Islands, Moscow: $43.92^\circ N$, $148.46^\circ E$, $H=11^h 00^m 00.9^s$, $MPV=5.7$ (Kraków)		
	KRA	$\Delta=76.21^\circ$	
	(SKM) iP	11 11 48.3	D
		Z: 1.0^S ; 0.060μ	
	eipP	58.6	
	NIE	$\Delta=76.58^\circ$	
	iP	11 11 50.5	
	isP	12 05.0	
25.III	Kuril Islands, Moscow: $44.17^\circ N$, $148.73^\circ E$, $H=11^h 40^m 28.1^s$, $MPV(A)=5.5$; $MPV=5.8$ (Kraków), 5.5 (Niedzica); $MLH=5.7$ (Kraków)		
	KSP	$\Delta=76.75^\circ$	
	eP	11 52 08	

Date	Station	Phase	T.U. h m s
25.III	KRA	$\Delta=76.10^\circ$	
	(SKM) eiP	11 52 14.8	C
		Z: 0.9^S ; 0.084μ	
	i	22.4	
	isP	27.2	
	(SKD) Lm	12 28.5	
		NEZ: 15^S ; 2.6μ , 1.7μ , 3.0μ	
	NIE	$\Delta=76.47^\circ$	
	iP	11 52 18.0	C
		Z: 1.0^S ; 0.037μ	
	ipP	28.5	
	i	46.0	
25.III	Kuril Islands, Moscow: $43.68^\circ N$, $148.86^\circ E$, $H=12^h 50^m 22.6^s$, $MPV(A)=5.1$; $MPV=5.4$ (Kraków)		
	KRA	$\Delta=76.56^\circ$	
	(SKM) eiP	13 02 17	C
		Z: 0.6^S ; 0.019μ	
	esP	29	
	NIE	$\Delta=76.93^\circ$	
	iP	13 02 20.7	
25.III	NIE		
	iP	14 33 36.5	C
		Z: 1.0^S ; 0.019μ	
25.III	Kuril Islands, Moscow: $44.58^\circ N$, $148.77^\circ E$, $H=15^h 09^m 10.9^s$, $MPV(A)=5.1$; $MPV=5.6$ (Kraków), 5.3 (Niedzica)		
	KRA	$\Delta=75.76^\circ$	
	(SKM) eiP	15 20 55	D
		Z: 0.6^S ; 0.031μ	
	NIE	$\Delta=76.13^\circ$	
	iP	15 20 57.5	D
		Z: 1.0^S ; 0.022μ	
25.III	KRA		
	(SKM) iP	15 34 33.3	C
		Z: 0.7^S ; 0.062μ	
	i	46.3	
25.III	Kuril Islands, Moscow: $44.80^\circ N$, $148.63^\circ E$, $H=16^h 55^m 18.8^s$, $MPV(A)=5.3$; $MPV=5.7$ (Kraków)		

Date	Station	Phase	T.U. h m s
25.III	Kuril Islands - continuation		
	KRA	$\Delta=75.52^\circ$	
	(SKM) eP	17 06 58	
		Z: 1.0^S ; 0.060μ	
	isP	07 11.9	
	NIE	$\Delta=75.90^\circ$	
	iP	17 06 59.5	
	isP	12.0	
	KSP	$\Delta=76.17^\circ$	
	eP	17 07 02	
25.III	Kuril Islands, Moscow: $44.11^\circ N$, $148.90^\circ E$, $H=18^h 10^m 01.5^s$, $MPV(A)=5.4$; $MPV=5.6$ (Kraków), 5.4 (Niedzica)		
	KRA	$\Delta=76.21^\circ$	
	(SKM) eiP	18 21 49	D
		Z: 0.8^S ; 0.041μ	
	isP	22 03.8	
	NIE	$\Delta=76.58^\circ$	
	iP	18 21 50.0	C
		Z: 1.0^S ; 0.028μ	
	isP	22 05.0	
25.III	Tonga Islands Region, Moscow: $21.23^\circ S$, $178.87^\circ W$, $H=19^h 25^m 43.6^s$, $h=400$ km		
	KRA	$\Delta=147.62^\circ$	
	(SKM) ePKP	19 44 38	D
	iPKP ₂	42.2	
		Z: 1.0^S ; 0.19μ	
	i	46.6	
	KSP	$\Delta=148.13^\circ$	
	ePKP	19 44 40	
	NIE	$\Delta=147.99^\circ$	
	iPKP	19 44 41.0	
	iPKP ₂	46.0	
		Z: 1.0^S ; 0.23μ	
	i	45 25	
25.III	NIE		
	eP	19 55 03	
	ei	08	
	KRA		
	(SKM) eiP	19 55 10	D
26.III	Kuril Islands, Moscow: $45.05^\circ N$, $147.34^\circ E$, $H=23^h 52^m 24.9^s$, $h=60$ km, $MPV(A)=5.8$; $MPV=6.1$ (Kraków), 6.0 (Nie- dzica), $MLH=5.9$, $MLV=6.0$ (Kraków)		

Date	Station	Phase	T.U. h m s
26.III	WAR	$\Delta=72.66^\circ$	
	(SKD) eiP	00 03 44	
	ei	04 24	
	e1S	13 20	
	eL	27.5	
	KRA	$\Delta=74.83^\circ$	
	(SKM) iP	00 04 00.4	C
		Z: 1.0^S ; 0.15μ	
	i	05 09.2	
	(SKD) e(S)	13 57	
	Lm	42.5	
		NEZ: 20^S ; 6.5μ , 3.2μ , 8.5μ	
	NIE	$\Delta=75.20^\circ$	
	iP	00 04 03.8	C
		Z: 1.0^S ; 0.12μ	
	ipP	17.0	
	i	32.5	
	KSP	$\Delta=75.50^\circ$	
	eP	00 04 04	
26.III	Indonesia, Moscow: $0.48^\circ N$, $124.75^\circ E$, $H=00^h 05^m 58.5^s$, $MPV(A)=5.7$; $MPV=5.9$ (Kraków), 6.3 (Niedzica)		
	KRA	$\Delta=99.11^\circ$	
	(SKM) eP	00 19 38	
		Z: 1.0^S ; 0.036μ	
	NIE	$\Delta=99.00^\circ$	
	iP	00 19 38.5	C
		Z: 1.2^S ; 0.026μ	
	i	46.5	
26.III	KRA		
	(SKM) eiP	00 37 17	C
	ei	39 39	
	KSP		
	eiP	00 37 18	
	NIE		
	iP	00 37 19.5	D
	i	24.5	
26.III	NIE		
	iP	00 41 44.5	
26.III	Kuril Islands, Moscow: $43.67^\circ N$, $148.71^\circ E$, $H=00^h 52^m 53.2^s$, $MPV=5.4$ (Kraków), 5.3 (Niedzica)		

Date	Station	Phase	T.U. h m s
26.III	Kuril Islands - continuation		
	KRA $\Delta=76.52^{\circ}$		
	(SKM) eIP 01 04 47 C		
	Z: 1.0^S ; 0.030μ		
	eipP 58		
	NIE $\Delta=76.89^{\circ}$		
	iP 01 04 50.5		
	Z: 1.0^S ; 0.022μ		
	KSP $\Delta=77.19^{\circ}$		
	eP 01 04 51		
26.III	Kuril Islands, Moscow: $43.81^{\circ}N$, $149.35^{\circ}E$, $H=02^h51^m48.4^s$, $MPV=5.2$ (Niedzica)		
	NIE $\Delta=77.01^{\circ}$		
	iP 03 03 47.0		
	Z: 1.0^S ; 0.019μ		
26.III	KRA		
	(SKM) iP 04 04 07.2 C		
	Z: 1.0^S ; 0.10μ		
	ei 05 31		
	NIE		
	iP 04 04 09.5 C		
	Z: 1.0^S ; 0.19μ		
	isP 22.0		
	i 05 16.2		
	KSP		
	iP 04 04 24.0 C		
26.III	KRA		
	(SKM) eP 04 12 06 D		
26.III	NIE		
	eP 04 18 32		
	ei 48		
	KRA		
	(SKM) eP 04 18 42		
26.III	Kuril Islands, Moscow: $44.25^{\circ}N$, $148.42^{\circ}E$, $H=04^h48^m39.8^s$		
	NIE $\Delta=76.28^{\circ}$		
	eIP 05 00 28		
	epP 39		
26.III	NIE		
	iP 05 51 15.5 D		
	Z: 1.0^S ; 0.017μ		

Date	Station	Phase	T.U. h m s
26.III	Kuril Islands, Moscow: $44.85^{\circ}N$, $149.56^{\circ}E$, $H=06^h00^m18.4^s$, $MPV(A)=5.6$; $MPV=6.0$ (Kraków, Niedzica)		
	KRA $\Delta=75.82^{\circ}$		
	(SKM) eIP 06 12 03 D		
	Z: 1.0^S ; 0.14μ		
	eipP 15		
	NIE $\Delta=76.20^{\circ}$		
	iP 06 12 06.4		
	Z: 1.2^S ; 0.17μ		
	ipP 18.5		
	KSP $\Delta=76.44^{\circ}$		
	iP 06 12 07.5		
26.III	Kuril Islands, Moscow: $44.53^{\circ}N$, $149.80^{\circ}E$, $H=07^h09^m51.8^s$, $MPV(A)=5.1$; $MPV=5.8$ (Kraków), 5.5 (Niedzica)		
	KRA $\Delta=76.18^{\circ}$		
	(SKM) iP 07 21 43.6 C		
	Z: 0.9^S ; 0.074μ		
	eipP 54		
	NIE $\Delta=76.56^{\circ}$		
	iP 07 21 47.2 C		
	Z: 1.0^S ; 0.041μ		
	ipP 58.5		
	KSP $\Delta=76.80^{\circ}$		
	eIP 07 21 48		
26.III	Kuril Islands, Moscow: $44.67^{\circ}N$, $149.75^{\circ}E$, $H=07^h36^m01.4^s$, $MPV(A)=4.9$; $MPV=5.4$ (Kraków), 5.0 (Niedzica)		
	KRA $\Delta=76.04^{\circ}$		
	(SKM) eIP 07 47 47 D		
	Z: 0.8^S ; 0.028μ		
	NIE $\Delta=76.42^{\circ}$		
	iP 07 47 50.6 D		
	Z: 1.0^S ; 0.013μ		
	KSP $\Delta=76.66^{\circ}$		
	eP 07 47 51		
26.III	KRA		
	(SKM) eIP 08 04 49 D		
	Z: 0.6^S ; 0.035μ		
	NIE		
	iP 08 04 51.5		
	Z: 1.0^S ; 0.044μ		
	i 57.3		
	i 05 04.0		

Date	Station	Phase	T.U. h m s
26.III	KSP		
	iP 08 04 53.0		
26.III	Tian Shan, Moscow: $43.01^{\circ}N$, $78.59^{\circ}E$, $H=08^h51^m22.1^s$, $MPV(A)=5.2$		
	KRA $\Delta=40.04^{\circ}$		
	(SKM) eP 08 58 59		
26.III	KRA		
	(SKM) eP 10 41 16 D		
	Z: 0.7^S ; 0.033μ		
	ei 27		
	NIE		
	eIP 10 41 20		
	i 30.0		
26.III	Kuril Islands, Moscow: $44.89^{\circ}N$, $149.17^{\circ}E$, $H=11^h01^m47.8^s$, $MPV(A)=5.6$; $MPV=5.7$ (Kraków), 5.5 (Niedzica)		
	KRA $\Delta=75.64^{\circ}$		
	(SKM) iP 11 13 31.6		
	Z: 1.1^S ; 0.069μ		
	isP 44.6		
	NIE $\Delta=76.02^{\circ}$		
	iP 11 13 35.5		
	Z: 1.0^S ; 0.037μ		
	isP 46.4		
	KSP $\Delta=76.27^{\circ}$		
	eP 11 13 36		
	eisP 48		
26.III	Kuril Islands, Moscow: $43.96^{\circ}N$, $148.94^{\circ}E$, $H=14^h53^m53.1^s$, $MPV(A)=5.4$; $MPV=5.6$ (Kraków), 5.5 (Niedzica)		
	KRA $\Delta=76.35^{\circ}$		
	(SKM) eIP 15 05 46 C		
	Z: 0.8^S ; 0.041μ		
	isP 59.0		
	NIE $\Delta=76.73^{\circ}$		
	iP 15 05 49.0		
	Z: 1.0^S ; 0.044μ		
	isP 06 03.2		
26.III	KRA		
	(SKM) eP 17 50 37		
	ei 46		

Date	Station	Phase	T.U. h m s
26.III	NIE		
	iP 17 51 01		
	ei 16		
26.III	Kuril Islands, Moscow: $44.23^{\circ}N$, $148.96^{\circ}E$, $H=20^h35^m13.3^s$, $MPV(A)=5.0$		
	KRA $\Delta=76.13^{\circ}$		
	(SKM) eP 20 47 01 D		
	NIE $\Delta=76.50^{\circ}$		
	eP 20 47 03		
	eipP 13		
26.III	Kuril Islands, Moscow: $44.42^{\circ}N$, $149.44^{\circ}E$, $H=20^h46^m10.8^s$		
	KRA $\Delta=76.14^{\circ}$		
	(SKM) eP 20 57 57		
	eipP 58 09		
26.III	Kamchatka, Moscow: $53.71^{\circ}N$, $162.56^{\circ}E$, $H=21^h05^m00.6^s$, $MPV(A)=5.7$; $MPV=5.7$ (Kraków)		
	KRA $\Delta=71.92^{\circ}$		
	(SKM) eP 21 16 21 C		
	Z: 1.0^S ; 0.060μ		
	esP 35		
	KSP $\Delta=72.03^{\circ}$		
	eP 21 16 22		
	NIE $\Delta=72.41^{\circ}$		
	eIP 21 16 26		
	isP 38.4		
26.III	NIE		
	eP 21 44 33		
	ei 43		
	i 50		
	KRA		
	(SKM) eP 21 44 33		
26.III	Kuril Islands, Moscow: $44.09^{\circ}N$, $148.89^{\circ}E$, $H=23^h11^m26.1^s$, $MPV(A)=5.0$		
	KRA $\Delta=76.22^{\circ}$		
	(SKM) eP 23 23 13		
	isP 25.9		
	NIE $\Delta=76.60^{\circ}$		
	eP 23 23 16		
	isP 29.5		



Date	Station	Phase	T.U. h m s
27.III	Kuril Islands, Moscow: 44.24°N, 149.11°E, H=23 ^h 56 ^m 45.1 ^s , MPV(A)=5.5; MPV=5.7 (Kraków, Niedzica)		
	KRA	Δ=76.18°	
	(SKM) eiP	00 08 32	C
		Z: 1.0 ^s ; 0.060μ	
	eipP	44.8	
	NIE	Δ=76.55°	
	iP	00 08 35.7	
		Z: 1.1 ^s ; 0.065μ	
	ipP	47.4	
27.III	Kuril Islands, Moscow: 43.60°N, 148.86°E, H=02 ^h 41 ^m 17.3 ^s , MPV=5.1 (Niedzica)		
	NIE	Δ=77.00°	
	eiP	02 53 11	
		Z: 1.0 ^s ; 0.017μ	
	eipP	24	
27.III	KSP		
	eP	07 32 24	
	KRA		
	(SKM) iP	07 32 26.2	D
		Z: 0.7 ^s ; 0.062μ	
	i	30.0	
	NIE		
	iP	07 32 29.0	
		Z: 1.0 ^s ; 0.086μ	
	i	33 09.5	
27.III	NIE		
	eP	10 49 52	
	ei	50 06	
27.III	NIE		
	eP	10 54 27	
	ei	49	
	i	55 39.5	
27.III	Kuril Islands, Moscow: 43.97°N, 149.23°E, H=20 ^h 48 ^m 31.3 ^s , MPV(A)=5.2		
	KRA	Δ=76.45°	
	(SKM) eP	21 00 20	
	eisP	33	
	NIE	Δ=76.83°	
	eP	21 00 23	
	isP	36.5	

Date	Station	Phase	T.U. h m s
28.III	Kuril Islands, Moscow: 43.81°N, 149.22°E, H=11 ^h 00 ^m 56.0 ^s , MPV(A)=5.1; MPV=5.4 (Kraków), 5.3 (Niedzica)		
	KRA	Δ=76.59°	
	(SKM) eiP	11 12 59	
		Z: 1.0 ^s ; 0.038μ	
	eisP	13 05.4	
	NIE	Δ=76.96°	
	eiP	11 12 52	
		Z: 1.0 ^s ; 0.024μ	
	isP	13 08.7	
28.III	NIE		
	eiP	12 48 10	C
		Z: 0.9 ^s ; 0.011μ	
28.III	Kuril Islands, Moscow: 44.14°N, 148.58°E, H=13 ^h 48 ^m 47.8 ^s , MPV=5.6 (Niedzica)		
	KRA	Δ=76.07°	
	(SKM) eP	14 00 08	
	eipP	20	
	NIE	Δ=76.44°	
	iP	14 00 20.5	
		Z: 0.7 ^s ; 0.034μ	
	isP	36.4	
28.III	Kuril Islands, Moscow: 49.18°N, 154.45°E, H=20 ^h 17 ^m 08.0 ^s , h=50 km, MPV(A)=5.7; MPV=5.9 (Kraków, Niedzica), MLH=6.2, MLV=6.1 (Kraków), MLH=6.5 (Warszawa)		
	WAR	Δ=71.48°	
	(SKD) eiP	20 28 32	
	Lm	21 00 00	
		NEZ: 24 ^s , 20 ^s , 24 ^s ; 18μ, 26μ, 11μ	
	KRA	Δ=73.72°	
	(SKM) iP	20 28 38.9	D
		Z: 1.2 ^s ; 0.12μ	
	ipP	50.6	
	isP	55.1	
	(SKD) iScS	39 04	
	eL	44	
	Lm	21 01.6	
		NEZ: 24 ^s ; 10μ, 12μ, 14μ	
	KSP	Δ=74.12°	
	iP	20 28 41.0	

Date	Station	Phase	T.U. h m s
28.III	Kuril Islands - continuation		
	NIE	Δ=74.15°	
	eP	20 28 42	C
		Z: 1.4 ^s ; 0.14μ	
28.III	Kuril Islands, Moscow: 44.08°N, 148.76°E, H=21 ^h 13 ^m 08.8 ^s , MPV(A)=5.3; MPV=5.8 (Niedzica)		
	NIE	Δ=76.56°	
	iP	21 25 05.0	D
		Z: 1.0 ^s ; 0.074μ	
	i	13.6	
	KSP	Δ=76.84°	
	iP	21 25 05.0	
28.III	NIE		
	iP	22 23 41.6	
	i	58.7	
28.III	Kuril Islands, Moscow: 45.04°N, 148.95°E, H=22 ^h 12 ^m 21.3 ^s , h=50 km, MPV(A)=5.7; MPV=5.8 (Kraków, Niedzica)		
	KRA	Δ=75.43°	
	(SKM) iP	22 24 01.8	
		Z: 0.9 ^s ; 0.074μ	
	eipP	15	
	i	25.5	
	NIE	Δ=75.81°	
	iP	22 24 05.2	C
		Z: 1.0 ^s ; 0.078μ	
	ipP	16.4	
	i	28.2	
28.III	KRA		
	(SKM) iP	21 25 01.6	C
		Z: 0.9 ^s ; 0.069μ	
	i	20.5	
28.III	NIE		
	iP	23 09 41.5	D
		Z: 1.0 ^s ; 0.019μ	
	i	49.2	
	KSP		
	eiP	23 09 43	
29.III	Kuril Islands, Moscow: 44.24°N, 149.74°E, H=02 ^h 40 ^m 35.3 ^s , MPV(A)=4.9		

Date	Station	Phase	T.U. h m s
29.III	NIE	Δ=76.79°	
	eP	02 52 31	
	eipP	42	
29.III	New Britain Island, Moscow: 5.89°S, 148.27°E, H=04 ^h 02 ^m 12.5 ^s , MPV(A)=5.5		
	NIE	Δ=118.47°	
	eiPKIKP	04 21 05	
	ei	19	
29.III	NIE		
	eP	04 31 21	
	ei	35	
29.III	KRA		
	(SKM) iP	12 56 23.8	D
	i	29.4	
	NIE		
	iP	12 56 27.0	D
		Z: 1.0 ^s ; 0.056μ	
	i	32.0	
29.III	KRA		
	(SKM) eP	14 28 08	
	i	23.0	
	NIE		
	iP	14 28 11.8	D
		Z: 1.0 ^s ; 0.019μ	
	i	18.2	
	i	28	
29.III	New Hebrides Islands, Moscow: 19.62°S, 168.82°E, H=16 ^h 55 ^m 41.1 ^s , MPV(A)=5.9		
	NIE	Δ=140.84°	
	eiPKHKP	17 15 05	
	iPKIKP	10.7	
	i	37.2	
	KSP	Δ=142.03°	
	ePKHKP	17 15 07	
	iPKIKP	12.0	
	iPKS	18 40.0	
	KRA	Δ=141.04°	
	(SKM) ePKIKP	17 15 09	
		Z: 0.6 ^s ; 0.019μ	
	e	34.5	

Date	Station	Phase	T.U. h m s
29.III	KRA (SKM)	iP	17 18 37.7 D Z: 1.4 ^S ; 0.179μ
	NIE	iP	17 18 38.0 C Z: 1.0 ^S ; 0.092μ
		i	49.0
29.III	NIE	eP	17 27 02 Z: 1.0 ^S ; 0.019μ
	KRA (SKM)	eiP	17 27 03 C
29.III	Bonin Islands Region, Moscow: 28.19°N, 141.63°E, H=17 ^h 51 ^m 22.1 ^s , MPV(A)=5.3; MPV=5.6 (Kraków), 5.5 (Niedzica)		
	KRA (SKM)	Δ=86.54° eiP	18 04 03 D Z: 1.2 ^S ; 0.063μ
		i	22.8
	NIE	Δ=86.77° iP	18 04 05.0 D Z: 1.0 ^S ; 0.037μ
		isP	20.0
	KSP	Δ=87.72° iP	18 04 08.5 D
29.III	KRA (SKM)	eiP	20 00 36
29.III	Tonga Islands, Moscow: 21.62°S, 174.01°W, H=22 ^h 00 ^m 22.4 ^s , MPV(A)=5.6		
	KRA (SKM)	Δ=149.56° iPKP ₂	22 20 14.4 Pm 15.5 Z: 1.2 ^S ; 0.079μ
		ei	18.6
	NIE	Δ=150.01° ePKP	22 20 11 iPKP ₂ 16.5 Z: 1.5 ^S ; 0.13μ
		i	24.0
	KSP	Δ=149.73° eiPKP	22 20 15

Date	Station	Phase	T.U. h m s
30.III	Kuril Islands, Moscow: 44.62°N, 149.19°E, H=02 ^h 37 ^m 40.9 ^s , MPV(A)=5.4; MPV=5.9 (Kraków), 5.7 (Niedzica)		
	KRA (SKM)	Δ=75.88° iP	02 49 26.1 D Z: 0.9 ^S ; 0.10μ
		eipP	36
		eisP	42
	NIE	Δ=76.26° iP	02 49 29.0 D Z: 1.0 ^S ; 0.065μ
		ipP	39.0
	KSP	Δ=76.52° iP	02 49 29.0 C
30.III	NIE	eP	03 47 26
30.III	Tian-Shan, Moscow: 43.00°N, 78.52°E, H=03 ^h 59 ^m 59.1 ^s , MPV(A)=4.9		
	NIE	Δ=39.90° eiP	04 07 38 Z: 0.8 ^S ; 0.009μ
30.III	Kuril Islands, Moscow: 44.09°N, 149.74°E, H=05 ^h 16 ^m 25.2 ^s , MPV(A)=5.1; MPV=5.6 (Kraków), 5.2 (Niedzica)		
	KRA (SKM)	Δ=76.54° eiP	05 28 20 Z: 0.6 ^S ; 0.031μ
		eisP	34
	NIE	Δ=76.92° iP	05 28 22.5 Z: 1.0 ^S ; 0.019μ
		isP	35.5
31.III	Alaska, Moscow: 61.20°N, 151.07°W, H=00 ^h 38 ^m 03.5 ^s , MPV(A)=5.4; MPV=5.5 (Kraków), 5.2 (Niedzica)		
	KRA (SKM)	Δ=68.86° iP	00 49 05.9 D Z: 0.7 ^S ; 0.025μ
	NIE	Δ=69.51° iP	00 49 10.5 C Z: 1.0 ^S ; 0.019μ
		i	34.3

Date	Station	Phase	T.U. h m s
31.III	Philippine Islands, Moscow: 14.90°; 119.89°E; H=03 ^h 22 ^m 15.9 ^s ; MPV(A)=5.4; MPV=5.5 (Kraków), 5.2 (Niedzica)		
	KRA (SKM)	Δ=84.97° iP	03 34 49.6 D Z: 0.8 ^S ; 0.028μ
		isP	35 02.8
	NIE	Δ=84.92° iP	03 34 50.7 C Z: 1.0 ^S ; 0.018μ
		esP	35 04
31.III	China, Moscow: 43.44°N, 82.71°E, H=03 ^h 58 ^m 36.1 ^s , MPV(A)=4.7; MPV=5.0 (Niedzica)		
	KRA (SKM)	Δ=42.38° eP	04 06 34 D

Date	Station	Phase	T.U. h m s
31.III	NIE	Δ=42.32° iP	04 06 34.5 Z: 0.8 ^S ; 0.015μ
31.III	NIE	eP	04 24 00
31.III	KRA (SKM)	eiP	13 49 19 D Z: 0.9 ^S ; 0.053μ
	NIE	iP	13 49 21.0 Z: 0.9 ^S ; 0.019μ
31.III	China, Moscow: 27.39°N, 94.11°E, H=19 ^h 20 ^m 31.6 ^s ; MPV=5.2 (Niedzica)		
	NIE	Δ=59.42° eiP	19 30 37 Z: 1.0 ^S ; 0.022μ



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The present Seismological Bulletin contains distant earthquakes recorded by seismological observatories of the Institute of Geophysics, Polish Academy of Sciences. The identification of shocks and interpretation of phases were based on the hypocenter determination given by:

NEIS: - U.S. Department of the Interior (Geological Survey),
National Earthquake Information Service, Boulder.

EMSC - European Mediterranean Seismological Centre, Strasbourg.

Moscow - Central Seismological Station "Obninsk", Institute of the Physics of the Earth, USSR Academy of Sciences, Moscow.

Magnitudes of earthquakes were determined from recordings of horizontal and vertical components of surface waves for epicentral distances $\Delta > 5^\circ$ and depths $h < 80$ km, using the IASPEI formula. The magnitude from body waves was determined only from the recordings of vertical component of the P waves for $\Delta > 20^\circ$ and depths $h < 80$ km, using the calibrating function given by Vanek et al. (1962)*. The maximum value of A/T was determined in the interval up to 40 s from the first arrival of the P wave. The frequency responses of seismographs of Warszawa, Kraków, Racibórz, Niedzica and Książ station have been given in the Seismological Bulletin for the period January-March, 1978.

* Vanek I., Zatopek A., Karnik V., Kondorskaya N.V., Riznichenko Yu.V., Savarenskiy E.F., Solovev S.L., Shebalin N.V., 1962, Standartizatsiya shkaly magnitud, Izv. AN SSSR, Ser. Geofiz., 2, 153-158.

Station	Type of seismo-graph	Comp.	Ts [s]	Tg [s]	Ds	Dg	G ²	Vo	Vm	Tm [s]
Warszawa (WAR) φ = 52° 14' 30" N λ = 21° 01' 25" E h = 110 m	GW	N-S	10.28	12.10	1.08	1.02	0.059	1500	865	4.2-9.0
		E-W	9.68	11.10	0.99	0.98	0.058	1330	820	4.4-9.0
		Z	7.80	11.38	0.50	0.83	0.030	900	855	5.5-9.0
SKD	SKD	N-S	20.3	79.8	1.08	0.47	0.086	535	550	13-32
		E-W	20.4	89.6	1.04	0.50	0.091	513	520	13-32
		Z	21.4	86.5	1.00	0.48	0.104	603	620	14-32.6
Kraków (KRA) φ = 50° 03' 22" N λ = 19° 56' 23" E h = 223 m	Ch	N-S	1.24	0.281	0.497	1.981	0.132	10600	11420	0.17-1.0
		E-W	1.29	0.280	0.530	1.942	0.139	10750	11300	0.15-1.0
		Z	1.46	0.282	0.579	1.984	0.156	10780	11100	0.15-1.0
SKM-3	SKM-3	N-S	1.273	0.580	0.515	0.487	0.0125	21800	23260	0.5-0.75
		E-W	1.280	0.575	0.524	0.469	0.0129	22560	24470	0.5-0.75
		Z	1.445	0.580	0.610	0.486	0.0131	22000	22700	0.5-0.75
GW	GW	N-S	9.70	1.01	0.49	5.00	0.020	1480	1500	0.22-8.0
		E-W	11.10	1.00	0.47	5.00	0.021	1480	1490	0.21-9.0
		Z	10.50	1.01	0.48	5.00	0.025	1010	1020	0.22-8.5
SKD	SKD	N-S	20.0	106.6	1.00	0.50	0.144	600	610	13.5-40
		E-W	20.0	98.2	0.99	0.50	0.149	600	615	13.5-40
		Z	20.0	108.8	1.00	0.50	0.193	690	705	13.5-40

Station	Type of seismo-graph	Comp.	Ts [s]	Tg [s]	Ds	Dg	G ²	Vo	Vm	Tm [s]
Racibórz (RAC) φ = 50° 05' 00" N λ = 18° 11' 39" E h = 209 m	SK-58	N-S	1.22	1.06	0.50	0.73	0.013	2420	2820	0.75-1.19
		E-W	1.23	1.07	0.57	0.50	0.013	2880	2710	0.75-1.17
		Z	1.12	1.07	0.31	0.40	0.020	3110	5220	0.91-1.16
Mainka (M)	Mainka (M)	N-S	9.0	-	0.36	-	-	87	130	6-9
		E-W	9.0	-	0.38	-	-	86	120	6-9
		Z	2.0	-	0.13	-	-	165	620	1.8-2.2
Niedzica (NIF) φ = 49° 25' 25" N λ = 20° 19' 19" E h = 555 m	SK-58	N-S	1.40	0.266	0.70	3.50	0.054	25000	25100	0.10-0.85
		E-W	1.40	0.293	0.70	3.54	0.051	25150	25280	0.10-0.90
		Z	1.09	0.207	0.70	3.50	0.313	64950	73270	0.20-0.85
Książ (KSP) φ = 50° 50' 6" N λ = 16° 17' 6" E h = 380 m	SU-59	N-S	1.19	0.25	0.50	1.37	0.089	87450	90000	0.15-0.60
		E-W	1.22	0.24	0.62	1.44	0.142	108700	110800	0.15-0.60
		F	1.00	0.21	0.50	1.53	0.171	106300	110700	0.15-0.65

Abbreviations

- Ts - free period of seismometer
 Tg - free period of galvanometer
 Ds - attenuation of seismometer
 Dg - attenuation of galvanometer
 G² - coupling coefficient

$$V_0 - \text{static magnification } V_0 = \frac{2A}{10} \sqrt{\frac{Ks}{Kg} \frac{Ds}{Dg} \frac{Tg}{Ts} G^2}$$

$$V_0 - \text{static magnification of SKD instruments } V_0 = \frac{2A}{10} \sqrt{\frac{Ks}{Kg} \frac{Ds}{Dg} \frac{Tg}{Ts} G^2}$$

Vm - maximum magnification

Tm - interval of periods for magnification $V \geq 0.9 V_m$

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
1978				1978			
A P R I L							
1.IV	Tonga Islands, NEIS: 22.42°S, 174.55°W, H=01 ^h 31 ^m 33.9 ^s , h=33 km, MB=5.1			1.IV	Kuril Islands, Moscow: 44.53°N, 150.62°E, H=10 ^h 51 ^m 44.2 ^s , MPV(A)=5.0		
	NIE Δ=150.59°				KRA Δ=76.48°		
	ePKP 01 51 24				(SKM) eiP 11 03 33		
	i 29.0				Z: 1.0 ^s ; 0.036μ		
	i 44.5				eipP 45		
	KRA Δ=150.15°				NIE Δ=76.86°		
	(SKM) eiPKP 01 51 26.3 D				iP 11 03 35.0		
	Z: 1.4 ^s ; 0.052μ						
	KSP Δ=150.39°			1.IV	Kuril Islands, Moscow: 45.01°N, 150.41°E, H=12 ^h 44 ^m 38.5 ^s , MPV(A)=5.3, MPV=5.4 (Kraków), 5.3 (Niedzica)		
	ePKP 01 51 27				KRA Δ=75.99°		
1.IV	Japan, NEIS: 33.51°N, 141.09°E, H=09 ^h 49 ^m 42.4 ^s , h=113 km, MB=4.7				(SKM) eP 12 56 24 D		
	KRA Δ=81.86°				Z: 0.9 ^s ; 0.026μ		
	(SKM) eiP 10 01 50				epP 37		
	Z: 1.0 ^s ; 0.030μ				NIE Δ=76.37°		
	NIE Δ=82.12°				iP 12 56 28.0 D		
	iP 10 01 54.2				Z: 1.0 ^s ; 0.022μ		
	Z: 1.0 ^s ; 0.019μ				ipP 40.5		
	i 02 07.2			1.IV	KRA		
	KSP Δ=82.95°				(SKM) eP 17 28 22		
	eP 10 01 56				KSP		
1.IV	Kuril Islands Region, NEIS: 44.55°N, 150.22°E, H=09 ^h 59 ^m 15.8 ^s , h=33 km, MPV=5.6 (Kraków), 5.4 (Niedzica)				eP 17 28 23		
	KRA Δ=76.32°				NIE		
	(SKM) eiP 10 11 04				iP 17 28 24.8		
	Z: 1.0 ^s ; 0.054μ				Z: 1.0 ^s ; 0.028μ		
	eipP 14				i 30.0		
	NIE Δ=76.70°			2.IV	NIE		
	iP 10 11 07.4				eiP 06 32 21		
	Z: 1.3 ^s ; 0.042μ				i 39		
	ipP 18.3			3.IV	Japan, Moscow: 40.75°N, 143.63°E, H=03 ^h 36 ^m 14.9 ^s , MPV(A)=5.2; MPV=5.4 (Kraków), 5.2 (Niedzica)		
	KSP Δ=76.93°				KRA Δ=76.97°		
	eP 10 11 08				(SKM) iP 03 48 06.3 D		
					Z: 0.8 ^s ; 0.023μ		

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
3.IV	Japan - continuation			4.IV	China, Moscow: 33.34°N, 82.36°E, H=00 ^h 40 ^m 28.2 ^s , MPV(A)=5.8; MPV=6.0 (Niedzica), 5.6 (Kraków) MLH=6.6 (Kraków), 6.7 (Warszawa), MLV=6.1 (Kraków)		
	NIE Δ=77.28°				WAR Δ=47.29°		
	eiP 03 48 10 D				(GW) eiP 00 49 08		
	Z: 1.0 ^s ; 0.019μ				(SKD) eiS 55 58		
	eipP 21				eiPS 56 06		
	i 45.6				iSS 59 20		
3.IV	NIE				Lm 01 08 00		
	eiP 09 28 40				NE: 20 ^s ; 73μ, 55μ		
	i 53.0				NIE Δ=47.89°		
3.IV	West New Guinea Region, NEIS: 4.40°S, 133.70°E, H=09 ^h 48 ^m 37.9 ^s , h=33 km; MLV=5.9 (Kraków)				eP 00 49 09		
	WAR Δ=107.25°				Pm 16.4		
	(GW) eiPdif 10 02 54				Z: 1.5 ^s ; 0.22μ		
	(SKD) eiPP 07 30				i 35.5		
	KRA Δ=108.49°				KRA Δ=48.08°		
	(SKM) ePdif 10 03 10				(SKM) eP 00 49 13		
	ePP 07 39				Pm 15.5		
	(SKD) eSKS 13 40				Z: 1.1 ^s ; 0.069μ		
	ePS 16 50				eiPP 51 06		
	Lm 11 03.6				(SKD) eiS 56 13		
	NEZ: 20 ^s ; 2.9μ, 3.2μ, 3.5μ				eiSS 59 43		
	NIE Δ=108.43°				Lm 01 08.0		
	ePdif 10 03 11				NEZ: 25 ^s ; 73μ, 27μ, 24μ		
	iPP 07 36.5				KSP Δ=50.33°		
	eiPKKP 18 25				eP 00 49 26		
3.IV	Yugoslavia, EMSC: 46.27°N, 13.22°E, H=10 ^h 49 ^m 47.2 ^s , h=10 km			4.IV	Philippine Islands, Moscow: 6.86°N, 123.88°E, H=06 ^h 56 ^m 00.1 ^s , MPV(A)=5.6		
	KSP Δ=5.01°				NIE Δ=93.56°		
	eP ^x 10 51 07				eiP 07 09 21		
	iS ^x 52 14.5				KRA Δ=93.64°		
	S 35				(SKM) eP 07 09 21		
	NZ: 1 ^s ; 0.33μ, 0.24μ				WAR Δ=92.42°		
	NIE Δ=5.73°				(SKD) eiS 07 20 16		
	iPn 10 51 14.5				eL 39.0		
	iSn 52 20.0			4.IV	Panama, NEIS: 9.87°N, 78.01°W, H=21 ^h 11 ^m 41.0 ^s , h=33 km, MS=5.7; MPV=6.3 (Kraków), 6.2 (Niedzica), MLH=6.2 (Kraków), 6.7 (Warszawa), MLV=6.3 (Kraków)		
3.IV	Italy, EMSC: 46.27°N, 13.20°E, H=14 ^h 35 ^m 00.1 ^s , h=10 km						
	KSP Δ=5.02°						
	eP 14 36 31						
	eiS ^x 37 35						

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4.VI Panama - continuation

KSP $\Delta=85.13^{\circ}$
eP 21 24 15
Pm 19
Z: 1^S ; 0.08μ

KRA $\Delta=87.57^{\circ}$
(SKM) eP 21 24 27 D
Pm 30
Z: 1.8^S ; 0.49μ
i 43.3
(SKD) iPP 27 56
eSKS 34 56
eiSKKS 35 10
Lm 56.7
NEZ: 24^S ; 3.0μ , 13μ , 15μ

WAR $\Delta=87.76^{\circ}$
(GW) eiP 21 24 28
(SKD) iSKS 34 52
iSKKS 35 06
Lm 58 52
NE: 20^S ; 8.2μ , 34μ

NIE $\Delta=87.95^{\circ}$
eiP 21 24 31 D
Pm 34
Z: 1.5^S ; 0.27μ
ipP 41.0
i 25 27.5

5.IV Honshu, Japan, NEIS: $39.95^{\circ}N$,
 $144.27^{\circ}E$, $H=07^h51^m26.2^s$, $h=33$ km,
MB=5.2; MPV=5.9 (Kraków), 5.5 (Niedzica)

KRA $\Delta=77.90^{\circ}$
(SKM) iP 08 03 23.9 D
Z: 0.7^S ; 0.082μ
i 44.3

NIE $\Delta=78.22^{\circ}$
iP 08 03 26.7
Z: 1.1^S ; 0.048μ

KSP $\Delta=78.77^{\circ}$
iP 08 03 38.0

5.IV Kuril Islands, NEIS: $44.39^{\circ}N$,
 $149.23^{\circ}E$, $H=14^h02^m39.0^s$, $h=33$ km;
MPV=5.6 (Kraków), 5.3 (Niedzica)

5.IV KRA $\Delta=76.09^{\circ}$
(SKM) eP 14 14 26 D
Z: 0.9^S ; 0.047μ
eisP 40

KSP $\Delta=76.73^{\circ}$
eP 14 14 29

NIE $\Delta=76.47^{\circ}$
iP 14 14 30.7 C
Z: 1.0^S ; 0.026μ

5.IV Kuril Islands, NEIS: $43.65^{\circ}N$,
 $148.66^{\circ}E$, $H=16^h04^m31.7^s$, $h=33$ km,
MB=5.1; MPV=5.6 (Kraków), 5.2 (Niedzica)

KRA $\Delta=76.51^{\circ}$
(SKM) eiP 16 16 20 C
Z: 0.8^S ; 0.046μ
eipP 30.8
(SKD) eS 26 09

NIE $\Delta=76.88^{\circ}$
iP 16 16 23.0
Z: 1.0^S ; 0.020μ
ipP 34.1

KSP $\Delta=77.18^{\circ}$
eP 16 16 24

5.IV KRA
(SKM) eP 18 53 27
Z: 1.0^S ; 0.030μ

NIE
iP 18 53 29.3 D
Z: 1.0^S ; 0.017μ

5.IV KSP
eP 23 45 34

NIE
iP 23 45 37.0 D
Z: 0.6^S ; 0.022μ

6.IV Hokkaido, Japan, NEIS: $41.63^{\circ}N$,
 $142.20^{\circ}E$, $H=08^h39^m50.5^s$, $h=59$ km;
MPV=5.6 (Kraków), 5.2 (Niedzica)

KRA $\Delta=75.63^{\circ}$
(SKM) eP 08 51 33 C
Z: 1.0^S ; 0.054μ
eipP 47

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6.IV Hokkaido - continuation

NIE $\Delta=75.95^{\circ}$
eiP 08 51 36
Z: 1.0^S ; 0.019μ
eipP 49

KSP $\Delta=76.52^{\circ}$
eP 08 51 37

6.IV Honshu, Japan, NEIS: $35.44^{\circ}N$,
 $141.13^{\circ}E$, $H=12^h37^m41.5^s$, $h=33$ km

NIE $\Delta=80.55^{\circ}$
eP 12 49 53
eipP 50 04

6.IV Kuril Islands Region, Moscow:
 $43.7^{\circ}N$, $148.66^{\circ}E$, $H=15^h23^m03.8^s$,
MPV(A)=5.1; MPV=5.5 (Kraków)

KRA $\Delta=76.47^{\circ}$
(SKM) eP 15 34 58 D
Z: 0.6^S ; 0.027μ
ei 35 12

KSP $\Delta=77.14^{\circ}$
eP 15 35 00

NIE $\Delta=76.84^{\circ}$
iP 15 35 02.0
i 12.7

6.IV Honshu, Japan, Moscow: $36.06^{\circ}N$,
 $140.64^{\circ}E$, $H=16^h24^m37.7^s$, $h=50$ km,
MPV(A)=5.4; MPV=5.4 (Kraków), 5.3 (Niedzica)

KRA $\Delta=79.55^{\circ}$
(SKM) eP 16 36 41 C
Z: 1.5^S ; 0.061μ
eiPcP 48
(SKD) Lm 17 16.0
NEZ: 15^S ; 1.6μ , 1.6μ , 2.2μ

NIE $\Delta=79.82^{\circ}$
iP 16 36 44.5
Z: 1.4^S ; 0.035μ
iPcP 51.7

KSP $\Delta=80.60^{\circ}$
eP 16 36 47

6.IV Honshu, Japan, NEIS: $35.60^{\circ}N$,
 $140.68^{\circ}E$, $H=23^h29^m59.7^s$, $h=84$, MB=5.3

6.IV WAR $\Delta=77.93^{\circ}$
(SKD) eiP 23 41 56
eiPPP 46 48
eiS 51 44
Lm 00 20 40
Z: 16^S ; 14μ

KRA $\Delta=79.95^{\circ}$
(SKM) iP 23 42 03.1
Z: 0.9^S ; 0.053μ
eiPcP 13
eiPP 45 07
(SKD) iS 52 12
eSS 57 30
Lm 00 21.5
NEZ: 15^S ; 9.8μ , 15μ , 22μ

NIE $\Delta=80.21^{\circ}$
iP 23 42 05.5
Pm 09.0
Z: 1.0^S ; 0.041μ
iPcP 15.0
ipP 28.2

KSP $\Delta=81.00^{\circ}$
eP 23 12 10
ePP 45 15

7.IV KSP
eP 07 23 44

7.IV Kuril Islands, NEIS: $44.39^{\circ}N$,
 $149.21^{\circ}E$, $H=07^h44^m53.5^s$, $h=33$ km,
MB=5.3; MPV=5.4 (Kraków), 6.3 (Niedzica)

KRA $\Delta=76.08^{\circ}$
(SKM) iP 07 56 40.4 C
Z: 1.0^S ; 0.36μ
ipP 52.3
(SKD) eiS 08 06 22
Lm 32.6
NEZ: 20^S ; 2.8μ , 1.1μ , 2.8μ

KSP $\Delta=76.73^{\circ}$
eP 07 56 43
Z: 1^S ; 0.13μ
i 58.5

NIE $\Delta=76.46^{\circ}$
iP 07 56 43.8 C
Z: 1.3^S ; 0.40μ
ipP 55

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7.IV Kuril Islands, NEIS: 43.84°N,
149.64°E, H=08^h29^m54.5^s, h=33 km, MB=4.5;
MPV=6.0 (Kraków), 5.8 (Niedzica)

KRA Δ=76.71°
(SKM) eP 08 41 42 D
Pm 48
Z: 1.0^s; 0.12μ
ipP 54.8

NIE Δ=77.09°
eiP 08 41 45
Pm 52
Z: 1.0^s; 0.084μ
ipP 58.0
isP 42 05.5

KSP Δ=77.36°
eP 08 41 45

7.IV KRA
eiP 13 06 14
Z: 0.8^s; 0.032μ

7.IV Kuril Islands, Moscow: 50.84°N,
156.83°E, H=15^h34^m29.3^s, h=150 km

KRA Δ=72.97°
(SKM) eP 15 45 44

7.IV Honshu, Japan, NEIS: 36.65°N,
137.19°E, H=16^h21^m28.6^s, h=175 km,
MB=4.4

KRA Δ=77.46°
(SKM) eP 16 33 25
Z: 0.9^s; 0.032μ

NIE Δ=77.71°
iP 16 33 26.9
i 40.0

7.IV Sumatra, Moscow: 3.28°N, 96.37°E,
H=22^h48^m09.4^s, MPV(A)=5.6; MPV=5.4 (Nie-
dzica), 5.7 (Kraków)

NIE Δ=78.45°
iP 23 00 09.0
Pm 17
ipP 20.0
Z: 1.5^s; 0.058μ

KRA Δ=78.79°
(SKM) eP 23 00 11
Pm 19.6
Z: 1.5^s; 0.12μ

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h m s

8.IV KSP
eP 02 16 46

KRA
(SKM) eiP 02 16 46 D
Z: 1.0^s; 0.036μ

NIE
iP 02 16 47.9
Z: 1.0^s; 0.017μ
i 55.4

8.IV Honshu, Japan, NEIS: 34.81°N,
140.94°E, H=10^h07^m27.4^s, h=33 km;
MPV=5.6 (Kraków), 5.4 (Niedzica)

KRA Δ=80.72°
(SKM) iP 10 19 44.0 C
Z: 1.0^s; 0.060μ
eipP 52

NIE Δ=80.98°
iP 10 19 46.0 C
Pm 47.0
Z: 0.8^s; 0.025μ
i 50.0

KSP Δ=81.78°
eP 10 19 49

8.IV Formosa, Moscow: 22.95°N, 121.06°E,
H=10^h26^m11.3^s, MPV(A)=5.9; MPV=5.9
(Kraków), 5.7 (Niedzica)

KRA Δ=79.52°
(SKM) eiP 10 38 16 C
Z: 1.5^s; 0.18μ
iPcP 21.4

NIE Δ=79.54°
iP 10 38 17.0 C
Z: 1.5^s; 0.11μ
iPcP 21.5

KSP Δ=81.32°
eP 10 38 25

9.IV KRA
(SKM) eP 04 53 51

KSP
eiP 04 53 51

NIE
iP 04 53 52.4
Z: 0.8^s; 0.015μ



Date Station Phase T.U.
h m s

10.IV South of Sumbawa Islands, NEIS:
11.09°S, 116.33°E, H=20^h52^m21.4^s, h=33 km;
MLH=6.5, MLV=6.5 (Kraków), 6.6 (Warszawa)

WAR Δ=101.92°
(SKD) eiP 21 06 08
eiPP 10 24
i 16 48
eiS 17 56
iPS 19 32
Lm 49 40
NE: 30^s, 32^s; 40μ, 24μ,
Lm 53 24
Z: 28^s; 24μ

NIE Δ=102.23°
iP 21 06 15.0 D
Z: 1.1^s; 0.056μ
iPP 10 26.5

KRA Δ=102.50°
(SKM) eP 21 06 15 D
Z: 1.4^s; 0.10μ

esP 29
eiPP 10 28.
(SKD) eSKS 16 59
iPS 19 37
ISSP 25 13
Lm 50.3

Z: 30^s; 21μ
Lm 52
NEZ: 30^s; 18μ, 16μ, 14μ

KSP Δ=104.85°
eP 21 06 26
eiPKIKP 10 46

10.IV KRA
(SKM) eP 21 22 13
Z: 1.7^s; 0.12μ
i 35.1

11.IV New Guinea, NEIS: 9.41°S, 148.8°E,
H=02^h41^m44.7^s, h=33 km

KRA Δ=121.55°
(SKM) eiPKIKP 03 00 36 C
Z: 1.5^s; 0.074μ

NIE Δ=121.60°
iPKIKP 03 00 37.0 C
Z: 0.7^s; 0.018μ
i 52.8

Date Station Phase T.U.
h m s

11.IV KSP Δ=123.25°
ePKIKP 03 00 38

11.IV Unimak Island Region, NEIS:
53.86°N, 163.54°W, H=05^h12^m55.5^s,
h=33 km, MB=5.2; MPV=5.7 (Kraków,
Niedzica)

WAR Δ=74.20°
(SKD) eiP 05 24 32
KSP Δ=75.67°
eP 05 24 39 C

KRA Δ=76.41°
(SKM) eiP 05 24 45 D
Z: 0.9^s; 0.063μ
ipP 55.1

NIE Δ=77.04°
iP 05 24 49.8 D
Z: 0.5^s; 0.035μ
ipP 58.8

11.IV Jan Mayen, EMSC: 71.72°N, 3.49°W,
H=09^h32^m24.7^s, h=10 km; MPV=4.7 (Kra-
ków)

KSP Δ=22.77°
eP 09 37 26
KRA Δ=24.20°
(SKM) eP 09 37 41
Z: 1.0^s; 0.024μ

11.IV Kuril Islands, NEIS: 44.5°N,
149.0°E, H=12^h26^m46.9^s, h=33 km;
MPV=5.3 (Kraków)

KRA Δ=75.91°
(SKM) eiP 12 38 34
Z: 0.9^s; 0.026μ
KSP Δ=76.56°
eP 12 38 36

11.IV KSP
eP 15 42 26

KRA
(SKM) eiP 15 42 37 D
Z: 1.1^s; 0.096μ

NIE
iP 15 42 41.0
Z: 1.1^s; 0.050μ

Date	Station	Phase	T.U. h m s	
11.IV	KRA (SKM)	eiP	17 57 37	D
		Z:	1.3 ^S ; 0.14μ	
		ei	47	
	NIE	iP	17 57 41.0	C
		Z:	1.0 ^S ; 0.057μ	
11.IV	Iran, Moscow: 26.79°N, 56.29°E, H=22 ^h 49 ^m 20.1 ^s	KRA	Δ=36.21°	
		(SKM) eP	22 56 21	
12.IV	Tonga Islands, NEIS: 18.68°S, 174.83°W, H=23 ^h 42 ^m 07.5 ^s , h=33 km, MB=5.7	WAR	Δ=144.27°	
		(SKD) iPKP	00 01 44	
		ePP	05 06	
		KSP	Δ=146.71°	
		ePKHKP	00 01 49	
		iPKIKP	51.5	
		KRA	Δ=146.54°	
		(SKM) ePKP	00 01 49	C
		Pm	52	
		Z:	1.2 ^S ; 0.095°	
		ei	59	
		(SKD) eiPP	05 14	
		Lm	01 08.5	
		NEZ:	20 ^S ; 1.6μ, 1.6μ, 2.2μ	
		NIE	Δ=146.99°	
		ePKP	00 01 49	C
		Pm	54.5	
		Z:	0.8 ^S ; 0.058μ	
		i	02 02.0	
12.IV	Kuril Islands, NEIS: 44.82°N, 148.15°E, H=01 ^h 22 ^m 22.3 ^s , h=33 km, MB=4.9; MPV=6.1 (Kraków, Niedzica)	KRA	Δ=75.32°	
		(SKM) iP	01 34 04.7	C
		Z:	0.9 ^S ; 0.16μ	
		NIE	Δ=75.70°	
		iP	01 34 07.4	C
		Z:	0.9 ^S ; 0.13μ	
		i	24.8	
12.IV	KSP	Δ=75.98°		
		eP	01 34 08	
		Z:	0.8 ^S ; 0.057μ	
12.IV	Kodiak Islands Region, NEIS: 56.57°N, 152.64°W, H=03 ^h 42 ^m 05.7 ^s , h=33 km, MSZ=6.3; MPV=5.7 (Kraków), 6.0 (Niedzica), MLH=6.7 (Kraków), 6.8 (Warszawa), MLV=6.7 (Kraków), 6.6 (Warszawa)	WAR	Δ=71.43°	
		(SKD) iP	03 53 24	C
		i	32	
		iS	04 02 48	
		i	56	
		Lm	23 00	
		NEZ:	24 ^S ; 43μ, 62μ, 42μ	
		KSP	Δ=72.56°	
		iP	03 53 32.0	
		Z:	1 ^S ; 0.11μ	
		KRA	Δ=73.56°	
		(SKM) eiP	03 53 38	C
		Z:	0.8 ^S ; 0.065μ	
		iPcP	58.1	
		(SKD) eiPP	56 26	
		iS	04 03 18	
		eiSS	07 54	
		Lm	39	
		NEZ:	20 ^S ; 31μ, 21μ, 41μ	
		NIE	Δ=74.21°	
		eiP	03 53 43	C
		Pm	48.8	
		Z:	1.2 ^S ; 0.17μ	
12.IV	Kodiak Islands Region, NEIS: 56.80°N, 153.36°W, H=09 ^h 33 ^m 35.7 ^s , h=35 km, MB=4.5; MPV=5.5 (Kraków)	KSP	Δ=72.38°	
		eP	09 45 04	
		KRA	Δ=73.36°	
		(SKM) eiP	09 45 10	
		Z:	0.9 ^S ; 0.032μ	7
12.IV	Iran, EMSC: 31.93°N, 50.72°E, H=16 ^h 46 ^m 26.5 ^s , h=46 km; MPV=5.0 (Kraków)			



Date	Station	Phase	T.U. h m s	
12.IV	Iran - continuation			
	NIE	Δ=28.65°		
		eP	16 52 18	
		ipP	32.0	
		isP	40.5	
	KRA	Δ=29.16°		
	(SKM) iP	16 52 22.6	D	
		Pm	27	
		Z:	1.0 ^S ; 0.030μ	
		esP	44	
	KSP	Δ=31.60°		
		eP	16 52 43	
12.IV	Japan, Moscow: 30.55°N, 141.45°E, H=20 ^h 04 ^m 00.5 ^s	KRA	Δ=84.49°	
		(SKM) eP	20 16 32	
		KSP	Δ=85.63°	
		eP	20 16 36	
13.IV	North Atlantic Ocean, NEIS: 57.00°N, 36.53°W, H=06 ^h 00 ^m 37.9 ^s , h=33 km, MB=5.1; MPV=5.4 (Kraków)	KSP	Δ=31.03°	
		eP	06 06 53	
		WAR	Δ=32.80°	
		(GW) eiP	06 07 14	
		(SKD) eiPP	08 26	
		eiSS	14 28	
		eL	15.0	
	KRA	Δ=33.41°		
	(SKM) eP	06 07 15	D	
		Pm	20	
		Z:	1.0 ^S ; 0.054μ	
		esP	20	
	NIE	Δ=33.97°		
		eP	06 07 20	
13.IV	Andaman Islands, Moscow: 11.81°N, 92.99°E, H=08 ^h 51 ^m 56.5 ^s	KRA	Δ=70.15°	
		(SKM) eiP	09 03 08	
13.IV	Yugoslavia, NEIS: 43.01°N, 22.02°E, H=18 ^h 05 ^m 24.7 ^s , h=38 km, MB=4.6			
13.IV	NIE	Δ=6.52°		
		iPn	18 06 57.5	C
		i	07 06.0	
		Pm	08.5	
		Z:	1.5 ^S ; 0.53μ	
	KRA	Δ=7.19°		
	(SKM) eiPn	18 07 05		
		Pm	06.7	
		Z:	1.0 ^S ; 0.060μ	
		i	18.7	
	(GW) ei	30		
	(SKD) ei(S)	08 47		
		Lm	10.1	
		NEZ:	15 ^S ; 5.2μ, 5.2μ, 6.8μ	
	KSP	Δ=8.76°		
		eiPn	18 07 24	
		WAR	Δ=9.26°	
	(GW) eiPn	18 07 38		
	(SKM) eiSn	09 20		
		ei	10 28	
14.IV	Tonga Islands, NEIS: 18.56°S, 174.11°W, H=04 ^h 49 ^m 56.1 ^s , h=33 km, MB=4.9	KRA	Δ=146.62°	
		(SKM) eiPKP	05 09 32	D
		Z:	1.0 ^S ; 0.024μ	
		ei	36	
	KSP	Δ=146.74°		
		ePKP	05 09 32	
	NIE	Δ=147.09°		
		iPKP	05 09 34.0	
		Z:	1.5 ^S ; 0.058μ	
14.IV	Tian Shan, Moscow: 41.22°N, 75.35°E, H=06 ^h 11 ^m 29.3 ^s , MPV(A)=5.1; MPV=5.5 (Kraków), 5.4 (Niedzica)	NIE	Δ=38.78°	
		iP	06 18 53.2	C
		Z:	0.9 ^S ; 0.051μ	
		i	19-17.5	
	KRA	Δ=38.93°		
	(SKM) iP	06 18 53.5	C	
		Z:	0.8 ^S ; 0.055μ	

Date	Station	Phase	T.U. h m s
14.IV	Tian Shan - continuation		
	KSP $\Delta=41.10^\circ$	iP	06 19 11.0
15.IV	South of Fiji Islands, NEIS: 21.94°S, 178.89°E, H=09 ^h 13 ^m 29.5 ^s , h=550 km, MB=4.7		
	KRA $\Delta=147.41^\circ$	(SKM) iPKP	09 32 23.6 C
			Z: 0.5 ^s ; 0.029 μ
		ei	26.8
15.IV	Sicily, NEIS: 38.53°N, 14.05°E, H=23 ^h 33 ^m 53.4 ^s , h=33 km, MSZ=5.8; MLH=6.0 (Kraków), 6.4 (Warszawa), MLV=5.8 (Kra- ków)		
	NIE $\Delta=11.78^\circ$	iP	23 36 39.5 D
		i	52.5
		Pm	37 04
			Z: 1.2 ^s ; 0.36 μ
	KRA $\Delta=12.26^\circ$	(SKM) eiP	23 36 45
		Pm	52
			Z: 2.3 ^s ; 1.14 μ
	(GW) i		37 06
		e(S)	39 17
	(SKD) Lm		42.5
			NEZ: 10 ^s ; 62 μ , 54 μ , 53 μ
	KSP $\Delta=12.41^\circ$	eP	23 36 49 D
	WAR $\Delta=14.55^\circ$	(SKD) iP	23 37 15 D
		eiS	40 16
		Lm	44 00
			NE: 12 ^s , 14 ^s ; 85 μ , 180 μ
16.IV	Kodiak Island Region, NEIS: 57.01°N, 154.37°W, H=09 ^h 50 ^m 44.8 ^s , h=33 km, MB=4.4		
	KSP $\Delta=72.23^\circ$	eP	10 02 18
	KRA $\Delta=73.19^\circ$	(SKM) eP	10 02 25
16.IV	Kuril Islands, Moscow: 44.42°N, 149.30°E, H=19 ^h 04 ^m 10.1 ^s		

Date	Station	Phase	T.U. h m s
16.IV	KRA $\Delta=76.47^\circ$	(SKM) iP	19 15 57.0 D
	NIE $\Delta=76.09^\circ$	eP	19 15 59
		isP	16 12.0
	KSP $\Delta=76.73^\circ$	eP	19 16 00
16.IV	Jan Mayen, EMSC: 71.90°N, 3.62°W, H=19 ^h 35 ^m 06.5 ^s , h=10 km		
	KSP $\Delta=22.94^\circ$	iP	19 40 18.5
	KRA $\Delta=24.37^\circ$	(SKM) eP	19 40 24
		i	41.6
	NIE $\Delta=25.05^\circ$	eP	19 40 35
		ei	52
16.IV	Yugoslavia, EMSC: 43.27°N, 21.04°E, H=23 ^h 19 ^m 36.1 ^s , h=10 km		
	NIE $\Delta=6.17^\circ$	iPn	23 21 08.0
		i	14.0
	KSP $\Delta=8.24^\circ$	ePn	23 21 35
18.IV	South of Fiji Islands, NEIS: 25.23°S, 178.40°E, H=07 ^h 47 ^m 38.3 ^s , h=600 km, MB=5.7		
	KRA $\Delta=150.12^\circ$	(SKM) eiPKIKP	08 06 17 C
			Z: 0.5 ^s ; 0.020 μ
		iPKHKP	23.0
			Z: 0.7 ^s ; 0.086 μ
	KSP $\Delta=150.96^\circ$	ePKIKP	08 06 18
		i(PKHKP)	25.5
		eiPKP ₂	33
	NIE $\Delta=150.42^\circ$	iPKIKP	08 06 19.8 C
			Z: 0.9 ^s ; 0.010 μ
		iPKHKP	25.5



Date	Station	Phase	T.U. h m s
18.IV	Kuril Islands Region, NEIS: 43.92°N, 149.13°E, H=11 ^h 43 ^m 39.8 ^s , h=70 km, MB=4.7; MPV=5.8 (Kraków), 5.7 (Niedzica)		
	KRA $\Delta=76.46^\circ$	(SKM) eiP	11 55 25 C
			Z: 1.0 ^s ; 0.090 μ
		ei	37
	NIE $\Delta=76.83^\circ$	iP	11 55 27.5 C
			Z: 0.8 ^s ; 0.058 μ
		ipP	42.5
	KSP $\Delta=77.11^\circ$	eP	11 55 28
		eiPcP	42
18.IV	Philippine Islands Region, NEIS: 5.21°N, 127.38°E, H=17 ^h 27 ^m 20.0 ^s , h=33 km, MB=6.0; MPV=6.0 (Kraków)		
	WAR $\Delta=95.82^\circ$	(SKD) eiP	17 40 48
		ei	45 16
		eiSKS	51 18
		ei	52 32
	KRA $\Delta=97.09^\circ$	(SKM) eP	17 40 49 C
			Z: 1.5 ^s ; 0.074 μ
		epP	59
	(SKD) i(S)		52 04
		i	42
		i	53 22
		Lm	18 18.5
			NEZ: 55 ^s ; 11 μ , 13 μ , 9.4 μ
	NIE $\Delta=97.03^\circ$	eiP	17 40 50 C
			Z: 0.8 ^s ; 0.022 μ
		isP	41 05
	KSP $\Delta=99.06^\circ$	eP	17 40 58
19.IV	Kuril Islands, NEIS: 44.29°N, 149.15°E, H=04 ^h 01 ^m 36.9 ^s , h=41 km, MB=4.6; MPV=5.2 (Niedzica), 5.6 (Kraków)		
	KRA $\Delta=76.52^\circ$	(SKM) iP	04 13 22.9 C
			Z: 0.9 ^s ; 0.047 μ

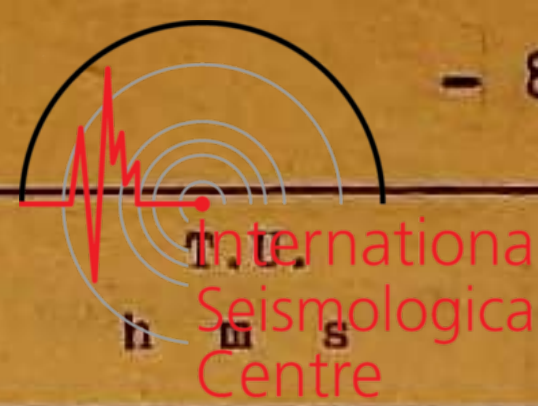
Date	Station	Phase	T.U. h m s	
19.IV	NIE $\Delta=76.15^\circ$	eiP	04 13 25 C	
			Z: 0.8 ^s ; 0.015 μ	
		iPcP	35.0	
19.IV	Honshu, Japan, NEIS: 30.84°N, 141.71°E, H=07 ^h 32 ^m 50.4 ^s , h=33 km, MB=4.5; MPV=5.5 (Kraków)			
	KRA $\Delta=84.37^\circ$	(SKM) eiP	07 45 22 D	
			Z: 1.1 ^s ; 0.041 μ	
	KSP $\Delta=85.50^\circ$	eP	07 45 26	
19.IV	South of Fiji Islands, NEIS: 23.43°S, 179.83°E, H=16 ^h 47 ^m 56.7 ^s , h=500 km, MB=5.0			
	KRA $\Delta=149.12^\circ$	(SKM) eiPKP	17 06 33 C	
			Z: 1.0 ^s ; 0.048 μ	
		eiPKP ₂	51	
19.IV	Philippine Islands, Moscow: 17.12°N, 122.56°E, H=19 ^h 37 ^m 00.9 ^s , MPV=5.0 (Niedzica)			
	NIE $\Delta=84.88^\circ$	eiP	19 49 35 D	
			Z: 0.9 ^s ; 0.010 μ	
20.IV	Kuril Islands, NEIS: 44.10°N, 149.34°E, H=13 ^h 40 ^m 37.8 ^s , h=33 km, MB=4.7			
	KRA $\Delta=76.38^\circ$	(SKM) eiP	13 52 28	
		NIE $\Delta=76.76^\circ$	eiP	13 52 31
		isP	44.0	
20.IV	NIE	eP	19 57 52 D	
			Z: 0.8 ^s ; 0.023 μ	
	KSP	iP	19 57 52.0	
20.IV	Kuril Islands, NEIS: 46.89°N, 151.72°E, H=22 ^h 19 ^m 25.7 ^s , h=75 km, MB=5.5; MPV=5.6 (Kraków), 5.5 (Niedzica)			

Date	Station	Phase	T.U. h m s
20.IV Kuril Islands - continuation			
KRA	$\Delta=74.82^\circ$		
(SKM) iP		22 31 00.3	C
	Z: 0.7^S ; 0.037μ		
eipP		22	
KSP	$\Delta=75.34^\circ$		
eP		22 31 02	
NIE	$\Delta=75.22^\circ$		
eIP		22 31 03	D
	Z: 1.0^S ; 0.041μ		
IPcP		15	
ipP		26	
21.IV Afghanistan - USSR Border Region, NEIS: $36.66^\circ N$, $71.43^\circ E$, $H=15^h 22^m 55.9^S$, $h=204$ km, $MB=5.8$			
WAR	$\Delta=38.38^\circ$		
(SKD) iP		15 29 58	C
eIS		35 32	
NIE	$\Delta=38.75^\circ$		
iP		15 30 01.8	
Pm		05.0	
	Z: 1.0^S ; 0.37μ		
KRA	$\Delta=38.99^\circ$		
(SKM) iP		15 30 02.0	
Pm		06	
	Z: 0.9^S ; 0.35μ		
ipP		39.5	
isP		52.5	
i		31 17.2	
(SKD) IS		35 46	
Lm		38.6	
	NEZ: 25^S ; 3.3μ , 3.4μ , 10.5μ		
KSP	$\Delta=41.31^\circ$		
iP		15 30 21.0	
22.IV Eastern Kazakh SSR, NEIS: $49.74^\circ N$, $78.36^\circ E$, $H=03^h 06^m 57.8^S$, $h=0$ km, $MB=5.3$; MPV=5.6 (Kraków), 5.7 (Niedzica)			
KRA	$\Delta=36.79^\circ$		
(SKM) iP		03 14 07.6	C
	Z: 1.0^S ; 0.084μ		
NIE	$\Delta=36.81^\circ$		
iP		03 14 09.5	C
	Z: 0.6^S ; 0.068μ		
IPp		15 33.5	

Date	Station	Phase	T.U. h m s
22.IV	KSP	$\Delta=38.63^\circ$	
	iP		03 14 21.0
22.IV	KRA		
(SKM) eIP		13 17 58	C
	Z: 1.0^S ; 0.054μ		
	NIE		
	iP	13 17 58.8	C
	Z: 1.1^S ; 0.023μ		
22.IV China, NEIS: $41.94^\circ N$, $85.80^\circ E$, $H=15^h 04^m 17.2^S$, $h=33$ km, $MB=5.4$; MPV=5.9 (Kraków), 5.7 (Niedzica)			
	WAR	$\Delta=45.11^\circ$	
(SKD) eIP		15 12 20	
KRA	$\Delta=45.11^\circ$		
(SKM) eIP		15 12 32	C
	Z: 1.0^S ; 0.12μ		
	isP	46.9	
	NIE	$\Delta=45.05^\circ$	
	iP	15 12 33.0	C
	Z: 0.9^S ; 0.080μ		
	isP	45.0	
	KSP	$\Delta=47.11^\circ$	
	eIP	15 12 45	
23.IV Tonga Islands Region, NEIS: $17.05^\circ S$, $172.41^\circ W$, $H=03^h 22^m 29.6^S$, $h=33$ km, $MB=5.1$			
	KSP	$\Delta=145.57^\circ$	
	ePKP	03 42 06	
	KRA	$\Delta=145.60^\circ$	
(SKM) ePKP		03 42 07	D
	Z: 0.9^S ; 0.026μ		
	eIPKP ₂	10	
	NIE	$\Delta=146.10^\circ$	
	iPKP	03 42 09.0	D
	Z: 0.9^S ; 0.017μ		
	iPKP ₂	12.5	
23.IV	KSP		
	eP	11 24 39	
	eI	25 43	
24.IV Tonga Islands, NEIS: $21.25^\circ S$, $174.38^\circ W$, $H=15^h 44^m 18.7^S$, $h=33$ km, $MB=5.6$			

Date	Station	Phase	T.U. h m s
24.IV Tonga Islands - continuation			
WAR	$\Delta=146.84^\circ$		
(SKD) eIPKP		16 04 01	
Lm		17 10 00	
	Z: 20^S ; 4.1μ		
NIE	$\Delta=149.55^\circ$		
ePKP		16 04 04	
i		07.9	
Pm		11	
	Z: 1.2^S ; 0.044μ		
i(PKP ₂)		14.6	
	Z: 1.2^S ; 0.066μ		
KRA	$\Delta=149.10^\circ$		
(SKM) ePKP		16 04 05	
(GW) i		07 09	
(SKD) Lm		17 20.6	
	NEZ: 20^S ; 1.9μ , 1.3μ , 3.1μ		
KSP	$\Delta=149.30^\circ$		
ePKP		16 04 05	
25.IV Philippine Islands, NEIS: $6.46^\circ N$, $123.99^\circ E$, $H=00^h 34^m 14.4^S$, $h=33$ km, $MB=5.4$			
KRA	$\Delta=94.02^\circ$		
(SKM) eIP		00 47 32	
ePP		51 29	
(SKD) IS		58 40	
Lm		01 31.1	
	NEZ: 20^S ; 2.4μ , 1.6μ , 1.7μ		
WAR	$\Delta=92.81^\circ$		
(SKD) eISKS		00 57 56	
eIS		58 28	
eIPS		59 40	
25.IV Celebes Sea, NEIS: $4.61^\circ N$, $124.61^\circ E$, $H=04^h 24^m 51.7^S$, $h=33$ km, $MB=5.9$; MLH=6.0 (Kraków)			
NIE	$\Delta=95.75^\circ$		
eP		04 38 18	
i		32.3	
KRA	$\Delta=95.84^\circ$		
(SKM) eP		04 38 18	
eipP		29	
(SKD) IPP		42 13	
iSKKS		49 16	
ISS		56 06	

Date	Station	Phase	T.U. h m s
25.IV	KRA	Lm	05 11
		NEZ: 40^S ; 7.5μ , 6.3μ	
	Lm	19	
		NEZ: 25^S ; 5.7μ , 4.9μ , 4.9μ	
25.IV Hondo, Japan, NEIS: $32.06^\circ N$, $137.95^\circ E$, $H=07^h 01^m 38.8^S$, $h=321$ km, $MB=5.1$			
	KRA	$\Delta=81.56^\circ$	
(SKM) eP		07 13 22	D
	Z: 0.9^S ; 0.053μ		
	KSP	$\Delta=82.76^\circ$	
	iP	07 13 29.0	
26.IV New Guinea, Moscow: $5.65^\circ S$, $142.31^\circ E$, $H=10^h 10^m 07.6^S$, $MPV(A)=5.5$			
	NIE	$\Delta=114.73^\circ$	
	eIPKIKP	10 28 48	
	Z: 1.0^S ; 0.011μ		
	i	29 17.4	
26.IV Kuril Islands Region, NEIS: $43.90^\circ N$, $148.78^\circ E$, $H=15^h 20^m 51.7^S$, $h=40$ km, $MB=4.8$; $MPV=5.1$ (Niedzica)			
	KRA	$\Delta=76.35^\circ$	
(SKM) eP		15 32 39	
	eipP	51	
	NIE	$\Delta=76.72^\circ$	
	iP	15 32 42.0	D
	Z: 1.0^S ; 0.017μ		
	ipP	54.5	
26.IV Kuril Islands, NEIS: $44.01^\circ N$, $149.24^\circ E$, $H=18^h 35^m 26.2^S$, $h=33$ km, $MB=5.0$; MPV=5.6 (Kraków), 5.2 (Niedzica)			
	KRA	$\Delta=76.42^\circ$	
(SKM) eP		18 47 13	C
	Z: 0.9^S ; 0.047μ		
	eisP	28	
	Lm	19 38.7	
	NEZ: 15^S ; 1.5μ , 1.7μ , 2.1μ		
	NIE	$\Delta=76.79^\circ$	
	iP	18 47 16.5	C
	Z: 1.0^S ; 0.019μ		
	ipP	26.4	
	isP	30.5	
	KSP	$\Delta=77.07^\circ$	
	eP	18 47 18	



Date	Station	Phase	T.U. h m s
26.IV	Kuril Islands, NEIS: 44.03°N, 149.38°E, H=18 ^h 38 ^m 37.0 ^s , h=33 km, MB=5.1; MPV=5.5 (Niedzica)	NIE Δ=76.83°	
		iP	18 50 27.6
		Z: 0.9 ^s ; 0.032μ	
		ipP	38.7
26.IV	South of Fiji Islands, NEIS: 23.40°S, 179.12°E, H=20 ^h 21 ^m 20.6 ^s , h=600 km, MB=4.6	KRA Δ=148.81°	
		(SKM) ePKP	20 40 02
		NIE Δ=149.14°	
		iPKP	20 40 04.5 D
		Z: 1.2 ^s ; 0.060μ	
		iPKP ₂	15.0
27.IV	Kodiak Island Region, NEIS: 56.59°N, 152.68°W, H=01 ^h 41 ^m 15.9 ^s , h=25 km, MB=4.7	KSP Δ=72.54°	
		eP	01 52 42
		KRA Δ=73.54°	
		(SKM) eP	01 52 48
		NIE Δ=74.19°	
		eiP	01 52 52
		eisP	53 04
27.IV	Greece, NEIS: 38.99°N, 22.03°E, H=08 ^h 33 ^m 29.2 ^s , h=33 km, MB=5.1	NIE Δ=10.50°	
		eiPn	08 36 02
		Z: 0.9 ^s ; 0.030μ	
		i	22.0
		KRA Δ=11.16°	
		(SKM) iPn	08 36 10.6 D
		Z: 0.5 ^s ; 0.060μ	
		i	22.7
27.IV	Kuril Islands, NEIS: 44.44°N, 149.09°E, H=22 ^h 55 ^m 38.2 ^s , h=33 km, MB=4.7	NIE Δ=76.37°	
		iP	23 07 28.0 C
		KRA Δ=76.00°	
		(SKM) eP	23 07 29

Date	Station	Phase	T.U. h m s
28.IV	Near North Coast of Colombia, NEIS: 11.98°N, 72.49°W, H=04 ^h 28 ^m 31.5 ^s , h=33 km, MB=5.2; MPV=5.6 (Kraków), 5.2 (Niedzica)	KRA Δ=82.48°	
		(SKM) eiP	04 40 54
		Z: 0.9 ^s ; 0.042μ	
		NIE Δ=82.83°	
		iP	04 40 56.2 D
		Z: 1.0 ^s ; 0.019μ	
		ei	41 11
29.IV	Sunda Strait, NEIS: 6.04°S, 103.95°E, H=02 ^h 26 ^m 52.7 ^s , h=88 km, MB=5.6	WAR Δ=90.41°	
		(SKD) eiP	02 39 46
		ei (PP)	43 20
		eiSKS	50 36
		NIE Δ=90.41°	
		iP	02 39 47.5 C
		Z: 1.0 ^s ; 0.067μ	
		i	40 02.4
		ipP	43 16.5
		KRA Δ=90.75°	
		(SKM) iP	02 39 48.5 C
		Z: 1.0 ^s ; 0.084μ	
		i	40 03.3
		KSP Δ=93.15°	
		eP	02 39 58
29.IV	Solomon Islands, NEIS: 9.56°S, 159.60°E, H=04 ^h 21 ^m 08.2 ^s , h=33 km, MB=6.1; MLH=6.0 (Kraków)	WAR Δ=125.79°	
		(GW) eiPKIKP	04 40 14
		(SKD) eiPP	42 02
		eiPKKP	50 20
		Lm	05 35 00
		Z: 24 ^s ; 4.9μ	
		KRA Δ=127.64°	
		(SKM) ePKIKP	04 40 14
		ei	23
		iPP	42 19.3
		(SKD) Lm	05 35.1
		NEZ: 25 ^s ; 4.1μ, 3.6μ, 4.0μ	

Date	Station	Phase	T.U. h m s
29.IV	Solomon Islands - continuation	NIE Δ=127.81°	
		iPKIKP	04 40 14.7
		Z: 1.2 ^s ; 0.052μ	
		iPP	42 19
		KSP Δ=128.98°	
		ePKIKP	04 40 16
29.IV	Kuril Islands, NEIS: 45.26°N, 150.15°E, H=15 ^h 34 ^m 05.4 ^s , h=33 km; MPV=5.6 (Kraków), 5.2 (Niedzica)	KRA Δ=75.68°	
		(SKM) eiP	15 45 50
		Z: 0.6 ^s ; 0.035μ	
		NIE Δ=76.07°	
		iP	15 45 53.2 C
		Z: 1.0 ^s ; 0.019μ	
		ipP	46 05
29.IV	NIE	eiP	19 07 18 C
		Z: 1.0 ^s ; 0.011μ	
29.IV	Taiwan Region, NEIS: 24.57°N, 122.60°E, H=19 ^h 25 ^m 22.8 ^s , h=33 km, MB=5.4; MPV=5.3 (Kraków), MLH=6.3 (Kraków), 6.9 (Warszawa), MLV=6.1 (Kraków), 6.2 (Warszawa)	KRA Δ=73.54°	
		(SKM) eP	01 52 48

Date	Station	Phase	T.U. h m s
29.IV	WAR Δ=77.66°	(SKD) eiP	19 37 22
		ei	38 28
		eiS	47 12
		Lm	20 10 00
		NEZ: 16 ^s ; 19μ, 41μ, 10μ	
		KRA Δ=79.19°	
		(SKM) eP	19 37 25 C
		Z: 1.0 ^s ; 0.030μ	
		eisP	39.2
		i	36 11.5
		(GW) eSKS	47 44
		eiPPS	48 28
		(SKD) Lm	20 07.1
		NE: 30 ^s ; 19μ, 11μ	
		Lm	11.6
		Z: 20 ^s ; 10.6μ	
		NIE Δ=79.24°	
		eP	19 37 28
		eisP	41
		i	38 11.2
		KSP Δ=80.93°	
		eP	19 37 34
30.IV	KSP	eiP	17 29 26
		NIE	
		eiP	17 29 31
		Z: 1.0 ^s ; 0.013μ	
		ei	39

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1.V	Fiji Islands Region, NEIS: 19.26°S, 177.60°W, H=06 ^h 06 ^m 59.7 ^s , h=600 km, MB=4.6	KSP Δ=146.60°	
		eiPKP	06 25 30
		KRA Δ=146.21°	
		(SKM) ePKP	06 25 32
		Pm	35
		Z: 1.0 ^s ; 0.060μ	
		ei	44
		NIE Δ=146.62°	
		eiPKP	06 25 34
		i	37.5

1.V	NIE	iPKIKP	06 25 37.5
		Pm	38
		Z: 0.9 ^s ; 0.039μ	
		i	40.3
1.V	Kuril Islands, NEIS: 43.88°N, 149.05°E, H=06 ^h 54 ^m 03.9 ^s , h=33 km; MPV=5.7 (Kraków), 5.4 (Niedzica)	KSP Δ=77.12°	
		eP	07 05 52
		KRA Δ=76.46°	
		(SKM) iP	07 05 53.5 D
		Z: 0.9 ^s ; 0.054μ	
		isP	06 07



Date	Station	Phase	T.U. h m s
1.V Kuril Islands - continuation			
NIE	$\Delta=76.84^{\circ}$		
eiP		07 05 56	D
	Z: 1.0^S ; 0.031μ		
ipP		06 07	
isP		11	
1.V Bonin Islands, Moscow: $26.11^{\circ}N$, $140.91^{\circ}E$, $H=15^h11^m43.4^s$			
KRA	$\Delta=87.91^{\circ}$		
(SKM) eP		15 24 30	C
1.V Kuril Islands, NEIS: $44.64^{\circ}N$, $149.06^{\circ}E$, $H=17^h59^m09.6^s$, $h=33$ km, $MB=4.7$; $MPV=5.1$ (Niedzica)			
KRA	$\Delta=75.82^{\circ}$		
(SKM) eiP		18 10 55	D
eipP		11 06.9	
NIE	$\Delta=76.19^{\circ}$		
iP		18 10 56.8	C
	Z: 1.1^S ; 0.019μ		
ipP		11 09.5	
KSP	$\Delta=76.45^{\circ}$		
eP		18 10 58	
2.V Japan, Moscow: $43.31^{\circ}N$, $142.85^{\circ}E$, $H=01^h41^m07.9^s$; $MPV=5.4$ (Kraków)			
KRA	$\Delta=74.52^{\circ}$		
(SKM) eP		01 52 33	
	Z: 0.9^S ; 0.026μ		
2.V KRA			
(SKM) eiP		05 26 47	C
	Z: 0.9^S ; 0.047μ		
NIE			
eiP		05 26 51	C
	Z: 0.9^S ; 0.024μ		
i		27 02.8	
3.V Taland Islands, NEIS: $3.63^{\circ}N$, $127.43^{\circ}E$, $H=02^h29^m54.9^s$, $h=44$ km			
KRA	$\Delta=98.35^{\circ}$		
(SKM) eP		02 43 28	
eipP		43	
NIE	$\Delta=98.28^{\circ}$		
iP		02 43 32.5	

Date	Station	Phase	T.U. h m s
3.V Fiji Islands Region, NEIS: $21.20^{\circ}S$, $177.55^{\circ}W$, $H=07^h41^m52.2^s$, $h=350$ km; $MB=5.2$			
KSP	$\Delta=148.48^{\circ}$		
ePKP		08 00 54	
i		57.9	
	Z: 0.6^S ; 0.078μ		
NIE	$\Delta=148.45^{\circ}$		
eiPKP		08 00 55	D
i		59.5	
KRA	$\Delta=148.05^{\circ}$		
(SKM) eiPKP		08 00 57	D
	Z: 0.9^S ; 0.037μ		
4.V KSP			
iP		00 09 07.0	
KRA			
(SKM) eP		00 09 07	C
	Z: 0.9^S ; 0.074μ		
ei		13.4	
NIE			
iP		00 09 09.3	C
	Z: 0.7^S ; 0.041μ		
i		13.5	
i		18.5	
4.V Kuril Islands, NEIS: $43.78^{\circ}N$, $149.12^{\circ}E$, $H=21^h40^m49.6^s$, $h=33$ km, $MPV=5.6$ (Kraków, Niedzica)			
KRA	$\Delta=76.58^{\circ}$		
(SKM) eiP		21 52 38	C
	Z: 0.8^S ; 0.046μ		
isP		51.8	
KSP	$\Delta=77.23^{\circ}$		
eP		21 52 40	
NIE	$\Delta=76.95^{\circ}$		
iP		21 52 40.3	C
Pm		44	
	Z: 0.8^S ; 0.044μ		
isP		54.0	
5.V Kuril Islands, NEIS: $50.53^{\circ}N$, $149.76^{\circ}E$, $H=02^h04^m02.7^s$, $h=33$ km; $MPV=5.1$ (Niedzica)			
KRA	$\Delta=71.03^{\circ}$		
(SKM) eP		02 15 21	
eisP		34	

Date	Station	Phase	T.U. h m s
5.V Kuril Islands - continuation			
KSP	$\Delta=71.52^{\circ}$		
eP		02 15 22	
NIE	$\Delta=71.44^{\circ}$		
iP		02 15 23.8	
	Z: 0.8^S ; 0.013μ		
isP		37.5	
5.V Alaska, NEIS: $63.14^{\circ}N$, $150.85^{\circ}W$, $H=05^h32^m48.0^s$, $h=134$ km, $MB=5.0$			
KSP	$\Delta=65.91^{\circ}$		
eiP		05 43 17	
KRA	$\Delta=66.91^{\circ}$		
(SKM) eiP		05 43 25	
	Z: 1.0^S ; 0.048μ		
NIE	$\Delta=67.56^{\circ}$		
iP		05 43 30.0	
	Z: 0.9^S ; 0.014μ		
5.V Molucca Passage, Moscow: $1.74^{\circ}N$, $125.78^{\circ}E$, $H=10^h39^m48.1^s$, $MPV(A)=5.3$; $MPV=5.9$ (Kraków), 5.7 (Niedzica)			
KRA	$\Delta=98.79^{\circ}$		
(SKM) eP		10 53 18	
	Z: 0.6^S ; 0.019μ		
NIE	$\Delta=98.69^{\circ}$		
iP		10 53 20.7	
	Z: 0.9^S ; 0.019μ		
6.V Greenland Region, Moscow: $79.95^{\circ}N$, $4.59^{\circ}E$, $H=04^h19^m10.1^s$			
KRA	$\Delta=30.48^{\circ}$		
(SKM) eP		04 25 28	
6.V Pakistan - Afghanistan Border Region, Moscow: $30.08^{\circ}N$, $66.15^{\circ}E$, $H=11^h16^m11.9^s$, $MPV(A)=5.7$; $MPV=5.8$ (Niedzica), 5.5 (Kraków), $MLH=5.8$ (Kraków), 6.2 (Warszawa), $MLV=5.3$ (Kraków), 5.6 (Warszawa)			
NIE	$\Delta=39.46^{\circ}$		
iP		11 23 43.0	
	Z: 1.1^S ; 0.15μ		
i		52.5	
i		59.0	
WAR	$\Delta=39.71^{\circ}$		
(SKD) eiP		11 23 44	

Date	Station	Phase	T.U. h m s
6.V (GW)			
eiPP		11 25 16	
(SKD) ei(S)		29 40	
Lm		41 41	
	NS: 20^S ; 27μ , 30μ		
Lm		43 36	
	Z: 20^S ; 10μ		
KRA	$\Delta=39.83^{\circ}$		
(SKM) iP		11 23 44.2	
	Z: 1.2^S ; 0.079μ		
i		24 24.2	
eiS		29 48	
(SKD) Lm		42.1	
	NEZ: 20^S ; 11μ , 11μ , 5.0μ		
KSP	$\Delta=42.27^{\circ}$		
iP		11 23 59.5	
6.V KRA			
(SKM) iP		11 46 02.7	
	Z: 1.0^S ; 0.096μ		
i		12.3	
7.V KSP			
eP		12 36 20	
KRA			
(SKM) eiP		12 36 23.9	
ei		26.6	
8.V KRA			
(SKM) eP		05 39 09	
KSP			
eP		05 39 15	
NIE			
iP		05 39 16.0	C
	Z: 0.8^S ; 0.010μ		
i		41.0	
i		50.5	
8.V Greece, Moscow: $40.68^{\circ}N$, $23.21^{\circ}E$, $H=14^h38^m56.9^s$			
NIE	$\Delta=8.98^{\circ}$		
iPn		14 41 10.5	
	Z: 0.4^S ; 0.010μ		
i		55.5	
KRA	$\Delta=9.65^{\circ}$		
(SKM) ePn		14 41 19	
eiP*		37	

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
9.V	Kamchatka, NEIS: 52.88°N, 158.17°E, H=07 ^h 31 ^m 05.8, h=100 km, MB=5.1			10.V	NIE		
	KRA Δ=71.53°				eiP		09 06 44
	(SKM) eP		07 42 18		i		48
9.V	Tonga Islands, NEIS: 20.98°S, 174.81°W, H=17 ^h 55 ^m 51.1 ^s , h=33 km, MB=5.2				KSP		
	KSP Δ=148.94°				eP		09 07 00
	ePKP		18 15 31	10.V	Greece, Moscow: 40.82°N, 23.38°E, H=13 ^h 12 ^m 49.7 ^s		
	KRA Δ=148.72°				KRA Δ=9.55°		
	(SKM) ePKP		18 15 36		(SKM) ei (Pn)		13 15 02
	eIPKP ₂		46		ei		19
	NIE Δ=149.16°				NIE Δ=8.87°		
	ePKIKP		18 15 36		iPn		13 15 03.0
	iPKIKP		39.2		Z: 0.6 ^s ; 0.018μ		
	Pm		42		iP ^{re}		18
	Z: 0.9 ^s ; 0.022μ			10.V	Honshu, Japan, NEIS: 37.78°N, 141.66°E, H=15 ^h 36 ^m 27.4 ^s , h=33 km, MB=4.9; MPV=6.0 (Kraków), 5.8 (Niedzica)		
	iPKP ₂		45.0		KRA Δ=78.59°		
10.V	KIA				(SKM) eiP		15 48 27 C
	(SKM) eP		01 36 26		Z: 1.0 ^s ; 0.12μ		
	Z: 0.7 ^s ; 0.016μ				iPp		39.1
	i		32.2		KSP Δ=79.57°		
	NIE				eP		15 48 27 D
	eiP		01 36 28		Z: 1 ^s ; 0.064μ		
	Z: 0.9 ^s ; 0.010μ				NIE Δ=78.87°		
	i		40.3		eiP		15 48 29 C
10.V	NIE				Z: 1.2 ^s ; 0.10μ		
	eiP		01 38 44		iPp		40.0
	i		52.8	11.V	Aleutian Islands, NEIS: 51.68°N, 176.32°W, H=00 ^h 23 ^m 37.9 ^s , h=74 km, MB=6.3; MPV=5.4, MLV=5.8 (Kraków), 6.2 (Warszawa)		
	i		39 23.0		WAR Δ=75.42°		
10.V	KRA				(SKD) iP		00 35 16 C
	(SKM) eP		01 40 07.4		eiPcP		28
	ei		15.8		eISKs		45 28
10.V	Honshu, Japan, NEIS: 29.03°N, 139.94°E, H=03 ^h 51 ^m 40.3 ^s , h=450 km				Lm		01 07 32
	KRA Δ=85.01°				NEZ: 22 ^s , 20 ^s , 22 ^s ; 10μ, 10μ, 8.9μ		
	(SKM) eP		04 03 25		KSP Δ=77.29°		
	NIE Δ=85.24°				eP		00 35 22
	iP		04 03 27.5		KRA Δ=77.70°		
	Z: 1.4 ^s ; 0.025μ				(SKM) eP		00 35 28 C
10.V	KRA				Z: 1.0 ^s ; 0.036μ		
	(SKM) eiP		09 06 44	11.V	Aleutian Islands - continuation		
	i		07 59.1		KIA eisP		00 36 03
	i		08 19.6		(G ^{re}) eS		45 18

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
11.V	Aleutian Islands - continuation			11.V	Mexico-Guatemala Border Region, NEIS: 15.09°N, 92.48°W, H=23 ^h 18 ^m 31.4 ^s , h=33 km, MB=4.8; MLH=5.7 (Kraków)		
	KIA eisP		00 36 03		WAP Δ=91.88°		
	(G ^{re}) eS		45 18		(SKD) eiP		23 31 32
	eISKs		34		iSKs		42 12
	eiScS		45		Lm		00 09 00
	eiPS		55		Z: 24 ^s ; 2.4μ		
	(SKD) Lm		01 08.1		KRA Δ=92.27°		
	NZ: 25 ^s ; 4.3μ, 7.1μ				(SKM) eP		23 31 35
	NIE Δ=78.28°				eipP		45.5
	eiP		00 35 32 C		(SKD) eiPP		35 17
	Z: 1.0 ^s ; 0.011μ				iSKs		42 16
	iPcP		42.5		eIPS		43 57
	isP		36 05.5		Lm		00 14.1
11.V	Iceland Region, NEIS: 61.44°N, 27.18°W, H=06 ^h 06 ^m 01.8 ^s , h=33 km, MB=4.7				NFZ: 20 ^s ; 1.9μ, 2.4μ, 2.4μ		
	KSP Δ=25.93°			12.V	Honshu, Japan, NEIS: 36.34°N, 141.26°E, H=22 ^h 47 ^m 32.0 ^s , h=33 km, MB=5.1; MPV=5.8; MLH=5.7 (Kraków)		
	eP		06 11 30		KRA Δ=79.60°		
	KRA Δ=28.21°				(SKM) iP		22 59 38.3 C
	(SKM) eP		06 11 51		Z: 0.9 ^s ; 0.063μ		
	NIE Δ=28.82°				eipP		49
	eP		06 11 59		Lm		23 38.6
	WAR Δ=27.31°				NEZ: 16 ^s ; 1.9μ, 2.1μ, 3.8μ		
	(SKD) eiS		06 16 32	11.V	Tonga Islands Region, NEIS: 17.94°S, 172.33°W, H=11 ^h 03 ^m 20.3 ^s , h=75 km, MB=4.4		
	KRA Δ=146.48°				KSP Δ=80.63°		
	(SKM) eiPKP		11 22 56 D		eP		22 59 39
	Z: 0.8 ^s ; 0.023μ				eipP		52
	NIE Δ=146.97°				NIE Δ=79.87°		
	iPKP		11 22 58.0		iP		22 59 41.0 C
	Z: 1.0 ^s ; 0.015μ				Z: 0.8 ^s ; 0.029		
	iPcP		23 23.6		i		51
11.V	Sumatra, Moscow: 5.18°S, 104.09°E, H=14 ^h 01 ^m 29.5 ^s , MPV(A)=5.2; MPV=5.4 (Kraków)			13.V	New Hebrides Islands, NEIS: 14.65°S, 167.41°E, H=07 ^h 08 ^m 45.3 ^s , h=150 km, MB=5.9		
	NIE Δ=89.85°				KIA Δ=135.90°		
	iP		14 14 27.6		(SKM) ePKIKP		07 27 35
	Z: 1.0 ^s ; 0.019μ				iPKIKP		49.9
	KRA Δ=90.18°				Pm		54
	(SKM) eP		14 14 28		Z: 1.3 ^s ; 0.66μ		
	Z: 1.0 ^s ; 0.030μ				(SKD) iPP		30 30.4
					(SKD) iPKS		31 08
					eSKSP		41 13

Date	Station	Phase	T.U. h m s
13.V New Hebrides - continuation			
	NIE	$\Delta=136.13^{\circ}$	
	1PKHKP		07 27 37.3
		Z: 1.3^S ; 0.030μ	
	1PKIKP		47.5
	WAR	$\Delta=133.93^{\circ}$	
	(SKD) 1PKIKP		07 27 44 C
		Z: 6^S ; 16μ	
	ei		56
	eipPKP		28 28
	eIPP		30 16
	i(PKS)		56
	ei		36 48
	Lm		08 25 32
		Z: 24^S ; 9.8μ	
13.V Samoa Islands Region, NEIS: $14.79^{\circ}S$, $173.54^{\circ}W$, $H=16^h41^m13.7^S$, $h=33$ km, $MB=5.4$			
	KSP	$\Delta=143.17^{\circ}$	
	ePKP		17 00 38
	WAR	$\Delta=140.87^{\circ}$	
	(SKD) e(PKP)		17 00 42
	ePKS		04 20
	KRA	$\Delta=143.15^{\circ}$	
	(SKM) eiPKP		17 00 42
	eipPKP		55
	NIE	$\Delta=143.64^{\circ}$	
	iPKP		17 00 44.5 C
		Z: 0.8^S ; 0.022μ	
	eipPKP		57
14.V Kuril Islands Region, Moscow: $44.35^{\circ}N$, $149.51^{\circ}E$, $H=06^h30^m38.8^S$, $MPV(A)=5.2$; $MPV=5.5$ (Kraków), 5.1 (Niedzica)			
	KRA	$\Delta=76.23^{\circ}$	
	(SKM) eiP		06 42 25 D
		Z: 0.5^S ; 0.020μ	
	NIE	$\Delta=76.61^{\circ}$	
	iP		06 42 28.5 D
		Z: 0.8^S ; 0.012μ	
14.V Pacific Ocean, Moscow: $61.04^{\circ}S$, $153.30^{\circ}E$, $H=12^h06^m26.7^S$			
	NIE	$\Delta=151.43^{\circ}$	
	ePKP		12 26 20
14.V KRA $\Delta=152.04^{\circ}$			
	(SKM) ePKP		12 26 20
14.V Japan, Moscow: $40.64^{\circ}N$, $142.12^{\circ}E$, $H=17^h41^m40.6^S$, $MPV(A)=5.3$; $MPV=5.6$ (Kraków), 5.2 (Niedzica)			
	KRA	$\Delta=76.42^{\circ}$	
	(SKM) eiP		17 53 29 C
		Z: 0.5^S ; 0.025μ	
	NIE	$\Delta=76.73^{\circ}$	
	iP		17 53 31.0 C
		Z: 0.9^S ; 0.017μ	
	isP		44.4
15.V Loyalty Islands Region, Moscow: $20.98^{\circ}S$, $169.55^{\circ}E$, $H=00^h36^m05.6^S$, $MPV(A)=5.6$			
	NIE	$\Delta=142.55^{\circ}$	
	ePKHKP		00 55 33.3
	iPKIKP		38.5
	KRA	$\Delta=142.35^{\circ}$	
	(SKM) ePKIKP		00 55 35
16.V Afghanistan, Moscow: $37.78^{\circ}N$, $69.79^{\circ}E$, $H=02^h33^m08.1^S$			
	NIE	$\Delta=37.03^{\circ}$	
	iP		02 40 21.0
	i		37.0
	KRA	$\Delta=37.28^{\circ}$	
	(SKM) eP		02 40 23
16.V NIE			
	iP		05 33 43.7
		Z: 0.6^S ; 0.014μ	
	i		51.7
	i		34 15.5
	KRA		
	(SKM) eP		05 33 50
	ei		59
	i		34 46.0
16.V Japan, Moscow: $41.49^{\circ}N$, $141.22^{\circ}E$, $H=07^h35^m51.9^S$; $MPV=6.0$ (Kraków)			
	WAR	$\Delta=73.25^{\circ}$	
	(SKD) eiP		07 47 20
	eIS		56 48

Date	Station	Phase	T.U. h m s
10.V Japan - continuation			
	KRA	$\Delta=75.34^{\circ}$	
	(SKM) iP		07 47 30.9 C
		Z: 0.8^S ; 0.10μ	
	ipP		38.4
	i		50.9
16.V Japan, Moscow: $41.68^{\circ}N$, $141.23^{\circ}E$, $H=08^h24^m04.9^S$, $MPV(A)=5.8$; $MPV=6.1$ (Kraków)			
	KSP	$\Delta=76.09^{\circ}$	
	iP		08 35 39.9
	KRA	$\Delta=75.18^{\circ}$	
	(SKM) eiP		08 35 44 C
		Z: 0.7^S ; 0.12μ	
	i		36 03.3
16.V KSP			
	e(P)		23 22 45
	KRA		
	(SKM) e(P)		23 22 54
	NIE		
	eiP		23 22 56
		Z: 1.0^S ; 0.013μ	
	i		23 06
17.V NIE			
	iP		04 36 48.5
	i		37 26.5
17.V Japan, Moscow: $34.48^{\circ}N$, $141.24^{\circ}E$, $H=08^h52^m25.5^S$, $MPV(A)=5.3$; $MPV=5.3$ (Kraków)			
	KRA	$\Delta=81.13^{\circ}$	
	(SKM) eiP		09 04 39 D
		Z: 0.7^S ; 0.016μ	
	esP		55
17.V Fiji Islands, Moscow: $19.18^{\circ}S$, $178.03^{\circ}W$, $H=10^h01^m33.9^S$			
	KSP	$\Delta=146.42^{\circ}$	
	iPKP		10 21 13.0 D
		Z: 0.6^S ; 0.097μ	
	KRA	$\Delta=146.02^{\circ}$	
	(SKM) iPKP		10 21 14.8 C
		Z: 0.8^S ; 0.092μ	
17.V Tonga Islands, Moscow: $19.61^{\circ}S$, $176.22^{\circ}W$, $H=23^h23^m35.8^S$, $MPV(A)=5.5$			
	KSP	$\Delta=147.30^{\circ}$	
	eiPKP		23 43 12
	KRA	$\Delta=147.00^{\circ}$	
	(SKM) iPKP		23 43 13.6
		Z: 0.9^S ; 0.026μ	
	ei		33
	NIE	$\Delta=147.43^{\circ}$	
	iPKP		23 43 15.4
		Z: 1.2^S ; 0.039μ	
	i		26.5
18.V NIE			
	iP		00 38 40.3 C
		Z: 1.5^S ; 0.071μ	
	i		47.0
18.V KRA			
	(SKM) eiP		02 38 48
	i		39 02.9
18.V Fiji Islands, NEIS: $22.95^{\circ}S$, $180.00^{\circ}W$, $H=07^h10^m13.4^S$, $h=516$ km, $MB=5.5$			
	KRA	$\Delta=148.75^{\circ}$	
	(SKM) iPKP		07 29 01.8 C
		Z: 0.8^S ; 0.032μ	
18.V China, Moscow: $40.98^{\circ}N$, $122.49^{\circ}E$, $H=12^h33^m30.4^S$, $MPV(A)=5.7$; $MPV=6.1$ (Kraków), $MLH=5.9$ (Kraków), 6.4 (Warszawa), $MLV=5.9$ (Kraków)			
	(KRA	$\Delta=66.83^{\circ}$	
	(SKM) eiP		12 44 27
	Pm		31
		Z: 1.6^S ; 0.26μ	
	ipP		38.4
	(SKD) eS		53 19
	Lm		13 14.8
		NZ: 16^S ; 6.0μ , 6.6μ	
	NIE	$\Delta=67.01^{\circ}$	
	iP		12 44 28.5
		Z: 1.0^S ; 0.037μ	
	ipP		40.0
	KSP	$\Delta=68.20^{\circ}$	
	eP		12 44 33

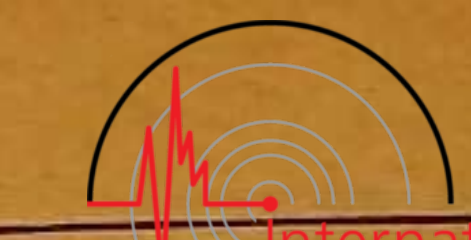
Date	Station	Phase	T.U. h m s
18.V	China - continuation		
	WAR $\Delta=65.00^\circ$		
	(SKD) eiS		12 52 58
	Lm		13 10 44
	NE: $12^S, 14^S$; $8.3\mu, 14\mu$		
18.V	Turkmen SSR, Moscow: $39.91^\circ N, 54.82^\circ E$, $H=17^h 14^m 30.5^S$, MPV(A)=5.2; MPV=4.7 (Niedzica), 5.3 (Kraków)		
	NIE $\Delta=26.11^\circ$		
	iP		17 20 04.5
	Z: 1.0^S ; 0.020μ		
	i		12.7
	iPP		47.5
	KRA $\Delta=26.45^\circ$		
	(SKM) eP		17 20 05
	Z: 1.9^S ; 0.12μ		
	i		15.8
	Z: 1.6^S ; 0.25μ		
	(SKD) e(S)		24 55
	WAR $\Delta=26.23^\circ$		
	(GW) eiP		17 20 14
	(SKD) eiS		24 48
20.V	China, Moscow: $25.12^\circ N, 100.71^\circ E$, $H=01^h 40^m 51.9^S$, MPV(A)=4.9; MPV=5.1 (Niedzica)		
	NIE $\Delta=65.25^\circ$		
	eiP		01 51 33
	Z: 1.0^S ; 0.015μ		
20.V	Chagos Archipelago Region, NEIS: $3.54^\circ S, 69.57^\circ E, H=07^h 15^m 24.4^S$, $h=33$ km, MB=5.0		
	NIE $\Delta=67.73^\circ$		
	eP		07 26 20
	eisP		35
	KRA $\Delta=68.30^\circ$		
	(SKM) eP		07 26 23
	eipP		35
20.V	Near Cost of Peru, NEIS: $10.17^\circ S$, $78.52^\circ W, H=13^h 10^m 29.4^S$, $h=33$ km, MB=5.8		
	KRA $\Delta=103.15^\circ$		
	(SKD) eP		13 24 40
	ePP		28 42
20.V	KRA eiPS		13 37 40
	Lm		14 05.0
	NEZ: 25^S ; $1.6\mu, 3.3\mu, 3.3\mu$		
	WAR $\Delta=103.81^\circ$		
	(SKD) ei(PP)		13 28 32
	(GW) eiSKS		35 06
	(SKD) eiPS		37 48
20.V	Turkey, Moscow: $40.18^\circ N$, $42.68^\circ E, H=18^h 45^m 06.1^S$		
	NIE $\Delta=18.30^\circ$		
	eP		18 49 22
21.V	NIE		
	iP		07 36 25.4 D
	Z: 0.8^S ; 0.015μ		
21.V	Fiji Islands Region, NEIS: $24.18^\circ S, 179.88^\circ E, H=10^h 34^m 48.3^S$, $h=530$ km, MB=4.5		
	KRA $\Delta=149.81^\circ$		
	(SKM) eiPKP		10 53 39 C
	Z: 0.5^S ; 0.020μ		
	NIE $\Delta=150.15^\circ$		
	iPKP		10 53 41.0 C
	Z: 1.2^S ; 0.037μ		
	iPKP ₂		49.0
21.V	Honshu, Japan, NEIS: $40.86^\circ N$, $142.39^\circ E, H=12^h 08^m 47.1^S$, $h=65$ km, MB=5.0; MPV=5.9 (Kraków), 5.4 (Niedzica)		
	KRA $\Delta=76.35^\circ$		
	(SKM) iP		12 20 31.4 C
	Z: 0.6^S ; 0.060μ		
	iPP		46.2
	NIE $\Delta=76.67^\circ$		
	iP		12 20 34.2 C
	Z: 0.9^S ; 0.027μ		
	iPP		48.2
22.V	Pakistan, Moscow: $30.04^\circ N$, $68.11^\circ E, H=02^h 35^m 01.2^S$, MPV(A)=4.8; MPV=5.1 (Niedzica)		

Date	Station	Phase	T.U. h m s
22.V	Pakistan - continuation		
	NIE $\Delta=40.74^\circ$		
	iP		02 42 41.5 C
	Z: 1.5^S ; 0.040μ		
	i		57.2
22.V	Iran, Moscow: $31.69^\circ N, 56.29^\circ E$, $H=06^h 18^m 09.3^S$, MPV(A)=5.1; MPV=5.7 (Kraków)		
	NIE $\Delta=32.17^\circ$		
	eiP		06 24 41
	eipP		53
	KRA $\Delta=32.62^\circ$		
	(SKM) eiP		06 24 44
	Pm		48.0
	Z: 0.9^S ; 0.10μ		
	ei		25 14
22.V	Sea of Japan, Moscow: $43.93^\circ N$, $138.64^\circ E, H=07^h 31^m 56.1^S$, MPV(A)=5.7; MPV=6.3 (Kraków), MLH=5.6 (Kraków)		
	WAR $\Delta=70.17^\circ$		
	(SKD) eiP		07 43 12
	ei(PoS)		47 33
	eiPS		52 40
	KSP $\Delta=73.17^\circ$		
	iP		07 43 (22)
	KRA $\Delta=72.25^\circ$		
	(SKM) iP		07 43 25.5 C
	Z: 0.8^S ; 0.20μ		
	iPP		35.2
	ePS		53 02
	(SKD) Lm		08 11.6
	NE: 20^S ; $2.4\mu, 2.8\mu$		
	Lm		19.1
	Z: 15^S ; 6.0μ		
	NIE $\Delta=72.55^\circ$		
	-iP		07 43 28.3 C
	Z: 1.0^S ; 0.019μ		
	i		53.2
23.V	Kyushu, Japan, NEIS: $31.05^\circ N$, $130.19^\circ E, H=07^h 50^m 28.3^S$, $h=165$ km, MB=6.5		
	WAR $\Delta=76.62^\circ$		
	(SKD) eiP		08 02 (01)
	ei		20
23.V	WAR iS		08 11 32
	eiPS		12 20
	KSP $\Delta=79.83^\circ$		
	eP		08 02 (10)
	Pm		16
	Z: 1.4^S ; 1.18μ		
	KRA $\Delta=78.41^\circ$		
	(SKM) eiP		08 02 11
	Pm		19
	Z: 0.8^S ; 1.176μ		
	ipP		54
	iPP		05 14
	eiS		11 53
	iPS		12 52
	(SKD) Lm		36.5
	Z: 16^S ; 15μ		
	Lm		37.8
	NE: 20^S ; $15\mu, 20\mu$		
	NIE $\Delta=78.56^\circ$		
	iP		08 02 13.5 C
	Z: 1.5^S ; 0.38μ		
	i		39.2
	ipP		52.0
23.V	KRA		
	(SKM) eiP		08 16 01
	Z: 0.8^S ; 0.029μ		
	NIE		
	eiP		08 16 24
	Pm		28
	Z: 2.0^S ; 0.11μ		
	i		39
23.V	NIE		
	eiP		08 28 46
	ei		29 08
	KRA		
	(SKM) eP		08 28 50
23.V	Iran, Moscow: $31.71^\circ N, 56.37^\circ E$, $H=11^h 31^m 39.4^S$, MPV(A)=5.2		
	KRA $\Delta=32.66^\circ$		
	(SKM) eiP		11 38 14
23.V	Kuril Islands, NEIS: $43.74^\circ N$, $149.28^\circ E, H=15^h 22^m 52.8^S$, $h=55$ km, MB=4.5; MLV=5.5 (Kraków)		

Date	Station	Phase	T.U. h m s
23.V Kuril Islands - continuation			
	KRA	$\Delta=76.67^{\circ}$	
	(SKM)	eP	15 34 39
		Z: 0.8^S ; 0.029μ	
	epP		51.5
23.V Hokkaido, Japan, NEIS: $42.62^{\circ}N$, $144.67^{\circ}E$, $H=20^h11^m41.6^S$, $h=75$ km, $MB=5.3$; $MPV=6.3$ (Kraków)			
	KRA	$\Delta=75.83^{\circ}$	
	(SKM)	iP	20 23 21.1
		Z: 1.3^S ; 0.34μ	
	NIE	$\Delta=76.17^{\circ}$	
	iP		20 23 25.0
		Z: 1.0^S ; 0.12μ	
23.V KRA			
	(SKM)	iP	20 23 39.1
		Z: 0.9^S ; 0.15μ	
	i		47.1
NIE			
	iP		20 23 40.5
		Z: 0.8^S ; 0.081μ	
23.V KRA			
	(SKM)	eP	20 26 10
		Z: 0.8^S ; 0.023μ	
23.V Greece, NEIS: $40.78^{\circ}N$, $23.41^{\circ}E$, $H=23^h34^m15.3^S$, $h=33$ km, $MB=5.6$			
	NIE	$\Delta=8.91^{\circ}$	
	iP		23 36 23.5 C
	Pm		28
		Z: 1.5^S ; 0.38μ	
	i		32.4
		Z: 1.8^S ; 0.65μ	
	i		40
	KRA	$\Delta=9.59^{\circ}$	
	(SKM)	eiP	23 36 33 C
	Pm		36.1
		Z: 1.6^S ; 0.35μ	
	i		49.4
	(SKD)	iS	38 32
	Lm		50.5
		NEZ: 14^S ; 60μ , 94μ , 84μ	
	KSP	$\Delta=11.22^{\circ}$	
	eP		23 36 44



Date	Station	Phase	T.U. h m s
24.V Aleutian Islands - continuation			
	WAR	$\Delta=11.58^{\circ}$	
	(SKD)	iP	23 37(02) C
		Z: 6^S ; 13μ	
	ei		24
	iS		39 20
	Lm		42 20
		Z: 12^S ; 52μ	
24.V Arabian Sea, Moscow: $24.06^{\circ}N$, $65.56^{\circ}E$, $H=01^h56^m08.7^S$			
	NIE	$\Delta=43.33^{\circ}$	
	iP		02 04 07
24.V Pakistan, NEIS: $23.83^{\circ}N$, $65.32^{\circ}E$, $H=01^h56^m11.5^S$, $h=33$ km, $MB=5.1$ (Kraków)			
	KRA	$\Delta=43.80^{\circ}$	
	(SKM)	eP	02 04 08
		Z: 1.1^S ; 0.028μ	
	i		16.6
	i		24.9
		Z: 1.9^S ; 0.36μ	
	KSP	$\Delta=46.26^{\circ}$	
	eP		02 04 25
24.V Greece, NEIS: $40.71^{\circ}N$, $23.23^{\circ}E$, $H=02^h12^m31.2^S$, $h=33$ km			
	NIE	$\Delta=8.95^{\circ}$	
	eiP		02 14 40
	i		56.5
	KRA	$\Delta=9.63^{\circ}$	
	(SKM)	eP	02 14 50
	WAR	$\Delta=11.63^{\circ}$	
	(SKD)	eiP	02 15 23
		eIS	17 40
		eL	19.0
24.V Aleutian Islands, Moscow: $51.54^{\circ}N$, $179.49^{\circ}W$, $H=06^h16^m58.6^S$, $MPV(A)=6.3$; $MPV=6.2$ (Kraków), $MLH=6;8$ (Kraków), 7.1 (Warszawa), $MLV=6.8$ (Kraków), 6.9 (Warszawa)			
	WAR	$\Delta=75.15^{\circ}$	
	(SKD)	iP	06 28 38 C
		eiPP	31 20
		eIS	38 14
		eISKS	56
24.V Aleutian Islands, NEIS: $51.20^{\circ}N$, $178.97^{\circ}W$, $H=09^h53^m03.2^S$, $h=33$ km, $MB=5.3$; $MPV=5.6$ (Kraków)			
	KRA	$\Delta=77.84^{\circ}$	
	(SKM)	iP	10 04 59.2 D
		Z: 1.1^S ; 0.055μ	
24.V NIE			
	iP		12 06 41.5
	KRA		
	(SKM)	iP	12 06 44.7
		Z: 0.7^S ; 0.029μ	
24.V Hindu Kush, Moscow: $36.96^{\circ}N$, $71.27^{\circ}E$, $H=22^h14^m00.8^S$; $MPV(A)=4.8$; $MPV=5.1$ (Kraków, Niedzica)			
	KRA	$\Delta=38.71^{\circ}$	
	(SKM)	iP	22 21 16.7 D
		Z: 0.7^S ; 0.020μ	
	NIE	$\Delta=38.47^{\circ}$	
	iP		22 21 16.8 D
		Z: 0.7^S ; 0.018μ	
24.V NIE			
	i		22 21 43
	iPP		22 48
25.V Hokkaido, Japan, NEIS: $41.30^{\circ}N$, $141.98^{\circ}E$, $H=02^h43^m36.2^S$, $h=60$ km, $MB=4.2$; $MPV=5.5$ (Kraków), 5.4 (Niedzica)			
	KRA	$\Delta=75.82^{\circ}$	
	(SKM)	iP	02 55 17.9 C
		Z: 0.9^S ; 0.037μ	
	eiPcP		31
	NIE	$\Delta=76.13^{\circ}$	
	iP		02 55 22.0 C
		Z: 0.8^S ; 0.022μ	
	iPoP		35.0
25.V Kuril Islands, Moscow: $44.44^{\circ}N$, $149.61^{\circ}E$, $H=12^h41^m51.8^S$, $MPV=5.4$ (Kraków)			
	KRA	$\Delta=76.19^{\circ}$	
	(SKM)	eiP	12 53 38 D
		Z: 0.6^S ; 0.020μ	
25.V KRA			
	(SKM)	eiP	13 03 15 C
		Z: 0.6^S ; 0.016μ	
25.V Molucca Passage, NEIS: $0.02^{\circ}N$, $125.35^{\circ}E$, $H=22^h20^m53.9^S$, $h=68$ km, $MB=5.3$; $MPV=5.8$ (Kraków)			
	KRA	$\Delta=99.85^{\circ}$	
	(SKM)	eiP	22 34 32 C
		Z: 1.0^S ; 0.030μ	
26.V KSP			
	eP		02 00 49
	ei		01 02
26.V KSP			
	iP		12 29 33.5 D
		Z: 0.9^S ; 0.040μ	
26.V Caucasus, NEIS: $41.89^{\circ}N$, $46.52^{\circ}E$, $H=13^h43^m37.7^S$, $h=33$ km, $MB=5.8$; $MLH=4.7$ (Kraków)			
	NIE	$\Delta=19.73^{\circ}$	
	iP		13 48 06.5
	Pm		11.5
		Z: 0.7^S ; 0.052μ	
	iPP		23.5
	i		49 10.6



Date	Station	Phase	T.U. h m s
26.V Caucasus - continuation			
WAR	$\Delta=20.12^{\circ}$		
(SKD)	eIP		13 48 08
(GW)	ei		22
(SKD)	eiS		51 56
KRA	$\Delta=20.12^{\circ}$		
(SKM)	iP		13 48 09.5
	Pm		16.0
		Z: 1.1 ^S ; 0.83 μ	
	i		23.9
(SKD)	Lm		55.7
		NE: 26 ^S ; 4.2 μ , 2.1 μ	
KSP	$\Delta=22.56^{\circ}$		
	iP		13 48 36.5
	Pm		39.5
		Z: 1 ^S ; 0.35 μ	
26.V Volcano Islands, NEIS: 24.57 ⁰ N, 142.39 ⁰ E, H=23 ^h 10 ^m 56.7 ^S , h=33 km			
KRA	$\Delta=89.93^{\circ}$		
(SKM)	eP		23 23 53
NIE	$\Delta=90.14^{\circ}$		
	eP		23 23 55
27.V Volcano Islands, NEIS: 24.34 ⁰ N, 142.59 ⁰ E, H=23 ^h 58 ^m 21.4 ^S , h=33 km, MSZ=6.3; MLV=6.1 (Kraków, Niedzica), MLH=7.2 (Kraków), 7.5 (Warszawa), MLV=7.2 (Kraków)			
WAR	$\Delta=88.30^{\circ}$		
(GW)	eIP		00 11 12
(SKD)	iSKS		21 40
	Lm		53 00
		NE: 20 ^S , 60 μ , 185 μ	
KRA	$\Delta=90.22^{\circ}$		
(SKM)	eIP		00 11 21 C
	Pm		24
		Z: 1.5 ^S ; 0.21 μ	
	ipP		33.1
(SKD)	eiPP		14 59
	eiSKS		21 53
	iS		22 17
	iPS		23 27
	eiSS		28 17
	Lm		55.6
		NEZ: 18 ^S ; 57 μ , 59 μ , 75 μ	

Date	Station	Phase	T.U. h m s
27.V NIE $\Delta=90.43^{\circ}$			
	iP		00 11 23.0
	Pm		26.5
		Z: 1.5 ^S ; 0.18 μ	
KSP	$\Delta=91.45^{\circ}$		
	iP		00 11 28.0
27.V Volcano Islands, NEIS: 24.32 ⁰ N, 142.69 ⁰ E, H=02 ^h 05 ^m 39.0 ^S , MPV=5.3 (Niedzica)			
NIE	$\Delta=90.50^{\circ}$		
	iP		02 18 40.0
		Z: 1.2 ^S ; 0.026 μ	
27.V Arabian Sea, NEIS: 11.07 ⁰ N, 57.19 ⁰ E, H=03 ^h 36 ^m 16.9 ^S , h=33 km			
NIE	$\Delta=48.91^{\circ}$		
	iP		03 45 02.7
	ipP		12.0
KRA	$\Delta=49.50^{\circ}$		
(SKM)	eIP		03 45 06
	eipP		16
KSP	$\Delta=51.83^{\circ}$		
	eP		03 45 25
27.V Volcano Islands, Moscow: 24.32 ⁰ N, 142.56 ⁰ E, H=10 ^h 17 ^m 17.8 ^S , MPV(A)=5.5; MPV=5.5 (Kraków), 5.3 (Niedzica), MLH=6.2 (Kraków), 6.6 (Warszawa), MLV=6.3 (Kraków), 6.2 (Warszawa)			
KRA	$\Delta=90.22^{\circ}$		
(SKM)	eP		10 30 16
		Z: 1.3 ^S ; 0.045 μ	
	ipP		26.5
(SKD)	eSKS		40 51
	eS		41 15
	eL		11 02
	Lm		14.4
		NEZ: 18 ^S ; 8.0 μ , 5.7 μ , 12 μ	
NIE	$\Delta=90.44^{\circ}$		
	eP		10 30 18
		Z: 1.3 ^S ; 0.030 μ	
	i		50.7

Date	Station	Phase	T.U. h m s
27.V Volcano Islands - continuation			
WAR	$\Delta=88.31^{\circ}$		
(GW)	eIP		10 30 20
(SKD)	eiSKS		40 32
	Lm		11 13 20
		NEZ: 20 ^S , 18 ^S , 20 ^S ; 7.3 μ , 23 μ , 8.9 μ	
KSP	$\Delta=91.46$		
	eP		10 30 22
27.V Formosa Island, Moscow: 24.90 ⁰ N, 121.68 ⁰ E, H=13 ^h 44 ^m 16.7 ^S			
NIE	$\Delta=78.44^{\circ}$		
	eP		13 56 18
27.V Philippine Islands, Moscow: 6.28 ⁰ N, 126.60 ⁰ E, H=14 ^h 58 ^m 35.1 ^S ; MPV=5.8 (Kraków)			
KRA	$\Delta=95.77^{\circ}$		
(SKM)	iP		15 11 59.7 C
		Z: 0.8 ^S ; 0.028 μ	
27.V Tonga Islands, NEIS: 21.24 ⁰ S, 174.39 ⁰ W, H=17 ^h 16 ^m 54.6 ^S , h=33 km			
KRA	$\Delta=149.09^{\circ}$		
(SKM)	ePKP		17 36 42
	eiPKP ₂		51
KSP	$\Delta=149.29^{\circ}$		
	ePKP		17 36 44
NIE	$\Delta=149.54^{\circ}$		
	eiPKP		17 36 45
	i		37 15.5
28.V NIE			
	eP		08 04 51
29.V Leeward Islands, NEIS: 17.77 ⁰ N, 61.49 ⁰ W, H=03 ^h 09 ^m 21.1 ^S , h=33 km, MB=5.2; MPV=5.6 (Kraków), 5.3 (Niedzica)			
KRA	$\Delta=71.13^{\circ}$		
(SKM)	iP		03 20 38.8 D
		Z: 1.0 ^S ; 0.042 μ	
	eipP		48
NIE	$\Delta=71.44^{\circ}$		
	iP		03 20 41.7 D
		Z: 1.2 ^S ; 0.029 μ	

Date	Station	Phase	T.U. h m s
29.V Southern Chile, NEIS: 44.94 ⁰ S, 80.37 ⁰ W, H=17 ^h 20 ^m 26.6 ^S ; h=33 km, MB=4.7			
KRA	$\Delta=128.33^{\circ}$		
(SKM)	ePKIKP		17 39 40
	ei		58
29.V KRA			
(SKM)	eIP		22 55 25 D
		Z: 0.9 ^S ; 0.026 μ	
NIE			
	iP		22 55 28.1 D
		Z: 0.9 ^S ; 0.017 μ	
	i		35.5
30.V Kuril Islands, NEIS: 44.45 ⁰ N, 149.04 ⁰ E, H=06 ^h 57 ^m 49.3 ^S , h=33 km, MB=4.8; MPV=6.0 (Kraków)			
KRA	$\Delta=75.97^{\circ}$		
(SKM)	iP		07 09 35.4 C
	Pm		36.2
		Z: 0.7 ^S ; 0.082 μ	
KSP	$\Delta=76.61^{\circ}$		
	eIP		07 09 40
30.V Indian Ocean, Moscow: 10.90 ⁰ N, 57.34 ⁰ E, H=20 ^h 17 ^m 14.3 ^S , MPV(A)=5.5; MPV=5.4 (Kraków), MLH=5.4 (Kraków), 6.2 (Warszawa), MLV=5.1 (Kraków), 5.5 (Warszawa)			
NIE	$\Delta=49.13^{\circ}$		
	eIP		20 26 02
	i		20
KRA	$\Delta=49.72^{\circ}$		
(SKM)	eP		20 26 04
		Z: 0.9 ^S ; 0.032 μ	
	i		11.4
	i		37.9
(GW)	iPP		28 03
(SKD)	eS		33 21
	eiScS		35 59
	e(SS)		36 57
	Lm		42.9
		NEZ: 40 ^S ; 4.7 μ , 7.4 μ , 3.9 μ	
WAR	$\Delta=50.60^{\circ}$		
(SKD)	eIP		20 26 12

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
30.V Indian Ocean - continuation				31.V KRA $\Delta=91.54^{\circ}$			
WAR	eIS		20 33 24	(SKM)	eP		01 20 18 C
	eiPPS		42			Z: 1.1^S ; 0.035μ	
	Lm		50 32	(SKD)	esP		22 38
	NEZ: 18^S , 18^S , 18^S ;				eSKS		30 43
	3.8μ , 19μ , 5.6μ				Lm		51.4
KSP	$\Delta=52.05^{\circ}$					NEZ: 38^S ; 14μ , 18μ , 18μ	
	eiP		20 26 23	NIF	$\Delta=92.01^{\circ}$		
31.V Nicaragua, NEIS: $12.41^{\circ}N$, $87.64^{\circ}W$, H= $01^h07^m21.6^S$, h=62 km, MB=5.7; MPV=5.6 (Kraków), MLH=6.3 (Kraków), 6.7 (Warszawa), MLV=6.2 (Kraków), 6.3 (Warszawa)				31.V KRA			
WAR	$\Delta=91.37^{\circ}$			(SKM)	eP		02 29 58 C
(SKD)	eiP		01 20 16			Z: 1.5^S ; 0.049μ	
	eiPP		23 56		ei		30 06
	eiPPP		24 12	NIF			
	ei(S)		30 28		eiP		02 30 02
	eiPS		32 36		i		31 19.0
	Lm		55 28	31.V KRA			
	NEZ: 24^S ; 9.2μ , 38μ , 15μ			(SKM)	eiP		02 39 38
						Z: 0.6^S ; 0.019μ	
1978	J U N E			1978			

1.VI Pamir, Moscow: $38.53^{\circ}N$, $73.76^{\circ}E$, H= $01^h04^m36.7^S$, h=150 km, MPV(A)=4.7;				1.VI KRA Pm 04 40 39.8			
NIE	$\Delta=39.20^{\circ}$					Z: 0.9^S ; 0.032μ	
	iP		01 11 54.4		ePP		43 18
						Z: 0.6^S ; 0.018μ	
	eiPP		12 28	KSP	$\Delta=72.89^{\circ}$		
	eiPP		13 29		eP		04 40 54
KRA	$\Delta=39.40^{\circ}$			1.VI Kuril Islands, NEIS: $44.69^{\circ}N$, $149.06^{\circ}E$, H= $23^h37^m13.3^S$, h=33 km, MPV=5.5 (Kraków)			
(SKM)	iP		01 11 54.1, C				
				KRA	$\Delta=75.77^{\circ}$		
	Z: 0.6^S ; 0.027μ			(SKM)	eiP		23 48 58 C
1.VI Chagos Archipelago Region, NEIS: $7.14^{\circ}S$, $68.02^{\circ}E$, H= $04^h29^m26.3^S$, h=33 km, MB=5.6; MPV=5.5 (Kraków), 5.2 (Niedzica)							
						Z: 0.9^S ; 0.037μ	
NIE	$\Delta=69.96^{\circ}$			KSP	$\Delta=76.41^{\circ}$		
	eiP		04 40 36		eP		23 49 01
						Z: 0.9^S ; 0.037μ	
	Z: 0.9^S ; 0.017μ			NIF	$\Delta=76.15^{\circ}$		
	eiPP		46		eiP		23 49 02
(KRA	$\Delta=70.55^{\circ}$			2.VI Admiralty Islands Region, NEIS: $0.67^{\circ}S$, $146.42^{\circ}E$, H= $11^h30^m08.6^S$, h=33 km, MB=5.8			
(SKM)	eiP		04 40 39				

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
2.VI Admiralty Islands - continuation				3.VI NIF $\Delta=91.38^{\circ}$			
KRA	$\Delta=113.08^{\circ}$						
(SKM)	ePKIKP		11 48 44		eiP		18 20 30 C
	eiPP		49 34			Z: 1.0^S ; 0.017μ	
NIE	$\Delta=113.17^{\circ}$			3.VI Southern Honshu, Japan, NEIS: $35.33^{\circ}N$, $132.64^{\circ}E$, H= $20^h03^m58.0^S$, h=33 km, MB=5.1; MPV=5.9 (Kraków), 5.8 (Niedzica), MLH=6.4 (Kraków)			
	eiPKIKP		11 48 45				
WAR	$\Delta=111.43^{\circ}$			KSP	$\Delta=77.58^{\circ}$		
(SKD)	ePP		11 49 22		e(P)		20 15 23
	eL		12 32.0	3.VI Honshu, Japan, Moscow: $35.82^{\circ}N$, $132.37^{\circ}E$, H= $21^h03^m18.1^S$, MPV=5.1 (Niedzica)			
2.VI Atlantic Ocean, Moscow: $4.14^{\circ}S$, $12.12^{\circ}W$, H= $12^h44^m47.2^S$, MPV(A)=5.1; MPV=5.0 (Niedzica)				3.VI Sea of Japan, NEIS: $36.06^{\circ}N$, $132.70^{\circ}E$, H= $21^h21^m05.7^S$, h=33 km, MB=5.1; MPV=5.3 (Kraków, Niedzica),			
NIE	$\Delta=60.31^{\circ}$			KRA	$\Delta=75.76^{\circ}$		
	eiP		12 55 02	(SKM)	eiP		21 32 49 C
						Z: 0.7^S ; 0.020μ	
	Z: 0.9^S ; 0.011μ			(SKD)	Lm		22 04.0
KRA	$\Delta=60.66^{\circ}$					NE: 18^S ; 6.2μ , 5.3μ	
(SKM)	eP		12 55 03	NIE	$\Delta=75.97^{\circ}$		
2.VI Greece, IMSC: $40.75^{\circ}N$, $23.28^{\circ}E$, H= $22^h31^m27.1^S$, h=20 km				3.VI Indian Ocean, Moscow: $16.21^{\circ}S$, $93.07^{\circ}E$, H= $18^h07^m16.3^S$, MPV(A)=5.4; MPV=5.3 (Niedzica)			
						Z: 1.0^S ; 0.022μ	
				WAR	$\Delta=73.85^{\circ}$		
KRA	$\Delta=9.60^{\circ}$			(SKD)	Lm		22 02 00
(SKM)	ePn		22 33 44			NE: 20^S ; 5.5μ , 8.6μ	
	i		52.0	3.VI Honshu, Japan, Moscow: $35.82^{\circ}N$, $132.37^{\circ}E$, H= $21^h03^m18.1^S$, MPV=5.1 (Niedzica)			
	i		36 51.5				
KSP	$\Delta=11.20^{\circ}$			NIE	$\Delta=75.99^{\circ}$		
	ePn		22 34 07		eP		21 15 05
						Z: 0.8^S ; 0.013μ	
WAR	$\Delta=11.60^{\circ}$			3.VI Sea of Japan, NEIS: $36.06^{\circ}N$, $132.70^{\circ}E$, H= $21^h21^m05.7^S$, h=33 km, MB=5.1; MPV=5.3 (Kraków, Niedzica),			
(SKD)	eP		22 34 14				
	eiS		36 32	KRA	$\Delta=75.76^{\circ}$		
	i		38 10	(SKM)	eiP		21 32 49 C
3.VI KSP				3.VI Honshu, Japan, Moscow: $35.82^{\circ}N$, $132.37^{\circ}E$, H= $21^h03^m18.1^S$, MPV=5.1 (Niedzica)			
						Z: 0.7^S ; 0.020μ	
				(SKD)	Lm		22 04.0
						NE: 18^S ; 6.2μ , 5.3μ	
				NIE	$\Delta=75.97^{\circ}$		
					eiP		21 32 52
						Z: 1.0^S ; 0.022μ	
				WAR	$\Delta=73.85^{\circ}$		
				(SKD)	Lm		22 02 00
						NE: 20^S ; 5.5μ , 8.6μ	

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
4.VI Philippine Islands, Moscow: 19.34°N, 121.47°E, H=09 ^h 50 ^m 29.6 ^s , MPV(A)=5.3				4.VI	KRA	Lm	19 47.5
	(SKM)				(SKD)	NF: 32 ^s ; 10μ, 4.2μ	
	NIF	Δ=82.52°			Lm	53.8	
	eP		10 02 51			Z: 15 ^s ; 8.2μ	
	i		03 10.5		KSP	Δ=34.12°	
	KRA	Δ=82.83°			iP	19 37(09)	
	(SKM)		10 02 51			NEZ: 0.8 ^s ; 0.062μ, 0.14μ,	
	ei		58			0.21μ	
4.VI Alaska Peninsula, NEIS: 54.60°N, 162.60°W, H=12 ^h 06 ^m 03.1 ^s , h=33 km, MPV=5.4 (Kraków)				5.VI	Eastern Siberia, NEIS: 60.57°N, 160.85°E, H=07 ^h 05 ^m 59.1 ^s , h=33 km, MB=5.1; MPV=5.5 (Kraków), 5.4 (Niedzica)		
	KRA	Δ=75.69°			KRA	Δ=65.31°	
	(SKM)		12 18 01 C		(SKM)	eP	07 16 39
		Z: 0.6 ^s ; 0.019μ			Pm	43	
	KRA	Δ=78.64°				Z: 1.2 ^s ; 0.047μ	
	(SKM)		18 52 10 C		NIF	Δ=65.82°	
		Z: 0.6 ^s ; 0.023μ			eP	07 16 44	
	KSP	Δ=79.66°				Z: 1.5 ^s ; 0.044μ	
	eP		18 52 17	5.VI	KRA		
4.VI Honshu, Japan, NEIS: 37.20°N, 140.71°E, H=18 ^h 40 ^m 08.6 ^s , h=33 km, MB=5.0; MPV=5.5 (Kraków)					(SKM)	iP	19 43 34.0 D
						Z: 1.0 ^s ; 0.042μ	
	KRA	Δ=78.64°		6.VI	Kamchatka Region, NEIS: 51.56°N, 157.76°E, H=03 ^h 58 ^m 30.5 ^s , h=33 km, MB=5.6; MPV=5.5, MLH=5.5, MLV=5.5 (Kraków)		
	(SKM)		18 52 10 C		WAR	Δ=70.33°	
		Z: 0.6 ^s ; 0.023μ			(SKD)	eP	04 09 43
	KSP	Δ=79.66°			Lm	43 08	
	eP		18 52 17			NEZ: 24 ^s ; 5.5μ, 6.8μ,	
						2.8μ	
4.VI Uzbek SSR, NEIS: 40.31°N, 63.48°E, H=19 ^h 30 ^m 23.5 ^s , h=33 km, MB=5.8; MPV=6.3 (Kraków), 5.7 (Niedzica), 5.3 (Kraków)					KRA	Δ=72.60°	
					(SKM)	eP	04 09 56 C
	WAR	Δ=31.23°				Z: 1.0 ^s ; 0.036μ	
	(SKM)		19 36 42 C		(SKD)	ePPS	20 18
	iS		41 46		Lm	44.1	
	Lm		53 02			NEZ: 20 ^s ; 2.4μ, 1.6μ,	
						2.8μ	
	NIF	Δ=31.54°			KRA	Δ=73.06°	
	iP		19 36 46.5 C		(SKM)	eP	04 10 02
		Z: 1.0 ^s ; 0.12μ				i	32.7
	i		37 15.0	7.VI	NIF		
	i		44.8		eP	00 53 51	
	KRA	Δ=31.79°			ei	54 05	
	(SKM)		19 36 46.9 C				
		Z: 1.2 ^s ; 0.04μ					
	i		50.9				
	(GW)		37 39				
	iPP		58				
	iS		41 58				

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
7.VI	KRA		03 37 14	8.VI	KRA	eipP	16 15 35
	(SKM)	eipP			NIF	Δ=85.37°	
		Z: 0.7 ^s ; 0.016μ			eipP		16 15 17
7.VI Hokkaido, Japan, NEIS: 42.56°N, 142.66°E, H=05 ^h 41 ^m 35.5 ^s , h=33 km, MB=4.4; MPV=5.3 (Kraków)						Z: 1.0 ^s ; 0.019μ	
					i		31.5
	KRA	Δ=75.06°			ipP		38.5
	(SKM)		05 53 17		KSP	Δ=86.31°	
		Z: 0.7 ^s ; 0.020μ			eipP		16 15 22
	i		39.2	9.VI	Caucasus, Moscow: 41.32°N, 48.50°E, H=00 ^h 13 ^m 38.9 ^s , MPV(A)=4.8; MPV=4.7 (Kraków)		
7.VI Nicobar Islands Region, NEIS: 6.50°N, 94.32°E, H=10 ^h 26 ^m 20.1 ^s , h=33 km, MPV=5.5 (Kraków)					NIF	Δ=21.30°	
	KRA	Δ=75.02°			eP		00 18 33
	(SKM)		10 38 00		KRA	Δ=21.67°	
		Z: 0.9 ^s ; 0.037μ			(SKM)	iP	00 18 35.3 C
	KSP	Δ=77.43°				Z: 1.0 ^s ; 0.036μ	
	eipP		10 38 13	10.VI	Black Sea, EMSC: 42.44°N, 31.50°E, H=05 ^h 35 ^m 06.3 ^s , h=22 km		
			23		NIF	Δ=10.45°	
7.VI Chile - Argentina Border Region, NEIS: 23.53°S, 67.66°W, H=14 ^h 08 ^m 37.4 ^s , h=33 km, MB=5.5					iPn		05 37 35.7
	KRA	Δ=106.18°				Z: 1.0 ^s ; 0.074μ	
	(SKM)		14 27 11		ei		46
		Z: 1.4 ^s ; 0.052μ			iP ^x		38 06
8.VI Uzbek SSR, Moscow: 40.50°N, 63.65°E, H=02 ^h 31 ^m 33.0 ^s , MPV=5.0 (Kraków, Niedzica)					WAR	Δ=12.10°	
	KRA	Δ=31.80°			(SKD)	eL	05 41.4
	(SKM)		02 37 57	10.VI	NIF		
		Z: 0.6 ^s ; 0.016μ			iP		05 58 37.5 C
	NIF	Δ=31.55°				Z: 1.0 ^s ; 0.037μ	
	eipP		02 37 58 C	10.VI	NIF		
		Z: 1.1 ^s ; 0.017μ			eP		17 52 55 D
	ei		38 20			Z: 10 ^s ; 0.013μ	
8.VI South of Honshu, Japan, NEIS: 29.55°N, 141.06°E, H=16 ^h 02 ^m 46.4 ^s , h=75 km, MB=5.3; MPV=5.5 (Kraków), 5.2 (Niedzica)					ei		53 07
	KRA	Δ=85.13°			KRA		
	(SKM)		16 15 15.7 C		(SKM)	eP	17 52 57 D
		Z: 0.9 ^s ; 0.032μ				Z: 1.4 ^s ; 0.052μ	
10.VI Alaska, NEIS: 60.20°N, 146.38°W, H=19 ^h 35 ^m 08.6 ^s , h=18 km, MB=4.7; MPV=5.1 (Niedzica)				10.VI	NIF		
					iP		17 55 03.5 C
						Z: 1.0 ^s ; 0.028μ	
					i		56 10.5

Date	Station	Phase	T.U. h m s
10.VI	Alaska - continuation		
	NIE $\Delta=70.20^{\circ}$		
	eIP	19 46 23	D
	Z: 0.9^S ; 0.014μ		
	eisP	34	
11.VI	Kazakh SSR, NEIS: $49.91^{\circ}N$, $78.89^{\circ}E$, $H=02^h56^m57.5^s$, $h=0$ km, $MB=5.7$; MPV=6.4 (Kraków), 6.3 (Niedzica)		
	WAR $\Delta=35.60^{\circ}$		
	(GW) eIP	03 03 57	
	eIP	05 10	
	Lm	19 22	
	Z: 6^S ; 25μ		
	KRA $\Delta=37.04^{\circ}$		
	(SKM) iP	03 04 10.3	C
	Z: 0.8^S ; 0.46μ		
	i	32.0	
	NIE $\Delta=37.07^{\circ}$		
	iP	03 04 12.0	
	Z: 1.0^S ; 0.41μ		
	i	19.5	
	i	37.5	
	iPP	05 34.0	
	KSP $\Delta=38.86^{\circ}$		
	iP	03 04 27.5	
	NEZ: 0.8^S ; 0.040μ , 0.091μ , 0.17μ		
11.VI	KSP		
	iP	10 35 41.0	C
11.VI	KRA		
	(SKM) eP	14 47 26	D
	Z: 1.6^S ; 0.12μ		
	KSP		
	eP	14 47 29	
11.VI	Vancouver Island Region, NEIS: $49.30^{\circ}N$, $129.41^{\circ}W$, $H=14^h55^m24.9^s$, $h=10$ km, $MB=5.6$; $MPV=5.5$, $MLH=6.3$, $MLV=6.2$ (Kraków), 6.4 (Warszawa)		
	WAR $\Delta=75.76^{\circ}$		
	(SKD) eIP	15 07 26	
	Lm	41 26	
	NEZ: 20^S ; 23μ , 30μ , 19μ		

Date	Station	Phase	T.U. h m s
11.VI	KRA $\Delta=77.59^{\circ}$		
	(SKM) iP	15 07 27.0	
	Z: 1.4^S ; 0.063μ		
	i	34.5	
	(SKD) eS	17 25	
	eSS	22 17	
	Lm	39	
	NE: 22^S ; 12μ , 15μ		
	Lm	42.6	
	Z: 22^S ; 15μ		
12.VI	Sumatra, NEIS: $5.23^{\circ}S$, $102.87^{\circ}E$, $H=00^h06^m18.9^s$, $h=33$ km, $MB=6.0$; MPV=5.9 (Kraków)		
	NIE $\Delta=89.10^{\circ}$		
	eIP	00 19 13.5	
	Z: 1.1^S ; 0.022μ		
	eisP	27	
	KRA $\Delta=89.44^{\circ}$		
	(SKM) iP	00 19 14.0	C
	Z: 1.0^S ; 0.090μ		
	ipP	24.6	
	KSP $\Delta=91.85^{\circ}$		
	eIP	00 19 28	D
12.VI	Honshu, Japan, NEIS: $38.33^{\circ}N$, $141.98^{\circ}E$, $H=08^h06^m09.5^s$, $h=31$ km, $MB=5.7$		
	NIE $\Delta=78.57^{\circ}$		
	iP	08 18 11.0	
	KSP $\Delta=79.24^{\circ}$		
	eIP	08 18 21	
12.VI	Honshu, Japan, NEIS: $38.40^{\circ}N$, $141.96^{\circ}E$, $H=08^h14^m26.8^s$, $h=42$ km, MSZ=7.5, MPV=6.8 (Niedzica)		
	WAR $\Delta=76.15^{\circ}$		
	(SKM) iP	08 26 12	C
	Z: 6^S ; 120μ		
	i	27 42	
	i	28 38	
	iPPP	31 03	
	iS	36 06	
	NIE $\Delta=78.50^{\circ}$		
	iP	08 26 26.5	C
	Z: 1.5^S ; 1.5μ		

Date	Station	Phase	T.U. h m s
12.VI	Honshu - continuation		
	KSP $\Delta=79.17^{\circ}$		
	iP	08 26 27.0	
	Pm	34	
	NEZ: 0.8^S ; 0.31μ , 0.40μ , 0.41μ		
12.VI	Honshu, Japan, NEIS: $38.48^{\circ}N$, $142.18^{\circ}E$, $H=09^h12^m56.7^s$, $h=42$ km, $MB=5.1$		
	KSP $\Delta=79.19^{\circ}$		
	iP	09 24 56.5	
	NIE $\Delta=78.53^{\circ}$		
	iP	09 24 57.0	
12.VI	Honshu, Japan, NEIS: $38.87^{\circ}N$, $141.87^{\circ}E$, $H=09^h40^m30.2^s$, $h=33$ km, $MB=5.2$; MPV=5.1 (Niedzica)		
	NIE $\Delta=78.07^{\circ}$		
	eIP	09 52 39	
	Z: 0.9^S ; 0.014μ		
12.VI	Greece, EMSC: $40.73^{\circ}N$, $23.38^{\circ}E$, $H=17^h44^m49.2^s$, $h=10$ km		
	KRA $\Delta=9.63^{\circ}$		
	(SKM) eP ^x	17 47 25	
	eS ^x	49 43	
	ei	50 14	
12.VI	KSP		
	eP	22 25 21	
	ei	26 31	
13.VI	Hokkaido, Japan, NEIS: $35.46^{\circ}N$, $135.32^{\circ}E$, $H=18^h24^m42.2^s$, $h=348$ km, $MB=5.2$		
	KRA $\Delta=77.52^{\circ}$		
	(SKM) iP	18 36 02.0	D
	Z: 0.7^S ; 0.037μ		
	NIE $\Delta=77.75^{\circ}$		
	iP	18 36 03.0	D
	Z: 1.0^S ; 0.028μ		
	ei	16	
13.VI	Kamchatka, Moscow: $55.91^{\circ}N$, $162.86^{\circ}E$, $H=19^h41^m00.9^s$; MPV=5.4 (Kraków)		
	KRA $\Delta=69.98^{\circ}$		
	(SKM) eIP	19 52 16.9	
	Z: 1.1^S ; 0.035μ		

Date	Station	Phase	T.U. h m s
13.VI	Honshu, Japan, NEIS: $38.40^{\circ}N$, $141.81^{\circ}E$, $H=20^h45^m19.0^s$, $h=33$ km, $MB=4.4$; MPV=5.4 (Kraków), 5.0 (Niedzica)		
	KRA $\Delta=78.14^{\circ}$		
	(SKM) eIP	20 57 16	
	Z: 1.4^S ; 0.052μ		
	NIE $\Delta=78.43^{\circ}$		
	iP	20 57 17.5	
	Z: 1.0^S ; 0.011μ		
13.VI	Hokkaido, Japan, NEIS: $43.15^{\circ}N$, $149.29^{\circ}E$, $H=23^h17^m36.5^s$, $h=70$ km, $MB=5.1$; MPV=6.2 (Kraków)		
	KSP $\Delta=77.84^{\circ}$		
	eP	23 29 (13)	
	KRA $\Delta=77.18^{\circ}$		
	(SKM) iP	23 29 16.3	C
	Z: 0.7^S ; 0.16μ		
	i	28.0	
	ipP	32.1	
	NIE $\Delta=77.55^{\circ}$		
	iP	23 29 17.0	C
	i	28.2	
	ipP	34.6	
14.VI	Honshu, Japan, NEIS: $38.36^{\circ}N$, $142.39^{\circ}E$, $H=11^h34^m19.1^s$, $h=33$ km, $MB=5.5$; MPV=6.2 (Kraków), 5.4 (Niedzica), MLH=7.0, MLV=7.1 (Kraków)		
	WAR $\Delta=76.36^{\circ}$		
	(SKD) iP	11 46 04	C
	ei (PoP)	21	
	iPP	48 59	
	iPPP	50 59	
	iPPS	56 51	
	KSP $\Delta=79.38^{\circ}$		
	eIP	11 46 (17)	
	KRA $\Delta=78.43^{\circ}$		
	(SKM) iP	11 46 17.6	C
	Z: 1.2^S ; 0.23μ		
	ipP	29.6	
	i	41.6	
	(SKD) ePP	49 14	
	iPPP	51 08	
	iS	56 13	



Date	Station	Phase	T.U. h m s
14.VI Honshu - continuation			
	KRA	iSKS	11 56 24
	Lm		12 19
		NE: 40 ^S ; 118μ, 111μ	
	Lm		24
		Z: 15 ^S ; 73μ	
	NIE	Δ=78.72 ^O	
	iP		11 46 19.8 C
		Z: 1.8 ^S ; 0.052μ	
	esP		35
14.VI Philippine Islands, NEIS: 8.29 ^O N, 122.41 ^O E, H=12 ^h 32 ^m 34.9 ^S , h=33 km, MB=5.9; MPV=6.0 (Niedzica), 6.2 (Kraków)			
	WAR	Δ=90.41 ^O	
	(SKD)	iP	12 45 39
	Lm		13 27 04
		NEZ: 16 ^S , 18 ^S , 18 ^S ; 53μ, 180μ, 90μ	
	NIE	Δ=91.54 ^O	
	iP		12 45 39.0
		Z: 0.8 ^S ; 0.020μ	
	i		46 04
	KRA	Δ=91.62 ^O	
	(SKV)	eP	12 45 41
		Z: 1.2 ^S ; 0.047μ	
	(GW)	e1PPP	51 24
	KSP	Δ=93.64 ^O	
	eP		12 45 43
14.VI Philippine Islands, NEIS: 8.29 ^O N, 122.37 ^O E, H=13 ^h 34 ^m 04.7 ^S , h=33 km, MB=5.7			
	KRA	Δ=91.59 ^O	
	(SKM)	eP	13 47 09
	i		25.8
	(GW)	e1PP	50 56
	KSP	Δ=93.64 ^O	
	eP		13 47 19
14.VI India, Moscow: 32.54 ^O N, 76.48 ^O E, H=16 ^h 12 ^m 10.5 ^S , MPV(A)=5.2			
	KRA	Δ=44.81 ^O	
	(SKM)	e1P	16 20 23
	ei		40

Date	Station	Phase	T.U. h m s
14.VI Iran - USSR Border Region, Moscow: 38.22 ^O N, 56.48 ^O E, H=16 ^h 25 ^m 32.0 ^S			
	KRA	Δ=28.48 ^O	
	(SKM)	e1P	16 31 30
	ei		49
	eS		36 34
15.VI Marmara Sea, RMSC: 40.80 ^O N, 27.77 ^O E, H=00 ^h 26 ^m 44.6 ^S , h=10 km			
	NIE	Δ=10.10 ^O	
	eiPn		00 29 07
	i		16.0
	i		48.8
	KRA	Δ=10.76 ^O	
	(SKM)	ePn	00 29 18
	iSn		31 18.8
15.VI North Atlantic Ridge, NEIS: 10.83 ^O N, 43.26 ^O W, H=00 ^h 40 ^m 11.5 ^S , h=33 km, MB=5.5; MPV=5.4 (Kraków)			
	NIE	Δ=64.74 ^O	
	eP		00 50 47
	KRA	Δ=64.64 ^O	
	(SKM)	eP	00 50 48
		Z: 0.7 ^S ; 0.020μ	
	ei		51 13
15.VI Near Coast of Eastern USSR, NEIS: 43.44 ^O N, 135.33 ^O E, H=03 ^h 19 ^m 07.3 ^S , h=350 km, MB=5.2			
	WAR	Δ=69.15 ^O	
	(SKD)	e1P	03 29 39
	KRA	Δ=71.18 ^O	
	(SKM)	iP	03 29 50.7 D
		Z: 0.8 ^S ; 0.10μ	
	i		57.7
	ipP		31 15.2
	NIE	Δ=71.47 ^O	
	iP		03 29 51.0
		Z: 0.7 ^S ; 0.061μ	
	i		30 20.0
15.VI Panama, NEIS: 5.67 ^O N, 82.64 ^O W, H=08 ^h 18 ^m 27.7 ^S , h=33 km, MB=5.5; MLV=5.9 (Kraków)			

Date	Station	Phase	T.U. h m s
15.VI Panama - continuation			
	KRA	Δ=93.71 ^O	
	(SKM)	eP	08 31 45 C
	(SKD)	eSKS	42 16
	e1PS		44 16
	Lm		09 04.7
		Z: 26 ^S ; 6.2μ	
	WAR	Δ=93.85 ^O	
	e1SKS		08 42 21
	Lm		09 08.0
		Z: 2 ^S ; 5.7μ	
15.VI Kuril Islands, NEIS: 44.10 ^O N, 149.03 ^O E, H=09 ^h 28 ^m 53.4 ^S , h=33 km, MB=5.2; MPV=6.0 (Kraków, Niedzica)			
	KRA	Δ=76.27 ^O	
	(SKM)	iP	09 40 41.2 D
		Z: 0.8 ^S ; 0.11μ	
	isP		55.6 C
	KSP	Δ=76.92 ^O	
	eP		09 40 44
	NIE	Δ=76.64 ^O	
	eP		09 40 45 C
		Z: 1.0 ^S ; 0.14μ	
15.VI Banda Sea, NEIS: 7.37 ^O S, 128.97 ^O E, H=13 ^h 30 ^m 46.3 ^S , h=166 km, MB=5.7			
	KRA	Δ=107.81 ^O	
	(SKM)	ePKIKP	13 49 05
	ei		58
15.VI Honshu, Japan, NEIS: 37.76 ^O N, 141.78 ^O E, H=15 ^h 03 ^m 36.5 ^S , h=33 km, MB=5.4; MPV=5.6 (Kraków, Niedzica), MLH=5.8, MLV=5.8 (Kraków)			
	KRA	Δ=78.66 ^O	
	(SKM)	iP	15 15 36.8
		Z: 1.1 ^S ; 0.062μ	
	isP		52.5
	(SKD)	eSKS	25 44
	Lm		53.3
		NEZ: 18 ^S ; 2.0μ, 3.3μ, 4.3μ	
	NIE	Δ=78.94 ^O	
	iP		15 15 39.7
		Z: 1.3 ^S ; 0.070μ	
	isP		55.8

Date	Station	Phase	T.U. h m s
15.VI KSP Δ=79.64 ^O			
		e1P	15 15 41 D
16.VI Honshu, Japan, NEIS: 38.15 ^O N, 143.27 ^O E, H=05 ^h 33 ^m 31.3 ^S , h=33 km, MB=5.3; MPV=5.7, MLH=6.1, MLV=6.1 (Kraków)			
	WAR	Δ=76.91 ^O	
	(SKD)	iP	05 45 25 C
	eiS		55 11
	Lm		06 23 23
		NEZ: 16 ^S ; 10μ, 7.6μ, 30μ	
	KRA	Δ=78.98 ^O	
	(SKM)	iP	05 45 34.0 C
		Z: 0.9 ^S ; 0.058μ	
	ipP		44.2
	(SKD)	ePP	48 29
	eS		55 35
	Lm		06 25.8
		NEZ: 18 ^S ; 5.8μ, 6.2μ, 11μ	
	NIE	Δ=79.29 ^O	
	iP		05 45 37.8 C
	ipP		47
	isP		55
	KSP	Δ=79.92 ^O	
	e1P		05 45 38
16.VI Philippine Islands, NEIS: 7.82 ^O N, 126.44 ^O E, H=07 ^h 57 ^m 01.3 ^S , H=151 km, MB=5.6			
	WAR	Δ=93.19 ^O	
	(GW)	iP	08 09 59 C
	ei		20 17
	eiS		49
	KRA	Δ=94.48 ^O	
	(SKM)	iP	08 10 05.0
		Z: 1.0 ^S ; 0.15μ	
	i		19.6
	ipP		41.7
	1PP		13 57.1
	NIE	Δ=94.43 ^O	
	iP		08 10 07.5
		Z: 1.0 ^S ; 0.18μ	
	ipP		44
	KSP	Δ=96.42 ^O	
	iP		08 10 13.5
		Z: 1 ^S ; 0.16μ	

Date	Station	Phase	T.U. h m s
16.VI	Honshu, Japan, Moscow: 38.46°N, 143.16°E, H=08 ^h 35 ^m 57.5 ^s , MPV=5.3 (Kraków)	KRA Δ=78.68° (SKM) iP	08 47 58.0 C Z: 0.9 ^s ; 0.026μ
16.VI	Honshu, Japan, NEIS: 38.19°N, 143.16°E, H=10 ^h 15 ^m 17.8 ^s , h=33 km, MB=4.7; MPV=5.4 (Kraków), 5.2 (Niedzica)	KRA Δ=78.90° (SKM) eiP	10 27 20 C Z: 1.0 ^s ; 0.036μ
		NIE Δ=79.20° -eiP	10 27 24.4 C Z: 0.9 ^s ; 0.017μ
		i	42.3
16.VI	Honshu, Japan, Moscow: 38.78°N, 142.57°E, H=11 ^h 58 ^m 31.8 ^s	KRA Δ=78.16° (SKM) eiP	12 10 34.4 D
		NIE Δ=78.46° iP	12 10 38.8
		ipP	52.0
16.VI	NIE	eiP	13 36 06
		i	24.5
		KRA Δ=78.55° (SKM) iP	13 36 07.4 C Z: 0.7 ^s ; 0.025μ
		i	26.4
16.VI	Honshu, Japan, Moscow: 38.50°N, 142.94°E, H=23 ^h 24 ^m 24.8 ^s , MPV(A)=5.1; MPV=5.4 (Kraków), 5.0 (Niedzica)	KRA Δ=78.55° (SKM) iP	23 36 24.7 D Z: 0.8 ^s ; 0.028μ
		i	33.1
		NIE Δ=78.85° iP	23 36 29.8 D Z: 0.8 ^s ; 0.010μ
		i	38

Date	Station	Phase	T.U. h m s
17.VI	Kuril Islands, NEIS: 44.12°N, 149.00°E, H=10 ^h 30 ^m 53.7 ^s , h=33 km, MB=4.7; MPV=6.0 (Kraków), 5.1 (Niedzica)	KRA Δ=76.24° (SKM) eiP	10 42 42 Z: 0.4 ^s ; 0.050μ
		eipP	54
		NIE Δ=76.61° iP	10 42 44.8 C Z: 0.7 ^s ; 0.012μ
		ipP	56.4
17.VI	KSP	iP	14 40 49.5
		KRA Δ=76.61° (SKM) eP	14 40 50 D Z: 1.0 ^s ; 0.030μ
		ei	41 13
		NIE iP	14 40 52.8 C
17.VI	Tonga Island Region, NEIS: 17.38°S, 172.13°W, H=15 ^h 11 ^m 31.9 ^s , h=33 km, MB=6.8	WAR Δ=143.70° (SKD) iPKP	15 31 04 ei 19 eiPKS 34 51 Lm 16 31 04 NE: 20 ^s ; 40μ, 90μ
		KSP Δ=145.94° eiPKP	15 31 08.5 Pm 11.5 NEZ: 1.5 ^s ; 0.63μ, 0.42μ, 1.2 μ
		KRA Δ=145.98° (SKM) eiPKP	15 31 09.1 D Pm 13.0 Z: 2 ^s ; 4.8μ
		i	30.6
		(GW) i	45
		iPP	34 28
		iPKS	35 12

Date	Station	Phase	T.U. h m s
17.VI	Tonga Island - continuation	KRA i	15 36 06
		(SKD) Lm	16 32
		NEZ: 20 ^s ; 31μ, 31μ, 40μ	
		NIE Δ=146.48° ePKP	15 31 11 D Pm 15 Z: 1.1 ^s ; 0.87μ
		i	26
17.VI	KRA	iP	15 50 52.4 D
	(SKM)	i	51 11.1 Z: 1.0 ^s ; 0.048μ
17.VI	KRA	eP	16 29 58 C
	(SKM)	ei	30 07 Z: 1.0 ^s ; 0.030μ
17.VI	Aegean Sea, EMSC: 39.20°N, 24.57°E, H=21 ^h 19 ^m 32.1 ^s , h=10 km	KRA Δ=11.34° (SKM) eiP	21 22 15
17.VI	South of Fiji Islands, NEIS: 23.05°S, 179.70°W, H=23 ^h 12 ^m 13.2 ^s , h=550 km, MB=5.5	WAR Δ=146.80° (SKD) iPKP	23 30 55 C ei 59
		KRA Δ=148.96° (SKM) eiPKP	23 30 56 C iPKP ₂ 31 01.1 Z: 1.0 ^s ; 0.30μ
		i	07.4
		NIE Δ=149.31° eiPKP	23 30 58 C iPKP ₂ 31 03 Z: 1.1 ^s ; 0.43μ
		i	08
18.VI	KRA	eiP	09 54 34
18.VI	Honshu, Japan, NEIS: 38.57°N, 142.73°E, H=14 ^h 59 ^m 59.7 ^s , h=33 km, MB=4.8; MPV=5.4 (Kraków), 5.2 (Niedzica), MLH=5.8 MLV=5.8 (Kraków)	WAR Δ=11.56° (SKD) iPn	10 33 52 ei 34 15 ei 36 21
		eL	40.0
		KRA Δ=78.40° (SKM) eP	15 11 59 C Z: 0.8 ^s ; 0.023μ
		esP	12 12
		(SKD) Lm	49.8 NEZ: 18 ^s ; 3.0μ, 4.2μ, 5.5μ
		NIE Δ=78.70° eP	15 12 00 Z: 0.9 ^s ; 0.019μ
		i	24
		KSP Δ=79.34° eP	15 12 00
19.VI	Honshu, Japan, NEIS: 37.89°N, 142.50°E, H=02 ^h 58 ^m 52.0 ^s , h=33 km, MB=4.5	KRA Δ=78.86° (SKM) eP	03 10 54
		NIE Δ=79.16° eiP	03 11 57
19.VI	Greece, NEIS: 40.77°N, 23.10°E, H=10 ^h 31 ^m 05.5 ^s , h=10 km, MB=5.2; MLV=5.0 (Kraków)	NIE Δ=8.87° eiPn	10 33 16.3 C Pm 21.3 Z: 0.8 ^s ; 0.073μ
		i	27.0
		iP ^x	31.5
		KRA Δ=9.55° (SKM) ePn	10 33 25 Pm 29.8 Z: 0.7 ^s ; 0.049μ
		(SKD) eSn	35 23
		Lm	36.7
		F: 20 ^s ; 9.0μ	
		Lm	37.5
		NZ: 14 ^s ; 7.2μ, 16μ	
		KSP Δ=11.13° ePn	10 33 52

Date	Station	Phase	T.U. h m s
19.VI	Greece, NEIS: 40.68°N, 23.06°E, H=10 ^h 48 ^m 10.7 ^s , h=10 km, MB=4.8	NIE Δ=8.95°	
		iPn 10 50 24.0	
		Z: 1.0 ^s ; 0.020μ	
		iP [*] 35	
		i 45	
19.VI	KRA (SKM)	iP 13 15 18.3	
		Z: 0.7 ^s ; 0.020μ	
20.VI	KSP	iP 12 29 32.0 D	
20.VI	Greece, NEIS: 40.82°N, 23.15°E, H=20 ^h 03 ^m 23.7 ^s , h=16 km, MB=6.4; MLH=5.8, (Kraków), 6.3 (Warszawa)	NIE Δ=8.83°	
		eIPn 20 05 33	
		Pm 42	
		Z: 1.5 ^s ; 1.0μ	
		iP [*] 50	
		Z: 1.5 ^s ; 2.3μ	
	KRA (SKM)	Δ=9.51°	
		eIPn 20 05 43	
		i 48.3	
		Pm 51	
		Z: 1.0 ^s ; 0.60μ	
	(GW)	iP [*] 06 06	
		i(Sn) 07 41	
		Lm 08.9	
		NEZ: 12 ^s ; 58μ, 63μ, 33μ	
	KSP	Δ=11.10°	
		eP 20 06 03	
		i 16.0	
		Pm 26	
		Z: 0.8 ^s ; 0.14μ	
	WAR (SKD)	Δ=11.52°	
		iP 20 06 13 C	
		i 55	
		iS 08 11	
		Lm 14 06	
		NEZ: 10 ^s ; 180μ, 110μ, 250μ	
20.VI	Greece, NEIS: 40.64°N, 23.02°E, H=21 ^h 51 ^m 03.4 ^s , h=10 km, MB=4.2		

Date	Station	Phase	T.U. h m s
20.VI	NIE	Δ=8.99°	
		ePn 21 53 14	
		Z: 1.0 ^s ; 0.013μ	
		iP [*] 33	
	KSP	Δ=11.23°	
		ePn 21 53 45	
20.VI	Greece, NEIS: 40.67°N, 23.10°E, H=03 ^h 20 ^m 25.6 ^s , h=10 km, MB=4.3	NIE Δ=8.97°	
		ePn 03 22 36	
		i 23 09.5	
20.VI	Greece, NEIS: 40.64°N, 23.19°E, H=06 ^h 00 ^m 05.7 ^s , h=10 km, MB=4.2	NIE Δ=9.01°	
		eIPn 06 02 17.5	
		i 24.5	
		iP [*] 38.7	
21.VI	Honshu, Japan, NEIS: 38.31°N, 141.59°E, H=10 ^h 54 ^m 19.7 ^s , h=33 km, MB=5.1; MPV=6.2 (Kraków), 6.1 (Niedzica)	KRA (SKM)	Δ=78.12°
		iP 11 06 17.9 C	
		Z: 0.9 ^s ; 0.20μ	
		i 34.5	
	NIE	Δ=78.41°	
		eIP 11 06 20.6 C	
		Z: 1.0 ^s ; 0.15μ	
		iSP 35.5	
	KSP	Δ=79.09°	
		eP 11 06 22 D	
		Z: 1 ^s ; 0.13μ	
21.VI	Kuril Islands Region, NEIS: 48.44°N, 148.57°E, H=11 ^h 10 ^m 44.8 ^s , h=450 km, MB=5.8	WAR (SKD)	Δ=70.20°
		iP 11 21 15 D	
		eIP 22 39	
		ei 23 27	
		iS 29 51	
	KRA (SKM)	Δ=72.40°	
		iP 11 21 26.1 C	
		Z: 1.0 ^s ; 0.42μ	

Date	Station	Phase	T.U. h m s
21.VI	Kuril Islands - continuation		
	KRA i	11 21 31.1	
	(GW) epP	22 52	
	(SKD) iS	30 14	
	Lm	43.9	
		NEZ: 18 ^s ; 6.0μ, 7.3μ, 9.0μ	
	KSP	Δ=73.00°	
		eIP 11 21 28 D	
		Z: 0.8 ^s ; 0.14μ	
	NIE	Δ=72.79°	
		iP 11 21 29.7 C	
		Z: 0.9 ^s ; 0.44μ	
		i 40.5	
21.VI	Honshu, Japan, Moscow: 38.90°N, 142.96°E, H=11 ^h 49 ^m 12.8 ^s , MPV(A)=5.3; MPV=5.4 (Kraków), 5.2 (Niedzica)	KRA (SKM)	Δ=78.22°
		iP 12 01 10.9 D	
		Z: 0.8 ^s ; 0.028μ	
		i 19.4	
	NIE	Δ=78.53°	
		iP 12 01 13.5 C	
		Z: 0.9 ^s ; 0.019μ	
		i 21.5	
	KSP	Δ=79.15°	
		eIP 12 01 14	
21.VI	Greece, EMSC: 40.77°N, 23.17°E, H=12 ^h 29 ^m 46.5 ^s , h=16 km	NIE	Δ=8.88°
		iPn 12 31 54.5 D	
		Z: 0.8 ^s ; 0.017μ	
		iP [*] 32 13.0	
	KRA (SKM)	Δ=9.56°	
		eIPn 12 32 03	
		i 38.5	
	KSP	Δ=11.15°	
		ePn 12 32 26	
21.VI	Kirgiz-Sinkiang Border Region, NEIS: 41.64°N, 79.60°E, H=17 ^h 27 ^m 55.2 ^s , h=33 km, MB=5.2; MPV=5.6 (Kraków), 5.8 (Niedzica)		
21.VI	KRA (SKM)	Δ=41.40°	
		eIP 17 35 39 C	
		Z: 0.8 ^s ; 0.060μ	
		iP 48.3	
	NIE	Δ=41.28°	
		iP 17 35 40.0 C	
		Z: 0.7 ^s ; 0.10μ	
		i 48.5	
	KSP	Δ=43.50°	
		eIP 17 35 55	
21.VI	Greece, NEIS: 40.72°N, 23.14°E, H=18 ^h 52 ^m 04.2 ^s , h=10 km	NIE	Δ=8.93°
		ePn 18 54 17	
		iP [*] 32.4	
	KRA (SKM)	Δ=9.60°	
		ePn 18 54 26	
		e 41.9	
22.VI	Hungary, NEIS: 46.70°N, 20.95°E, H=02 ^h 33 ^m 24.4 ^s , h=10 km	NIE	Δ=2.76°
		eIPn 02 34 09.7 D	
		Pm 13.5	
		Z: 0.7 ^s ; 0.072μ	
		iPg 19.5	
		i 25.0	
		Z: 1.4 ^s ; 1.2μ	
		iSg 54	
	KRA (SKM)	Δ=3.42°	
		ePn 02 34 20.1	
		i(Pg) 34.7	
		iSg 35 14.5	
	(SKD)	Lm 36.0	
		NEZ: 10 ^s ; 4.2μ, 3.8μ, 5.4μ	
	KSP	Δ=5.16°	
		ePn 02 34 40	
		Pm 51	
		Z: 0.6 ^s ; 0.12μ	
22.VI	Hungary, NEIS: 46.65°N, 20.95°E, H=02 ^h 57 ^m 53.8 ^s , h=10 km		

Date	Station	Phase	T.U. h m s
22.VI Hungary - continuation			
NIE	$\Delta=2.81^{\circ}$		
	iPn		02 58 40.0
	iPg		46.7
	i		52.0
	Z: 1.1^S ; 0.29μ		
	iSn		59 14.0
KRA	$\Delta=3.47^{\circ}$		
(SKM)	ePn		02 58 49
	i		56.3
KSP	$\Delta=5.20^{\circ}$		
	eIPn		02 59 12
22.VI Philippine Islands, Moscow: $8.76^{\circ}N$, $126.41^{\circ}E$, $H=04^h04^m09.4^s$, MPV(A)=5.4; MPV=5.7 (Kraków), 5.4 (Niedzi- ca)			
KRA	$\Delta=93.72^{\circ}$		
(SKM)	eIP		04 17 30 D
	Z: 1.5^S ; 0.061μ		
	eipP		41
NIE	$\Delta=93.68^{\circ}$		
	iP		04 17 30.0 D
	Z: 1.2^S ; 0.018μ		
22.VI Hungary, NEIS: $46.32^{\circ}N$, $20.78^{\circ}E$, $H=05^h30^m56.9^s$, $h=10$ km			
NIE	$\Delta=3.12^{\circ}$		
	ePn		05 31 48
	iP*		53.0
	iPg		55.5
KRA	$\Delta=3.78^{\circ}$		
(SKM)	eIPn		05 31 56
	eIPg		32 13.3
22.VI Philippine Islands, NEIS: $8.57^{\circ}N$, $126.69^{\circ}E$, $H=06^h37^m48.2^s$, $h=33$ km, MB=5.5			
KRA	$\Delta=94.04^{\circ}$		
(SKM)	eIP		06 51 05
22.VI NIE			
	eIP		07 33 18
	i		23.5
	i		33.5

Date	Station	Phase	T.U. h m s
22.VI Central Mid - Atlantic Ridge, NEIS: $1.01^{\circ}N$, $27.71^{\circ}W$, $H=08^h33^m11.1^s$, $h=33$ km; MB=5.2; MPV=5.3 (Niedzica)			
NIE	$\Delta=63.27^{\circ}$		
	eIP		08 43 39 C
	Z: 0.8^S ; 0.020μ		
	ipP		49.3
KRA	$\Delta=63.41^{\circ}$		
(SKM)	eP		08 43 40 C
	eipP		51
(GW)	e S		52 17
22.VI Kamchatka, NEIS: $52.96^{\circ}N$, $160.34^{\circ}E$, $H=16^h36^m15.2^s$, $h=33$ km, MB=5.0; MPV=5.0 (Niedzica)			
NIE	$\Delta=72.04^{\circ}$		
	iP		16 47 43.0
	Z: 0.9^S ; 0.011μ		
22.VI Iran, Moscow: $33.24^{\circ}N$, $48.42^{\circ}E$, $H=19^h06^m04.0^s$			
NIE	$\Delta=26.37^{\circ}$		
	eIP		19 11 42
	ipP		53
KRA	$\Delta=26.88^{\circ}$		
(SKM)	eP		19 11 45.5
23.VI Greece, NEIS: $40.83^{\circ}N$, $22.91^{\circ}E$, $H=01^h56^m59.9^s$, $h=10$ km, MB=4.6			
NIE	$\Delta=8.78^{\circ}$		
	ePn		01 59 11.5
	iP*		20
	i		02 00 14
23.VI KSP			
	iP		13 17 55.5
24.VI Albania, NEIS: $41.78^{\circ}N$, $20.50^{\circ}E$, $H=00^h14^m28.0^s$, $h=10$ km, MB=4.9			
NIE	$\Delta=7.64^{\circ}$		
	iPn		00 16 24
	Pm		29
	Z: 0.9^S ; 0.18μ		
	iP*		30
	i		40

Date	Station	Phase	T.U. h m s
24.VI Albania - continuation			
KRA	$\Delta=8.29^{\circ}$		
(SKM)	iPn		00 16 32.5 C
	Z: 0.6^S ; 0.039μ		
	iP*		42.5
(GW)	eISn		18 07
KSP	$\Delta=9.52^{\circ}$		
	eP		00 16 51
	e		17 00
24.VI Aleutian Islands, NEIS: $51.70^{\circ}N$, $179.31^{\circ}W$, $H=01^h20^m39.6^s$, $h=33$ km, MB=4.9			
KRA	$\Delta=77.31^{\circ}$		
(SKM)	eP		01 32 34
24.VI Sumatra, NEIS: 5.16° , $102.34^{\circ}E$, $H=09^h31^m42.1^s$, $h=33$ km, MB=6.0; MPV=5.9 (Niedzica), 6.2 (Kraków)			
NIE	$\Delta=88.70^{\circ}$		
	eP		09 44 34 C
	Z: 1.1^S ; 0.087μ		
	ipP		42
WAR	$\Delta=88.74^{\circ}$		
(SKD)	iP		09 44 36 C
	iS		55 20
KRA	$\Delta=89.05^{\circ}$		
(SKM)	eIP		09 44 36.6
	Z: 1.4^S ; 0.25μ		
	eipP		46.6
	i		45 05.6
	iPP		48 11.9
(GW)	iSKS		55 07
	iSKKS		21
(SKD)	Lm		10 26.8
	N: 25^S ; 14μ		
	Lm		34.2
	Z: 18^S ; 17μ		
24.VI Sumatra, NEIS: $5.19^{\circ}S$, $102.30^{\circ}E$, $H=11^h01^m37.3^s$, $h=33$ km, MB=5.5; MPV=5.4 (Niedzica), 5.6 (Kraków)			
NIE	$\Delta=88.70^{\circ}$		
	iP		11 14 30.0 C
	Z: 10^S ; 0.030μ		
	iSP		46

Date	Station	Phase	T.U. h m s
24.VI KRA $\Delta=89.05^{\circ}$			
	(SKM)	eIP	11 14 31 C
	Z: 1.3^S ; 0.059μ		
	eISp		47
25.VI Kuril Islands Region, NEIS: $43.78^{\circ}N$, $149.32^{\circ}E$, $H=08^h35^m17.0^s$, $h=33$ km, MB=4.7; MPV=5.0 (Niedzica), 5.4 (Kraków)			
KRA	$\Delta=76.65^{\circ}$		
(SKM)	eP		08 47 08 C
	Z: 1.1^S ; 0.035μ		
	iSP		22
25.VI Tonga Islands, NEIS: $17.10^{\circ}S$, $174.52^{\circ}W$, $H=10^h21^m45.6^s$, $h=170$ km, MB=5.3			
KRA	$\Delta=145.12^{\circ}$		
(SKM)	iPKP		10 41 04.0 D
	Z: 1.0^S ; 0.18μ		
	iPKP		47.0
KSP	$\Delta=145.24^{\circ}$		
	iPKP		10 41 07.0
NIE	$\Delta=145.58^{\circ}$		
	iPKP		10 41 07.0 D
	Z: 0.9^S ; 0.18μ		
	i		22.5
25.VI Honshu, Japan, NEIS: $30.82^{\circ}N$, $138.45^{\circ}E$, $H=20^h33^m37.4^s$, $h=441$ km, MB=4.6			
NIE	$\Delta=83.03^{\circ}$		
	iP		20 45 17.5 C
	Z: 0.9^S ; 0.010μ		
26.VI Yugoslavia, NEIS: $42.37^{\circ}N$, $20.40^{\circ}E$, $H=00^h03^m48.8^s$, $h=10$ km, MB=4.6			
NIE	$\Delta=7.05^{\circ}$		
	ePn		00 05 32
	i		37
	i		06 15
KRA	$\Delta=7.69^{\circ}$		
(SKM)	ePn		00 05 41
27.VI Macquarie Islands, Moscow: $56.70^{\circ}S$, $140.23^{\circ}E$, $H=01^h04^m35.1^s$			
KRA	$\Delta=144.79^{\circ}$		
(SKM)	ePKP		01 24 12

Date	Station	Phase	T.U.		
			h	m	s
27.VI	Kuril Islands, Moscow: 43.97°N, 149.00°E, H=02 ^h 09 ^m 51.8 ^s	KRA Δ=76.37°			
	(SKM) eP		02	21	40 D
		Z: 0.8 ^s ; 0.32μ			
	NIE Δ=76.74°				
	eIP		02	21	43 D
	ipP			52	
27.VI	NIE				
	eP		04	49	36
	i			43.5	
	i			50 04	
27.VI	Greece - Bulgaria Border Region, NEIS: 41.95°N, 23.82°E, H=12 ^h 18 ^m 22.8 ^s , h=33 km	NIE Δ=7.86°			
	ePn		12	20	17
	iP*			35.5	
27.VI	Kuril Islands, NEIS: 46.29°N, 153.24°E, H=12 ^h 43 ^m 41.2 ^s , h=33 km, MB=4.8; MPV=5.4 (Kraków), 5.2 (Niedzica)	KRA Δ=75.86°			
	(SKM) eP		12	55	25 C
		Z: 1.3 ^s ; 0.045μ			
	epP			36	
	NIE Δ=76.27°				
	iP		12	55	28.0
		Z: 0.8 ^s ; 0.015μ			
	i			44.0	
27.VI	Tonga Islands Region, NEIS: 17.39°S, 172.23°W, H=14 ^h 44 ^m 44.2 ^s , h=33 km, MB=5.3	KRA Δ=145.97°			
	(SKM) eIPKP		15	04	22.6 D
		Z: 1.3 ^s ; 0.054μ			
	i			26.8	
		Z: 1.1 ^s ; 0.055μ			
	i			40.2	
	(SKD) ePS		18	28	
	KSP Δ=145.94°				
	ePKP		15	04	25

Date	Station	Phase	T.U.		
			h	m	s
27.VI	Honshu, Japan, NEIS: 37.25°N, 142.84°E, H=19 ^h 10 ^m 32.7 ^s , h=33 km, MB=5.4; MPV=6.0 (Kraków), 5.8 (Niedzica), MLH=6.4, MLV=6.3 (Kraków), MLV=6.3 (Warszawa)	WAR Δ=77.49°			
	iP		19	22	30
	iS			32	20
	Lm		20	00	34
		NEZ: 14 ^s , 14 ^s , 16 ^s ; 10μ, 24μ, 13μ			
	KRA Δ=79.55°				
	(SKM) iP		19	22	38.6 C
		Z: 1.2 ^s ; 0.16μ			
	ipP			48.7	
	eIP		25	39.6	
	(SKD) iS		32	42	
	Lm		20	01.0	
		NEZ: 18 ^s ; 8.4μ, 12μ, 16μ			
	NIE Δ=79.84°				
	eIP		19	22	41 C
		Z: 1.6 ^s ; 0.14μ			
	ipP			52.3	
		Z: 1.6 ^s ; 0.35μ			
28.VI	Philippine Islands, NEIS: 13.82°N, 120.50°E, H=04 ^h 51 ^m 39.9 ^s , h=159 km, MB=5.2	KRA Δ=86.17°			
	(SKM) iP		05	04	05.3 C
		Z: 0.6 ^s ; 0.062μ			
	eipP			44	
	NIE Δ=86.12°				
	iP		05	04	05.4 C
		Z: 0.9 ^s ; 0.055μ			
	i			33.5	
	eipP			44	
28.VI	Fiji Islands Region, NEIS: 18.09°S, 178.57°W, H=14 ^h 31 ^m 57.0 ^s , h=600 km, MB=4.4	KRA Δ=144.82°			
	(SKM) ePKP		14	51	27

Date	Station	Phase	T.U.		
			h	m	s
28.VI	Fiji Islands Region, NEIS: 16.79°S, 177.65°W, H=20 ^h 29 ^m 06.2 ^s , h=327 km, MB=4.5	KRA Δ=143.91°			
	(SKM) iPKP		20	48	03.0 C
		Z: 0.6 ^s ; 0.023μ			
	KSP Δ=144.24°				
	iPKP		20	48	04.5 D
29.VI	Loyalty Islands, NEIS: 20.29°S, 168.14°E, H=13 ^h 55 ^m 03.7 ^s , h=33 km, MB=5.3	KRA Δ=141.06°			
	(SKM) eiPKP		14	14	32
29.VI	KRA				
	(SKM) iP		16	52	13.3 D
		Z: 0.8 ^s ; 0.032μ			
	KSP				
	iP		16	52	16.5
		Z: 0.5 ^s ; 0.056μ			

Date	Station	Phase	T.U.		
			h	m	s
30.VI	Romania, Moscow: 47.70°N, 23.14°E, H=01 ^h 15 ^m 28.7 ^s	KRA Δ=3.16°			
	(SKM) eiPn		01	16	21
	iPg			29.6	
	iSn			17 00.5	
	iSg			18.1	
	KSP Δ=5.47°				
	iPn		01	16	53.5 D
		NEZ: 0.6 ^s ; 0.092μ, 0.065μ, 0.12μ			
30.VI	Hungary, EMSC: 46.80°N, 21.13°E, H=07 ^h 34 ^m 16.7 ^s , h=10 km	NIE Δ=2.68°			
	iPg		07	35	05
	iSn			30	
	iS*			43	
	KRA Δ=3.35°				
	(SKM) ePn		07	35	08
	i			36 26.3	

Cena zł. 20.-

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- 8 Wyniki rejestracji sejsmologicznych w polskich obserwatoriach 1961; PWN, Łódź–Warszawa 1965.
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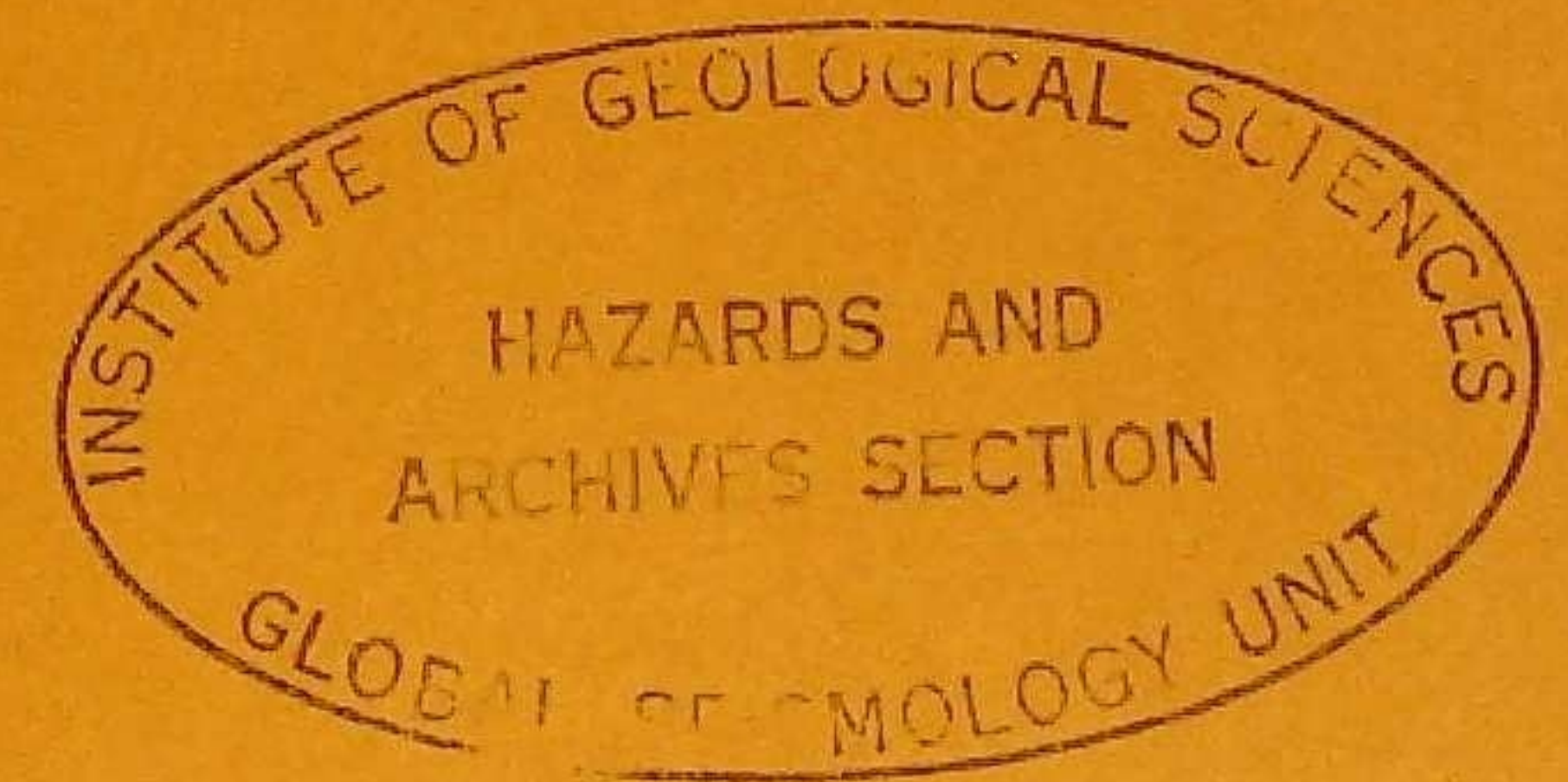
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The present Seismological Bulletin contains distant earthquakes recorded by seismological observatories of the Institute of Geophysics, Polish Academy of Sciences. The identification of shocks and interpretation of phases were based on the hypocenter determination given by:

NEIS - U.S. Department of the Interior (Geological Survey),
National Earthquake Information Service, Boulder;

EMSC - European Mediterranean Seismological Centre, Strasbourg;

Moscow - Central Seismological Station "Obninsk", Institute of the Physics of the Earth, USSR Academy of Sciences, Moscow.

Magnitudes of earthquakes were determined from recordings of horizontal and vertical components of surface waves for epicentral distances $\Delta > 5^\circ$ and depths $h < 80$ km, using the IASPEI formula. The magnitude from body waves was determined only from the recordings of vertical component of the P waves for $\Delta > 20^\circ$ and depths $h < 80$ km, using the calibrating function given by Vanek et al. (1962)*. The maximum value of A/T was determined in the interval up to 40 s from the first arrival of the P wave. The frequency responses of seismographs of Warszawa, Kraków, Racibórz, Niedzica and Książ station have been given in the Seismological Bulletin for the period January-March, 1978.

* Vanek I., Zatopek A., Karnik V., Kondorskaya N.V., Rizniczenko Yu.V., Savarenskiy E.F., Solovev S.L., and Shebalin N.V., 1962, Standarizatsiya shkaly magnitud, Izv. AN SSSR, Ser. Geofiz., 2, 153-158.

PARAMETERS OF THE SEISMOGRAPHS

Station	Type of seismo-graph	Comp.	Ts [s]	Tg [s]	Ds	Dg	σ^2	Vo	Vm	Tm [s]
Warszawa (WAR) $\varphi = 52^{\circ}14'30''$ N $\lambda = 21^{\circ}01'25''$ E h=110 m	GW	N-S	10.28	12.10	1.08	1.02	0.059	1500	365	4.2-9.0
		E-W	9.68	11.10	0.99	0.98	0.058	1330	820	4.4-9.0
		Z	7.80	11.38	0.50	0.83	0.030	900	855	5.5-9.0
		N-S	20.3	79.8	1.08	0.47	0.086	535	550	13-32
		E-W	20.4	89.6	1.04	0.50	0.091	513	520	13-32
Z	21.4	86.5	1.00	0.48	0.104	603	620	14-32.6		
Kraków (KRA) $\varphi = 50^{\circ}03'22''$ N $\lambda = 19^{\circ}56'23''$ E h=223 m	Ch	N-S	1.24	0.281	0.497	1.981	0.132	10600	11420	0.17-1.0
		E-W	1.29	0.280	0.530	1.942	0.139	10750	11300	0.15-1.0
		Z	1.46	0.282	0.579	1.984	0.156	10780	11100	0.15-1.0
		N-S	1.273	0.580	0.515	0.487	0.0125	21800	23260	0.5-0.75
		E-W	1.280	0.575	0.524	0.469	0.0129	22560	24470	0.5-0.75
		Z	1.445	0.580	0.610	0.486	0.0131	22000	22700	0.5-0.75
		N-S	9.70	1.01	0.49	5.00	0.020	1480	1500	0.22-8.0
		E-W	11.10	1.00	0.47	5.00	0.021	1480	1490	0.21-9.0
		Z	10.50	1.01	0.48	5.00	0.025	1010	1020	0.22-8.5
		N-S	20.0	106.6	1.00	0.50	0.144	600	610	13.5-40
E-W	20.0	98.2	0.99	0.50	0.149	600	615	13.5-40		
Z	20.0	108.8	1.00	0.50	0.193	690	705	13.5-40		

Station	Type of seismo-graph	Comp.	Ts [s]	Tg [s]	Ds	Dg	σ^2	Vo	Vm	Tm [s]
Racibórz (RAC) $\varphi = 50^{\circ}05'00''$ N $\lambda = 18^{\circ}11'39''$ E h=209 m	SK-58	N-S	1.22	1.06	0.50	0.73	0.013	2420	2820	0.75-1.19
		E-W	1.23	1.07	0.57	0.50	0.013	2880	2710	0.75-1.17
		Z	1.12	1.07	0.31	0.40	0.020	3110	5220	0.91-1.16
		N-S	9.0	-	0.36	-	-	87	130	6-9
		F-W	9.0	-	0.38	-	-	86	120	6-9
Z	2.0	-	0.13	-	-	165	620	1.8-2.2		
Niedzica (NIE) $\varphi = 49^{\circ}25'25''$ N $\lambda = 20^{\circ}19'19''$ E h=555 m	SK-58	N-S	1.40	0.266	0.70	3.50	0.054	25000	25100	0.10-0.85
		E-W	1.40	0.293	0.70	3.54	0.051	25150	25280	0.10-0.90
		Z	1.09	0.207	0.70	3.50	0.313	64950	73270	0.20-0.85
Książ (KSP) $\varphi = 50^{\circ}50'6''$ N $\lambda = 16^{\circ}17'6''$ E h=380 m	SU-59	N-S	1.19	0.25	0.50	1.37	0.089	87450	90000	0.15-0.60
		E-W	1.22	0.24	0.62	1.44	0.142	108700	110800	0.15-0.60
		Z	1.00	0.21	0.50	1.53	0.171	106300	110700	0.15-0.65

Abbreviations

- Ts - free period of seismometer
- Tg - free period of galvanometer
- Ds - attenuation of seismometer
- Dg - attenuation of galvanometer
- σ^2 - coupling coefficient

Vo - static magnification $Vo = \frac{2A}{10} \sqrt{\frac{Ks}{Kg} \frac{Ds}{Dg} \frac{Tg}{Ts} \sigma^2}$

Vo - static magnification of SKD instruments $Vo = \frac{2A}{10} \sqrt{\frac{Ks}{Kg} \frac{Dg}{Ds} \frac{Tg}{Ts} \sigma^2}$

Vm - maximum magnification

Tm - interval of periods for magnification $V \geq 0.9 Vm$

RESULTS OF REGISTRATIONS



Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
1978				1978			
J U L Y				J U L Y			
1.VII Panama, Moscow: 9.14°N, 78.51°W, H=08 ^h 53 ^m 50.6 ^s , h normal; MPV=5.8 (Kraków), 5.6 (Niedzica)				3.VII Tonga Islands Region, NEIS: 17.81°S, 171.88°W, H=00 ^h 14 ^m 27.7 ^s , h=33 km, MB=4.5			
KRA	Δ=88.45°			KRA	Δ=146.46°		
(SKM)	iP		09 06 42.0	(SKM)	ePKP		00 34 04
	Z: 1.0s; 0.060μ				Z: 1.5s; 0.061μ		
	isP		07 01.7	NIE	Δ=146.96°		
	i		17 21		eiPKP		00 34 07 D
NIE	Δ=88.82°				Z: 0.7s; 0.013μ		
	iP		09 06 44.5		ipPKP		20.8
	Z: 1.1s; 0.043μ						
2.VII Tonga Islands, NEIS: 15.54°S, 175.40°W, H=04 ^h 01 ^m 33.6 ^s , h=33 km, MB=5.6; MLV=7.0 (Kraków), 7.1 (Warszawa)				3.VII Mariana Islands, NEIS: 20.84°N, 133.39°E, H=01 ^h 38 ^m 33.0 ^s , h=33 km, MB=5.0			
NIE	Δ=143.85°			KRA	Δ=94.05°		
	ePKP		04 21 05	(SKM)	eP		01 51 53
	i		12				
KRA	Δ=143.39°			3.VII New Hebrides Islands, NEIS: 18.28°S, 168.17°E, H=03 ^h 05 ^m 37.7 ^s , h=74 km, MB=5.3			
(SKM)	ePKP		04 21 07	NIE	Δ=139.59°		
(SKD)	i		38 03		eiPKP		03 24 49
	Lm		05 19.5				
	NEZ: 25s; 25μ, 38μ, 31μ			3.VII USSR - China Border Region, NEIS: 43.42°N, 130.88°E, H=21 ^h 01 ^m 50.1 ^s , h=550 km, MB=4.8			
WAR	Δ=141.12°			KRA	Δ=69.16°		
(GW)	eiPKS		04 25 10	(SKM)	eP		21 12 03
	Lm		05 17 15				
	NEZ: 24s; 31μ, 44μ, 37μ			4.VII Kyushu, Japan, NEIS: 32.53°N, 130.93°E, H=02 ^h 40 ^m 54.9 ^s , h=125 km, MB=5.4			
2.VII Indonesia, Moscow: 5.43°S, 103.74°E, H=13 ^h 24 ^m 36.5 ^s , h=40 km; MPV=5.4 (Kraków), 5.2 (Niedzica)				WAR			
NIE	Δ=89.81°			Δ=75.81°			
	iP		13 37 33 C	(SKD)	iP		02 52 29 C
	Z: 1.3s; 0.024μ				ei		56 04
	ipP		49		eiPPS		03 02 59
KRA	Δ=90.15°				Lm		29 35
(SKM)	eiP		13 37 34 C		Z: 14s; 5μ		
	Z: 0.8s; 0.023μ			KRA	Δ=77.64°		
	epP		48	(SKM)	iP		02 52 39 C
					Z: 0.9s; 0.055μ		

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
4.VII Kyushu - continuation				4.VII WAR Δ=15.30°			
KRA	ipP		02 53 09.8	(GW)	eiP		22 42 57
(GW)	eiS		03 02 19	KSP	Δ=16.43°		
	eiPPS		03 16		eP		22 43 10
(SKD)	Lm		30.0				
	NEZ: 16s; 1.5μ, 1.4μ, 1.6μ			5.VII Eastern Kazakh SSR, NEIS: 49.84°N, 78.97°E, H=02 ^h 46 ^m 57.6 ^s , h=0 km, MB=5.6; MPV=6.2 (Kraków), 6.5 (Niedzica)			
NIE	Δ=77.81°			KRA	Δ=37.12°		
	iP		02 52 41.5 C	(SKM)	iP		02 54 10.6 C
	Z: 1.2s; 0.85μ				Z: 0.8s; 0.28μ		
KSP	Δ=79.01°				i		16.6
	iP		02 52 48.0	NIE	Δ=37.14°		
	Z: 1.5s; 0.11μ				iP		02 54 12.5 C
4.VII Samoa Islands Region, NEIS: 16.936°S, 172.53°W, H=12 ^h 43 ^m 35.3 ^s , h=29 km, MB=5.0							
					Z: 1.0s; 0.59μ		
KRA	Δ=145.46°			KSP	Δ=38.94°		
(SKM)	ePKP		13 03 12 D		iP		02 54 28.0
	Z: 1.3s; 0.045μ			5.VII Jan Mayen Island Region, NEIS: 70.71°N, 14.70°W, H=06 ^h 38 ^m 55.8 ^s , h=33 km, MB=4.3			
4.VII KRA				KRA			
(SKM)	eiP		18 35 55	Δ=26.19°			
				(SKM)	eP		06 44 30
4.VII Greece, Moscow: 40.63°N, 22.86°E, H=22 ^h 23 ^m 23.9 ^s , h normal, MLV=4.8				5.VII NIE			
NIE	Δ=8.97°				eP		11 46 29
	iP		22 25 39		Z: 0.9s; 0.011μ		
KRA	Δ=9.65°			5.VII Mexico, NEIS: 18.32°N, 99.96°W, H=20 ^h 15 ^m 17.6 ^s , h=85 km, MB=5.2			
(SKM)	iP		22 25 47.1 D	KRA	Δ=93.80°		
	Pm		50.1	(SKM)	iP		20 28 27.9 D
	Z: 0.8s; 0.032μ				Z: 1.0s; 0.060μ		
(SKD)	e		27 48		eiP		43.6
	i		28 34	NIE	Δ=94.37°		
	Lm		29.9		iP		20 28 32 D
	NEZ: 14s; 2.7μ, 2.7μ, 2.8μ				Z: 0.9s; 0.048μ		
4.VII Turkey, EMSC: 39.48°N, 33.21°E, H=22 ^h 39 ^m 17.7 ^s ,				isP			
NIE	Δ=13.53°						53
	eP		22 42 28	7.VII Tonga Islands Region, NEIS: 17.44°S, 172.56°W, H=11 ^h 26 ^m 49.2 ^s , h=33 km, MB=5.0			
	i		30.5	KRA	Δ=145.94°		
	Pm		33	(SKM)	ePKP		11 46 28
	Z: 1.3s; 0.048μ				Z: 1.6s; 0.059μ		
	i		43.7				
KRA	Δ=14.14°						
(SKM)	eP		22 42 34				

Date	Station	Phase	T.U. l m s
7.VII South of Fiji Islands, NFIS: 23.09°S, 177.74°W, H=17 ^h 14 ^m 39.1 ^s , h=250 km, MB=4.2			
	KRA	Δ=149.73°	
	(SKM) 1PKHKP	17 33 59.9 D	
		Z: 0.6s; 0.078μ	
	1	34 04.4	
	NIE	Δ=150.11°	
	1PKHKP	17 34 01.8 D	
		Z: 0.7s; 0.069μ	
	1	11.0	
	KSP	Δ=150.22°	
	e1PKIKP	17 34 01.0	
	1PKHKP	01.5	
8.VII Molucca Passage, NEIS: 0.51°N, 126.26°E, H=03 ^h 06 ^m 47.2 ^s , h=33 km			
	KRA	Δ=100.04°	
	(SKM) eP	03 20 30 C	
	(SKD) eSKS	31 12	
	Lm	04 08.5	
		NEZ: 22.0s; 1.0μ, 1.1μ, 1.1μ	
	NIE	Δ=99.94°	
	e1P	03 20 30.6 C	
		Z: 1.0s; 0.015μ	
	1pP	43.5	
8.VII Samoa Islands Region, NEIS: 16.51°S, 172.89°W, H=08 ^h 11 ^m 19.6 ^s , h=33 km, MB=4.9			
	KRA	Δ=144.97°	
	(SKM) e1PKP	08 30 55	
		Z: 1.4 ^s ; 0.052μ	
	1	31 23.2	
	NIE	Δ=145.46°	
	ePKP	08 30 57	
8.VII Ryukyu Islands, Japan, Moscow: 28.69°N, 129.51°E, H=19 ^h 08 ^m 13.6 ^s , h normal, MPV(A)=5.1			
	KRA	Δ=79.89°	
	(SKM) e1P	19 20 22	
	NIE	Δ=80.03°	
	eP	19 20 23	
8.VII NIE			
	1P	22 39 55	

Date	Station	Phase	T.U. h m s
9.VII NIE			
	1P	01 33 56 D	
		Z: 0.5s; 0.015μ	
	1	34 12	
9.VII Fiji Islands Region, NFIS: 17.76°S, 178.85°W, H=16 ^h 15 ^m 57.5 ^s , h=550 km, MB=4.7			
	KRA	Δ=144.42°	
	(SKM) ePKP	16 32 33	
		Z: 1.3s; 0.042μ	
	KSP	Δ=144.84°	
	e1PKP	16 34 34	
	NIE	Δ=144.82°	
	1PKP	16 34 35	
		Z: 0.9s; 0.027μ	
10.VII Unimak Island Region, NEIS: 53.89°N, 163.63°W, H=00 ^h 14 ^m 30.6 ^s , h=33 km, MB=4.5			
	KRA	Δ=76.38°	
	(SKM) e1P	00 26 21	
		e1pP 31	
	NIE	Δ=77.01°	
	1P	00 26 25.5 D	
11.VII Northwest of Kuril Islands, NEIS: 49.06°N, 149.99°E, H=06 ^h 02 ^m 14.4 ^s , h=268 km, MB=4.4			
	KRA	Δ=72.36°	
	(SKM) 1P	06 13 12.1 D	
		Z: 0.6s; 0.066μ	
	e1	28	
	NIE	Δ=72.76°	
	1P	06 13 15.5 D	
		Z: 0.7s; 0.047μ	
	1	30.4	
	KSP	Δ=72.88°	
	1P	06 13 17.0	
10.VII Yugoslavia, EMSC: 44.97°N, 18.05°E, H=19 ^h 19 ^m 51.8 ^s			
	NIE	Δ=4.72°	
	e1Pn	19 20 58	
	1	21 03.6	

Date	Station	Phase	T.U. h m s
11.VII Queen Charlotte Islands Region, NEIS: 52.88°N, 132.07°W, H=02 ^h 55 ^m 04.0 ^s , h=33 km, MB=4.9; MPV=5.7 (Kraków), 5.4 (Niedzica)			
	KSP	Δ=73.26°	
	eP	03 06 38	
	KRA	Δ=74.74°	
	(SKM) 1P	03 06 43.9 C	
		Z: 0.9s; 0.053μ	
	1	50.9	
	NIE	Δ=75.42°	
	1P	03 06 48.0 C	
		Z: 0.9s; 0.027μ	
	1	54.5	
11.VII New Hebrides Islands, Moscow: 14.04°S, 165.73°E, H=05 ^h 33 ^m 55.6 ^s , h normal, MPV(A)=5.3			
	NIE	Δ=134.77°	
	ePKIKP	05 53 12	
11.VII Peru - Brazil Border Region, NEIS: 9.78°S, 70.54°W, H=12 ^h 16 ^m 20.8 ^s , h=250 km, MB=5.7			
	KSP	Δ=95.51°	
	eP	12 29 25	
	KRA	Δ=97.72°	
	(SKM) eP	12 29 31	
		e1 33.8	
	Pm	34.5	
		Z: 1.0s; 0.11μ	
	1	31 50.3	
	NIE	Δ=97.90°	
	e1P	12 29 34 D	
		Z: 1.2s; 0.091μ	
11.VII Sea of Okhock, NEIS: 47.37°N, 145.53°E, H=13 ^h 36 ^m 01.0 ^s , h=407 km, MB=4.4			
	KRA	Δ=72.19°	
	(SKM) e1P	13 46 45	
		Z: 0.9s; 0.053μ	
	NIE	Δ=72.56°	
	e1P	13 46 48	
	KSP	Δ=72.86°	
	e1P	13 46 51	

Date	Station	Phase	T.U. h m s
11.VII Pakistan, NFIS: 30.105°N, 67.527°E, H=22 ^h 50 ^m 39.0 ^s , h=10 km, MB=4.4; MPV=4.9 (Niedzica)			
	NIE	Δ=40.32°	
	1P	22 58 20.0 D	
		Z: 0.8s; 0.013μ	
11.VII Kuril Islands, NFIS: 43.64°N, 146.36°E, H=22 ^h 48 ^m 46.0 ^s , h=68 km, MB=4.8; MPV=5.7 (Kraków), 5.4 (Niedzica)			
	KRA	Δ=75.64°	
	(SKM) e1P	23 00 26 D	
		Z: 0.9s; 0.053μ	
	1PcP	37.2	
	1pP	42.2	
	NIE	Δ=76.00°	
	1P	23 00 28 C	
		Z: 0.9s; 0.027μ	
12.VII Caucasus, Moscow: 43.50°N, 45.14°E, H=11 ^h 52 ^m 17.7 ^s , h normal, MLV=4.4			
	NIE	Δ=18.05°	
	e1P	11 56 27	
	e1	34	
	KRA	Δ=18.41°	
	(SKM) eP	11 56 30	
		e1 38	
	(GW) e	12 01 37	
12.VII Nevada, NEIS: 37.079°N, 116.044°W, H=17 ^h 00 ^m 00.1 ^s , h=0 km, MB=5.5; MPV=6.0 (Kraków), 5.7 (Niedzica)			
	KRA	Δ=84.94°	
	(SKM) e1P	17 12 37 C	
		Z: 1.0s; 0.12μ	
	e1	56	
	NIE	Δ=85.60°	
	1P	17 12 41.5 C	
		Z: 1.1s; 0.070μ	
	1	57.0	
12.VII China, Moscow: 31.93°N, 103.09°E, H=21 ^h 49 ^m 52.4 ^s , h normal, MPV(A)=5.4			
	NIE	Δ=62.06°	
	eP	22 00 15	



Date	Station	Phase	T.U. h m s
13.VII	KRA (SKM)	iP	04 01 29.9 Z: 0.8s; 0.023μ
	NIE	iP	04 01 31.0
		Pm	31.5
		i	42.0
13.VII	Kuril Islands, NEIS: 44.671°N, 149.031°E, H=03 ^h 55 ^m 43.0 ^s ; MPV=5.5 (Kraków), 5.4 (Niedzica)		
	KRA (SKM)	iP	04 07 27.1 Z: 0.7s; 0.029μ
	NIE	iP	04 07 30.0 Z: 0.7s; 0.022μ
13.VII	Aleutian Islands, NEIS: 52.56°N, 168.95°W, H=13 ^h 25 ^m 20.5 ^s , h=51 km, MSZ=5.7; MLV=5.7 (Kraków, Warszawa), MPV=6.1 (Kraków), 6.0 (Niedzica)		
	WAR (SKD)	iP	13 37 03 C
		eIS	46 42
		Lm	14 11 36
		NEZ: 20s; 5μ, 6μ, 4μ	
	KSP	eP	13 37 09
	KRA (SKM)	iP	13 37 15.7 C
		Z: 1.2s; 0.20μ	
		ipP	28.5
		eisP	33
	(SKD)	eS	47 07
		eL	56 45
		Lm	14 00
		NEZ: 20s; 2.4μ, 1.1μ, 3.4μ	
	NIE	iP	13 37 19.8 C
		Z: 0.9s; 0.11μ	
		ipP	30.5
13.VII	Greece, FMSC: 40.79°N, 23.29°E, H=17 ^h 26 ^m 59.1 ^s		

Date	Station	Phase	T.U. h m s
13.VII	NIE	eP	17 29 08
		ei	13
14.VII	South of Fiji Islands, NEIS: 22.285°S, 179.141°W, H=05 ^h 30 ^m 48.4 ^s , h=469 km, MB=5.2		
	KRA (SKM)	ePKIKP	05 49 42 C
		Z: 0.8s; 0.032μ	
14.VII	Near East Coast of Honshu, Japan, NEIS: 37.60°N, 141.32°E, H=14 ^h 04 ^m 57.0 ^s , h=60 km, MB=5.3		
	KRA (SKM)	eiP	14 16 54 C
		Z: 0.4s; 0.035μ	
14.VII	Luzon, Philippine Islands, NEIS: 12.09°N, 123.89°E, H=17 ^h 12 ^m 54.2 ^s , h=33 km, MB=5.2; MPV=5.6 (Kraków)		
	KRA (SKM)	eiP	17 25 55
		Z: 1.1s; 0.041μ	
15.VII	Tadzhik SSR, NEIS: 37.70°N, 73.76°E, H=02 ^h 27 ^m 21.3 ^s , h=250 km, MB=5.1		
	KRA (SKM)	eiP	02 34 32
		Z: 0.8s; 0.065μ	
	KSP	iP	02 34 49.0
15.VII	Fiji Islands Region, NEIS: 18.996°S, 177.655°W, H=03 ^h 32 ^m 03.7 ^s , h=543 km, MB=4.6		
	KSP	iPKP	03 50 43.0
15.VII	Off East Coast of Honshu, Japan, NEIS: 33.28°N, 141.56°E, H=10 ^h 18 ^m 42.1 ^s , h=33 km, MB=5.1		
	KRA (SKM)	eiP	10 31 03 D
		Z: 0.5s; 0.025μ	
15.VII	Hokkaido, Japan Region, NEIS: 41.86°N, 142.40°E, H=17 ^h 44 ^m 56.7 ^s , h=78 km, MB=5.3; MLV=5.5 (Kraków), MPV=5.7 (Kraków)		

Date	Station	Phase	T.U. h m s
15.VII	Hokkaido - continuation		
	KRA (SKM)	iP	17 56 35.2 C
		Z: 0.8s; 0.051μ	
		eiPcP	49
	(SKD)	eiSKS	18 06 37
		I m	42.8
		NFZ: 22s; 1.8μ, 2.3μ, 2.5μ	
16.VII	Luzon, Philippine Islands, NEIS: 15.58°N, 119.20°E, H=03 ^h 05 ^m 00.0 ^s , h=54 km, MB=5.1; MPV=5.5 (Kraków)		
	KRA (SKM)	eP	03 17 26
		Z: 1.2s; 0.047μ	
	KSP	eP	03 17 34
16.VII	Off East Coast of Honshu, Japan, NEIS: 33.34°N, 141.48°E, H=07 ^h 39 ^m 49.4 ^s , h=33 km, MB=5.0		
	KRA (SKM)	eP	07 52 08
		Z: 0.6s; 0.023μ	
	NIE	eP	07 52 10
16.VII	New Guinea, NEIS: 6.65°S, 143.83°E, H=22 ^h 13 ^m 24.9 ^s , h=33 km, MB=5.3		
	NIE	iPKIKP	22 32 09.8 D
17.VII	South of Fiji Islands, NEIS: 23.49°S, 179.79°E, H=00 ^h 09 ^m 40.2 ^s , h=550 km, MB=5.3		
	NIE	ePKIKP	00 28 23 C
		iPKHKP	30.1
	KRA (SKM)	eiPKHKP	00 28 28 C
		Z: 0.9s; 0.074μ	
		ePKP ₂	30 35
17.VII	Samoa Islands Region, NEIS: 14.72°S, 175.92°W, H=13 ^h 26 ^m 16.3 ^s , h=300 km, MB=6.0		

Date	Station	Phase	T.U. h m s
17.VII	WAR (SKD)	eiPKIKP	13 45 03
		eiPP	48 06
		ei	34
	KSP	iPKIKP	13 45 09.0
		Z: 1s; 0.11μ	
	KRA (SKM)	eiPKIKP	13 45 10.5 C
		Z: 0.8s; 0.055μ	
		i	15.0
	(GW)	eiPKP	49 35
	(SKD)	isPKP	50 03
	NIE	eiPKIKP	13 45 12 C
		Z: 1.4s; 0.28 μ	
18.VII	South of Honshu, NEIS: 30.59°N, 137.01°E, H=21 ^h 58 ^m 13.2 ^s , h=425 km, MB=5.0		
	KRA (SKM)	eiP	22 09 50
		Z: 0.6s; 0.023μ	
	NIE	eiP	22 09 52 D
		Z: 0.9s; 0.018μ	
18.VII	New Britain Region, NEIS: 6.48°S, 153.17°E, H=22 ^h 47 ^m 58.0 ^s , h=16 km, MB=5.5		
	KRA (SKM)	ePKIKP	23 06 53
		Z: 0.9s; 0.017μ	
	NIE	iPKIKP	23 06 54 C
		Z: 0.9s; 0.017μ	
		i	07 05
19.VII	Kodiak Island Region, NEIS: 56.93°N, 151.53°W, H=09 ^h 32 ^m 08.4 ^s , h=36 km, MB=5.5; MPV=6.0 (Kraków), MLV=6.0 (Warszawa)		
	WAR (SKD)	eiP	09 43 26
		eIS	52 46
		Lm	10 23 46
		NE: 16s; 2μ, 7μ	

Date	Station	Phase	T.U. h m s
19.VII	Kodiak Island - continuation		
	KSP	$\Delta=72.12^{\circ}$	
	eP		09 43 32
	KRA	$\Delta=73.15^{\circ}$	
	(SKM) 1P		09 43 38.6 C
		Z: 1.0s; 0.12 μ	
	1pP		50.4
	(SKD) eS		53 09
	NIE	$\Delta=73.80^{\circ}$	
	1P		09 43 41
19.VII	KRA		
	(SKM) ei(P)		11 46 23.6
	KSP		
	eP		11 47 00
	i		05.0
	Pm		10.5
		Z: 1.1s; 0.24 μ	
19.VII	NIE		
	e1P		16 12 16
		Z: 0.8s; 0.010 μ	
	KRA		
	(SKM) e1P		16 12 22
		Z: 0.9s; 0.026 μ	
20.VII	Nicaragua, NEIS: 12.09 $^{\circ}$ N, 86.70 $^{\circ}$ W, H=09 $^{\text{h}}$ 34 $^{\text{m}}$ 45.2 $^{\text{s}}$, h=99 km, MB=5.8		
	KRA	$\Delta=91.23^{\circ}$	
	(SKM) eP		09 47 39
	epP		48 05
	esP		22
	ePP		51 20
20.VII	Aleutian Islands Region, NEIS: 50.86 $^{\circ}$ N, 174.64 $^{\circ}$ E, H=18 $^{\text{h}}$ 15 $^{\text{m}}$ 05.1 $^{\text{s}}$, h=33 km, MB=5.1; MPV=5.3 (Niedzica), 5.4 (Kra- ków)		
	KSP	$\Delta=77.00^{\circ}$	
	eP		18 26 58
	KRA	$\Delta=77.17^{\circ}$	
	(SKM) e1P		18 26 59 D
		Z: 0.8s; 0.028 μ	
	e1pP		27 14
	NIE	$\Delta=77.71^{\circ}$	
	e1P		18 27 04 D
		Z: 0.6s; 0.016 μ	

Date	Station	Phase	T.U. h m s
22.VII	New Britain Region, Moscow: 4.03 $^{\circ}$ S, 152.49 $^{\circ}$ E, H=11 $^{\text{h}}$ 51 $^{\text{m}}$ 41.7 $^{\text{s}}$, h normal, MLV=5.9; MLV=6.4 (Kraków)		
	KRA	$\Delta=119.22^{\circ}$	
	(SKM) ePKIKP		12 10 33
	(SKD) e		13 07
	eSKS		17 27
	e		19 05
	Lm		13 05
		NEZ: 20s; 5.7 μ , 4.6 μ , 8.2 μ	
	NIE	$\Delta=119.35^{\circ}$	
	ePKIKP		12 10 36
		Z: 1.0s; 0.019 μ	
	i		43.5
	WAR	$\Delta=117.47^{\circ}$	
	(SKD) e1PP		12 11 46
	e1SKS		17 24
	e1PS		21 22
	ei		46
	Lm		53 36
		NEZ: 28s, 24s, 32s; 6 μ , 8 μ , 5 μ	
22.VII	KRA		
	(SKM) eP		12 20 52
		Z: 0.7s; 0.016 μ	
	NIE		
	e1P		12 20 52
		Z: 1.0s; 0.019 μ	
	ei		21 04
23.VII	Taiwan Region, NEIS: 22.25 $^{\circ}$ N, 121.37 $^{\circ}$ E, H=14 $^{\text{h}}$ 42 $^{\text{m}}$ 38.5 $^{\text{s}}$, h=33 km, MB=7.0; MPV=6.9 (Kraków), 6.8 (Nie- dzica), MLH=8.0 (Kraków), MLV=7.4 (Warszawa)		
	WAR	$\Delta=78.78^{\circ}$	
	(SKD) 1P		14 54 43 C
	e1PP		57 31
	ei		15 03 57
	e1S		04 29
	Lm		37 06
		NEZ: 16s; 110 μ , 160 μ , 130 μ	

Date	Station	Phase	T.U. h m s
23.VII	Taiwan - continuation		
	KRA	$\Delta=80.24^{\circ}$	
	(SKM) eP		14 54 48 C
	Pm		54.4
		Z: 1.3s; 1.4 μ	
	1PcP		55 01.5
	(SKD) iS		15 04 49.5
	Lm		34
		NEZ: 30s; 920 μ , 950 μ , 110 μ	
	NIE	$\Delta=80.26^{\circ}$	
	1P		14 54 50.0 C
	Pm		53.5
		Z: 1.0s; 0.83 μ	
	1PcP		55 05.0
	i		56 06
	KSP	$\Delta=82.05^{\circ}$	
	eP		14 54 59
	Pm		55 02.0
		Z: 1s; 0.42 μ	
23.VII	KRA		
	(SKM) 1P		15 26 32.9
		Z: 0.6s; 0.019 μ	
23.VII	Taiwan Region, Moscow: 22.91 $^{\circ}$ N, 121.28 $^{\circ}$ E, H=15 $^{\text{h}}$ 52 $^{\text{m}}$ 07.2 $^{\text{s}}$, h normal, MPV(A)=5.0		
	NIE	$\Delta=79.71^{\circ}$	
	eP		16 04 15
	ei		05 25
23.VII	Taiwan Region, Moscow: 22.60 $^{\circ}$ N, 121.78 $^{\circ}$ E, H=16 $^{\text{h}}$ 02 $^{\text{m}}$ 45.7 $^{\text{s}}$, h normal, MPV(A)=5.1; MPV=5.2 (Niedzica)		
	NIE	$\Delta=80.24^{\circ}$	
	e1P		16 14 55
		Z: 1.0s; 0.019 μ	
	1PcP		15 03.6
23.VII	Kuril Islands Region, Moscow: 43.53 $^{\circ}$ N, 147.90 $^{\circ}$ E, H=16 $^{\text{h}}$ 16 $^{\text{m}}$ 15.5 $^{\text{s}}$, h normal, MPV(A)=5.3		
	KRA	$\Delta=76.33^{\circ}$	
	(SKM) e1P		16 28 13

Date	Station	Phase	T.U. h m s
23.VII	Taiwan Region, Moscow: 22.16 $^{\circ}$ N, 121.64 $^{\circ}$ E, H=16 $^{\text{h}}$ 56 $^{\text{m}}$ 13.8 $^{\text{s}}$, h normal, MPV(A)=5.1; MPV=5.5 (Kraków), 5.4 (Niedzica)		
	KRA	$\Delta=80.47^{\circ}$	
	(SKM) 1P		17 08 24.1 C
		Z: 0.8s; 0.032 μ	
	NIE	$\Delta=80.49^{\circ}$	
	1P		17 08 25.0
		Z: 0.9s; 0.029 μ	
	i		46
24.VII	Taiwan Region, Moscow: 22.14 $^{\circ}$ N, 121.61 $^{\circ}$ E, H=02 $^{\text{h}}$ 36 $^{\text{m}}$ 55.2 $^{\text{s}}$, h normal, MLV=5.0; MPV=5.9 (Kraków), 5.8 (Niedzica)		
	KRA	$\Delta=80.47^{\circ}$	
	(SKM) 1P		02 49 10.6 C
		Z: 1.1s; 0.12 μ	
	1PcP		18.6
	1pP		22.4
	NIE	$\Delta=80.48^{\circ}$	
	1P		02 49 11.5 C
	Pm		12.7
		Z: 1.4s; 0.11 μ	
	1PcP		19.5
	1pP		26.5
24.VII	Kuril Islands, NEIS: 45.26 $^{\circ}$ N, 150.22 $^{\circ}$ E, H=06 $^{\text{h}}$ 23 $^{\text{m}}$ 47.3 $^{\text{s}}$, h=37 km, MB=5.0; MPV=5.7 (Kraków)		
	KRA	$\Delta=75.70^{\circ}$	
	(SKM) 1P		06 35 31.9
		Z: 0.9s; 0.058 μ	
	e1PcP		47
24.VII	Gulf of Mexico, NEIS: 26.60 $^{\circ}$ N, 88.68 $^{\circ}$ W, H=08 $^{\text{h}}$ 06 $^{\text{m}}$ 13.2 $^{\text{s}}$, h=10 km, MB=4.6; MPV=5.3 (Kraków)		
	KRA	$\Delta=81.01^{\circ}$	
	(SKM) eP		08 18 30
		Z: 0.8s; 0.023 μ	
	NIE	$\Delta=81.55^{\circ}$	
	eP		08 18 35



Date	Station	Phase	T.U. h m s
24.VII	Taiwan Region, Moscow: 22.75°N, 121.74°E, H=11 ^h 41 ^m 55.5 ^s , h normal, MPV(A)=5.1; MPV=5.5 (Kraków), 5.2 (Niedzica)	KRA (SKM)	$\Delta=80.08^{\circ}$ iP 11 54 02.9 C Z: 1.0s; 0.036 μ
		NIE	$\Delta=80.10^{\circ}$ eP 11 54 04 C Z: 1.0s; 0.019 μ
		KSP	$\Delta=81.87^{\circ}$ iP 11 54 15.0
24.VII	Iran, Moscow: 32.74°N, 48.76°E, H=15 ^h 59 ^m 42.6 ^s , h normal, MPV(A)=4.8; MPV=5.0 (Kraków)	KRA (SKM)	$\Delta=27.44^{\circ}$ eP 16 05 31 Z: 0.7s; 0.02 μ
24.VII	New Hebrides Islands Region, Moscow: 20.47°S, 172.38°E, H=19 ^h 45 ^m 35.5 ^s , h=33 km, MB=5.8; MLV=6.5 (Kraków), 6.7 (Warszawa)	WAR (SKD)	$\Delta=141.27^{\circ}$ eiPKIKP 20 04 59 ei 06 23 Lm 21 06 39 NEZ: 24s; 10 μ , 19 μ , 15 μ
		KRA (SKM)	$\Delta=143.28^{\circ}$ ePKP 20 05 05 i 12.2
		(SKD)	eL 27 Lm 21 04 NEZ: 26s; 4.1 μ , 9.0 μ , 9.2 μ
25.VII	Taiwan Region, NEIS: 22.135°N, 121.437°E, H=23 ^h 54 ^m 44.7 ^s , h=18 km, MB=5.0	NIE	$\Delta=80.39^{\circ}$ eP 00 06 58 i 07 09.5
25.VII	Taiwan Region, NEIS: 21.896°N, 121.414°E, H=03 ^h 11 ^m 32.0 ^s , h=33 km, MB=4.5; MPV=5.4 (Kraków)		

Date	Station	Phase	T.U. h m s
25.VII	KRA (SKM)	$\Delta=80.54^{\circ}$ eiP 03 23 43 Z: 0.5s; 0.016 μ	
	NIE	$\Delta=80.55^{\circ}$ eiP 03 23 45 iPcP 50	
25.VII	KRA (SKM)	$\Delta=80.10^{\circ}$ eiP 14 44 54 Z: 0.8s; 0.017 μ	
	i	45 08.8	
25.VII	Taiwan Region, Moscow: 22.80°N, 121.21°E, H=17 ^h 56 ^m 27.8 ^s , h normal, MLV=5.0	KRA (SKM)	$\Delta=79.73^{\circ}$ eP 18 08 39
	NIE	$\Delta=79.75^{\circ}$ eP 18 08 40 ei 45	
25.VII	NIE	iP 21 07 45.7 D Z: 1.0s; 0.019 μ i 51.2	
25.VII	Vancouver Island Region, NEIS: 50.37°N, 127.60°W, H=23 ^h 30 ^m 53.0 ^s , h=33 km, MB=5.4	KSP	$\Delta=74.57^{\circ}$ eP 23 42 36
	KRA (SKM)	$\Delta=76.17^{\circ}$ eP 23 42 41 i 45.9 Pm 46.3 Z: 0.7s; 0.025 μ	
	NIE	$\Delta=76.85^{\circ}$ eP 23 42 45 i 50 i 43 09	
26.VII	Afghanistan - USSR Border Region, Moscow: 36.67°N, 69.87°E, H=00 ^h 40 ^m 57.5 ^s , h normal, MPV(A)=4.8	NIE	$\Delta=37.72^{\circ}$ eP 00 48 15 eipP 26

Date	Station	Phase	T.U. h m s
26.VII	Taiwan Region, NEIS: 22.186°N, 121.290°E, H=03 ^h 34 ^m 00.2 ^s , h=24 km, MB=4.7; MPV=5.2 (Kraków)	NIE	$\Delta=80.26^{\circ}$ eP 03 46 11
	KRA (SKM)	$\Delta=80.24^{\circ}$ eiP 03 46 13.8 Z: 0.7s; 0.016 μ	
26.VII	Off East Coast of Honshu, Japan, NEIS: 39.84°N, 143.29°E, H=17 ^h 13 ^m 43.8 ^s , h=33 km, MB=4.7; MPV=5.5 (Kraków), 5.6 (Niedzica)	KRA (SKM)	$\Delta=77.58^{\circ}$ eiP 17 25 39 C Z: 0.7s; 0.033 μ
	NIE	$\Delta=77.89^{\circ}$ eiP 17 25 43 Z: 1.0s; 0.050 μ iPcP 56.0	
26.VII	NIE	eP 22 27 02	
27.VII	Honshu, Japan, Moscow: 38.00°N, 141.87°E, H=07 ^h 24 ^m 05.9 ^s , h normal, MLV=4.6; MPV=5.4 (Kraków, Niedzica)	KRA (SKM)	$\Delta=78.50^{\circ}$ eP 07 36 05 C Z: 0.7s; 0.025 μ
	NIE	$\Delta=78.79^{\circ}$ eiP 07 36 08 Z: 1.0s; 0.037 μ ei 23	
	KSP	$\Delta=79.47^{\circ}$ eiP 07 36 16	
27.VII	Aegean Sea, EMSC: 39.12°N, 24.66°E, H=08 ^h 30 ^m 11.3 ^s	NIE	$\Delta=10.76^{\circ}$ eP 08 32 47
27.VII	Honshu, Japan, Moscow: 36.31°N, 141.78°E, H=13 ^h 29 ^m 14.7 ^s , h normal, MLV=4.7; MPV=5.3 (Kraków)	KRA (SKM)	$\Delta=79.86^{\circ}$ iP 13 41 23.0 D Z: 0.7s; 0.020 μ

Date	Station	Phase	T.U. h m s
27.VII	Tonga Islands, NEIS: 15.54°S, 173.13°W, H=18 ^h 25 ^m 08.7 ^s , h=33 km, MB=5.6; MLV=6.0 (Kraków, Warszawa)	WAR (SKD)	$\Delta=141.69^{\circ}$ eiPKIKP 18 44 35 eiPP 47 43 eiPKS 48 23 Lm 19 42 00 Z: 24s; 3 μ
	KRA (SKM)	$\Delta=143.97^{\circ}$ ePKP 18 44 39 Z: 1.5s; 0.086 μ	
	(SKD)	ei 47 54 eSKSP 58 10 Lm 19 45 NEZ: 22s; 2.5 μ , 2.6 μ , 3.1 μ	
	NIE	$\Delta=144.47^{\circ}$ ePKP 18 44 44 C Z: 1.0s; 0.056 μ ipPKP 55.5	
28.VII	NIE	eP 02 48 13	
28.VII	Eastern Kazakh SSR, NEIS: 49.76°N, 78.16°E, H=02 ^h 46 ^m 57.9 ^s , h=0 km, MB=5.2; MPV=6.1 (Niedzica), 5.8 (Kraków)	KRA (SKM)	$\Delta=36.67^{\circ}$ eiP 02 54 07 C Z: 0.9s; 0.12 μ
	i	25.4	
	NIE	$\Delta=36.68^{\circ}$ iP 02 54 10.0 Z: 0.7s; 0.19 μ i 48.5	
	KSP	$\Delta=38.51^{\circ}$ iP 02 54 27.5	
28.VII	KRA (SKM)	$\Delta=36.67^{\circ}$ iP 08 11 09.1 C	
28.VII	NIE	eP 11 17 08 Z: 1.0s; 0.019 μ	
	KRA (SKM)	$\Delta=36.67^{\circ}$ eP 11 17 09 Z: 0.8s; 0.018 μ	



Date	Station	Phase	T.U. h m s
29.VII	Turkey, EMSC: 37.57°N, 30.06°E, H=04 ^h 34 ^m 43.5 ^s , MB=4.8 (NFIS)	NIE	Δ=13.78° eP 04 38 00 i 16
		WAR	Δ=15.98° (GW) eiP 04 38 29 (SKD) eiS 41 41
29.VII	Guatemala, NFIS: 14.72°N, 90.67°W, H=14 ^h 37 ^m 30.3 ^s , h=5 km, MB=5.0	NIE	Δ=92.01° eP 14 50 45 ei 56
30.VII	Italy, EMSC: 42.62°N, 12.48°E, H=05 ^h 19 ^m 26.4 ^s ; MLV=4.3 (Kraków)	NIE	Δ=8.72° eiPn 05 21 35 i 22 55
		KRA	Δ=9.05° (SKM) ePn 05 21 37 (GW) ei 24 44 (SKD) Lm 36.5 NEZ: 10s; 1.7μ, 1.2μ, 2.7μ

Date	Station	Phase	T.U. h m s
31.VII	Taiwan Region, Moscow: 24.75°N, 121.82°E, H=00 ^h 20 ^m 40.7 ^s , h normal, MLV=4.9; MPV=5.9 (Kraków)	KRA	Δ=78.60° (SKM) eP 00 32 45 C Z: 0.7s; 0.070μ i 48.1
		NIE	Δ=78.64° eP 00 32 46 C
31.VII	China, Moscow: 35.94°N, 81.94°E, H=11 ^h 55 ^m 38.2 ^s , h normal, MLV=5.4; MLH=5.9 (Warszawa). MLV=5.8 (Kraków)	NIF	Δ=46.02° eP 12 04 05 ei 27
		KRA	Δ=46.18° (SKM) eP 12 04 07 (SKD) eS 11 01 Lm 25.7 EZ: 18s; 5.0μ, 9.0μ
		WAR	Δ=45.30° (SKD) eiS 12 10 36 ei 52 Lm 24 28 NEZ: 18s, 20s, 20s, 6μ, 23μ, 8μ

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1.VIII	Tonga Islands, NFIS: 15.02°S, 173.48°W, H=20 ^h 29 ^m 43.9 ^s , h=33 km, MB=5.0	KRA	Δ=143.39° (SKM) ePKP 20 49 12 ei 25 (SKD) ePKS 53 03 eSS 21 11 13 Lm 49.5 NEZ: 22s; 1.2μ, 1.1μ, 1.3μ
		NIE	Δ=143.88° ePKP 20 49 17 Pm 17.8 Z: 1.2s; 0.021μ i 34.0

1.VIII	WAR	Δ=141.11° (SKD) eiPKS 20 52 40 ei 56	
2.VIII	Laos - Thailand Border Region, Moscow: 20.35°N, 100.63°E, H=07 ^h 45 ^m 46.3 ^s , h normal, MLV=5.0	NIE	Δ=68.59° iP 07 56 53.8 i 56.6 Pm 57.0 Z: 0.9s; 0.032μ isP 57 08.4
		KRA	Δ=68.77° (SKM) eP 07 56 54 eisP 57 08

Date	Station	Phase	T.U. h m s
3.VIII	KRA	eiP 00 12 16 D Z: 1.3s; 0.064μ	
	(SKM)		
	NIE	eiP 00 12 18 D Z: 1.6s; 0.023μ i 24	
3.VIII	South Indian Ocean, NEIS: 1.06°S, 84.45°E, H=01 ^h 10 ^m 25.4 ^s , h=33 km; MB=5.9; MLH=6.0 (Warszawa), MLV=5.2 (Kraków), 5.5 (Warszawa)	NIE	Δ=74.28° eiP 01 22 00 Z: 1.0s; 0.017μ isP 16.6
		KRA	Δ=74.73° (SKM) eP 01 22 02 Z: 1.4s; 0.073μ eisP 19 (SKD) i 30 31 Lm 48.5 EZ: 40s; 2.2μ, 2.7μ
		WAR	Δ=74.90° (GW) eiP 01 22 05 (SKD) eisP 18 eiS 31 38 Lm 59 10 NEZ: 16s, 20s, 20s, 3μ, 8μ, 3μ
		KSP	Δ=77.19° eP 01 22 27

3.VIII	WAR	Δ=44.60° (SKD) eiP 06 15 50 eiS 22 18 Lm 32 28 NE: 16s; 17μ, 24μ Lm 35 32 Z: 12s; 14μ	
		KRA	Δ=46.36° (SKM) eiP 06 15 59 i 16 03.7 i 09.2 (GW) eS 22 47 ei 26 31 (SKD) Lm 33.3 NEZ: 16s; 17μ, 12μ, 4.5μ
		NIE	Δ=46.50° eiP 06 16 00 Pm 07 Z: 1.1s; 0.10μ i 23.0
3.VIII	NIE	iP 08 10 54.0	
3.VIII	New Hebrides Islands, NEIS: 13.39°S, 167.60°E, H=12 ^h 41 ^m 25.4 ^s , h=33 km, MB=5.5	KRA	Δ=134.90° (SKM) ePKIKP 13 00 44
		NIE	Δ=135.15° ePKIKP 13 00 45
3.VIII	Sumatra Region, Moscow: 0.24°S, 96.99°E, H=15 ^h 15 ^m 51.9 ^s , h=normal, MPV(A)=5.4	KRA	Δ=81.88° (SKM) eiP 15 28 09
3.VIII	Near Coast of Northern Chile, NEIS: 26.64°S, 70.63°W, H=18 ^h 11 ^m 15.5 ^s , h=51 km, MB=6.7; MLH=6.8 (Kraków), 6.9 (Warszawa), MLV=6.7 (Warszawa)	KRA	Δ=110.28° (SKM) eP 18 25 47 C epP 26 04

3.VIII	Hindu Kush, Moscow: 36.05°N, 71.37°E, H=02 ^h 25 ^m 10.4 ^s , h=220 km, MPV(A)=4.3	NIE	Δ=39.07° eiP 02 32 17 isP 33 39
3.VIII	USSR - Mongolia Border Region, NEIS: 52.03°N, 97.03°E, H=06 ^h 07 ^m 35.1 ^s , h=33 km, MB=5.3; MLH=6.2 (Kraków), 6.2 (Warszawa), MLV=5.5 (Kraków), 6.1 (Warszawa), MPV=5.7 (Niedzica)		



Date	Station	Phase	T.U. h m s
3.VIII Near Coast of Northern Chile - continuation			
	KRA	esP	18 26 07
	(GW)	eIPP	30 15
		eISK	36 16
		Lm	50
			NE: 22s; 23μ, 17μ
	WAR	Δ=111.57°	
	(SKD)	eIP	18 25 52
		eIPP	30 32
		ISK	36 24
		ISKKS	38 06
		eIPS	39 48
		Lm	19 09 10
			NEZ: 28s, 28s, 30s, 17μ, 54μ, 33μ
3.VIII New Guinea Region, Moscow: 0.09°S, 131.67°E, H=23 ^h 25 ^m 34.5 ^s , h=50 km, MLV=5.9; MLV=6.3 (Warszawa)			
	KRA	Δ=103.88°	
	(SKM)	eP	23 39 22
	(SKD)	ePP	43 53
		eISK	50 13
		eS	51 21
		ePS	53 01
	WAR	Δ=102.59°	
	(SKD)	eIPP	23 43 40
		eISK	50 06
		IPS	52 48
		Lm	00 27 20
			Z: 22s; 10μ
4.VIII Tonga Islands Region, Moscow: 15.72°S, 173.55°W, H=01 ^h 16 ^m 58.8 ^s , h normal, MLV=5.1			
	KRA	Δ=144.04°	
	(SKM)	ePKP	01 36 35
	NIE	Δ=144.5°	
		ePKP	01 36 36
		i	40.2
		Pm	43
			Z: 1.6s; 0.067μ
		i	58

Date	Station	Phase	T.U. h m s
4.VIII Philippine Islands Region, Moscow: 19.90°N, 120.34°E, H=08 ^h 55 ^m 00.4 ^s , h=31 km, MB=5.7; MPV=5.9 (Kraków, Nie- dzica)			
	KRA	Δ=81.42°	
	(SKM)	eIP	09 07 16 D
			Z: 0.8s; 0.083μ
		ipP	29.6
	NIE	Δ=81.41°	
		iP	09 07 17.0 D
			Z: 1.4s; 0.13μ
		ipP	29.9
		i	39.3
4.VIII Indian Ocean, Moscow: 3.99°S, 68.57°E, H=14 ^h 09 ^m 00.7 ^s , h normal, MLV=4.8; MPV=5.7 (Kraków)			
	KRA	Δ=68.15°	
	(SKM)	eP	14 20 04
			Z: 1.6s; 0.088μ
5.VIII New Ireland Region, NEIS: 3.48°S, 151.01°E, H=04 ^h 12 ^m 44.2 ^s , h=34 km, MB=5.6; MLH=6.5 (Warszawa)			
	NIE	Δ=118.07°	
		ePKIKP	04 31 30
		ei	34
		Pm	35.4
			Z: 1.2s; 0.021μ
		eIPP	32 49
	WAR	Δ=116.23°	
	(SKD)	eIPP	04 32 32
		Lm	05 22 28
			NE: 20s; 3.6μ, 13μ
	KRA	Δ=117.96°	
	(GW)	iPP	04 32 45
	(SKD)	ePS	42 30
		eSS	49 10
		Lm	05 11
			NE: 40s; 6.4μ, 6.5μ
		Lm	11
			Z: 52.s; 9.7μ
5.VIII South Shetland Islands, NEIS: 60.81°S, 55.92°W, H=06 ^h 43 ^m 07.9 ^s , h=33 km, MB=5.6			

Date	Station	Phase	T.U. h m s
5.VIII South Shetland Islands - conti- nuation			
	KRA	Δ=126.10°	
	(SKM)	e(PKIKP)	07 02 00
		eIPKIKP	12
		eIPP	04 02
	(SKD)	ePPP	06 40
	NIE	Δ=125.73°	
		ePKIKP	07 02 09
	WAR	Δ=128.26°	
	(GW)	eIPP	07 04 16
	(SKD)	ei	05 32
5.VIII South of Honshu, Moscow: 30.89°N, 138.35°E, H=11 ^h 28 ^m 12.9 ^s , h=500 km, MPV(A)=4.9			
	KRA	Δ=82.71°	
	(SKM)	iP	11 39 44.7 C
	NIE	Δ=82.93°	
		iP	11 39 46.5
5.VIII New Ireland Region, NEIS: 3.69°S, 152.28°E, H=15 ^h 46 ^m 36.2 ^s , h=259 km, MB=5.1			
	KRA	Δ=118.82°	
	(SKM)	iPKIKP	16 04 56.0 C
			Z: 0.9s; 0.026μ
		e	13 45
	NIE	Δ=118.95°	
		iPKIKP	16 04 56.3 C
		Pm	57.7
			Z: 1.1s; 0.061μ
5.VIII NIE			
		eP	16 15 12
		Pm	13.5
			Z: 0.9s; 0.017μ
		i	17.5
5.VIII Italy, EMSC: 42.65°N, 12.54°E, H=18 ^h 12 ^m 48.2 ^s , h=10 km			
	NIE	Δ=8.67°	
		ePn	18 14 57
5.VIII Southern Sumatra, NEIS: 4.13°S, 102.43°E, H=18 ^h 52 ^m 07.3 ^s , h=33 km, MB=6.0; MPV=6.0 (Niedzica)			

Date	Station	Phase	T.U. h m s
5.VIII NIE			
		Δ=87.98°	
		iP	19 04 56.0 C
			Z: 0.8s; 0.073μ
		iPcP	05 03.5
		isP	12
	WAR	Δ=87.98°	
	(SKD)	eIP	19 04 56
		eIPP	08 18
	KRA	Δ=88.32°	
	(SKM)	iP	19 04 56.8 C
		i	05 16.3
5.VIII NIE			
		iP	19 08 23.0 C
			Z: 1.5s; 0.13μ
		i	36.4
	KRA		
	(SKM)	eIP	19 08 24 C
			Z: 1.6s; 0.10μ
5.VIII KRA			
	(SKM)	iP	23 25 02.6
NIE			
		eIP	23 25 05 C
7.VIII NIE			
		eIP	01 08 22
7.VIII Severnaya Zemlya, Moscow: 79.41°N, 96.18°E, H=12 ^h 48 ^m 27.4 ^s , h normal, MPV(A)=4.8; MPV=5.2 (Kraków)			
	KRA	Δ=38.76°	
	(SKM)	eIP	12 55 50 C
			Z: 1.4s; 0.042μ
8.VIII Afghanistan - USSR Border Region, NEIS: 36.58°N, 71.13°E, H=00 ^h 01 ^m 46.8 ^s , h=225 km, MB=5.5; MPV=5.9 (Niedzica), 6.0 (Kraków)			
	WAR	Δ=38.24°	
	(SKD)	eIP	00 08 46
		eipP	09 56
		eisP	10 24
		eISS	17 26
NIE			
		Δ=38.60°	
		eIP	00 08 49 C
			Z: 1.0s; 0.17μ
		ipP	09 26
		i	40.6



Date	Station	Phase	T.U. h m s
8.VIII Afghanistan - continuation			
	KRA	$\Delta=38.85^\circ$	
(SKM)	iP		00 08 50.8 C
	Pm		52.5
		Z: 1.1s; 0.25 μ	
	i		09 41.1
	eisP		10 00
	eI		24
8.VIII Northern Colombia, NEIS: 6.91 ⁰ N, 72.10 ⁰ W, H=02 ^h 58 ^m 35.6 ^s , h=39 km, MB=5.3			
	KRA	$\Delta=86.07^\circ$	
(SKM)	eP		03 11 12
8.VIII Santa Cruz Islands, NEIS: 12.30 ⁰ S, 166.55 ⁰ F, H=07 ^h 46 ^m 16.9 ^s , h=33 km, MB=5.2; MLV=6.2 (Kraków)			
	WAR	$\Delta=131.48^\circ$	
(GW)	iPKIKP		08 05 28
(SKD)	iPKS		08 52
	KRA	$\Delta=133.46^\circ$	
(SKM)	ePKIKP		08 05 31
	ePP		07 59
(SKD)	eIPKS		09 01
	Lm		09 03.5
		NZ: 25s; 4.3 μ , 6.5 μ	
9.VIII NIE			
	eIP		00 12 46.5
9.VIII Fiji Islands Region, NEIS: 14.77 ⁰ S, 176.20 ⁰ W, H=00 ^h 48 ^m 36.7 ^s , h=300 km, MB=5.5			
	NIE	$\Delta=142.89^\circ$	
	iPKHKP		01 07 31.4
		Z: 1.3s; 0.039 μ	
	eIPKIKP		37
9.VIII Mid-Indian Rise, NEIS: 20.73 ⁰ S, 68.60 ⁰ E, H=12 ^h 18 ^m 42.2 ^s , h=33 km, MB=5.3			
	KRA	$\Delta=82.56^\circ$	
(SKM)	eP		12 31 02 C
	i		13.3
9.VIII Central Siberia, NEIS: 63.69 ⁰ N, 125.36 ⁰ E, H=17 ^h 59 ^m 57.9 ^s , h=0 km, MB=5.6; MPV=5.8 (Kraków), 5.9 (Niedzica)			
	KRA	$\Delta=52.55^\circ$	
(SKM)	iP		18 09 15.2 C
	Pm		16.2
		Z: 0.9s; 0.079 μ	

Date	Station	Phase	T.U. h m s
9.VIII NIE $\Delta=52.95^\circ$			
	iP		18 09 18.0 C
	Pm		21.0
		Z: 1.0s; 0.10 μ	
	i		34.2
	iPcP		10 27.5
	KSP	$\Delta=53.13^\circ$	
	iP		18 09 19.8 D
	iPcP		10 27.8
9.VIII Taiwan, NEIS: 24.96 ⁰ N, 120.74 ⁰ E, H=19 ^h 36 ^m 06.9 ^s , h=33 km, MB=5.7; MPV=5.2 (Niedzica)			
	KRA	$\Delta=77.81^\circ$	
(SKM)	eP		18 47 08
	NIE	$\Delta=77.84^\circ$	
	eIP		18 47 08.7
		Z: 1.4s; 0.032 μ	
	i		15.0
	ipP		21.4
9.VIII Southeastern Coast of China, Moscow: 26.01 ⁰ N, 120.60 ⁰ E, H=19 ^h 36 ^m 13.7 ^s , h normal, MLV=4.8; MPV=5.5 (Kraków)			
	KRA	$\Delta=76.93^\circ$	
(SKM)	eIP		19 48 03.9
		Z: 1.0s; 0.036 μ	
	NIE	$\Delta=76.97^\circ$	
	eIP		19 48 03.8
10.VIII Novaya Zemlya, NEIS: 73.34 ⁰ N, 54.88 ⁰ E, H=07 ^h 59 ^m 57.3 ^s , h=0 km, MB=5.7; MPV=5.6 (Kraków), 6.1 (Książ)			
	WAR	$\Delta=25.53^\circ$	
(SKD)	iP		08 05 30
	KRA	$\Delta=27.81^\circ$	
(SKM)	iP		08 05 49.5 C
		Z: 0.6s; 0.074 μ	
	i		06 03.9
(GW)	eI		11 05
	KSP	$\Delta=27.94^\circ$	
	iP		08 05 51.7 D
	i		54.7
	Pm		56
		Z: 0.7s; 0.23 μ	
	NIE	$\Delta=28.32^\circ$	
	iP		08 05 55.4

Date	Station	Phase	T.U. h m s
10.VIII Burama, NEIS: 26.45 ⁰ N, 96.89 ⁰ E, H=14 ^h 52 ^m 51.8 ^s , h=33 km, MB=5.0; MPV=5.4 (Kraków), 5.2 (Niedzica)			
	NIE	$\Delta=61.87^\circ$	
	iP		15 03 10.5
		Z: 1.0s; 0.022 μ	
	i		18.2
	KRA	$\Delta=62.02^\circ$	
(SKM)	eP		15 03 11
		Z: 1.0s; 0.030 μ	
10.VIII South Atlantic Ridge, NEIS: 35.84 ⁰ S, 16.80 ⁰ W, H=16 ^h 53 ^m 35.5 ^s , h=33 km, MB=5.3; MLV=5.8 (Kraków), 5.7 (Warszawa)			
	KRA	$\Delta=91.49^\circ$	
(SKM)	eP		17 06 40
	epP		53
(SKD)	eSKS		17 23
	Lm		39.2
		NEZ: 25s; 4.9 μ , 4.1 μ , 5.0 μ	
	NIE	$\Delta=91.06^\circ$	
	eP		17 06 44
	WAR	$\Delta=93.79^\circ$	
(SKD)	eP		17 07 28
	eIS		18 28
	eL		37.0
	Lm		42 16
		Z: 32s; 5.5 μ	
10.VIII Fiji Islands Region, NEIS: 16.60 ⁰ S, 175.74 ⁰ E, H=20 ^h 07 ^m 20.1 ^s , h=33 km, MB=5.5			
	KRA	$\Delta=141.33^\circ$	
(SKM)	ePKIKP		20 26 47
	NIE	$\Delta=141.66^\circ$	
	ePKIKP		20 26 50
12.VIII Fiji Islands Region, NEIS: 18.77 ⁰ S, 178.12 ⁰ W, H=16 ^h 40 ^m 30.3 ^s , h=550 km, MB=4.6			
	KRA	$\Delta=145.60^\circ$	
(SKM)	eIPKP		16 59 10
	NIE	$\Delta=146.01^\circ$	
	eIPKP		16 59 12
		Z: 0.9s; 0.017 μ	

Date	Station	Phase	T.U. h m s
12.VIII KSP $\Delta=146.01^\circ$			
	iPKP		16 59 12.9 C
13.VIII Taiwan Region, NEIS: 22.33 ⁰ N, 121.36 ⁰ E, H=03 ^h 41 ^m 34.5 ^s , h=33 km, MB=5.5; MPV=5.5 (Kraków), 5.4 (Niedzica)			
	KRA	$\Delta=80.17^\circ$	
(SKM)	eP		03 53 43 C
		Z: 1.2s; 0.047 μ	
	eipP		56
	NIE	$\Delta=80.19^\circ$	
	eIP		03 53 45.8
	Pm		48
		Z: 1.6s; 0.054 μ	
13.VIII Near Coast of Honshu, Japan, NEIS: 35.51 ⁰ N, 139.72 ⁰ E, H=13 ^h 22 ^m 51.0 ^s , h=92 km, MB=5.1			
	KRA	$\Delta=79.58^\circ$	
(SKM)	eIP		13 34 50
		Z: 0.7s; 0.037 μ	
	eipP		35 15
13.VIII Fiji Islands Region, NEIS: 17.70 ⁰ S, 178.50 ⁰ W, H=20 ^h 53 ^m 55.0 ^s , h=606 km, MB=5.4			
	KRA	$\Delta=144.48^\circ$	
(SKM)	iPKP		21 12 24.7
		Z: 0.7s; 0.22 μ	
	i		30.2
	KSP	$\Delta=144.89^\circ$	
	ePKP		21 12 26 D
	i		27.7
		Z: 1s; 0.50 μ	
	NIE	$\Delta=144.89^\circ$	
	iPKP		21 12 27.5 D
	Pm		31.0
		Z: 1.2s; 0.46 μ	
13.VIII Southern California, NEIS: 34.35 ⁰ N, 119.70 ⁰ W, H=22 ^h 54 ^m 53.5 ^s , h=7 km, MB=5.7; MPV=5.5 (Kraków), 5.4 (Niedzica), MLV=5.9 (Warszawa), 6.0 (Kraków)			
	WAR	$\Delta=87.19^\circ$	
(SKD)	eIP		23 07 41
	eIS		18 20

Date	Station	Phase	T.U. h m s
13.VIII	Southern California - continuation		
WAR	e1ScS		23 18 34
	Lm		49 46
		NEZ: 16s; 3.8μ, 12μ, 4.3μ	
KRA	Δ=88.68°		
(SKM)	e1P		23 07 46
		Z: 1.0s; 0.036μ	
(SKD)	e1PP		11 16
	e1SKS		18 24
	e1PS		19 40
	Lm		50.5
		NEZ: 15s; 2.6μ, 3.4μ, 4.5μ	
NIE	Δ=89.35°		
	e1P		23 07 52 C
		Z: 1.4s; 0.035μ	
14.VIII	Northern Sumatra, Moscow: 5.08°N, 95.16°E, H=00 ^h 42 ^m 33.2 ^s , h normal, MPV(A)=5.3; MPV=5.5 (Kraków), 5.2 (Niedzica)		
NIE	Δ=76.31°		
	e1P		00 54 23 C
		Z: 0.8s; 0.016μ	
	e1		44
KRA	Δ=76.64°		
(SKM)	e1P		00 54 27
		Z: 0.6s; 0.023μ	
14.VIII	Mid-Indian Rise, Moscow: 13.61°S, 66.39°E, H=03 ^h 23 ^m 42.4 ^s , h normal, MPV(A)=5.3		
NIE	Δ=74.73°		
	eP		03 35 28
14.VIII	Philippine Islands, Moscow: 120.95°E, 12.85°N, H=07 ^h 01 ^m 24.2 ^s , h normal, MPV(A)=5.5		
KRA	Δ=87.20°		
(SKM)	1P		07 14 07.2
NIE	Δ=87.14°		
	1P		07 14 07.3
		Z: 0.8s; 0.015μ	
	1		26

Date	Station	Phase	T.U. h m s
14.VIII	Gibraltar Strait, Moscow: 36.30°N, 6.87°W, H=14 ^h 17 ^m 43.9 ^s , h normal, MLV=4.5; MPV=5.1 (Kraków, Niedzica)		
KSP	Δ=22.07°		
	eP		14 22 43
KRA	Δ=23.74°		
(SKM)	1P		14 22 59.1 C
	Pm		23 03
		Z: 1.3s; 0.082μ	
NIE	Δ=23.71°		
	1P		14 23 00.5
		Z: 0.9s; 0.048μ	
	1PP		29.3
14.VIII	Kuril Islands, NEIS: 50.13°N, 155.94°E, H=18 ^h 46 ^m 24.9 ^s , h=80 km, MPV(A)=6.0; MPV=6.2 (Kraków), 6.1 (Niedzica)		
WAR	Δ=71.09°		
(SKD)	e1P		18 57 36
	e1S		19 06 46
KRA	Δ=73.34°		
(SKM)	eP		18 57 49
		Z: 0.6s; 0.12μ	
(SKD)	eS		19 07 12
KSP	Δ=73.68°		
	eP		18 57 52
NIE	Δ=73.78°		
	e1P		18 57 53
	Pm		57.0
		Z: 1.5s; 0.27μ	
	1pP		58 16.5
15.VIII	Caucasus, Moscow: 41.40°N, 44.19°E, H=09 ^h 04 ^m 21.6 ^s , h normal, MPV(A)=4.8		
NIE	Δ=18.52°		
	eP		09 08 41
	i		44.1
KRA	Δ=18.95°		
(SKM)	eP		09 08 45
	e(S)		12 25

Date	Station	Phase	T.U. h m s
15.VIII	South Atlantic Ocean, Moscow: 29.00°S, 12.87°W, H=11 ^h 55 ^m 22.8 ^s , h normal, MPV(A)=5.5; MPV=5.5 (Kraków), 5.1 (Niedzica)		
KRA	Δ=83.92°		
(SKM)	eP		12 07 56
		Z: 1.4s; 0.063μ	
	1		08 01.8
NIE	Δ=83.49°		
	eP		12 07 56
		Z: 1.2s; 0.021μ	
15.VIII	Kermadec Islands, Moscow: 30.65°S, 178.58°W, H=12 ^h 37 ^m 12.8 ^s , h normal, MPV(A)=6.3; MLV=6.8 (Warszawa)		
WAR	Δ=154.06°		
(SKD)	1PKIKP		12 57 02 C
	e1PKP ₂		30
	1PKS		13 00 40
	Lm		53 18
		NEZ: 36s, 40s, 40s, 17μ, 20μ, 25μ	
	Lm		14 05 58
		NEZ: 24s; 15μ, 20μ, 18μ	
KRA	Δ=156.14°		
(SKM)	ePKIKP		12 57 03
		Z: 1.4s; 0.17μ	
	1		15.5
(GW)	1		32
(SKD)	e1PP		13 01 10
NIE	Δ=156.43°		
	e1PKIKP		12 57 07.0 C
	Pm		10.5
		Z: 1.5s; 0.266μ	
	1PKP ₂		39
KSP	Δ=156.98°		
	ePKIKP		12 57 08
	1PKP ₂		41.5
15.VIII	KRA		
(SKM)	1P		13 07 36.9 C
		Z: 1.1s; 0.048μ	
	1		50.9
(SKD)	Lm		14 05.5
		NEZ: 26s; 14μ, 16μ, 14μ	

Date	Station	Phase	T.U. h m s
15.VIII	NIE		
	1P		13 07 41.5
		Z: 1.1s; 0.039μ	
	1		56
16.VIII	Tonga Islands Region, Moscow: 21.28°S, 178.17°W, H=12 ^h 40 ^m 14.3 ^s , h normal, MPV(A)=5.7		
KRA	Δ=147.91°		
(SKM)	e1PKP		12 59 59.6 C
		Z: 1.2s; 0.079μ	
	1PKP ₂		13 00 04.3
KSP	Δ=148.38°		
	1PKP		13 00 01.3 C
NIE	Δ=148.30°		
	1PKP		13 00 02.4
		Z: 1.7s; 0.12μ	
	1PKP ₂		06.5
	1		22.5
16.VIII	China, Moscow: 39.07°N, 100.63°E, H=14 ^h 56 ^m 54.8 ^s , h normal, MPV(A)=5.2		
KRA	Δ=55.87°		
(SKM)	eP		15 06 32
16.VIII	Kuril Islands, NEIS: 48.65°N, 153.58°E, H=20 ^h 39 ^m 00.0 ^s , h=33 km; MPV=5.6 (Kraków), 5.4 (Niedzica)		
KRA	Δ=73.90°		
(SKM)	eP		20 50 33 C
		Z: 1.8s; 0.10μ	
NIE	Δ=74.33°		
	1P		20 50 37.0
		Z: 1.5s; 0.044μ	
	e1pP		48
17.VIII	South of Fiji Islands, NEIS: 22.07°S, 179.65°W, H=08 ^h 32 ^m 20.1 ^s , h=600 km, MB=5.5		
WAR	Δ=145.92°		
(SKD)	e1PKHKP		08 50 52
	e1pPKP		53 10
KRA	Δ=148.09°		
(SKM)	e1PKHKP		08 50 55 D
		Z: 1.0s; 0.030μ	
	1		51 00
	e1pPKP		53 18



Date	Station	Phase	T.U. h m s
17.VIII	South of Fiji Islands - continuation		
	NIE	$\Delta=148.45^\circ$	
	iPKHKP	08 50 56.5	D
		Z: 1.3s; 0.048 μ	
	i	51 01.9	
	KSP	$\Delta=148.69^\circ$	
	iPKIKP	08 50 57	
	iPKHKP	51 02.0	
	Pm	03.0	
		Z: 0.7s; 0.023 μ	
17.VIII	KRA		
	(SKM) iP	08 55 08.5	C
		Z: 0.8s; 0.032 μ	
	NIE		
	iP	08 55 10.5	D
		Z: 0.9s; 0.048 μ	
17.VIII	Tonga Islands, NEIS: 20.94 $^\circ$ S, 174.56 $^\circ$ W, H=08 h 51 m 53.6 s , h=33 km, MB=5.7		
	WAR	$\Delta=146.50^\circ$	
	(SKD) iPKHKP	09 11 32	
	ei	50	
	eiPKS	14 54	
	KRA	$\Delta=148.75^\circ$	
	(SKM) ePKIKP	09 11 35.6	
	iPKHKP	39.2	
	Pm	40.3	
		Z: 1.6s; 0.25 μ	
	i	57.2	
	(SKD) ePKS	15 06	
	NIE	$\Delta=149.20^\circ$	
	eiPKIKP	09 11 37	C
	iPKHKP	42.7	
	Pm	43.5	
		Z: 1.8s; 0.39 μ	
	i	57.4	
	KSP	$\Delta=148.96^\circ$	
	eiPKP	09 11 40	D
		Z: 0.8s; 0.057 μ	
18.VIII	South of Honshu, Japan, NEIS: 32.91 $^\circ$ N, 141.35 $^\circ$ E, H=13 h 03 m 24.4 s , h=33 km, MB=4.4		
	KRA	$\Delta=82.48^\circ$	
	(SKM) eP	13 15 46	

Date	Station	Phase	T.U. h m s
18.VIII	Guatemala Border Region, Moscow: 16.08 $^\circ$ N, 91.00 $^\circ$ W, H=15 h 35 m 42.7 s , h=250 km, MPV(A)=5.5; MLV=5.7 (Kraków), 6.0 (Warszawa)		
	KRA	$\Delta=90.63^\circ$	
	(SKM) eiP	15 48 16	
		Z: 1.0s; 0.030 μ	
	(GW) eiPP	51 51	
	(SKD) eS	58 46	
	Lm	16 21.0	
		NEZ: 30s; 2.5 μ , 5.9 μ , 4.7 μ	
	WAR	$\Delta=90.26^\circ$	
	(SKD) eiP	15 48 19	
	eiPP	51 56	
	ei	52 20	
	eiS	58 39	
	Lm	16 22 32	
		NEZ: 30s, 30s, 32s, 8.5 μ , 11 μ , 10 μ	
18.VIII	Southern Alaska, Moscow: 59.91 $^\circ$ N, 153.64 $^\circ$ W, H=18 h 52 m 28.1 s , h=120 km, MPV(A)=5.7		
	WAR	$\Delta=68.12^\circ$	
	(SKD) eiP	19 03 16	
	eipP	44	
	eiS	12 04	
	eiPS	48	
	KRA	$\Delta=70.27^\circ$	
	(SKM) eP	19 03 29	
	i	44.8	
	eipP	04 00.8	
	NIE	$\Delta=70.91^\circ$	
	eP	19 03 34	
	ipP	04 05	
18.VIII	Albania, FMSC: 41.79 $^\circ$ N, 20.30 $^\circ$ E, H=20 h 53 m 22.8 s , h=10 km, MB=5.0 (NEIS), MLV=5.0 (Kraków)		
	NIE	$\Delta=7.63^\circ$	
	iPn	20 55 13.6	D
	i	17.5	D
	iP*	28.5	
	iPg	40.7	

Date	Station	Phase	T.U. h m s
18.VIII	Albania - continuation		
	KRA	$\Delta=8.27^\circ$	
	(SKM) eiPn	20 55 23.2	C
		Z: 1.0s; 0.090 μ	
	iSn	56 59.8	
	(SKD) Lm	59 24	
		NEZ: 10s; 4.4 μ , 5.9 μ , 5.4 μ	
	KSP	$\Delta=9.47^\circ$	
	eiPn	20 55 39	
	i(S)	57 44.4	
	WAR	$\Delta=10.47^\circ$	
	(GW) eiPn	20 55 56	
	ei	56 26	
	eiS	58 20	
	(SKD) i	59 40	
	i	21 00 24	
19.VIII	Ryukyu Islands, Moscow: 26.81 $^\circ$ N, 127.80 $^\circ$ E, H=01 h 30 m 07.9 s , h normal, MPV(A)=5.3; MPV=5.3 (Kraków), 5.0 (Niedzica)		
	KRA	$\Delta=80.43^\circ$	
	(SKM) eP	01 42 17	
		Z: 1.0s; 0.024 μ	
	eiPoP	25	
	NIE	$\Delta=80.53^\circ$	
	eiP	01 42 18	
		Z: 1.0s; 0.011 μ	
	eipP	31	
19.VIII	Tonga Islands, NEIS: 20.47 $^\circ$ S, 174.34 $^\circ$ W, H=17 h 19 m 54.4 s , h=33 km, MB=4.8		
	NIE	$\Delta=148.83^\circ$	
	eiPKP	17 39 38	
		Z: 0.7s; 0.013 μ	
	KRA	$\Delta=148.37^\circ$	
	(SKM) eiPKP	17 39 39	D
20.VIII	Philippine Islands, Moscow: 16.42 $^\circ$ N, 120.55 $^\circ$ E, H=21 h 39 m 21.9 s , h normal, MPV(A)=5.3; MPV=5.5 (Kraków), 5.4 (Niedzica)		
	KRA	$\Delta=84.21^\circ$	
	(SKM) eiP	21 51 57	
		Z: 1.3s; 0.059 μ	
	eiPoP	52 02	

Date	Station	Phase	T.U. h m s
20.VIII	NIE	$\Delta=84.17^\circ$	
	eiP	21 51 57	
		Z: 1.5s; 0.053 μ	
	KSP	$\Delta=86.13^\circ$	
	eP	21 52 06	
21.VIII	NIE		
	iP	05 54 07.5	
21.VIII	Off East Coast of Honshu, Japan, NFIS: 33.59 $^\circ$ N, 141.48 $^\circ$ E, H=15 h 58 m 16.2 s , h=33 km, MB=4.3; MPV=5.5 (Kraków), 5.1 (Niedzica)		
	KRA	$\Delta=81.98^\circ$	
	(SKM) eP	16 10 34	
		Z: 0.5s; 0.020 μ	
	NIF	$\Delta=82.23^\circ$	
	eiP	16 10 37	C
		Z: 1.0s; 0.015 μ	
	eipP	51	
21.VIII	South of Africa, NEIS: 47.65 $^\circ$ S, 31.75 $^\circ$ E, H=22 h 05 m 03.5 s , h=33 km, MB=6.1; MPV=6.0 (Niedzica), MLV=6.3 (Warszawa)		
	NIF	$\Delta=97.20^\circ$	
	eP	22 18 33	
	Pm	50.5	
		Z: 1.7s; 0.080 μ	
	KRA	$\Delta=97.85^\circ$	
	(SKM) eP	22 18 41	
	(SKD) ePP	22 37	
	ePS	31 33	
	eiSS	36 49	
	WAR	$\Delta=99.94^\circ$	
	(SKD) eiP	22 18 54	
	iPP	22 57	
	ei	23 21	
	eiSKS	29 33	
	eiPS	31 59	
	Lm	23 02 25	
		NEZ: 20s; 13 μ , 17 μ , 13 μ	
22.VIII	Kuril Islands, NEIS: 44.17 $^\circ$ N, 148.83 $^\circ$ E, H=14 h 31 m 07.2 s , h=33 km, MB=4.8; MPV=5.3 (Kraków), 5.1 (Niedzica)		

Date	Station	Phase	T.U. h m s
22.VIII	Kuril Islands - continuation		
	KRA	$\Delta=76.13^{\circ}$	
	(SKM) eiP	14 42 54.8	D
		Z: 0.7s; 0.020 μ	
	eipP	43 05	
22.VIII	NIE		
	eiP	14 48 32	C
		Z: 0.7s; 0.011 μ	
22.VIII	Caucasus, Moscow: 41.96 ^o N, 43.97 ^o E, H=22 ^h 48 ^m 09.0 ^s , h normal, MPV(A)=4.9		
	NIE	$\Delta=18.08^{\circ}$	
	eiP	22 52 24	
	Pm	36.5	
		Z: 1.2s; 0.052 μ	
	KRA	$\Delta=18.49^{\circ}$	
	(SKM) eiP	22 52 25	
	i	37	
	KSP	$\Delta=20.95^{\circ}$	
	eP	22 52 55	
	i	53 00.5	
		Z: 1s; 0.032 μ	
23.VIII	Costa Rica, NEIS: 10.05 ^o N, 85.25 ^o W, H=00 ^h 38 ^m 30.8 ^s , h=48 km, MSZ=7.0; MPV=6.0 (Kraków), 6.1 (Niedzica), MLV=7.2 (Kraków, Warszawa)		
	KRA	$\Delta=91.93^{\circ}$	
	(SKM) eP	00 51 36	C
		Z: 1.7s; 0.14 μ	
	(SKD) iPP	55 27	
	eiSKS	01 02 17	
	e1PS	03 59	
	Lm	34	
		NEZ: 20s; 42 μ , 60 μ , 71 μ	
	WAR	$\Delta=91.89^{\circ}$	
	(SKD) iP	00 51 37	C
	e1PP	55 24	
	i	01 00 05	
	eiS	02 11	
	e1	03 45	
	iPS	53	
	Lm	33 00	
		NEZ: 20s; 110 μ , 180 μ , 90 μ	

Date	Station	Phase	T.U. h m s
23.VIII	NIE	$\Delta=92.37^{\circ}$	
	eiP	00 51 38	
		Z: 1.8s; 0.19 μ	
23.VIII	Costa Rica, NEIS: 10.26 ^o N, 85.29 ^o W, H=00 ^h 50 ^m 25.7 ^s , h=33 km, MB=5.5; MPV=5.7 (Kraków)		
	KRA	$\Delta=91.80^{\circ}$	
	(SKM) eP	01 03 30	D
		Z: 1.5s; 0.074 μ	
23.VIII	KRA		
	(SKM) eiP	01 27 41.7	D
		Z: 0.6s; 0.016 μ	
	NIE		
	eiP	01 27 42.6	
23.VIII	Ryukyu Islands, Moscow: 26.57 ^o N, 128.09 ^o E, H=07 ^h 09 ^m 31.1 ^s , h normal, MPV(A)=5.2		
	KRA	$\Delta=80.77^{\circ}$	
	(SKM) eP	07 21 47	
23.VIII	Indonesia, Moscow: 4.19 ^o N, 126.36 ^o E, H=19 ^h 33 ^m 59.2 ^s , h normal, MPV(A)=5.6; MPV=5.7 (Niedzica). 5.8 (Kraków)		
	NIE	$\Delta=97.18^{\circ}$	
	eiP	19 47 31	
		Z: 1.0s; 0.028 μ	
	eisP	46	
	KRA	$\Delta=97.25^{\circ}$	
	(SKM) eP	19 47 31	C
		Z: 0.9s; 0.032 μ	
23.VIII	Aleutian Islands, NEIS: 51.87 ^o N, 176.48 ^o E, H=20 ^h 59 ^m 02.7 ^s , h=33 km, MB=5.3; MPV=5.8 (Kraków), 5.6 (Niedzica)		
	KSP	$\Delta=76.29^{\circ}$	
	iP	21 10 50	
	KRA	$\Delta=76.51^{\circ}$	
	(SKM) iP	21 10 51.7	C
		Z: 0.9s; 0.079 μ	
	eisP	11 07	
	NIE	$\Delta=77.06^{\circ}$	
	iP	21 10 56.6	
		Z: 0.9s; 0.048 μ	
	isP	11 12.4	

Date	Station	Phase	T.U. h m s
24.VIII	Greece, EMSC: 40.73 ^o N, 23.58 ^o E, H=01 ^h 23 ^m 51.2 ^s , h=10 km		
	NIE	$\Delta=8.99^{\circ}$	
	ePn	01 26 02	
	eiP ^x	25	
24.VIII	Central Siberia, NEIS: 65.95 ^o N, 112.67 ^o E, H=17 ^h 59 ^m 56.5 ^s , h=0 km, MB=4.9		
	KRA	$\Delta=46.78^{\circ}$	
	(SKM) eiP	18 08 30	C
		Z: 0.5s; 0.049 μ	
	NIE	$\Delta=47.16^{\circ}$	
	iP	18 08 35.0	C
		Z: 0.9s; 0.032 μ	
	KSP	$\Delta=47.43^{\circ}$	
	iP	18 08 35.0	C
26.VIII	Taiwan Region, Moscow: 22.87 ^o N, 121.75 ^o E, H=04 ^h 53 ^m 13.0 ^s , h normal, MPV(A)=4.9; MPV=5.3 (Niedzica)		
	NIE	$\Delta=80.02^{\circ}$	
	iP	05 05 29.5	D
		Z: 1.0s; 0.028 μ	
	eisP	46	
26.VIII	Kuril Islands Region, Moscow: 44.28 ^o N, 149.73 ^o E, H=09 ^h 46 ^m 18.7 ^s , h normal, MPV(A)=4.9		
	KRA	$\Delta=76.37^{\circ}$	
	(SKM) eP	09 58 11	
	isP	24.0	
	NIE	$\Delta=76.75^{\circ}$	
	eiP	09 58 14	
28.VIII	Iran, EMSC: 32.66 ^o N, 49.84 ^o E, H=00 ^h 07 ^m 06.5 ^s , h=54 km; MPV=5.2 (Niedzica), 5.5 (Kraków)		
	NIE	$\Delta=27.61^{\circ}$	
	eiP	00 12 50	C
	Pm	54.7	
		Z: 1.8s; 0.097 μ	
	eisP	13 08	
	KRA	$\Delta=28.12^{\circ}$	
	(SKM) iP	00 12 52.9	C
	Pm	53.6	
		Z: 0.9s; 0.084 μ	

Date	Station	Phase	T.U. h m s
28.VIII	KRA	i	00 12 57.0
	isP		13 08.0
	(GW) e(S)		17 17
	KSP	$\Delta=30.56^{\circ}$	
	eP	00 13 14	
29.VIII	Eastern Kazakh SSR, NEIS: 49.82 ^o N, 78.07 ^o E, H=03 ^h 36 ^m 57.3 ^s , h=0 km, MB=4.7; MPV=5.3 (Niedzica, Kraków)		
	KRA	$\Delta=36.59^{\circ}$	
	(SKM) iP	02 44 07.6	D
		Z: 0.8s; 0.032 μ	
	NIE	$\Delta=36.61^{\circ}$	
	eiP	02 44 08	D
		Z: 1.0s; 0.063 μ	
29.VIII	Eastern Kazakh SSR, NEIS: 50.14 ^o N, 79.16 ^o E, H=02 ^h 37 ^m 06.3 ^s , h=0 km, MB=5.6; MPV=6.6 (Niedzica)		
	KRA	$\Delta=37.11^{\circ}$	
	(SKM) iP	02 44 19.7	C
	NIE	$\Delta=37.14^{\circ}$	
	iP	02 44 21.5	C
		Z: 1.0s; 0.83 μ	
	i	46.0	
	iPP	45 50	
	KSP	$\Delta=38.92^{\circ}$	
	eP	02 44 23	C
	i	35.0	
		Z: 0.7s; 0.18 μ	
29.VIII	Kuril Islands Region, Moscow: 46.88 ^o N, 152.35 ^o E, H=03 ^h 41 ^m 45.0 ^s , h normal, MPV=5.2 (Niedzica)		
	NIE	$\Delta=75.45^{\circ}$	
	iP	03 53 26.5	
		Z: 0.9s; 0.017 μ	
29.VIII	Southwestern Ryukyu Islands, NEIS: 24.86 ^o N, 125.46 ^o E, H=07 ^h 35 ^m 03.9 ^s , h=57 km, MB=5.3; MPV=5.7 (Kraków), 5.6 (Niedzica)		
	KRA	$\Delta=80.62^{\circ}$	
	(SKM) iP	07 47 12.0	C
		Z: 0.7s; 0.049 μ	
	isP	37.3	

Date	Station	Phase	T.U. h m s
29.VIII	Southwestern Ryukyu Islands - - continuation		
	NIE $\Delta=80.69^{\circ}$		
	1P 07 47 14.0 C		
	Z: 1.0s; 0.056 μ		
	KSP $\Delta=82.29^{\circ}$		
	1P 07 47 21.2 C		
29.VIII	Kuril Islands, NFIS: 44.08 ^o N, 148.81 ^o E, H=11 ^h 20 ^m 02.4 ^s , h=75 km, MB=4.2; MPV=5.3 (Kraków), 5.2 (Niedzica)		
	KRA $\Delta=76.20^{\circ}$		
	(SKM) e1P 11 31 46 D		
	Z: 0.8s; 0.023 μ		
	NIE $\Delta=76.57^{\circ}$		
	1P 11 31 48.0		
	Z: 1.0s; 0.019 μ		
	e1pP 32 04		
29.VIII	Southern Iran, Moscow: 29.55 ^o N, 51.52 ^o E, H=14 ^h 10 ^m 59.5 ^s , h normal, MPV(A)=5.1; MPV=5.4 (Kraków)		
	NIE $\Delta=30.87^{\circ}$		
	eP 14 17 20 C		
	KRA $\Delta=31.39^{\circ}$		
	(SKM) eP 14 17 24		
	Z: 0.6s; 0.031 μ		
30.VIII	New Hebrides Islands, Moscow: 15.50 ^o S, 167.47 ^o E, H=13 ^h 26 ^m 33.1 ^s , h normal, MPV(A)=5.6		
	NIE $\Delta=136.88^{\circ}$		
	1PKIKP 13 45 55.5 D		
	Z: 1.0s; 0.019 μ		
30.VIII	New Guinea Region, Moscow: 6.3 ^o S, 147.13 ^o E, H=20 ^h 28 ^m 42.8 ^s , h normal, MPV(A)=5.4		
	NIE $\Delta=118.13^{\circ}$		
	ePKIKP 20 47 36		
	Pm 39		
	Z: 0.9s; 0.014 μ		
31.VIII	China, Moscow: 27.43 ^o N, 101.25 ^o E, H=03 ^h 26 ^m 48.5 ^s , h normal, MPV(A)=5.1; MPV=5.4 (Kraków, Niedzica)		

Date	Station	Phase	T.U. h m s
31.VIII	KRA $\Delta=64.09^{\circ}$		
	(SKM) eP 03 37 20 D		
	Z: 0.8s; 0.023 μ		
	NIE $\Delta=63.99^{\circ}$		
	e1P 03 37 22 D		
	Z: 1.2s; 0.037 μ		
	KSP $\Delta=66.18^{\circ}$		
	eP 03 37 34		
31.VIII	Andaman Islands Region, NFIS: 11.08 ^o N, 93.15 ^o E, H=08 ^h 40 ^m 21.4 ^s , h=33 km; MPV=5.5 (Kraków)		
	KRA $\Delta=70.81^{\circ}$		
	(SKM) eP 08 51 36 C		
	Z: 0.7s; 0.025 μ		
31.VIII	Philippine Islands, Moscow: 6.63 ^o N, 126.76 ^o E, H=10 ^h 08 ^m 01.7 ^s , h normal, MPV(A)=5.9; MPV=5.7 (Kraków, Niedzica)		
	KRA $\Delta=95.60^{\circ}$		
	(SKM) e1P 10 21 30 C		
	Z: 1.0s; 0.036 μ		
	e1sP 49		
	NIE $\Delta=95.55^{\circ}$		
	1P 10 21 30.5 C		
	Z: 1.3s; 0.045 μ		
	KSP $\Delta=97.56^{\circ}$		
	eP 10 21 38		
31.VIII	Southern Nevada, NEIS: 37.28 ^o N, 116.36 ^o W, H=14 ^h 00 ^m 00.0 ^s , h=0 km, MB=5.5; MPV=6.0 (Kraków), 5.9 (Niedzica)		
	KSP $\Delta=82.89^{\circ}$		
	eP 14 12 26		
	KRA $\Delta=84.87^{\circ}$		
	(SKM) e1P 14 12 36 C		
	Pm 39.0		
	Z: 1.2s; 0.16 μ		
	e1 59		
	NIE $\Delta=85.53^{\circ}$		
	1P 14 12 42.0 C		
	Z: 1.2s; 0.11 μ		

Date	Station	Phase	T.U. h m s
1978			
1.IX	New Hebrides Islands, NEIS: 17.46 ^o S, 167.95 ^o E, H=04 ^h 16 ^m 42.8 ^s , h=33 km, MB=5.0		
	WAR $\Delta=136.63^{\circ}$		
	(SKD) e1PKIKP 04 36 04		
	e1PP 38 38		
	e1 45 12		
	Lm 05 31 22		
	Z: 24s; 4.1 μ		
	KRA $\Delta=138.57^{\circ}$		
	(SKM) ePKIKP 04 36 06		
	e1 24		
	(SKD) ePKS 39 43		
	Lm 05 37.4		
	NFZ: 22s; 3.8 μ , 3.2 μ , 6.3 μ		
	NIE $\Delta=138.79^{\circ}$		
	ePKIKP 04 36 07		
	e1 11		
	Pm 13.7		
	Z: 1.3s; 0.030 μ		
	e1PKS 39 43		
1.IX	Kermadec Islands, NEIS: 30.55 ^o S, 178.53 ^o W, H=07 ^h 14 ^m 50.1 ^s , h=33 km, MB=5.5		
	KRA $\Delta=156.08^{\circ}$		
	(SKM) ePKIKP 07 34 43		
	Z: 1.4s; 0.052 μ		
	e1PKP ₂ 35 09		
	NIE $\Delta=156.37^{\circ}$		
	1PKIKP 07 34 44.0		
	Z: 1.6s; 0.045 μ		
	i 35 06.1		
	1PKP ₂ 16.5		
1.IX	Solomon Islands, Moscow: 5.91 ^o S, 155.06 ^o E, H=09 ^h 56 ^m 13.0 ^s , h normal, MLV=6.1; MLH=6.2 (Kraków), 6.5 (Warszawa), MLV=6.2 (Kraków, Warszawa)		
	KRA $\Delta=122.18^{\circ}$		
	(SKM) ePKIKP 10 15 09		
	e1 30		
	(GW) e1 16 18		
	(SKD) Lm 57.7		
	NZ: 35s; 11 μ , 9.5 μ		



Date	Station	Phase	T.U. h m s
1978			
1.IX	NIE $\Delta=122.32^{\circ}$		
	e1PKIKP 10 15 10		
	i 18.8		
	WAR $\Delta=120.39^{\circ}$		
	(SKD) e1PP 10 16 40		
	e1PS 26 34		
	Lm 11 10 38		
	NFZ: 22s, 20s, 22s; 7.3 μ , 11 μ , 6.5 μ		
1.IX	NIE		
	1P 18 56 17.8		
1.IX	Greece, EMSC: 39.21 ^o N, 21.58 ^o E, H=22 ^h 46 ^m 20.1 ^s , h=35 km		
	NIE $\Delta=10.25^{\circ}$		
	eP 22 48 46		
	Z: 1.3s; 0.027 μ		
	KRA $\Delta=10.90^{\circ}$		
	(SKM) eP 22 48 53		
	(GW) e1 51 40		
	i 52 48		
	WAR $\Delta=13.04^{\circ}$		
	(SKD) e1S 22 51 56		
2.IX	Taiwan, NEIS: 24.83 ^o , 121.95 ^o E, H=01 ^h 57 ^m 32.4 ^s h=101 km, MB=6.3		
	WAR $\Delta=77.09^{\circ}$		
	(SKD) 1P 02 09 16 C		
	1pP 42		
	1S 18 52		
	NE: 12s; 15 μ , 22 μ		
	1PS 19 42		
	KRA $\Delta=78.61^{\circ}$		
	(SKM) 1P 02 09 24.5 C		
	Z: 1.0s; 0.38 μ		
	i 40.2		
	(GW) 1S 19 10		
	(SKD) Lm 38.5		
	NE: 35s; 8.4 μ , 6.0 μ		
	NIE $\Delta=78.66^{\circ}$		
	1P 02 09 26 C		
	Z: 1.5s; 0.71 μ		



Date	Station	Phase	T.U. h m s
2.IX Taiwan - continuation			
NIE	i		02 09 31
	iPcP		34
	ipP		48
KSP	$\Delta=80.36^\circ$		
	iP		02 09 34.5
	Pm		42.5
			Z: 0.7s; 0.13 μ
2.IX Mexico, NFIS: 17.04°N, 93.87°W H=16 ^h 03 ^m 43.0 ^s , h=106 km, MB=4.8			
KRA	$\Delta=91.50^\circ$		
(SKM)	iP		16 16 38.3 D
			Z: 0.9s; 0.026 μ
3.IX Caucasus, Moscow: 44.64°N, 37.99°E, H=00 ^h 21 ^m 15.2 ^s , h normal, MLV=5.5; MLH=5.3, MLV=4.9 (Kraków)			
NIE	$\Delta=12.96^\circ$		
	eP		00 24 18 C
	i		24.8
	Pm		37.7
			Z: 1.1s; 0.22 μ
KRA	$\Delta=13.37^\circ$		
(SKM)	eP		00 24 23 C
			Z: 1.1s; 0.21 μ
(GW)	i		49.3
	i		27 14.3
	Lm		29.2
			NE: 6.0s; 6.3 μ , 4.9 μ
	Lm		29.8
			Z: 3.0s; 1.8 μ
KSP	$\Delta=15.83^\circ$		
	eP		00 24 56
Federal Republic of Germany, FMSC: 48.29°N, 8.94°E, H=05 ^h 08 ^m 31.8 ^s , MB=4.9 (NFIS), MS=5.1 (NFIS)			
KSP	$\Delta=5.42^\circ$		
	e1Pn		05 09 51.0
	i		59.0
	iPg		10 13.0
RAC	$\Delta=6.33^\circ$		
(SK)	ePn		05 09 58
	iPg		10 30

Date	Station	Phase	T.U. h m s,
3.IX RAC i 05 11 22			
	Lm		39
			NEZ: 2s, 2s, 1s; 145 μ , 160 μ , 22 μ
KRA	$\Delta=7.42^\circ$		
(SKM)	e1Pn		05 10 18.6 C
			Z: 1.6s; 0.12 μ
	iPg		49.3
(GW)	i		11 13.8
	i		12 27.3
	Lm		13.4
			NEZ: 3.5s; 26 μ , 17 μ , 7.0 μ
3.IX Kuril Islands, NFIS: 49.59°N, 154.13°E, H=07 ^h 31 ^m 24.6 ^s , h=125 km, MB=5.4			
NIE	$\Delta=73.68^\circ$		
	iP		07 42 48 D
	Pm		50.3
			Z: 1.0s; 0.18 μ
	iPcP		43 04
KSP	$\Delta=73.65^\circ$		
	iP		07 42 48.0
			Z: 1s; 0.064 μ
Federal Republic of Germany, FMSC: 48.27°N, 8.99°E, H=10 ^h 02 ^m 43.3 ^s			
KSP	$\Delta=5.40^\circ$		
	ePn		10 04 03
	e1Pg		24.5
	i		34.0
RAC	$\Delta=6.30^\circ$		
(SK)	eP ^x		10 04 29
KRA	$\Delta=7.40^\circ$		
(SKM)	ePn		10 04 31.3
	e1P ^x		48.3
(GW)	ei		06 22
NIE	$\Delta=7.57^\circ$		
	iPn		10 04 34
	Pm		35.5
			Z: 1.3s; 0.037 μ
	iP ^x		53
	i		06 30
5.IX Kermadec Islands Region, Moscow: 29.55°S, 176.85°W, H=01 ^h 47 ^m 03.9 ^s , h normal, MLV=5.0			

Date	Station	Phase	T.U. h m s
5.IX Kermadec Islands - continuation			
KRA	$\Delta=155.46^\circ$		
(SKM)	ePKHKP		02 07 10
5.IX Taiwan, NFIS: 24.08°N, 121.75°E, H=03 ^h 42 ^m 32.1 ^s , h=20 km, MB=5.2			
NIE	$\Delta=79.10^\circ$		
	e1P		03 54 36
KRA	$\Delta=79.07^\circ$		
(SKM)	eP		03 54 37
	ePcP		51
	eS		04 04 34
5.IX Roumania, EMSC: 45.71°N, 26.59°E, H=13 ^h 36 ^m 12.0 ^s			
NIE	$\Delta=5.64^\circ$		
	iPn		13 37 33.5
			Z: 1.3s; 0.14 μ
	iP ^x		42.7
	iPg		55.2
KRA	$\Delta=6.24^\circ$		
(SKM)	e1Pn		13 37 40.5 D
			Z: 0.7s; 0.029 μ
	eP ^x		55
6.IX Near Coast of Chiapas, Mexico, NFIS: 14.41°N, 93.11°W, H=01 ^h 01 ^m 08.1 ^s , h=33 km, MB=4.6			
WAR	$\Delta=92.78^\circ$		
(SKD)	e1P		01 14 22
NIE	$\Delta=93.69^\circ$		
	e1P		01 14 24
6.IX Loyalty Islands, NFIS: 20.28°S, 168.86°E, H=04 ^h 01 ^m 52.1 ^s , h=33 km, MB=5.2; MLH=6.2 (Kraków), 6.6 (Warszawa), MLV=6.4 (Kraków), 6.2 (Warszawa)			
KRA	$\Delta=141.41^\circ$		
(SKM)	ePKHKP		04 21 15
	e1PKIKP		23
(SKD)	Lm		05 27.5
			NEZ: 20s; 4.2 μ , 4.1 μ , 7.9 μ
NIE	$\Delta=141.61^\circ$		
	ePKP		04 21 20
	ei		35

Date	Station	Phase	T.U. h m s
6.IX WAR $\Delta=139.50^\circ$			
	(SKD)	e1PKIKP	04 21 22
	(GW)	e1PP	24 16 ¹
	(SKD)	e1PKS	25 18
	Lm		05 23 04
			Z: 22s; 6.5 μ
	Lm		29 02
			NE: 18s; 5.5 μ , 11 μ
6.IX Kermadec Islands Region, NFIS: 28.99°S, 176.92°W, H=08 ^h 22 ^m 09.8 ^s , h=52 km, MB=5.2			
KRA	$\Delta=155.37^\circ$		
(SKM)	ePKIKP		08 42 02
(SKD)	ei		46 25
	Lm		09 53.5
			NZ: 20s; 1.1 μ , 1.4 μ
6.IX New Hebrides Islands, NFIS: 13.20°S, 167.13°E, H=11 ^h 07 ^m 43.9 ^s , h=200 km, MB=6.2			
KRA	$\Delta=134.51^\circ$		
(SKM)	ePKHKP		11 26 29 C
	iPKIKP		39.4
			Z: 1.1s; 0.089 μ
	iPP		29 14.8
KSP	$\Delta=135.61^\circ$		
	iPKHKP		11 26 30.0
	iPKIKP		43.0
	Pm		45.5
			Z: 0.6s; 0.13 μ
WAR	$\Delta=132.53^\circ$		
(SKD)	iPKIKP		11 26 34
	iPKIKP		27 24
	iPKS		30 03
	i		51
6.IX WAR			
	(SKD)	i(P)	11 29 46
KRA			
(SKM)	iP		11 29 53.5
			Z: 1.0s; 0.11 μ
KSP			
	e1P		11 29 57 D
			Z: 1s; 0.13 μ

Date	Station	Phase	T.U. h m s
6.IX	Tonga Islands, NEIS: 15.41°S, 173.13°W, H=23 ^h 26 ^m 23.9 ^s , h=33 km, MB=4.5	KRA Δ=143.85° (SKM) ePKP	23 45 55
		NIE Δ=144.34° iPKP	23 45 55.7
7.IX	Ionian Sea, EMSC: 37.86°N, 21.03°E, H=04 ^h 53 ^m 57.8 ^s , h=43 km	NIE Δ=11.57° iP	04 56 40.0 D Z: 0.8s; 0.016μ
		i	48.7
		i	57 08.0
		KRA Δ=12.22° (SKM) eIP	04 56 51
7.IX	Virgin Islands, NEIS: 19.90°N, 64.81°W, H=20 ^h 36 ^m 43.1 ^s , h=33 km, MB=5.0; MPV=5.1 (Niedzica)	KRA Δ=71.69° (SKM) eP	20 48 05
		eIP	17
		NIE Δ=72.04° eIP	20 48 09 C Z: 0.8s; 0.013μ
8.IX	NIE	eP	21 24 22
8.IX	Kermadec Islands, NEIS: 30.32°S, 178.12°W, H=22 ^h 56 ^m 56.6 ^s , h=33 km, MB=6.1	KRA Δ=156.05° (SKM) eIPKIKP	23 16 48 D Z: 1.5s; 0.061μ
		iPKHKP	57.8
		NIE Δ=156.36° eIPKIKP	23 16 49 C Z: 1.4s; 0.072μ
		eI	17 04
		eIPKP ₂	17
9.IX	South Indian Ocean, NEIS: 22.58°S, 67.75°E, H=12 ^h 46 ^m 59.3 ^s , h=33 km, MB=5.5; MPV=5.8 (Kraków)		

Date	Station	Phase	T.U. h m s
9.IX	KRA Δ=83.79° (SKM) eIP		12 59 43 Z: 1.5s; 0.11μ
		iPP	51.2
9.IX	Greece, EMSC: 38.51°N, 23.34°E, H=16 ^h 32 ^m 01.5 ^s , h=10 km	NIE Δ=11.12° eIP	16 34 44 Z: 1.0s; 0.028μ
		KRA Δ=11.80° (SKM) eIP	16 34 51 C Z: 1.0s; 0.042μ
9.IX	China, NEIS: 23.19°N, 101.03°E, H=23 ^h 11 ^m 12.8 ^s , h=33 km, MB=5.4; MPV=5.3 (Niedzica), MLH=5.5, MLV=5.0 (Kraków)	KRA Δ=66.97° (SKM) eP	23 22 05 Lm 51.5 NEZ: 20s; 2.4μ, 1.3μ, 1.4μ
		NIE Δ=66.82° eP	23 22 05
		Pm	10
		i	35.0 Z: 1.0s; 0.022μ
		KSP Δ=69.13° eP	23 22 20
10.IX	Spitsbergen, EMSC: 74.27°N, 11.35°E, H=02 ^h 48 ^m 35.7 ^s , MPV=5.2 (Nie- dzica)	NIE Δ=25.23° iP	00 53 02.5 Z: 1.2s; 0.078μ
		i	19.7
10.IX	KSP	eP	02 53 45
		KRA (SKM) iP	02 53 55.2 D Z: 0.6s; 0.039μ

Date	Station	Phase	T.U. h m s
10.IX	Taiwan, NEIS: 24.13°N, 121.74°E, H=15 ^h 50 ^m 36.2 ^s , h=33 km, MB=5.2; MPV=5.5 (Kraków), 5.4 (Niedzica)	KRA Δ=79.02° (SKM) iP	16 02 38.9 D Z: 0.8s; 0.032μ
		NIE Δ=79.06° iP	16 02 39.2 C Z: 1.2s; 0.039μ
		eIPcP	48
10.IX	KRA (SKM) eIP		16 25 51.6 D Z: 0.7s; 0.016μ
		NIE eIP	16 25 52
10.IX	Taiwan, NEIS: 24.10°N, 121.78°E, H=16 ^h 34 ^m 04.3 ^s , h=33 km, MB=5.2; MPV=5.3 (Kraków), 5.4 (Niedzica)	KRA Δ=79.07° (SKM) eIP	16 46 07 D Z: 0.8s; 0.023μ
		iPcP	18.5
		NIE Δ=79.11° eP	16 46 08
		Pm	17.5
		i	19.5 Z: 1.5s; 0.053μ
		iPcP	19.5
		KSP Δ=80.83° eP	16 46 16
10.IX	Guatemala, NEIS: 14.31°N, 91.48°W, H=23 ^h 24 ^m 15.7 ^s , h=93 km, MB=5.5	KRA Δ=92.31° (SKM) eP	23 37 17 Z: 1.1s; 0.035μ
		(SKD) e	47 43
		Lm	00 10.3
			NEZ: 32s; 2.0μ, 4.8μ, 3.7μ
		NIE Δ=92.81° eP	23 37 20 Z: 1.2s; 0.037μ
11.IX	Ryukyu Islands, NEIS: 24.94°N, 124.86°E, H=07 ^h 40 ^m 53.8 ^s , h=33 km, MB=6.0; MPV=5.9 (Kraków), MLH=6.0 (Kraków), 6.7 (Warszawa), MLV=5.4 (Kraków), 6.0 (War- szawa)		

Date	Station	Phase	T.U. h m s
11.IX	WAR Δ=78.63° (SKD) eIP		07 52 51
		Lm	08 32 23
			NEZ: 14s; 10μ, 28μ, 5.2μ
		KRA Δ=80.21° (SKM) iP	07 53 03.0 C 09.0
		Pm	09.8
		i	31.0 Z: 0.9s; 0.095μ
		(SKD) eS	08 03 07
		Lm	14.4
			NEZ: 24s; 7.6μ, 5.4μ, 2.4μ
11.IX	Kuril Islands, NEIS: 46.43°N, 153.44°E, H=08 ^h 41 ^m 10.4 ^s , h=33 km, MB=5.3; MPV=5.7 (Kraków)	KRA Δ=75.80° (SKM) iP	08 52 55.5 C Z: 1.7s; 0.12μ
		eIPcP	53 09
		NIE Δ=76.21° eIP	08 52 58
		eIPcP	53 10
11.IX	Ryukyu Islands, Moscow: 24.75°N, 124.97°E, H=11 ^h 14 ^m 40.2 ^s , h normal, MPV(A)=4.5	KRA Δ=80.43° (SKM) eP	11 26 50
11.IX	Taiwan, NEIS: 24.27°N, 121.75°E, H=22 ^h 25 ^m 38.9 ^s , h=33 km, MB=4.8	KRA Δ=78.92° (SKM) eIP	22 37 41 D
12.IX	Ryukyu Islands, NEIS: 29.87°N, 129.39°E, H=00 ^h 41 ^m 52.4 ^s , h=150 km, MB=5.1	KRA Δ=78.91° (SKM) iP	00 53 41.5 C Z: 0.9s; 0.15μ
		NIE Δ=79.05° iP	00 53 44.0 C Z: 0.8s; 0.078μ
		iPcP	53.5

Date Station Phase T.U.
h m s

Date Station Phase T.U.
h m s

Date Station Phase T.U.
h m s

Date Station Phase T.U.
h m s

13.IX Bonin Islands Region, NEIS:
26.36°N, 141.95°E, H=04^h27^m59.1^s,
h=33 km, MB=5.3; MPV=5.2 (Niedzica)

KRA Δ=88.22°
(SKM) eP 04 40 48
Z: 1.6s; 0.061μ
ei 41 02
NIE Δ=88.44°
eIP 04 40 50
Pm 57.5
Z: 1.0s; 0.019μ

13.IX Kermadec Islands Region, NEIS:
27.61°S, 176.69°W, H=17^h58^m20.8^s,
h=33 km, MB=5.2

KRA Δ=154.23°
(SKM) eiPKIKP 18 18 10 D
Z: 1.4s; 0.052μ
eiPKHKP 18
eiPKP₂ 32
NIE Δ=154.59°
iPKIKP 18 18 12.0 D
Z: 1.0s; 0.019μ
i 46

13.IX KRA
(SKM) eIP 21 39 46 C
Z: 1.2s; 0.039μ

14.IX Greece, EMSC: 39.00°N, 20.52°E,
H=00^h05^m12.6^s, MB=4.3 (NEIS)

NIE Δ=10.42°
eP 00 07 40
Pm 47.5
Z: 1.2s; 0.052μ
i 08 27.0

KRA Δ=11.06°
(SKM) eP 00 07 49
(SKD) ei 11 56
Lm 12.0
NEZ: 15s; 1.7μ, 7.7μ,
2.2μ

14.IX WAR Δ=13.25°
(SKD) eL 00 12.5
Im 13 15
NF: 14s, 16s; 4.8μ, 23μ

14.IX Kermadec Islands Region, NEIS:
28.02°S, 176.50°W, H=00^h25^m37.9^s,
h=33 km, MB=5.5

NIE Δ=155.03°
ePKIKP 00 45 29

14.IX Gulf of Aden, Moscow:
12.32°N, 48.02°E, H=07^h14^m11.3^s,
h normal, MLV=5.0

KRA Δ=44.12°
(SKM) eP 07 22 22 D

14.IX Philippine Islands Region,
NEIS: 10.82°N, 126.09°E, H=19^h55^m43.0^s,
h=73 km, MB=5.5; MPV=5.4 (Niedzica)

NIE Δ=91.89°
eP 20 08 46
Z: 1.0s; 0.019μ
ePP 12 16

15.IX Kermadec Islands Region, NEIS:
27.83°S, 177.46°W, H=02^h02^m16.7^s,
h=263 km, MB=4.7

KRA Δ=154.13°
(SKM) eiPKHKP 02 21 48 C
Z: 0.8s; 0.018μ
iPKP₂ 22 02.7

15.IX Eastern Kazakh SSR, NEIS:
49.85°N, 78.69°E, H=02^h36^m57.4^s,
h=0 km, MB=6.0; MPV=6.5 (Kraków).
6.1 (Niedzica)

KRA Δ=36.94°
(SCh) eIP 02 44 10.4 C
Z: 1.0s; 0.67μ
i 18.4

NIE Δ=36.96°
iP 02 44 12.4 C
Z: 1.0s; 0.30μ
i 21.5
iPPP 45 59.5

15.IX Eastern Kazakh SSR - continuation
KSP Δ=38.77°
iP 02 44 22.3

15.IX Kuril Islands, NEIS: 48.31°N,
154.24°E, H=11^h39^m25.5^s, h=50 km, MB=6.0;
MPV=6.4 (Kraków), 6.2 (Niedzica), MLH=5.9,
MLV=5.9 (Kraków)

WAR Δ=72.18°
(SKD) eIP 11 50 46
eiSKS 12 00 48
eL 15.0
Lm 22 20
NEZ: 24s; 13μ, 21μ, 9.8μ

KRA Δ=74.41°
(SKM) eP 11 50 59 C
Pm 51 02.1
Z: 1.1s; 0.33μ
i 08.3

(SKD) eS 12 00 18
eL 06
Lm 23.7
NFZ: 26s; 6.3μ, 7.7μ, 8.3μ

KSP Δ=74.84°
eP 11 51 00
Z: 0.8s; 0.092μ

NIE Δ=74.84°
iP 11 51 03.5 C
Z: 1.0s; 0.20μ
i 12.4
eIP 16
i 42.5

15.IX Eastern Gulf of Aden, NEIS:
12.47°N, 47.90°E, H=12^h17^m51.4^s, h=33 km,
MB=4.9

KRA Δ=43.94°
(SKM) eP 12 26 01

16.IX Iran - Iraq Border Region, EMSC:
32.99°N, 46.10°E, H=12^h59^m19.0^s, h=10 km,
MPV=4.9 (Kraków)

KRA Δ=25.77°
(SKM) eIP 13 04 50 D
Z: 0.8s; 0.023μ

16.IX Kuril Islands, Moscow: 46.51°N,
151.31°E, H=14^h23^m15.8^s, h=100 km,
MPV(A)=4.7

KRA Δ=75.01°
(SKM) iP 14 34 48.3 D
Z: 0.5s; 0.025μ

NIE Δ=75.41°
iP 14 34 51.0
Z: 1.0s; 0.028μ
eIPcP 35 07

16.IX Iran, Moscow: 33.24°N, 57.45°E,
H=15^h35^m50.5^s, h normal, MLV=7.3;
MPV=6.5 (Niedzica), 6.7 (Kraków),
MLH=7.3 (Kraków)

NIE Δ=31.84°
iP 15 42 21.5
Z: 1.5s; 1.3μ

KRA Δ=32.26°
(SKM) iP 15 42 23.0 C
i 28.0
Pm 34.0
Z: 1.7s; 2.2μ

ipP 35.0
(GW) iPP 43 28.0
iS 47 34.0
Lm 58
E: 16s; 450μ

WAR Δ=32.34°
(SKD) iP 15 42 24 C
iS 47 30

KSP Δ=34.72°
eP 15 42 43
i 49.0
Pm 55
Z: 1.2s; 0.044μ

16.IX Aegean Sea, EMSC: 40.40°N,
25.71°E, H=22^h31^m12.5^s, h=27 km

NIE Δ=9.79°
eP 22 33 33

16.IX Kermadec Islands Region, NEIS:
30.61°S, 179.92°E, H=23^h13^m48.1^s,
h=550 km, MB=5.3

Date	Station	Phase	T.U. h m s
16.IX	Kermadec Islands Region - continuation		
	KRA $\Delta=155.43^{\circ}$		
	(SKM) 1PKP	23 32 42.4	
		Z: 0.7s; 0.020 μ	
	1	33 10.9	
	NIE $\Delta=155.70^{\circ}$		
	ePKP	23 32 44	
		Z: 1.2s; 0.026 μ	
	1	54.0	
	1	33 12.5	
16.IX	South of Fiji Islands, NEIS: 25.63 $^{\circ}$ S, 178.14 $^{\circ}$ W, H=23 $^{\text{h}}$ 38 $^{\text{m}}$ 06.9 $^{\text{s}}$, h=200 km, MB=5.3		
	KRA $\Delta=151.89^{\circ}$		
	(SKM) 1PKHKP	23 57 38.9 D	
		Z: 0.6s; 0.050 μ	
	1	44	
	KSP $\Delta=152.49^{\circ}$		
	1PKHKP	23 57 39.0	
	NIE $\Delta=152.24^{\circ}$		
	1PKHKP	23 57 40.2	
		Z: 0.9s; 0.048 μ	
	1	45.0	
	1PKP ₂	52.5	
	1pPKP	58 44.2	
17.IX	KRA		
	(SKM) eiP	00 48 22	
	NIE		
	1P	00 48 24.5 D	
		Z: 0.8s; 0.017 μ	
17.IX	Iran, Moscow: 33.57 $^{\circ}$ N, 57.03 $^{\circ}$ E, H=08 $^{\text{h}}$ 17 $^{\text{m}}$ 19.4 $^{\text{s}}$, h normal, MLV=4.7; MPV=5.2 (Kraków)		
	NIE $\Delta=31.36^{\circ}$		
	eP	08 23 45	
	KRA $\Delta=31.78^{\circ}$		
	(SKM) eP	08 23 47 C	
		Z: 0.6s; 0.023 μ	
17.IX	Iran, NEIS: 33.73 $^{\circ}$ N, 57.29 $^{\circ}$ E, H=12 $^{\text{h}}$ 43 $^{\text{m}}$ 24.1 $^{\text{s}}$, h=33 km, MB=4.7; MPV=5.3 (Kraków)		
17.IX	KRA $\Delta=31.83^{\circ}$		
	(SKM) 1P	12 49 48.2 D	
17.IX	Tonga Islands, NEIS: 19.54 $^{\circ}$ S, 175.96 $^{\circ}$ W, H=21 $^{\text{h}}$ 16 $^{\text{m}}$ 13.0 $^{\text{s}}$, h=177 km, MB=4.9		
	NIF $\Delta=147.45^{\circ}$		
	1PKP	21 35 33.2	
	1	36.0	
	KRA $\Delta=147.02^{\circ}$		
	(SKM) eiPKP	21 35 33.4	
		Z: 1.1s; 0.055 μ	
	KSP $\Delta=147.29^{\circ}$		
	eiPKP	21 35 34.0 C	
18.IX	Iran, Moscow: 34.04 $^{\circ}$ N, 57.71 $^{\circ}$ E, H=04 $^{\text{h}}$ 50 $^{\text{m}}$ 08.8 $^{\text{s}}$, h normal, MLV=4.4		
	KRA $\Delta=31.88^{\circ}$		
	(SKM) eiP	04 56 32	
18.IX	Iran, Moscow: 33.71 $^{\circ}$ N, 57.18 $^{\circ}$ E, H=17 $^{\text{h}}$ 35 $^{\text{m}}$ 04.7 $^{\text{s}}$, h normal, MLV=4.7		
	KRA $\Delta=31.78^{\circ}$		
	(SKM) eP	17 41 31	
18.IX	South Coast of Honshu, Japan, Moscow: 34.15 $^{\circ}$ N, 140.00 $^{\circ}$ E, H=20 $^{\text{h}}$ 44 $^{\text{m}}$ 16.7 $^{\text{s}}$, h normal, MPV(A)=5.3; MPV=5.4 (Kraków)		
	KRA $\Delta=80.83^{\circ}$		
	(SKM) eiP	20 56 34	
		Z: 0.8s; 0.028 μ	
19.IX	Federal Republic of Germany, FMSC: 48.29 $^{\circ}$ N, 8.98 $^{\circ}$ E, H=23 $^{\text{h}}$ 53 $^{\text{m}}$ 48.5 $^{\text{s}}$		
	KRA $\Delta=7.40^{\circ}$		
	(SKM) ePg	23 56 04	
	ei	57 21.9	
	1	42.4	
	NIE $\Delta=7.57^{\circ}$		
	ePg	23 56 11	
	ei	29	
	1	57 02.5	
20.IX	Pamir, Moscow: 39.36 $^{\circ}$ N, 72.77 $^{\circ}$ E, H=16 $^{\text{h}}$ 09 $^{\text{m}}$ 53.6 $^{\text{s}}$, h normal, MLV=4.6		
	NIE $\Delta=38.10^{\circ}$		
	eP	16 17 13	

Date	Station	Phase	T.U. h m s
21.IX	Central Siberia, NEIS: 66.43 $^{\circ}$ N, 85.84 $^{\circ}$ E, H=14 $^{\text{h}}$ 59 $^{\text{m}}$ 56.4 $^{\text{s}}$, h=0 km, MB=5.1; MPV=5.3 (Kraków), 5.2 (Niedzica)		
	KRA $\Delta=36.31^{\circ}$		
	(SKM) 1P	15 07 05.0	
		Z: 0.7s; 0.033 μ	
	NIE $\Delta=36.65^{\circ}$		
	1P	15 07 10 C	
		Z: 1.0s; 0.037 μ	
	KSP $\Delta=37.14^{\circ}$		
	1P	15 07 17.5 C	
21.IX	Turkey, EMSC: 38.05 $^{\circ}$ N, 38.63 $^{\circ}$ E, H=19 $^{\text{h}}$ 37 $^{\text{m}}$ 48.8 $^{\text{s}}$, h=10 km		
	NIE $\Delta=17.39^{\circ}$		
	eP	19 41 51	
		Z: 1.1s; 0.022 μ	
	ei	42 02	
	KRA $\Delta=17.95^{\circ}$		
	(SKM) eP	19 41 57	
		Z: 1.5s; 0.061 μ	
	ei	42 03	
	ei	34	
21.IX	Turkey, EMSC: 37.88 $^{\circ}$ N, 38.41 $^{\circ}$ E, H=23 $^{\text{h}}$ 29 $^{\text{m}}$ 18.5 $^{\text{s}}$		
	NIE $\Delta=17.40^{\circ}$		
	eP	23 33 21	
	KRA $\Delta=17.97^{\circ}$		
	(SKM) eP	23 33 29	
		Z: 1.2s; 0.039 μ	
23.IX	Near East Coast of Kamchatka, NEIS: 54.58 $^{\circ}$ N, 161.60 $^{\circ}$ E, H=05 $^{\text{h}}$ 13 $^{\text{m}}$ 00.0 $^{\text{s}}$, h=40 km, MB=5.0; MPV=5.2 (Niedzica)		
	KRA $\Delta=70.89^{\circ}$		
	(SKM) eP	05 24 14	
	NIE $\Delta=71.38^{\circ}$		
	eiP	05 24 18 C	
		Z: 1.2s; 0.021 μ	
	eiPcP	45	
23.IX	Near East Coast of Honshu, NEIS: 38.32 $^{\circ}$ N, 142.97 $^{\circ}$ E, H=22 $^{\text{h}}$ 43 $^{\text{m}}$ 13.8 $^{\text{s}}$, h=66 km, MB=5.0; MPV=5.6 (Kraków), 5.8 (Niedzica)		
	KRA $\Delta=78.71^{\circ}$		
	(SKM) 1P	22 55 11.2 C	
		Z: 1.1s; 0.062 μ	
	1PcP	21.0	
	1pP	27.7	
	NIE $\Delta=79.01^{\circ}$		
	1P	22 55 15 C	
		Z: 1.5s; 0.13 μ	
	1	21.5	
	KSP $\Delta=79.65^{\circ}$		
	eP	22 55 20	
23.IX	New Hebrides Islands, NEIS: 13.53 $^{\circ}$ S, 167.06 $^{\circ}$ E, H=16 $^{\text{h}}$ 32 $^{\text{m}}$ 11.8 $^{\text{s}}$, h=200 km, MB=5.8		
	KRA		
	(SKM) 1P	23 45 44.5 C	
		Z: 0.8s; 0.018 μ	

Date Station Phase T.U.
h m s

24.IX South of Fiji Islands, NEIS:
23.58°S, 179.95°E, H=07^h32^m32.9^s, h=596 km,
MB=5.0

NIE Δ=149.64°
1PKP 07 51 20 D
Z: 0.9s; 0.039μ
e1PKP₂ 27

KRA Δ=149.30°
(SKM) e1PKP 07 51 22 D
Z: 0.7s; 0.029μ

KSP Δ=149.97°
1PKP 07 51 24.0

24.IX Yugoslavia, EMSC: 40.75°N,
16.08°E, H=08^h07^m45.4^s, h=10 km

NIE Δ=9.17°
eP 08 10 06

25.IX Kuril Islands Region, NEIS:
44.70°N, 150.08°E, H=01^h50^m51.0^s, h=94 km,
MB=4.7; MPV=5.2 (Niedzica)

NIE Δ=76.52°
1P 02 02 34.7 C
Z: 0.6s; 0.014μ

25.IX KRA
(SKM) e1P 02 12 12
Z: 1.0s; 0.030μ

25.IX Uzbek SSR, NEIS: 40.38°N, 63.76°E,
H=21^h23^m52.5^s, h=35 km, MB=4.5

NIE Δ=31.68°
e1P 21 30 15

26.IX Minahassa Peninsula, NEIS: 1.20°N,
120.23°E, H=06^h07^m43.6^s, h=33 km, MB=5.5;
MPV=5.7 (Kraków)

KRA Δ=95.69°
(SKM) e1P 06 21 07
Z: 1.0s; 0.030μ
e1pP 20

NIE Δ=95.54°
e1P 06 21 08

26.IX South of Mariana Islands, NEIS:
12.66°N, 143.15°E, H=14^h24^m37.7^s, h=33 km,
MB=6.0; MPV=6.1 (Kraków)

Date Station Phase T.U.
h m s

26.IX KRA Δ=100.26°
(SKM) e1P 14 38 22
Z: 1.0s; 0.054μ

26.IX Hungary, EMSC: 47.26°N, 19.05°E,
H=16^h47^m34.9^s

NIE Δ=2.32°
e1Pn 16 48 14.7
1 22.5
iSn 40.7

KRA Δ=2.86°
(SKM) e1Pg 16 48 27.7
Z: 1.0s; 0.060μ
1 35.4
e1Sn 55.7

26.IX Afghanistan - USSR Border Region,
Moscow: 39.01°N, 70.66°E, H=19^h21^m45.9^s,
h normal, MLV=4.3

KRA Δ=37.13°
(SKM) e1P 19 29 02

27.IX Novaya Zemlya, NEIS: 73.40°N,
53.73°E, H=02^h04^m58.1^s, h=0 km, MB=5.5;
MPV=6.1 (Kraków), 5.7 (Niedzica)

KRA Δ=27.59°
(SKM) 1P 02 10 50.7 D
Pm 56.0
Z: 0.7s; 0.33μ

1 11 05.5

NIE Δ=28.10°
1P 02 10 55 C
Z: 1.4s; 0.26μ

27.IX Hokkaido, Japan, Moscow: 40.96°N,
142.19°E, H=03^h55^m06.3^s, h normal,
MPV(A)=5.4; MPV=5.3 (Niedzica)

KRA Δ=76.19°
(SKM) e1P 04 06 52

NIE Δ=76.50°
1P 04 06 55.2
Z: 1.0s; 0.022μ
1pP 07 05.4

27.IX South of Honshu, NEIS: 33.46°N,
138.03°E, H=17^h00^m09.7^s, h=219 km,
MB=5.0

Date Station Phase T.U.
h m s International
Seismological
Centre

27.IX South of Honshu - continuation

KRA Δ=80.45°
(SKM) e1P 17 11 58.7
Z: 0.6s; 0.050μ

NIE Δ=80.69°
1P 17 11 59.0 D
1 12 41.2

27.IX Southern Nevada, NEIS: 37.07°N,
116.02°W, H=17^h20^m00.0^s, h=0 km, MB=5.9;
MPV=6.3 (Kraków), 6.0 (Niedzica)

KRA Δ=84.93°
(SKM) 1P 17 32 36.6 C
Z: 1.2s; 0.30μ

NIE Δ=85.60°
1P 17 32 40.6 C
Z: 1.2s; 0.14μ

28.IX Kamchatka Region, Moscow:
52.88°N, 158.74°E, H=09^h38^m51.0^s,
h=100 km, MPV(A)=4.9

NIE Δ=72.16°
eP 09 50 08

28.IX KRA
(SKM) e1P 10 54 06 D
Z: 0.8s; 0.037μ

NIE
e1P 10 54 07 C
Z: 0.9s; 0.032μ

29.IX KRA
(SKM) e1P 11 19 31
Z: 0.8s; 0.032μ
1 46.1

NIE
1P 11 19 35.0
Z: 1.0s; 0.059μ
1 49

29.IX Michoacan, Mexico, NEIS: 18.49°N,
102.04°W, H=16^h21^m39.8^s, h=100 km,
MB=5.1

Date Station Phase T.U.
h m s

29.IX KRA Δ=94.76°
(SKM) e1P 16 34 53 C
Z: 1.0s; 0.054μ

NIE Δ=95.33°
e1P 16 34 56
Z: 1.3s; 0.030μ

30.IX Ionian Sea, EMSC: 37.48°N,
20.40°E, H=01^h05^m17.2^s, h=46 km,
MLV=4.5 (Moscow)

NIE Δ=11.94°
e1P 01 08 04
1 42

KRA Δ=12.58°
(SKM) Lm 01 12.5
E: 15s; 2.0μ
Lm 14.5
NZ: 15s; 2.6μ, 3.0μ

30.IX South of Burma, NEIS: 16.50°N,
95.82°E, H=09^h04^m33.9^s, h=33 km,
MB=5.1; MPV=5.7 (Kraków), 5.0 (Nie-
dzica), MLH=5.9, MLV=5.7 (Kraków)

KRA Δ=68.49°
(SKM) eP 09 15 34 D
Z: 1.0s; 0.060μ

1 16 31.4

(GW) e1 17 40
ePS 25 10

(SKD) Lm 52.5
NEZ: 20s; 4.9μ, 7.3μ,
4.9μ

NIE Δ=68.24°
1P 09 15 35.7 D
Z: 1.2s; 0.013μ

1 49.5
1pP 16 02.7

KSP Δ=70.80°
eP 09 15 49 C
Z: 1s; 0.080μ

30.IX South of Fiji Islands, NEIS:
23.01°S, 179.01°W, H=16^h51^m14.8^s,
h=450 km, MB=4.5

NIE Δ=149.55°
1PKP 17 10 14.6
Z: 0.9s; 0.027μ
1PKP₂ 21.5

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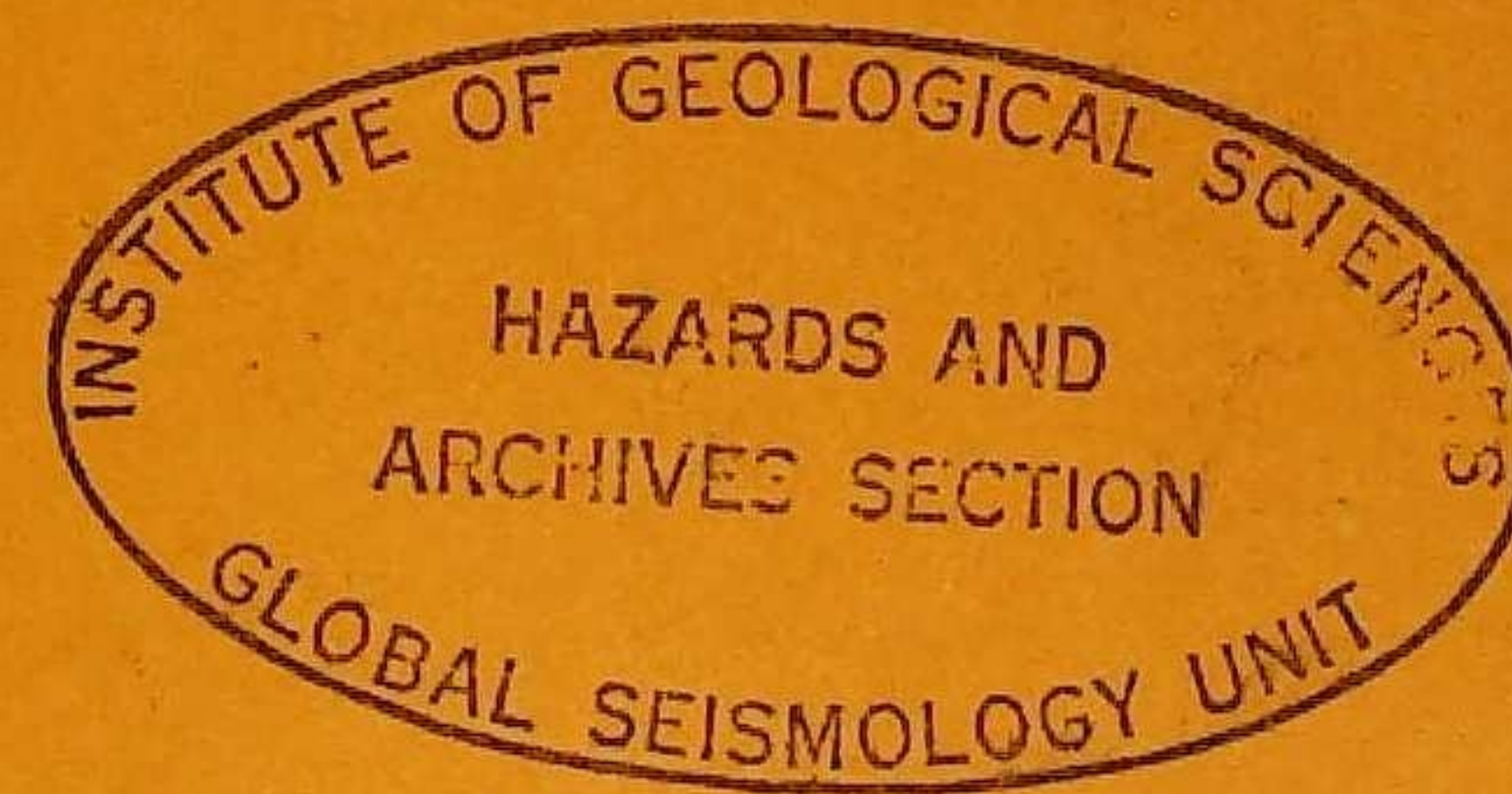
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SEISMOLOGICAL BULLETIN

1978

OCTOBER NOVEMBER DECEMBER



PAŃSTWOWE WYDAWNICTWO NAUKOWE
WARSZAWA–ŁÓDŹ 1980

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Zakład Graficzny Wydawnictw Naukowych
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A new seismic station of the Polish Academy of Sciences is in operation since March 1978 on King George Island in South Shetlands. The station was named the Arctowski Antarctic Station to honour Professor Henryk Arctowski, the well known Polish polar explorer, and the station code is AAS. The station was established primarily to study local seismicity in the area of Shetland Islands and to record distant earthquakes in the area poorly covered by seismic stations.

This Bulletin presents the results of observations of distant earthquakes recorded by the seismic stations of the Institute of Geophysics of the Polish Academy of Sciences, including the Arctowski Antarctic Station, from October to December 1978. The local earthquakes recorded by the Arctowski Antarctic Station from March to December are listed separately (part 5).

The identification of shocks and interpretation of phases were based on the hypocenter determination given by:

NEIS: - U.S. Department of the Interior (Geological Survey),
National Earthquake Information Service, Boulder.

EMSC - European Mediterranean Seismological Centre, Strasbourg.

Moscow - Central Seismological Station "Obninsk", Institute of the Physics of the Earth, USSR Academy of Sciences, Moscow.

Magnitudes of earthquakes were determined from recordings of horizontal and vertical components of surface waves for epicen-

tral distances $\Delta > 5^\circ$ and depths $h < 80$ km, using the IASPEI formula. The magnitude from body waves was determined only from the recordings of vertical component of the P waves for $\Delta > 20^\circ$ and depths $h < 80$ km; using the calibrating function given by Vanek et al. (1962)*. The maximum value of A/T₀ was determined in the interval up to 40 s from the first arrival of the P wave.

On the 10 December 1978 the seismograph parameters at Niedzica station were changed. The new frequency response curves are given in Fig. 1. The response curves of the instruments at the Arctowski Antarctic Station are shown in Fig. 2. The remaining frequency response curves of seismographs at Warszawa, Kraków, Racibórz and Książ station as well as response curves of seismographs at Niedzica station up to 10 December have been given in the Seismological Bulletin for the period January - March, 1978.

* Vanek I., Zatopek A., Karnik V., Kondorskaya N.V., Riznichenko Yu.V., Savarenskiy E.F., Solovev S.L., Shebalin N.V., 1962, Standartizatsiya shkaly magnitud, Izv. AN SSSR, Ser. Geofiz., 2, 153-158.

PARAMETERS OF THE SEISMOGRAPHS

Station	Type of seismograph	Comp.	Ts [s]	Tg [s]	Ds	Dg	G ²	Vo	Vm	Tm [s]	Remarks
Warszawa (WAR) $\varphi = 52^\circ 14' 30''$ N $\lambda = 21^\circ 01' 25''$ E h=110 m	GW	N-S	10.28	12.10	1.08	1.03	0.018	828	460	4.2-9.0	1.X-31.XII
		E-W	9.68	11.10	0.99	0.98	0.018	737	440	4.0-8.5	
		Z	7.80	11.38	0.50	0.94	0.010	488	445	5.0-8.5	
	SKD	N-S	20.3	79.8	1.08	0.47	0.086	535	550	13-32	1.X-31.XII
		E-W	20.4	89.6	1.04	0.50	0.091	513	520	13-32	
		Z	21.4	86.5	1.00	0.48	0.104	603	620	14-32.6	
Kraków (KRA) $\varphi = 50^\circ 03' 22''$ N $\lambda = 19^\circ 56' 23''$ E h=223 m	Ch	N-S	1.24	0.281	0.497	1.981	0.132	10600	11420	0.17-1.0	1.X-31.XII
		E-W	1.29	0.280	0.530	1.942	0.139	10750	11300	0.15-1.0	
		Z	1.46	0.282	0.579	1.984	0.156	10780	11100	0.15-1.0	
	SKM-3	N-S	1.273	0.580	0.515	0.487	0.0125	21800	23260	0.5 - 0.75	1.X-31.XII
		E-W	1.280	0.575	0.524	0.469	0.0129	22560	24470	0.5 - 0.75	
		Z	1.445	0.580	0.610	0.486	0.0131	22000	22700	0.5 - 0.75	
	GW	N-S	9.70	1.01	0.49	5.00	0.020	1480	1500	0.22-8.0	1.X-31.XII
		E-W	11.10	1.00	0.47	5.00	0.021	1480	1490	0.21-9.0	
		Z	10.50	1.01	0.48	5.00	0.025	1010	1020	0.22-8.5	
	SKD	N-S	20.0	106.6	1.00	0.50	0.144	600	610	13.5-40	1.X-31.XII
		E-W	20.0	98.2	0.99	0.50	0.149	600	615	13.5-40	
		Z	20.0	108.8	1.00	0.50	0.193	690	705	13.5-40	
Racibórz (RAC) $\varphi = 50^\circ 05' 00''$ N $\lambda = 18^\circ 11' 39''$ E h=209 m	SK-58	N-S	1.22	1.06	0.50	0.73	0.013	2420	2820	0.75-1.19	1.X-31.XII
		E-W	1.23	1.07	0.57	0.50	0.013	2880	2710	0.75-1.17	
		Z	1.12	1.07	0.31	0.40	0.020	3110	5220	0.91-1.16	
	Mainka (M)	N-S	9.0	-	0.36	-	-	87	130	6-9	1.X-31.XII
		E-W	9.0	-	0.38	-	-	86	120	6-9	
		Z	2.0	-	0.13	-	-	165	620	1.8-2.2	

Station	Type of seismo-graph	Comp.	Ts [s]	Tg [s]	Ds	Dg	G ²	V _o	V _m	T _m [s]	Remarks
Niedzica (NIE) φ = 49°25'25" N λ = 20°19'19" E h = 555 m	SK-58	N-S	1.40	0.266	0.70	3.50	0.054	25000	25100	0.10-0.85	1.X-9.XII 10.XII-31.XII
		E-W	1.40	0.293	0.70	3.54	0.051	25150	25280	0.10-0.90	
		Z	1.09	0.207	0.70	3.50	0.313	64950	73270	0.20-0.85	
Ksiqz (KSP) φ = 50°50.6' N λ = 16°17.6' E h = 980 m	SU-59	N-S	1.19	0.25	0.50	1.37	0.089	87450	90000	0.15-0.60	1.X-31.XII
		E-W	1.22	0.24	0.62	1.44	0.142	108700	110800	0.15-0.60	
		Z	1.00	0.21	0.50	1.53	0.171	106300	110700	0.15-0.65	
Arotowski Antartic Station (AAS) φ = 62°09'36" S λ = 58°27'45" W h = 15 m	SU-59	N-S	1.18	0.34	0.50	2.01	0.002	3000	3300	0.17-0.95	1.III-31.XII
		E-W	1.18	0.36	0.41	2.02	0.003	3200	3700	0.20-1.10	
		Z	0.91	0.47	0.50	2.00	0.001	3200	3900	0.30-1.1	

Abbreviations

- Ts - free period of seismometer
- Tg - free period of galvanometer
- Ds - attenuation of seismometer
- Dg - attenuation of galvanometer
- G² - coupling coefficient

$$V_o - \text{static magnification } V_o = \frac{2A}{10} \sqrt{\frac{Ks}{Kg} \frac{Ds}{Dg} \frac{Tg}{Ts} G^2}$$

$$V_o - \text{static magnification of SKD instruments } V_o = \frac{2A}{10} \sqrt{\frac{Ks}{Kg} \frac{Ds}{Dg} \frac{Tg}{Ts} G^2}$$

V_m - maximum magnification

T_m - interval of periods for magnification $V \geq 0.9 V_m$

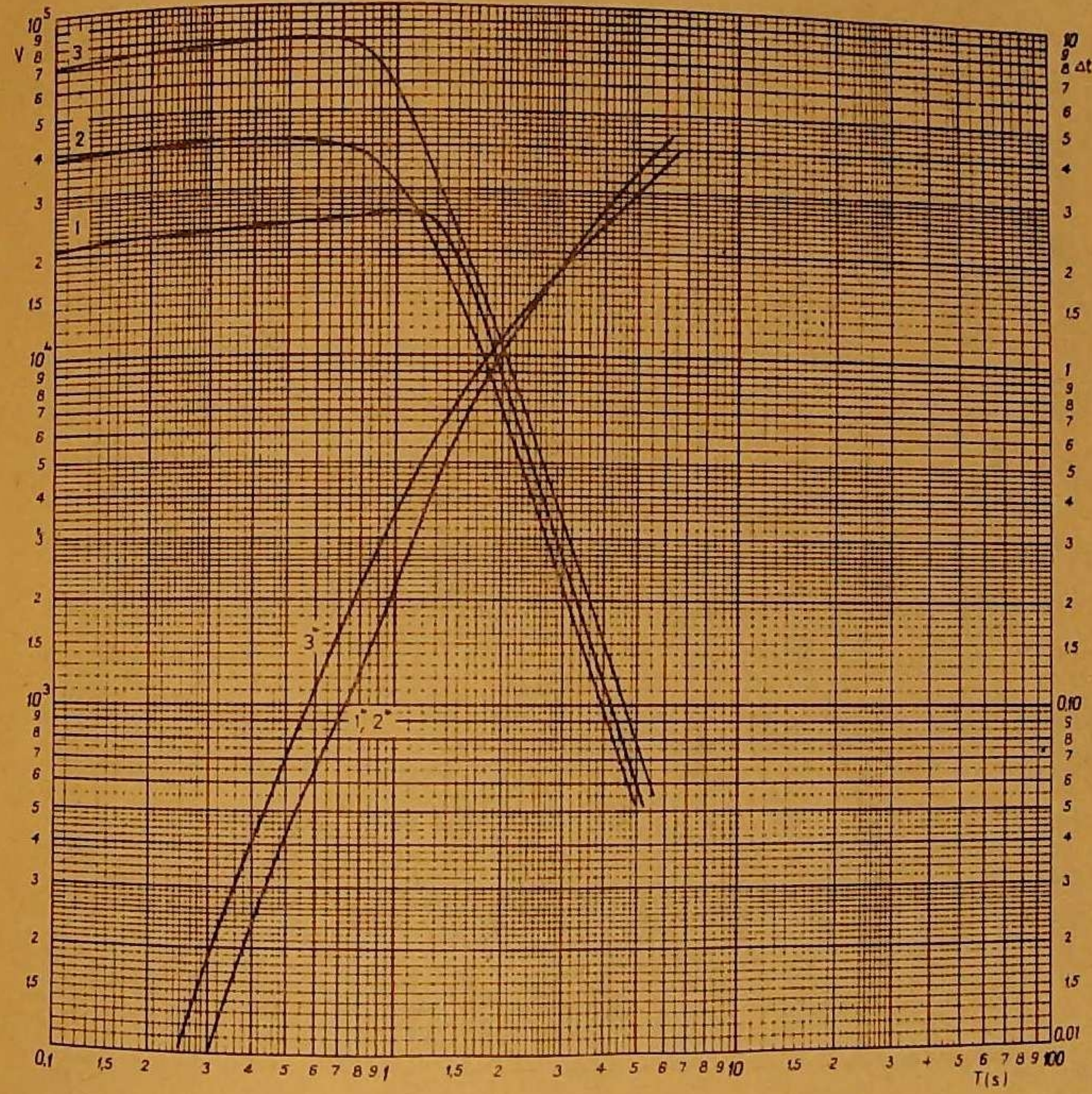


Fig. 1. Frequency responses of the instruments at Niedzica (NIE) station. Phase distortion curves marked by asterisque. SK short-period seismographs: 1) N-S horizontal component, 2) E-W horizontal component, 3) vertical component.

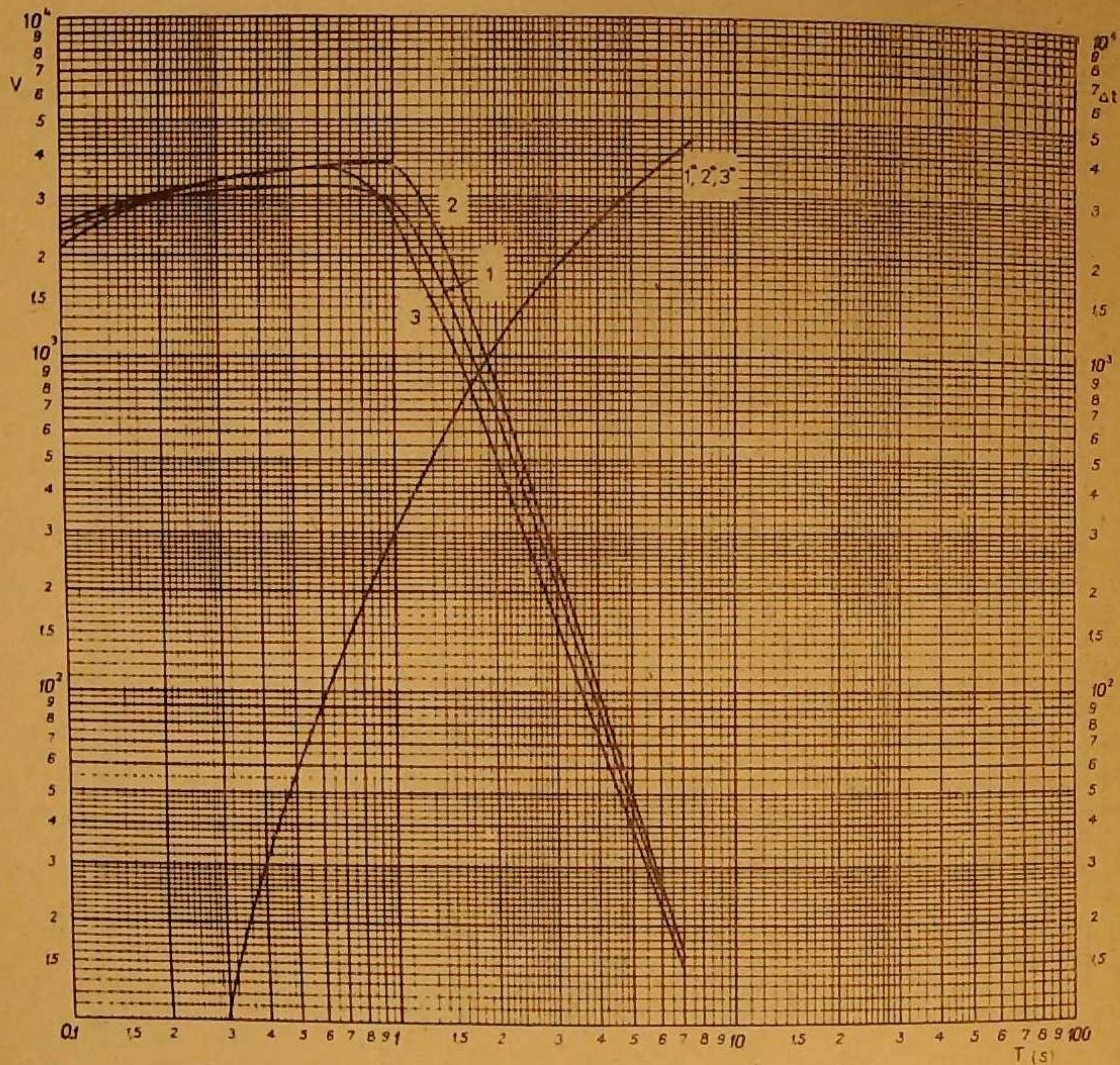


Fig. 2. Frequency responses of the instruments at Arctowski Antarctic Station (AAS). Phase distortion curve marked by asterisque. SU short-period seismographs: 1) N-S horizontal component, 2) E-W horizontal component, 3) vertical component.

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
				O C T O B E R			
1978				1978			

1.X Mindanao, Philippine, Moscow:
6.65°N, 124.05°E, H=13^h23^m48.3^s, h normal,
MLV=5.5

NIF	Δ=93.83°		
e1P		13 37 04	
KRA	Δ=93.91°		
(SKM) eP		13 37 04	D
epP		16	

2.X Kuril Islands, Moscow: 44.10°N,
149.61°E, H=13^h11^m32.3^s, h normal

KRA	Δ=76.30°		
(SKM) eP		13 23 21	
ipP		32.8	

2.X Romania, EMSC: 45.72°N, 26.66°E,
H=20^h28^m53.5^s, h=164 km, MPV(A)=4.8 (Mos-
cow)

NIE	Δ=5.67°		
iP		20 30 16.5	
Pm		18.0	
	Z: 1.0 ^s ; 0.056μ		
i		26.2	
i		35.7	

KRA	Δ=6.26°		
(SKM) eP		20 30 22	C
e1		50.8	
e1S		31 38.3	
i		32 17.8	

WAR	Δ=7.50°		
(GW) e1P		20 30 40	
e1S		32 02	

KSP	Δ=8.60°		
eP		20 30 53	
e1		31 17.0	

4.X Kuril Islands, Moscow: 47.01°N,
151.29°E, H=03^h54^m21.0^s, h=100 km,
MPV(A)=5.8

4.X KRA	Δ=74.57°		
(SKM) iP		04 05 51.0	C
	Z: 0.9 ^s ; 0.032μ		
isP		06 27.6	

KSP	Δ=75.10°		
iP		04 05 53.5	
	Z: 1.5 ^s ; 0.46μ		

NIE	Δ=74.97°		
iP		04 05 55.0	C
	Z: 1.1 ^s ; 0.28μ		
i		06 05.7	

4.X California, Moscow: 37.35°N,
118.98°W, H=16^h42^m51.7^s, h normal,
MLV=5.2; MPV=5.7 (Kraków)

KSP	Δ=83.76°		
eP		16 55 18	

KRA	Δ=85.72°		
(SKM) e1P		16 55 29	D
Pm		37.5	
	Z: 1.2 ^s ; 0.071μ		

4.X Aleutian Islands, Moscow: 51.28°N,
172.95°E, H=19^h55^m15.0^s, h normal,
MPV(A)=5.7; MPV=5.7 (Kraków)

KSP	Δ=76.33°		
iP		20 07 07.0	
	Z: 0.7 ^s ; 0.047μ		

KRA	Δ=76.46°		
(SKM) e1P		20 07 08	D
	Z: 0.9 ^s ; 0.053μ		
e1P		19	

5.X Panama - Colombia Border Region,
NEIS: 7.418°N, 77.027°W, H=23^h22^m20.0^s,
h=38 km, MB=5.1; MPV=5.5 (Kraków)

KRA	Δ=88.82°		
(SKM) eP		23 35 13	D
	Z: 1.0 ^s ; 0.030μ		

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
6.X	Sumba Island, Moscow: 9.77°S, 118.94°E, H=01 ^h 42 ^m 05.7 ^s , h normal, MPV(A)=5.4			7.X	NIE	Δ=79.94° iP Z: 0.8 ^s ; 0.015μ	00 32 41.7
	KRA Δ=103.20° (SKM) eP		02 03 16		KSP	Δ=81.53° eP	00 32 49
6.X	Zaire Republic, NEIS: 1.860°S, 28.837°E, H=04 ^h 12 ^m 01.6 ^s , h=10 km, MB=5.1			7.X	Fiji Islands Region, NEIS: 17.852°S, 178.653°W, H=01 ^h 09 ^m 00.6 ^s , h=624 km, MB=5.0		
	NIE Δ=51.61° eiP		04 21 10		KRA	Δ=144.57° (SKM) ePKP	01 27 28
	ei		18			Z: 0.7 ^s ; 0.020μ	
6.X	Luzon, Philippine Islands, NEIS: 16.495°N, 122.065°E, H=16 ^h 08 ^m 39.9 ^s , h=16 km, MB=5.1; MPV=5.5 (Kraków), 5.5 (Niedzica)				KSP	Δ=144.99° ePKP	01 27 29
	KRA Δ=85.08° (SKM) eiP		16 21 17 C		NIE	Δ=144.97° iPKP	01 27 31.0 C
	i		25.8			Z: 0.7 ^s ; 0.021μ	
	Pm		26.8		i		51.6
	Z: 1.0 ^s ; 0.060μ			7.X	Fiji Islands, Moscow: 19.10°S, 178.67°W, H=08 ^h 16 ^m 25.5 ^s , h normal, MPV(A)=5.7		
	i		32.0		KRA	Δ=145.72° (SKM) ePKHKP	08 36 06
	NIE Δ=85.05° iP		16 21 17.2 C			iPKIKP	09.0
	Z: 1.1 ^s ; 0.039μ					Z: 0.8 ^s ; 0.083μ	
	i		26.5		i		15.7
6.X	Honshu, Japan, NEIS: 35.690°N, 137.515°E, H=20 ^h 44 ^m 46.4 ^s , h=33 km, MB=4.9				KSP	Δ=146.17° ePKHKP	08 36 06
	KRA Δ=78.39° (SKM) eP		20 56 43 C			i	46
	eipP		52		NIE	Δ=146.12° ePKHKP	08 36 07
	NIE Δ=78.64° eP		20 56 45			Pm	11
	eipP		54			Z: 1.0 ^s ; 0.074μ	
	KSP Δ=79.53° eP		20 56 49		iPKIKP		12.6
7.X	China Sea, Moscow: 25.50°N, 125.01°E, H=00 ^h 20 ^m 32.9 ^s , h normal, MPV(A)=5.3; MPV=5.2 (Niedzica), 5.4 (Kraków)			8.X	Central Siberia, NEIS: 61.523°N, 112.883°E, H=23 ^h 59 ^m 56.8 ^s , h=0 km, MB=5.2; MPV=5.6 (Kraków), 5.4 (Niedzica)		
	KRA Δ=79.87° (SKM) iP		00 32 40.4 C		KRA	Δ=49.07° (SKM) iP	00 08 47.7 C
	Z: 1.0 ^s ; 0.030μ					Z: 1.0 ^s ; 0.060μ	
	ei		47		ei		09 04
					NIE	Δ=49.40° iP	00 08 51.6
						Z: 1.0 ^s ; 0.037μ	

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
8.X	Portugal, FMSC: 37.22°N, 14.13°W, H=11 ^h 26 ^m 34.5 ^s , h=10 km, MPV=4.8 (Niedzica)			8.X	KRA	Δ=27.54° (SKM) eP	11 32 21
	KRA Δ=27.54° (SKM) eP		11 32 21		e		29
	NIE Δ=27.63° iP		11 32 22.0 D			Z: 1.4 ^s ; 0.032μ	
8.X	China, Moscow: 39.62°N, 74.70°E, H=14 ^h 20 ^m 05.1 ^s , h=50 km, MLV=6.0; MPV=6.2 (Kraków, Niedzica), MLV=6.2 (Kraków, Warszawa)			8.X	China, Moscow: 39.62°N, 74.70°E, H=14 ^h 20 ^m 05.1 ^s , h=50 km, MLV=6.0; MPV=6.2 (Kraków, Niedzica), MLV=6.2 (Kraków, Warszawa)		
	WAR Δ=38.54° (SKD) eiP		14 27 28		KRA	Δ=39.39° (SKM) iP	14 27 31.9 C
	eiPP		28 58			Z: 1.0 ^s ; 0.36μ	
	eiS		33 20		iP		45.6
	eiPcS		28		(SKD) ePP		29 15
	Lm		46 36		eiS		33 35
	NEZ: 16 ^s , 20 ^s , 18 ^s ; 74μ, 121μ, 37μ				Lm		42.5
						N: 25 ^s ; 46.0μ	
					Lm		47.0
						Z: 15 ^s ; 30.0μ	
					NIE	Δ=39.21° iP	14 27 32.0 C
						Z: 1.0 ^s ; 0.37μ	
					iP		48.5
					IPP		29 17.6
					KSP	Δ=41.60° iP	14 27 50.5 D
						Z: 1.0 ^s ; 0.14μ	
					AAS	Δ=143.98° ePKHKP	14 39 31
8.X	Honshu, Japan, Moscow: 36.71°N, 136.98°E, H=19 ^h 09 ^m 27.2 ^s , h=270 km, MPV(A)=5.3						



8.X	KRA	Δ=77.32° (SKM) eiP	19 20 52
		Z: 0.6 ^s ; 0.039μ	
	ipP		21 57.8
	NIE	Δ=77.56° eiP	19 20 56 D
		Z: 1.0 ^s ; 0.024μ	
	KSP	Δ=78.45° iP	19 21 01.0
9.X	China, NEIS: 39.491°N, 74.795°E, H=03 ^h 09 ^m 20.7 ^s , h=70 km, MB=4.7; MPV=4.9 (Kraków), 5.1 (Niedzica)		
	KRA	Δ=39.52° (SKM) eiP	03 16 46 C
		Z: 0.6 ^s ; 0.019μ	
	NIE	Δ=39.34° iP	03 16 47.2 C
		Z: 0.6 ^s ; 0.016μ	
9.X	Ryukyu Islands, NEIS: 24.295°N, 125.078°E, H=19 ^h 22 ^m 51.6 ^s , h=44 km, MB=5.1		
	NIE	Δ=80.90° eP	19 35 03 D
		ipP	14
11.X	New Guinea, Moscow: 6.32°S, 147.53°E, H=23 ^h 47 ^m 50.8 ^s , h normal, MPV(A)=5.4		
	NIE	Δ=118.38° eiPKIKP	00 06 38
		Z: 1.0 ^s ; 0.013μ	
	i		07 04
11.X	Honshu, Japan, Moscow: 33.94°N, 140.63°E, H=01 ^h 49 ^m 03.4 ^s , h=50 km, MPV(A)=6.1; MPV=6.0 (Kraków, Niedzica)		
	KRA	Δ=81.29° (SKM) iP	02 01 15.3 C
		Z: 1.2 ^s ; 0.11μ	
	ipP		28.1
	(SKD) eSKS		11 40
	e		17 08

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
11.X	Honshu, Japan - continuation			12.X	NIE	$\Delta=71.64^{\circ}$	
	NIE	$\Delta=81.55^{\circ}$			eP		20 14 34
	eIP		02 01 17.5 C		eIP		46
	Z:	1.5^S ; 0.18μ			KRA	$\Delta=72.24^{\circ}$	
	i(pP)		27.5		(SKM) eP		20 14 30
	isP		34.5	13.X	Romania, EMSC: $46.62^{\circ}N$, $26.62^{\circ}E$, $H=01^h02^m06.4^s$, $h=100$ km		
	KSP	$\Delta=82.39^{\circ}$			NIE	$\Delta=5.07^{\circ}$	
	eP		02 01 20 D		iP		01 03 22.0 D
	ePP		04 45		Z:	0.9^S ; 0.064μ	
11.X	Kuril Islands, Moscow: $44.85^{\circ}N$, $148.75^{\circ}E$, $H=10^h26^m19.9^s$, $h=70$ km, MPV(A)=5.4; MPV=5.7 (Kraków), 5.4 (Niedzica)				i		26.5
	KRA	$\Delta=75.52^{\circ}$			i		45.5
	(SKM) eIP		10 37 59 C		KRA	$\Delta=5.63^{\circ}$	
	Z:	0.9^S ; 0.063μ			(SKM) eIP		01 03 29
	eI		38 12		i		41.7
	NIE	$\Delta=75.90^{\circ}$			eI		04 08
	eIP		10 38 00		KSP	$\Delta=8.03^{\circ}$	
	Z:	0.9^S ; 0.026μ			eP		01 04 01
	ipP		16	13.X	KRA		
	KSP	$\Delta=76.16^{\circ}$			(SKM) eP		01 17 45
	eP		10 38 02 D		Z:	0.6^S ; 0.016μ	
12.X	Luzon, Philippine Islands, NEIS: $16.778^{\circ}N$, $122.419^{\circ}E$, $H=02^h18^m32.4^s$, $h=54$ km, MB=4.6; MPV=5.1 (Niedzica)				NIE		
	NIE	$\Delta=85.06^{\circ}$			iP		01 17 47.5 C
	iP		02 31 05.8		Z:	1.0^S ; 0.022μ	
	Z:	0.8^S ; 0.012μ		13.X	Marmora Sea, EMSC: $40.64^{\circ}N$, $27.68^{\circ}E$, $H=17^h55^m11.4^s$, $h=10$ km		
	KRA	$\Delta=34.44^{\circ}$			KRA	$\Delta=10.87^{\circ}$	
	(SKM) eP		07 01 21		(SKM) eIP		17 57 46
12.X	Mid-Indian Rise, NEIS: $15.217^{\circ}S$, $66.629^{\circ}E$, $H=17^h08^m26.0^s$, $h=33$ km, MB=5.0			14.X	Kermadec Islands Region, NEIS: $31.238^{\circ}S$, $178.508^{\circ}W$, $H=13^h44^m17.7^s$, $h=53$ km, MB=5.3		
	KRA	$\Delta=76.85^{\circ}$			NIE	$\Delta=156.96^{\circ}$	
	(SKM) eIP		17 20 10		ePKIKP		14 04 07
	eisP		26		Z:	1.0^S ; 0.013μ	
12.X	Mid-Indian Rise, Moscow: $8.90^{\circ}S$, $68.37^{\circ}E$, $H=20^h03^m14.4^s$, h normal, MPV(A)=5.4				eIPKP ₂		37
	KRA	$\Delta=97.16^{\circ}$		14.X	Java, NEIS: $7.500^{\circ}S$, $112.231^{\circ}E$, $H=18^h41^m16.7^s$, $h=191$ km		
	(SKM) eP		18 54 20		KRA	$\Delta=97.16^{\circ}$	
	eI		28		(SKM) eP		18 54 20
	eIPP		58 25		eI		28

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14.X	Java - continuation			15.X	NIE	$\Delta=128.54^{\circ}$	
	NIE	$\Delta=96.88^{\circ}$			ePKIKP		08 02 55
	eP		18 54 27	15.X	Off Coast of Northern California, NEIS: $40.601^{\circ}N$, $127.149^{\circ}W$, $H=15^h36^m34.2^s$, $h=15$ km, MB=4.9		
	Z:	1.0^S ; 0.019μ			KRA	$\Delta=85.20^{\circ}$	
	eIP		55 14		(SKM) eP		15 49 10 C
	iPP		58 22.5		ePP		16
14.X	New Britain Region, NEIS: $4.351^{\circ}S$, $152.855^{\circ}E$, $H=22^h56^m01.3^s$, $h=33$ km, MB=5.4			16.X	Mongolia, NEIS: $45.100^{\circ}N$, $94.185^{\circ}E$, $H=16^h30^m24.9^s$, $h=33$ km, MB=5.2; MPV=5.3 (Kraków, Niedzica)		
	NIE	$\Delta=119.82^{\circ}$			KRA	$\Delta=48.42^{\circ}$	
	iPKIKP		23 14 49.5		(SKM) eIP		16 39 04 C
	Z:	0.9^S ; 0.019μ			Z:	0.9^S ; 0.026μ	
	i		15 05.0		eIPP		40 54
15.X	Eastern Kazakh SSR, NEIS: $49.756^{\circ}N$, $78.261^{\circ}E$, $H=05^h36^m58.5^s$, $h=0$ km, MB=5.2; MPV=5.4 (Kraków), 5.6 (Niedzica)				NIE	$\Delta=48.45^{\circ}$	
	KRA	$\Delta=36.73^{\circ}$			eIP		16 39 06
	(SKM) iP		05 44 08.0 C		Z:	1.0^S ; 0.033μ	
	Z:	0.8^S ; 0.046μ		17.X	Fiji Islands Region, NEIS: $17.727^{\circ}S$, $178.749^{\circ}W$, $H=23^h55^m15.1^s$, $h=545$ km, MB=5.3		
	ei		26		KRA	$\Delta=144.42^{\circ}$	
	NIE	$\Delta=36.75^{\circ}$			(SKM) iPKP		00 13 48.6 C
	iP		05 44 09.5 C		Z:	0.8^S ; 0.17μ	
	Z:	0.9^S ; 0.068μ			NIE	$\Delta=144.82^{\circ}$	
	i		24		eIPKHKP		00 13 51 C
	i(PP)		45 24		Z:	0.5^S ; 0.15μ	
	KSP	$\Delta=38.57^{\circ}$			iPKIKP		54.5
	eP		05 44 26		i		14 29.0
15.X	New Britain Region, NEIS: $5.475^{\circ}S$, $148.136^{\circ}E$, $H=05^h36^m14.0^s$, $h=155$ km, MB=6.0				KSP	$\Delta=144.84^{\circ}$	
	KRA	$\Delta=117.98^{\circ}$			ePKIKP		00 13 54
	(SKM) eIPKIKP		05 54 42 C		iPKIKP		55.5
	Z:	0.9^S ; 0.026μ		17.X	Kazakh SSR, NEIS: $47.906^{\circ}N$, $48.209^{\circ}E$, $H=04^h59^m57.9^s$, $h=0$ km, MB=6.0		
	ei		56 04		WAR	$\Delta=17.93^{\circ}$	
	NIE	$\Delta=118.05^{\circ}$			(GW) eIP		05 04 09
	iPKIKP		05 54 44.5 C		i		16
	Z:	1.0^S ; 0.044μ			KRA	$\Delta=18.64^{\circ}$	
	i		55 36		(SKM) eIP		05 04 11
15.X	NIE				Pm		16.6
	eIP		06 05 04 C		Z:	1.0^S ; 0.33μ	
	Z:	1.0^S ; 0.019μ			iPP		26.1
15.X	West Chile Rise, NEIS: $41.925^{\circ}S$, $83.810^{\circ}W$, $H=07^h43^m52.6^s$, $h=33$ km, MB=5.2						



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17.X Kazakh SSR - continuation							
	NIE	$\Delta=18.44^{\circ}$			KRA	$\Delta=15.60^{\circ}$	
	eP		05 04 10 D		(SKM) eP		23 40 49
	i		13		e1PP		41 00
	Pm		18	18.X Hokkaido, Japan, NEIS: 41.254° N, 143.990° E, $H=23^{\text{h}}30^{\text{m}}23.8^{\text{s}}$, $h=50$ km, $MB=5.4$; $MPV=5.7$ (Kraków)			
		Z: 1.0^{s} ; 0.69μ			KRA	$\Delta=76.70^{\circ}$	
	iPP		28		(SKM) iP		23 42 10.1 C
	KSP	$\Delta=20.90^{\circ}$				Z: 1.4^{s} ; 0.10μ	
	eP		05 04 44	19.X Kuril Islands, NEIS: 44.391° N, 149.266° E, $H=10^{\text{h}}57^{\text{m}}51.9^{\text{s}}$, $h=23$ km, $MB=5.0$; $MPV=5.3$ (Kraków)			
17.X Ural Mountain Region, NEIS: 63.207° N, 63.194° E, $H=13^{\text{h}}59^{\text{m}}59.3^{\text{s}}$, $h=0$ km, $MB=5.5$							
	KRA	$\Delta=26.58^{\circ}$			KRA	$\Delta=76.10^{\circ}$	
	(SKM) eP		14 05 39 D		(SKM) iP		11 09 39.3 D
	i		41.5			Z: 0.7^{s} ; 0.020μ	
	Pm		42.6	19.X Fiji Islands Region, NEIS: 21.190° S, 177.875° W, $H=13^{\text{h}}08^{\text{m}}40.6^{\text{s}}$, $h=413$ km, $MB=5.4$			
		Z: 0.7^{s} ; 0.070μ			KRA	$\Delta=147.93^{\circ}$	
	i		53.1		(SKM) iPKP		13 27 37.8
		Z: 1.1^{s} ; 0.20μ				Z: 0.8^{s} ; 0.032μ	
	i		06 07.2		KSP	$\Delta=148.38^{\circ}$	
	NIE	$\Delta=26.87^{\circ}$			iPKP		13 27 38.5
	iP		14 05 44.0	19.X Kirgiz - Sinkiang Border Region, NEIS: 40.159° N, 77.011° E, $H=16^{\text{h}}08^{\text{m}}35.4^{\text{s}}$, $h=33$ km, $MB=5.1$; $MPV=5.4$ (Kraków)			
		Z: 1.2^{s} ; 0.16μ			KRA	$\Delta=40.57^{\circ}$	
	i		55.7		(SKM) eP		16 16 12
	KSP	$\Delta=27.66^{\circ}$				Z: 0.6^{s} ; 0.029μ	
	eP		14 05 53 C		e1PP		17 48
17.X Fiji Islands Region, NEIS: 20.594° S, 178.176° W, $H=22^{\text{h}}56^{\text{m}}33.4^{\text{s}}$, $h=550$ km, $MB=5.1$							
	KRA	$\Delta=147.28^{\circ}$		21.X Sea of Japan, NEIS: 41.333° N, 135.396° E, $H=02^{\text{h}}36^{\text{m}}13.9^{\text{s}}$, $h=389$ km, $MB=5.3$			
	(SKM) iPKP		23 15 14.5 D		KRA	$\Delta=72.88^{\circ}$	
	e1PKP ₂		18		(SKM) e1P		02 47 02
	KSP	$\Delta=147.73^{\circ}$				Z: 0.7^{s} ; 0.041μ	
	ePKP		23 15 14		i		05.3
	NIE	$\Delta=147.67^{\circ}$			epP		48 24
	ePKP		23 15 15		KSP	$\Delta=73.94^{\circ}$	
	i		17.5		eP		02 47 09
	Pm		18.9			Z: 0.7^{s} ; 0.076μ	
		Z: 1.1^{s} ; 0.076μ		18.X Crete, NEIS: 35.054° N, 25.827° E, $H=23^{\text{h}}37^{\text{m}}05.7^{\text{s}}$, $h=10$ km			
	i		21.6				

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
21.X South of Fiji Islands, NEIS: 23.763° S, 179.999° W, $H=17^{\text{h}}37^{\text{m}}12.3^{\text{s}}$, $h=533$ km, $MB=5.2$							
	NIE	$\Delta=149.83^{\circ}$		23.X Hindu Kush Region, NEIS: 36.420° N, 70.898° E, $H=08^{\text{h}}07^{\text{m}}32.7^{\text{s}}$, $h=183$ km, $MB=5.5$			
	iPKP		17 56 03.8 C		NIE	$\Delta=38.54^{\circ}$	
		Z: 1.0^{s} ; 0.019μ			iP		08 14 39 D
	i		15.5			Z: 1.0^{s} ; 0.41μ	
	i		59 18.0		ipP		15 17
	KRA	$\Delta=149.49^{\circ}$			iPP		16 12
	(SKM) e		17 56 13		KRA	$\Delta=38.79^{\circ}$	
23.X South of Fiji Islands, NEIS: 23.763° S, 179.999° W, $H=17^{\text{h}}37^{\text{m}}12.3^{\text{s}}$, $h=533$ km, $MB=5.2$							
	NIE	$\Delta=151.13^{\circ}$			(SKM) iP		08 14 39.9 D
	iPKP		22 12 27.5 C			Z: 0.8^{s} ; 0.46μ	
		Z: 0.9^{s} ; 0.032μ			i		48.0
	e1PKP ₂		42		ipP		15 18.5
26.X Mindanao, Philippine Islands, NEIS: 8.250° N, 125.929° E, $H=09^{\text{h}}14^{\text{m}}51.6^{\text{s}}$, $h=33$ km, $MB=5.4$; $MPV=5.4$ (Niedzica)							
	NIE	$\Delta=93.78^{\circ}$			(SKD) eS		20 24
	eP		09 28 05		KSP	$\Delta=41.12^{\circ}$	
	i		12.5		iP		08 15 00.0
	Pm		13.2			Z: 0.7^{s} ; 0.052μ	
		Z: 1.0^{s} ; 0.019μ		23.X Kermadec Island Region, NEIS: 27.342° S, 176.623° W, $H=11^{\text{h}}23^{\text{m}}41.8^{\text{s}}$, $h=33$ km, $MB=5.2$			
	KRA	$\Delta=93.83^{\circ}$			KRA	$\Delta=154.01^{\circ}$	
	(SKM) eP		09 28 06		(SKM) ePKP		11 43 38
	e1		12		i PKP ₂		44 03.8
27.X South of Fiji Islands, NEIS: 21.739° S, 179.500° E, $H=05^{\text{h}}51^{\text{m}}38.3^{\text{s}}$, $h=550$ km, $MB=5.2$							
	KRA	$\Delta=147.47^{\circ}$		23.X South of Fiji Islands, NEIS: 23.537° S, 176.063° W, $H=21^{\text{h}}52^{\text{m}}37.5^{\text{s}}$, $h=33$ km, $MB=5.0$			
	(SKM) iPKP		06 10 20.7 D		KRA	$\Delta=150.72^{\circ}$	
	iPKP ₂		25.8		(SKM) iPKP		22 12 26.9 C
	NIE	$\Delta=147.82^{\circ}$				Z: 1.0^{s} ; 0.060μ	
	iPKP		06 10 22.5 D		KSP	$\Delta=151.10^{\circ}$	
		Z: 0.8^{s} ; 0.048μ			iPKP		22 12 27.0
	iPKP ₂		27.2			Z: 0.6^{s} ; 0.058μ	
27.X Fiji Islands Region, NEIS: 20.739° S, 178.801° W, $H=06^{\text{h}}25^{\text{m}}02.6^{\text{s}}$, $h=650$ km, $MB=5.4$							
	KRA	$\Delta=147.19^{\circ}$		27.X Jujuy Province, Argentina, NEIS: 22.059° S, 65.855° W, $H=10^{\text{h}}06^{\text{m}}45.2^{\text{s}}$, $h=265$ km			
	(SKM) iPKP		06 43 35.7 C		AAS	$\Delta=102.92^{\circ}$	
	iPKP ₂		39.3		eP		10 13 59
	NIE	$\Delta=147.57^{\circ}$				Z: 0.7^{s} ; 1.35μ	
	iPKP		06 43 37.0 D				
		Z: 1.0^{s} ; 0.074μ					
	iPKP ₂		41.5				

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28.X	Kuril Islands, NEIS: 50.322°N, 155.610°E, H=16 ^h 30 ^m 19.0 ^s , h=132 km, MB=5.5	KRA Δ=73.07° (SKM) eIP Z: 0.6 ^s ; 0.043μ	16 41 36
		NIE Δ=73.51° eIP Pm Z: 1.0 ^s ; 0.028μ ei	16 41 38 D 42 50
		KSP Δ=73.42° eP	16 41 39
28.X	Hokkaido, Japan Region, NEIS: 42.718°N, 144.214°E, H=22 ^h 46 ^m 35.2 ^s , h=76 km, MB=5.1	KSP Δ=76.37° eP	22 58 20
29.X	New Britain Region, NEIS: 5.305°S, 151.968°E, H=04 ^h 06 ^m 02.5 ^s , h=32 km, MB=6.0	NIE Δ=120.11° ePKIKP	04 24 50
30.X	Mindanao, Philippine Islands, NEIS: 8.157°N, 122.460°E, H=13 ^h 42 ^m 19.5 ^s , h=65 km, MB=5.8	KRA Δ=91.75° (SKM) eIP eIPP (SKD) ePS	13 55 25 59 01 14 07 36
30.X	Near Coast of Guatemala, NEIS: 13.839°N, 90.917°W, H=18 ^h 23 ^m 36.1 ^s , h=65 km, MB=5.5; MLV=6.1 (Kraków)	KRA Δ=92.36° (SKM) eP iPP eL Lm EZ: 18 ^s ; 6.8μ, 7.2μ	18 36 41 40 20 47 19 19
30.X	North Atlantic Ridge, NEIS: 25.366°N, 45.469°W, H=19 ^h 23 ^m 28.5 ^s , h=19 km, MB=4.9; MPV=5.6 (Kraków)	KRA Δ=75.99° (SKM) iP Z: 0.9 ^s ; 0.063μ	21 55 45.1 D
		NIE Δ=76.36° iP Z: 1.0 ^s ; 0.056μ eisP	21 55 47.5 56 03
		KSP Δ=76.67° iP	21 55 49

Date	Station	Phase	T.U. h m s
30.X	KRA Δ=55.36° (SKM) eP Z: 1.0 ^s ; 0.030μ		19 33 01 C
	NIE Δ=55.60° eIP		19 33 04
31.X	Eastern Kazakh SSR, NEIS: 49.886°N, 78.137°E, H=04 ^h 16 ^m 59.2 ^s , h=0, MB=5.2; MPV=5.4 (Kraków), 5.7 (Niedzica)	KRA Δ=36.60° (SKM) eIP Z: 1.0 ^s ; 0.054μ	04 24 07 C
	NIE Δ=36.62° iP Z: 1.0 ^s ; 0.092μ eiPP		04 24 08.5 C 25 38
31.X	Kermadec Islands, NEIS: 27.420°S, 176.478°W, H=16 ^h 54 ^m 46.2 ^s , h=33 km, MB=5.1	NIE Δ=154.50° eIPKIKP ei e PKP ₂	17 14 34 46 57
	KRA Δ=154.13° (SKM) ePKIKP Z: 1.0 ^s ; 0.030μ ePKHKP ePKP ₂		17 14 36 D 42 57
	(SKD) eiPP Lm NFZ: 22 ^s ; 1.6μ, 1.5μ, 2.0μ		18 30 18 19.9
31.X	Kuril Islands, NEIS: 44.029°N, 148.127°E, H=21 ^h 44 ^m 00.5 ^s , h=33 km, MB=5.1; MPV=5.7 (Kraków), 5.6 (Niedzica)	KRA Δ=75.99° (SKM) iP Z: 0.9 ^s ; 0.063μ	21 55 45.1 D
	NIE Δ=76.36° iP Z: 1.0 ^s ; 0.056μ eisP		21 55 47.5 56 03
	KSP Δ=76.67° iP		21 55 49

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NOVEMBER 1978			
1.XI	Kirgiz SSR, NEIS: 39.420°N, 72.706°E, H=19 ^h 48 ^m 28.5 ^s , h=33 km, MSZ=6.7; MPV=6.5 (Kraków, Niedzica); MLH=7.0 (Kraków, 7.4 (Warszawa)	NIE Δ=38.03° iP i Pm Z: 1.5 ^s ; 1.2μ	19 55 45 53 56 02
		KRA Δ=38.22° (SKM) iP Z: 1.4 ^s ; 0.40μ i Pm Z: 1.0 ^s ; 0.63μ (GW) iPP iS Lm NE: 10 ^s ; 89μ, 77μ Lm Z: 10 ^s ; 8.2μ	19 55 45.8 D 53.6 56 57 20 20 01 42 08.9 16.9
		WAR Δ=37.43° (SKD) eiP ei iS Lm NE: 10 ^s ; 230μ, 240μ	19 55 48 58 46 20 01 38 14 32
		KSP Δ=40.47° iP Z: 1.0 ^s ; 0.056μ	19 56 05.0 C
2.XI	KSP	iP	02 07 57.5 D
2.XI	Greenland Sea, NEIS: 74.180°N, 8.386°E, H=05 ^h 21 ^m 39.4 ^s , h=33 km, MB=4.9; MPV=5.1 (Kraków), 4.9 (Niedzica)	KRA Δ=24.71° (SKM) eP Z: 1.0 ^s ; 0.060μ iPP	05 26 59 27 10.9
2.XI	KSP Δ=23.66° eIP NIE Δ=25.37° eP Pm Z: 1.0 ^s ; 0.031μ isP		05 27 00 05 27 03 10 17
2.XI	Kirgiz SSR, NEIS: 39.341°N, 72.687°E, H=06 ^h 24 ^m 15.0 ^s , h=33 km, MB=5.2; MPV=5.4 (Kraków, Niedzica)	NIE Δ=38.06° eP Z: 1.3 ^s ; 0.073μ iPP	06 31 31 42.5
		KRA Δ=38.25° (SKM) eP Z: 0.7 ^s ; 0.037μ (GW) ePPP (SKD) ei(S) Lm NZ: 20 ^s ; 6.5μ, 3.5μ	06 31 31 D 33 26 37 21 46.4
2.XI	Kirgiz SSR, NEIS: 39.404°N, 72.578°E, H=11 ^h 15 ^m 40.5 ^s , h=33 km, MB=5.2; MPV=5.4 (Niedzica)	NIE Δ=37.95° iP iPP	11 22 57 23 06
		KRA Δ=38.15° (SKM) eiP Z: 1.0 ^s ; 0.060μ i	11 22 58 24 26.7
3.XI	Volcano Islands Region, NEIS: 25.885°N, 142.231°E, H=12 ^h 13 ^m 32.1 ^s , h=33 km, MB=5.3; MPV=5.6 (Kraków, Niedzica)	KRA Δ=88.75° (SKM) eP Z: 1.0 ^s ; 0.042μ eIPP	12 26 22 33



Date	Station	Phase	T.U. h m s
5.XI Solomon Islands - continuation			
	KSP	$\Delta=131.45^{\circ}$	
	ePKIKP		22 21 24
6.XI Ryukyu Islands Region, NEIS: 29.583°N, 131.487°E, H=08 ^h 21 ^m 30.6 ^s , h=33 km, MB=5.2; MPV=5.5 (Kraków), 5.4 (Niedzica)			
	KRA	$\Delta=80.25^{\circ}$	
	(SKM) eP		08 33 38
		Z: 1.0 ^s ; 0.048 μ	
	eIPcP		44
	NIE	$\Delta=80.41^{\circ}$	
	iP		08 33 40.5 D
		Z: 1.2 ^s ; 0.039 μ	
	iPcP		46.0
6.XI Hokkaido, Japan, NEIS: 42.295°N, 142.816°E, H=15 ^h 09 ^m 01.2 ^s , h=85 km, MB=5.4			
	KRA	$\Delta=75.34^{\circ}$	
	(SKM) eIP		15 20 36 D
		Z: 0.9 ^s ; 0.10 μ	
	eIP		54.8
	KSP	$\Delta=76.20^{\circ}$	
	iP		15 20 41.0 D
		Z: 1.0 ^s ; 0.028 μ	
7.XI Afghanistan-USSR Border Region, NEIS: 37.259°N, 71.802°E, H=03 ^h 04 ^m 56.3 ^s , h=135 km, MB=5.2			
	NIE	$\Delta=38.64^{\circ}$	
	iP		03 12 07.2 D
		Z: 0.9 ^s ; 0.12 μ	
	eIP		31
	iPP		13 38.5
	KRA	$\Delta=38.88^{\circ}$	
	(SKM) iP		03 12 08.8 D
		Z: 0.7 ^s ; 0.099 μ	
	iP		39.3
7.XI Ethiopia, NEIS: 11.695°N, 42.476°E, H=06 ^h 44 ^m 20.3 ^s , h=33 km, MB=4.6			
	KRA	$\Delta=42.51^{\circ}$	
	(SKM) eP		06 54 16

Date	Station	Phase	T.U. h m s
7.XI Ethiopia, NEIS: 11.574°N, 42.531°E, H=17 ^h 05 ^m 56.6 ^s , h=33 km, MB=5.2; MPV=5.5 (Kraków); MLV=5.4 (Kraków)			
	KRA	$\Delta=42.64^{\circ}$	
	(SKM) eIP		17 13 50 D
	Pm		53
		Z: 1.5 ^s ; 0.098 μ	
	(SKD) i		14 26.5
	(SKD) ePcP		15 43
	e		20 37
	eL		23.5
	Lm		30
		NEZ: 25 ^s ; 7.4 μ , 6.7 μ , 4.7 μ	
	WAR	$\Delta=44.13^{\circ}$	
	(SKD) eIS		17 20 38
	eIScS		24 12
	Lm		36 10
		NEZ: 16 ^s , 16 ^s , 14 ^s ; 6.7 μ , 20 μ , 7.8 μ	
7.XI Solomon Islands, NEIS: 10.841°S, 162.135°E, H=17 ^h 34 ^m 00.8 ^s , h=33 km, MB=5.8; MLV=6.1 (Warszawa, Kraków)			
	KRA	$\Delta=130.03^{\circ}$	
	(SKM) ePKIKP		17 53 16 C
		Z: 1.6 ^s ; 0.059 μ	
	eIPP		55 29
	(SKD) Lm		18 54.6
		NEZ: 18 ^s ; 1.8 μ , 3.2 μ , 4.4 μ	
	NIE	$\Delta=130.22^{\circ}$	
	eIPKIKP		17 53 16
	Pm		21
		Z: 1.0 ^s ; 0.019 μ	
	WAR	$\Delta=128.14^{\circ}$	
	(SKD) eIPP		17 55 16
	eIPKIP		18 03 18
	Lm		52 22
		NEZ: 18 ^s ; 3.6 μ , 9.6 μ , 4.9 μ	
8.XI Kirgiz SSR, NEIS: 39.393°N, 72.564°E, H=00 ^h 57 ^m 48.4 ^s , h=33 km, MB=5.7; MPV=5.7 (Kraków), 5.5 (Niedzica)			
	NIE	$\Delta=37.95^{\circ}$	
	iP		01 05 04.5
		Z: 1.2 ^s ; 0.089 μ	
	i		12.0

Date	Station	Phase	T.U. h m s
8.XI Kirgiz SSR - continuation			
	KRA	$\Delta=38.14^{\circ}$	
	(SKM) iP		01 05 05.2
		Z: 1.0 ^s ; 0.10 μ	
	eI		08 15
	(SKD) eS		11 09
	eSS		13 37
	WAR	$\Delta=37.36^{\circ}$	
	(GW) ePP		01 06 30
	(SKD) eIS		10 50
8.XI Ethiopia, NEIS: 11.577°N, 42.616°E, H=05 ^h 07 ^m 59.8 ^s , h=33 km, MB=5.0; MPV=5.3 (Kraków), MLV=5.2 (Kraków)			
	NIE	$\Delta=42.01^{\circ}$	
	eP		05 15 50
	eIS		16 05
	KRA	$\Delta=42.67^{\circ}$	
	(SKM) eIP		05 15 54 D
		Z: 1.0 ^s ; 0.042 μ	
	(SKD) ei(S)		22 21
	Lm		33.0
		NEZ: 25 ^s ; 4.9 μ , 4.9 μ , 3.6 μ	
8.XI Atlantic-Indian Rise, NEIS: 28.460°S, 62.270°E, H=12 ^h 30 ^m 33.5 ^s , h=33 km, MB=5.7; MPV=5.6 (Kraków)			
	KRA	$\Delta=66.72^{\circ}$	
	(SKM) eIP		12 43 14
		Z: 1.4 ^s ; 0.063 μ	
	eIP		24
	KSP	$\Delta=88.78^{\circ}$	
	eP		12 43 25
8.XI South Indian Ocean, NEIS: 25.499°S, 69.926°E, H=14 ^h 07 ^m 42.4 ^s , h=33 km, MB=5.2; MPV=5.5 (Kraków)			
	KRA	$\Delta=87.29^{\circ}$	
	(SKM) eP		14 20 24
		Z: 1.0 ^s ; 0.036 μ	
	eIP		36
9.XI Solomon Islands, NEIS: 10.706°S, 161.213°E, H=00 ^h 51 ^m 30.1 ^s , h=33 km, MB=5.5			
	NIE	$\Delta=129.62^{\circ}$	
	ePKIKP		01 10 40
	eI		48

Date	Station	Phase	T.U. h m s
10.XI Philippine Islands Region, NEIS: 20.441°N, 121.425°E, H=09 ^h 05 ^m 48.5 ^s , h=33 km, MB=4.6; MPV=5.3 (Niedzica), 5.5 (Kraków)			
	NIE	$\Delta=81.66^{\circ}$	
	eIP		09 18 06 D
		Z: 1.0 ^s ; 0.022 μ	
	eIPcP		15
	KRA	$\Delta=81.66^{\circ}$	
	(SKM) iP		09 18 11.9 D
		Z: 0.6 ^s ; 0.027 μ	
	eIS		25
10.XI Solomon Islands, NEIS: 10.991°S, 161.966°E, H=13 ^h 25 ^m 01.7 ^s , h=33 km, MB=5.5			
	NIE	$\Delta=130.26^{\circ}$	
	iPKIKP		13 44 11.5 D
		Z: 1.5 ^s ; 0.058 μ	
	i		18.5
10.XI South of Honshu, Japan, NEIS: 30.882°N, 141.839°E, H=14 ^h 18 ^m 13.4 ^s , h=33 km, MB=4.7; MPV=5.6 (Kraków)			
	KRA	$\Delta=84.40^{\circ}$	
	(SKM) eIP		14 30 50
		Z: 1.0 ^s ; 0.042 μ	
	eIP		31 01
11.XI NIE			
	eIP		02 51 41 C
		Z: 1.5 ^s ; 0.044 μ	
	KRA		
	(SKM) eP		02 51 52
		Z: 1.0 ^s ; 0.030 μ	
11.XI Honshu, Japan, NEIS: 30.948°N, 141.933°E, H=05 ^h 08 ^m 43.5 ^s , h=33 km, MB=4.7; MPV=5.4 (Kraków)			
	NIE	$\Delta=84.63^{\circ}$	
	eIP		05 21 17
	eIP		29
	KRA	$\Delta=84.39^{\circ}$	
	eP		05 21 22
		Z: 1.0 ^s ; 0.030 μ	
12.XI Bouvet Island Region, NEIS: 54.113°S, 1.730°W, H=21 ^h 37 ^m 44.0 ^s , h=33 km, MB=5.2			

Date	Station	Phase	T.U. h m s
12.XI	Bouvet Island - continuation		
	AAS	$\Delta=30.06^\circ$	
	eP		21 43 50
13.XI	Japan Region, NEIS: 38.879 ⁰ N, 142.092 ⁰ E, H=03 ^h 01 ^m 40.9 ^s , h=33 km, MB=5.3; MPV=5.7 (Kraków), 5.5 (Niedzica)		
	KRA	$\Delta=77.87^\circ$	
	(SKM) e1P		03 13 36 C
		Z: 0.7 ^s ; 0.045 μ	
	eipP		47
	Lm		51.2
		NEZ: 20 ^s ; 1.6 μ , 1.8 μ , 2.1 μ	
	NIE	$\Delta=79.16^\circ$	
	iP		03 13 37.5 C
		Z: 1.1 ^s ; 0.043 μ	
	eisP		52
	i		14 01.3
	KSP	$\Delta=78.82^\circ$	
	eP		03 13 42
13.XI	Hindu Kush, NEIS: 36.414 ⁰ N, 70.746 ⁰ E, H=07 ^h 27 ^m 18.6 ^s , h=204 km, MB=5.1		
	NIE	$\Delta=38.44^\circ$	
	iP		07 34 22.0 C
		Z: 0.7 ^s ; 0.034 μ	
	i		40.5
	ipP		35 05.7
	i		55
14.XI	Fonga Islands, NEIS: 15.537 ⁰ S, 173.308 ⁰ W, H=05 ^h 12 ^m 25.2 ^s , h=33 km, MB=5.3		
	KRA	$\Delta=143.93^\circ$	
	(SKM) ePKHKP		05 31 57
	ePKIKP		32 01
	NIE	$\Delta=144.42^\circ$	
	iPKHKP		05 31 57.2 C
		Z: 0.9 ^s ; 0.048 μ	
	i		32 05.5
14.XI	Japan Region, NEIS: 40.304 ⁰ N, 143.261 ⁰ E, H=10 ^h 11 ^m 48.6 ^s , h=33 km, MB=5.2		
	KRA	$\Delta=77.18^\circ$	
	(SKM) e1P		10 23 41

Date	Station	Phase	T.U. h m s
15.XI	South of Honshu, Japan, NEIS: 31.095 ⁰ N, 141.638 ⁰ E, H=04 ^h 49 ^m 24.9 ^s , h=33 km, MB=4.6; MPV=5.4 (Kraków), 5.3 (Niedzica)		
	KRA	$\Delta=84.12^\circ$	
	(SKM) iP		05 01 54.3 D
		Z: 0.8 ^s ; 0.023 μ	
	ipP		02 06.8
	NIE	$\Delta=84.37^\circ$	
	iP		05 01 56.5
		Z: 1.2 ^s ; 0.026 μ	
	eipP		02 08.5
15.XI	North West of Kuril Islands, NEIS: 47.897 ⁰ N, 146.490 ⁰ E, H=07 ^h 47 ^m 23.0 ^s , h=28 km, MB=5.8; MPV=6.1 (Kraków), 6.3 (Niedzica)		
	KRA	$\Delta=72.11^\circ$	
	(SKM) iP		07 58 45.3 D
		Z: 0.8 ^s ; 0.14 μ	
	i		54.0
	i		59 08.3
	NIE	$\Delta=72.49^\circ$	
	iP		07 58 49.0 C
		Z: 1.0 ^s ; 0.24 μ	
	i		56.5
	KSP	$\Delta=72.74^\circ$	
	iP		07 58 51.0 D
		Z: 1.0 ^s ; 0.080 μ	
16.XI	Azores Islands, NEIS: 39.972 ⁰ N, 29.775 ⁰ W, H=22 ^h 02 ^m 36.7 ^s , h=26 km, MB=4.8; MPV=5.2 (Kraków)		
	KRA	$\Delta=35.95^\circ$	
	(SKM) iP		22 09 36.7 C
		Z: 0.8 ^s ; 0.028 μ	
	(SKD) Lm		20.1
		NEZ: 20 ^s , 36 ^s , 36 ^s ;	
		1.5 μ , 3.6 μ , 3.3 μ	
17.XI	Komandorsky Islands Region, NEIS: 54.089 ⁰ N, 169.292 ⁰ E, H=05 ^h 33 ^m 27.8 ^s , h=11 km, MB=5.1; MPV=5.4 (Kraków)		
	KRA	$\Delta=73.08^\circ$	

Date	Station	Phase	T.U. h m s
17.XI	Komandorsky Islands - continuation		
	KRA		05 44 57 C
	(SKM) i		45 01.6
	Pm		02.5
		Z: 0.9 ^s ; 0.026 μ	
	NIE	$\Delta=73.60^\circ$	
	eP		05 45 02
	i		21
17.XI	KRA		
	(SKM) eP		23 54 46 D
		Z: 1.5 ^s ; 0.061 μ	
18.XI	Pakistan, NEIS: 32.888 ⁰ N, 72.723 ⁰ E, H=01 ^h 35 ^m 00.1 ^s , h=40 km, MB=4.9; MPV=5.1 (Niedzica)		
	NIE	$\Delta=41.88^\circ$	
	iP		01 42 50.5 D
		Z: 1.6 ^s ; 0.045 μ	
18.XI	Fiji Islands Region, NEIS: 16.545 ⁰ S, 177.121 ⁰ W, H=15 ^h 32 ^m 58.1 ^s , h=407 km, MB=5.2		
	KRA	$\Delta=143.84^\circ$	
	(SKM) e1PKHKP		15 51 45 C
		Z: 0.7 ^s ; 0.082 μ	
	e1PKIKP		50
	NIE	$\Delta=144.27^\circ$	
	iPKHKP		15 51 47.2
	KSP	$\Delta=144.13^\circ$	
	iPKP		15 51 52
18.XI	Nevada, NEIS: 37.126 ⁰ N, 116.084 ⁰ W, H=19 ^h 00 ^m 00.0 ^s , h=0		
	KRA	$\Delta=84.91^\circ$	
	(SKM) eP		19 12 37 D
18.XI	NIE		
	iP		19 20 41.5 C
		Z: 1.0 ^s ; 0.037 μ	
	i		47.2
19.XI	Solomon Islands, NEIS: 7.162 ⁰ S, 154.867 ⁰ E, H=16 ^h 28 ^m 39.9 ^s , h=29 km, MB=5.8		
	NIE	$\Delta=123.25^\circ$	
	ePKIKP		16 47 36
19.XI	Aleutian Islands, NEIS: 52.716 ⁰ N, 172.450 ⁰ E, H=19 ^h 42 ^m 36.9 ^s , h=50 km, MB=5.3; MPV=5.6 (Kraków), 5.3 (Niedzica)		
	KRA	$\Delta=74.99^\circ$	
	(SKM) iP		19 54 13.5 C
		Z: 1.0 ^s ; 0.054 μ	
	iPcP		25.5
	NIE	$\Delta=75.52^\circ$	
	iP		19 54 18.5 C
		Z: 1.3 ^s ; 0.034 μ	
21.XI	Kuril Islands Region, NEIS: 43.941 ⁰ N, 148.267 ⁰ E, H=14 ^h 19 ^m 19.9 ^s , h=33 km, MB=5.1		
	KRA	$\Delta=76.12^\circ$	
	(SKM) iP		14 31 05.7
22.XI	Mindanao, Philippine Islands, NEIS: 8.659 ⁰ N, 126.044 ⁰ E, H=09 ^h 32 ^m 20.3 ^s , h=27 km, MB=5.6; MPV=5.6 (Kraków)		
	KRA	$\Delta=93.58^\circ$	
	(SKM) e1P		09 45 34
		Z: 1.0 ^s ; 0.040 μ	
23.XI	Yugoslavia, NEIS: 46.228 ⁰ N, 16.371 ⁰ E, H=01 ^h 52 ^m 21.6 ^s , h=10 km, MB=5.2; MPV=5.5 (Kraków), 5.2 (Niedzica)		
	NIE	$\Delta=4.16^\circ$	
	ePg		01 53 42
	eS ^x		54 28
	KSP	$\Delta=4.62^\circ$	
	eP ^x		01 53 46
	KRA	$\Delta=4.51^\circ$	
	(SKM) eSn		01 54 28
23.XI	Kuril Islands, NEIS: 44.281 ⁰ N, 149.062 ⁰ E, H=03 ^h 24 ^m 32.0 ^s , h=33 km, MB=5.2; MPV=5.5 (Kraków), 5.2 (Niedzica)		
	KRA	$\Delta=76.12^\circ$	
	(SKM) iP		03 36 17.7 D
		Z: 0.9 ^s ; 0.032 μ	
	NIE	$\Delta=76.50^\circ$	
	iP		03 36 20.5 C
		Z: 0.9 ^s ; 0.017 μ	
	eipP		29



Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
29.XI	Oaxaca, Mexico - continuation			30.XI	NIE	$\Delta=38.80^{\circ}$	
	NIE eIP		20 06 08		eP		03 33 46
	eipP		25	30.XI	Tadzik-Sinkiang Border Region,		
29.XI	Oaxaca, Mexico, NEIS: 16.184 ^o N,			NEIS: 39.484 ^o N, 73.611 ^o E, H=03 ^h 30 ^m 57.3 ^s ,			
	96.521 ^o W, H=20 ^h 49 ^m 52.9 ^s , h=42 km, MB=5.8			h=33 km, MB=4.8			
	KRA $\Delta=93.68^{\circ}$			NIE $\Delta=38.58^{\circ}$			
	(SKM) eP		21 03 06	eP			03 38 18
	ipP		18	ei			25
30.XI	Kuril Islands, NEIS: 44.449 ^o N,			30.XI	China, NEIS: 39.659 ^o N, 74.020 ^o E,		
	148.419 ^o E, H=01 ^h 22 ^m 17.2 ^s , h=33 km, MB=4.9;			H=04 ^h 06 ^m 06.9 ^s , h=33 km, MB=4.9			
	MPV=5.5 (Kraków), 5.2 (Niedzica)			NIE $\Delta=38.78^{\circ}$			
	KRA $\Delta=75.74^{\circ}$			ei			04 13 29 D
	(SKM) iP		01 34 00.3 D	KRA $\Delta=38.93^{\circ}$			
	Z: 0.6 ^s ; 0.027 μ			(SKM) eipP			04 13 29
	NIE $\Delta=76.11^{\circ}$			30.XI	Tuamotu Archipelago Region,		
	eipP		01 34 03 C	NEIS: 21.926 ^o S, 138.967 ^o W, H=17 ^h 31 ^m 59.9 ^s ,			
	Z: 1.0 ^s ; 0.019 μ			h=0, MB=5.9			
	epP		15	KRA $\Delta=147.38^{\circ}$			
30.XI	Tadzik-Sinkiang Border Region,			(SKM) iPKP			17 51 43.5 D
	NEIS: 39.150 ^o N, 73.673 ^o E, H=03 ^h 26 ^m 24.1 ^s ,			Z: 1.2 ^s ; 0.38 μ			
	h=33 km, MB=4.6						

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1.XII Greece, NEIS: 38.767^oN, 20.195^oE,
H=03^h47^m32.5^s, h=33 km, MB=5.2

NIE $\Delta=10.65^{\circ}$
eipP 03 50 05 D
i 51 36.5

KRA $\Delta=11.29^{\circ}$
(SKM) eipP 03 50 12
i 26.5

1.XII KRA
(SKM) iP 09 11 33.1 C
Z: 1.3^s; 0.091 μ

1.XII Kuril Islands Region, NEIS:
50.986^oN, 158.967^oE, H=11^h43^m28.8^s,
h=33 km, MB=5.3; MPV=6.2 (Kraków)

KRA $\Delta=73.45^{\circ}$

1.XII KRA iP 11 54 57.6 C
(SKM) Z: 1.2^s; 0.23 μ

ei 56 04
i 57 32.6

1.XII Solomon Islands, NEIS: 9.957^oS,
161.218^oE, H=15^h35^m32.6^s, h=180 km, MB=5.6

KRA $\Delta=128.81^{\circ}$
(SKM) ePKIKP 15 54 20

NIE $\Delta=129.00^{\circ}$
iPKIKP 15 54 21.5 D
Z: 1.4^s; 0.065 μ
ei 47
ipPKP 55 13.0

1.XII KRA
(SKM) eP 15 56 26
Z: 1.8^s; 0.33 μ

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1.XII	continuation			3.XII	NIE	1	08 13 31.5
	NIE iP		15 56 30.0		KRA $\Delta=9.16^{\circ}$		
	Z: 1.4 ^s ; 0.094 μ			(SKM) iP			08 13 05.2 D
1.XII	Mindanao, Philippine Islands, NEIS:				Z: 0.6 ^s ; 0.023 μ		
	8.684 ^o N, 122.080 ^o E, H=17 ^h 10 ^m 28.6 ^s , h=23 km,			i			27.4
	MB=6.0			3.XII	Honshu, Japan, NEIS: 35.052 ^o N,		
	NIE $\Delta=91.03^{\circ}$			139.174 ^o E, H=13 ^h 16 ^m 00.1 ^s , h=33 km,			
	eipP		17 23 32	MB=5.2; MPV=5.4 (Kraków), 5.2 (Niedzica)			
	KRA $\Delta=91.11^{\circ}$			KRA $\Delta=79.70^{\circ}$			
	(SKM) eipP		17 23 32	(SKM) iP			13 28 04.9 D
	eisP		44	Z: 0.6 ^s ; 0.019 μ			
	1.XII	Honshu, Japan, NEIS: 38.421 ^o N,		ei			14
	143.246 ^o E, H=23 ^h 03 ^m 41.9 ^s , h=33 km, MB=5.1;			NIE $\Delta=79.95^{\circ}$			
	MPV=5.5 (Kraków), 5.2 (Niedzica)			eipP			13 28 07
	KRA $\Delta=78.75^{\circ}$			Z: 1.0 ^s ; 0.020 μ			
	(SKM) eP		23 15 40	eipP			18
	Z: 1.0 ^s ; 0.042 μ			4.XII	Shikoku, Japan, NEIS: 31.918 ^o N,		
	eipP		51	132.159 ^o E, H=00 ^h 40 ^m 54.1 ^s , h=33 km,			
	NIE $\Delta=79.05^{\circ}$			MB=5.2; MPV=5.7 (Kraków, Niedzica)			
	iP		23 15 44.0 C	KRA $\Delta=78.76^{\circ}$			
	Z: 1.2 ^s ; 0.023 μ			(SKM) iP			00 52 53.8 C
1.XII	Hokkaido, Japan Region, NEIS:			Z: 0.9 ^s ; 0.058 μ			
	43.085 ^o N, 145.082 ^o E, H=23 ^h 36 ^m 33.9 ^s ,			NIE $\Delta=78.93^{\circ}$			
	h=159 km, MB=5.3			iP			00 52 55.5 C
	KRA $\Delta=75.61^{\circ}$			Z: 1.6 ^s ; 0.11 μ			
	(SKM) iP		23 48 04.2 C	ei			53 26
	Z: 0.6 ^s ; 0.13 μ			4.XII	Turkey, NEIS: 38.100 ^o N, 37.451 ^o E,		
	NIE $\Delta=75.95^{\circ}$			H=03 ^h 12 ^m 38.2 ^s , h=33 km, MB=5.1			
	iP		23 48 06.8 C	NIE $\Delta=16.72^{\circ}$			
	Z: 0.7 ^s ; 0.038 μ			iP			03 16 30.5
	eipP		35	Z: 2.0 ^s ; 0.20 μ			
	2.XII	Mindanao, Philippine Islands, NEIS:		ipP			42.6
	9.937 ^o N, 126.183 ^o E, H=18 ^h 07 ^m 17.2 ^s , h=55 km,			eipP			55
	MB=5.3			KRA $\Delta=17.30^{\circ}$			
	NIE $\Delta=92.63^{\circ}$			(SKM) eP			03 16 36 D
	eP		18 20 24	i			43.0
	ei		21 14	Z: 1.3 ^s ; 0.17 μ			
	3.XII	Albania, EMSC: 40.90 ^o N, 19.64 ^o E,		(SKD) eS			19 55
	H=08 ^h 10 ^m 52.1 ^s , h=12 km			WAR $\Delta=18.21^{\circ}$			
	NIE $\Delta=8.54^{\circ}$			(SKD) eipP			03 16 54
	eipP		08 12 57	eiS			20 19
	Z: 1.4 ^s ; 0.050 μ						

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4.XII KRA
(SKM) 1P 04 34 07.5
Z: 0.6^S; 0.023 μ
NIE
1P 04 34 10.0
Z: 0.9^S; 0.021 μ
5.XII Italy, EMSC: 44.39⁰N, 12.13⁰E,
H=15^h39^m05.5^S, h=37 km
NIE $\Delta=7.53^{\circ}$
ePn 15 40 52
ei 41 08.7
iSn 42 30.7
KRA $\Delta=7.77^{\circ}$
(SKM) ePn 15 41 05 C
Z: 1.0^S; 0.024 μ
ei 33
ei 43 51
6.XII New Hebrides Islands, NEIS:
13.651⁰S, 167.228⁰E, H=01^h58^m02.4^S,
h=156 km, MB=5.2
KRA $\Delta=134.95^{\circ}$
(SKM) ePKIKP 02 17 03
Z: 1.1^S; 0.028 μ
epPKP 19 44
NIE $\Delta=135.19^{\circ}$
ePKIKP 02 17 04.8 C
Z: 1.3^S; 0.045 μ
6.XII Tonga Islands, NEIS: 21.102⁰S,
173.349⁰W, H=02^h46^m36.9^S, h=33 km, MB=5.0
KRA $\Delta=149.25^{\circ}$
(SKM) ePKP 03 06 24
NIE $\Delta=149.71^{\circ}$
ePKP 03 06 26
Z: 1.0^S; 0.015 μ
ei 45
6.XII Kuril Islands, NEIS: 48.354⁰N,
155.644⁰E, H=04^h20^m58.3^S, h=33 km, MB=4.9;
MPV=5.4 (Kraków), 5.3 (Niedzica)
KRA $\Delta=74.82^{\circ}$
(SKM) eP 04 32 35
Z: 1.3^S; 0.045 μ

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6.XII NIE $\Delta=75.25^{\circ}$
eiP 04 32 38 C
Z: 1.3^S; 0.037 μ
6.XII El Salvador, NEIS: 13.051⁰N,
89.717⁰W, H=11^h53^m35.0^S, h=33 km, MB=5.7;
MPV=5.9 (Kraków), MLV=6.1 (Warszawa)
KRA $\Delta=92.28^{\circ}$
(SKM) eiP 12 06 42 D
Z: 1.2^S; 0.095 μ
(SKD) Lm 44.4
NEZ: 25^S; 2.5 μ , 6.5 μ , 7.1 μ
WAR $\Delta=92.02^{\circ}$
(SKD) eiP 12 06 43
Lm 47 15
NEZ: 20^S; 8.2 μ , 23 μ , 8.2 μ
6.XII Turkey, NEIS: 40.511⁰N, 34.978⁰E,
H=13^h09^m21.0^S, h=33 km, MB=4.8
KRA $\Delta=14.23^{\circ}$
(SKM) eiP 13 12 47
Z: 1.0^S; 0.060 μ
6.XII Kuril Islands, NEIS: 44.663⁰N,
146.406⁰E, H=14^h02^m02.6^S, h=97 km,
MB=6.8; MLV=6.3 (Kraków)
WAR $\Delta=72.64^{\circ}$
(SKD) iP 14 13 23 C
iPP 15 55
i 22 31
iS 43
KRA $\Delta=74.80^{\circ}$
(Ch) iP 14 13 33.5 C
Pm 45.2
Z: 1.4^S; 7.5 μ
isP 14 11.3
i(S) 23 02.8
(GW) Lm 40
NE: 10^S; 7.8 μ , 9.2 μ
NIE $\Delta=75.16^{\circ}$
iP 14 13 37.5 C
Z: 1.7^S; 2.3 μ
6.XII Iran, NEIS: 33.296⁰N, 57.249⁰E,
H=17^h18^m15.1^S, h=33 km, MB=5.4;
MPV=5.4 (Kraków)



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6.XII Iran - continuation
NIE $\Delta=31.68^{\circ}$
eiP 17 24 38
ei 25 12
KRA $\Delta=32.10^{\circ}$
(SKM) eP 17 24 39
Z: 1.0^S; 0.054 μ
ei 25 11
7.XII Kuril Islands, NEIS: 44.936⁰N,
146.195⁰E, H=14^h15^m15.1^S, h=109 km, MB=5.1
KRA $\Delta=74.49^{\circ}$
(SKM) iP 14 26 42.0
Z: 0.6^S; 0.031 μ
NIE $\Delta=74.85^{\circ}$
iP 14 26 45.5 D
Z: 1.0^S; 0.033 μ
7.XII Honshu, Japan, NEIS: 37.316⁰N,
141.352⁰E, H=18^h37^m26.8^S, h=47 km, MB=5.0;
MPV=5.4 (Kraków), 5.2 (Niedzica)
NIE $\Delta=79.12^{\circ}$
iP 18 49 28.2
Z: 1.0^S; 0.020 μ
ipP 41.5
KRA $\Delta=78.83^{\circ}$
(SKM) iP 18 49 35.9
Z: 0.7^S; 0.025 μ
8.XII South Burma, NEIS: 16.565⁰N,
95.993⁰E, H=00^h22^m08.5^S, h=21 km, MB=5.0;
MPV=5.2 (Niedzica)
KRA $\Delta=68.55^{\circ}$
(SKM) eP 00 33 04
ei 10.6
ei 21.2
NIE $\Delta=68.31^{\circ}$
iP 00 33 10.2 D
Z: 1.0^S; 0.019 μ
ipP 16.5
iPcP 38.5
8.XII North of Svalbard, NEIS: 88.135⁰N,
28.683⁰E, H=06^h35^m02.1^S, h=33 km, MB=4.9;
MPV=5.3 (Kraków)

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8.XII KRA $\Delta=36.29^{\circ}$
(SKM) eiP 06 42 04 C
Z: 0.9^S; 0.032 μ
eiP 14
NIE $\Delta=36.92^{\circ}$
eP 06 42 09
8.XII Loyalty Islands Region, NEIS:
22.240⁰S, 171.375⁰E, H=19^h00^m00.0^S,
h=188 km, MB=5.1
NIE $\Delta=144.53^{\circ}$
eiPKIKP 19 19 14
Z: 1.1^S; 0.039 μ
ei 27
KSP $\Delta=145.46^{\circ}$
iPKP 19 19 15.5 D
9.XII Kuril Islands, NEIS: 45.234⁰N,
150.001⁰E, H=04^h17^m03.9^S, h=33 km,
MB=5.8; MPV=5.9 (Kraków, Niedzica),
MLV=6.1 (Warszawa), 6.2 (Kraków)
WAR $\Delta=73.46^{\circ}$
(SKD) eiP 04 28 39
ei 30 27
eiSKS 38 41
Lm 05 04 03
NEZ: 20^S; 14 μ , 15 μ , 11 μ
KRA $\Delta=75.65^{\circ}$
(SKM) eiP 04 28 46 D
Z: 1.0^S; 0.12 μ
isP 29 02.2
38 49
(SKD) eS 44
eL 05 03.7
Lm 04.9
NEZ: 18^S; 8.3 μ , 11 μ
NIE $\Delta=76.03^{\circ}$
iP 04 28 49.0
Z: 1.0^S; 0.11 μ
i 29 33.5
9.XII Egypt, NEIS: 23.951⁰N, 26.377⁰E,
H=07^h12^m54.2^S, h=12 km, MB=5.0;
MPV=5.4 (Kraków, Niedzica)



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9.XII Egypt - continuation			
	NIE	$\Delta=25.87^{\circ}$	
	1P		07 18 27.5
	Pm		34.5
		Z: 0.8^S ; 0.093μ	
	i		53.0
	KRA	$\Delta=26.54^{\circ}$	
	(SKM) 1P		07 18 31.9 C
	Pm		36.8
		Z: 0.7^S ; 0.062μ	
9.XII KSP			
	eP		21 12 32
10.XII Pakistan, NEIS: $28.366^{\circ}N$, $66.254^{\circ}E$, $H=01^h30^m18.1^s$, $h=33$ km, $MB=4.8$; $MPV=5.4$ (Kraków), 5.5 (Niedzica)			
	NIE	$\Delta=40.70^{\circ}$	
	e1P		01 37 57
		Z: 2.0^S ; 0.11μ	
	ei		38 22
	KRA	$\Delta=41.09^{\circ}$	
	(SKM) eP		01 37 59 C
		Z: 1.5^S ; 0.074μ	
	KSP	$\Delta=43.54^{\circ}$	
	eP		01 38 20 C
10.XII North Atlantic Ocean, NEIS: $53.365^{\circ}N$, $35.196^{\circ}W$, $H=21^h16^m04.3^s$, $h=33$ km, $MB=4.9$; $MPV=5.1$ (Kraków)			
	KRA	$\Delta=33.61^{\circ}$	
	(SKM) e1P		21 22 42 D
		Z: 0.7^S ; 0.020μ	
	NIE	$\Delta=34.12^{\circ}$	
	e1P		21 22 47
11.XII Mexico, NEIS: $16.696^{\circ}N$, $99.959^{\circ}W$, $H=02^h08^m02.8^s$, $h=33$ km, $MB=5.5$; $MPV=6.0$ (Kraków)			
	KRA	$\Delta=95.14^{\circ}$	
	(SKM) eP		02 21 24
	Pm		29
		Z: 1.7^S ; 0.12μ	
	ePP		25 13

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11.XII NIE $\Delta=95.70^{\circ}$			
	eP		02 21 27
	eiPP		25 22
11.XII Bali Sea, NEIS: $7.051^{\circ}S$, $117.942^{\circ}E$, $H=03^h33^m53.8^s$, $h=463$ km, $MB=6.0$			
	NIE	$\Delta=100.27^{\circ}$	
	eP		03 46 50
		Z: 0.9^S ; 0.027μ	
	epP		48 39
	1PP		50 59.5
	KRA	$\Delta=100.50^{\circ}$	
	(SKM) e1P		03 46 51 C
		Z: 1.0^S ; 0.048μ	
11.XII KRA			
	(SKM) eP		04 03 02
	Pm		06
		Z: 0.9^S ; 0.037μ	
	NIE		
	eP		04 03 06
		Z: 1.0^S ; 0.028μ	
11.XII Romania, EMSC: $45.73^{\circ}N$, $26.74^{\circ}E$, $H=23^h37^m04.5^s$, $h=126$ km			
	NIE	$\Delta=5.70^{\circ}$	
	iPn		23 38 27.5 C
		Z: 1.0^S ; 0.065μ	
	ei		40
	KRA	$\Delta=6.29^{\circ}$	
	(SKM) ePn		23 38 34
		Z: 0.6^S ; 0.019μ	
12.XII Mindanao, Philippine Islands, NEIS: $7.290^{\circ}N$, $123.357^{\circ}E$, $H=11^h44^m17.7^s$, $h=33$ km, $MB=6.4$; $MPV=6.1$ (Kraków, Niedzica), $MLV=7.3$ (Warszawa), $MLH=7.2$ (Kraków)			
	NIE	$\Delta=92.90^{\circ}$	
	e1P		11 57 26
	Pm		33
		Z: 1.8^S ; 0.19μ	
	1PP		12 01 20.0
	WAR	$\Delta=91.77^{\circ}$	
	(SKD) e1P		11 57 27

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12.XII Mindanao, Philippine - continuation			
	WAR	ei	12 01 47
		e1SKS	07 51
		e1SKKS	08 19
		eiS	31
	Lm		38 04
		FZ: 22^S ; 157μ , 116μ	
	KRA	$\Delta=92.98^{\circ}$	
	(SKM) eP		11 57 27
	Pm		31
		Z: 1.6^S ; 0.15μ	
	ipP		37.8
	1PP		12 01 21.1
	(GW) e1PPP		03 21
	iS		08 31
	(SKD) Lm		32
		NEZ: 30^S ; 110μ , 84μ , 54μ	
12.XII Southeast of Taiwan, NEIS: $21.931^{\circ}N$, $123.699^{\circ}E$, $H=13^h47^m21.1^s$, $h=33$ km, $MB=5.5$; $MPV=5.7$ (Kraków, Niedzica)			
	KRA	$\Delta=81.86^{\circ}$	
	(SKM) 1P		13 59 38.2 C
		Z: 1.0^S ; 0.060μ	
	ei		47.3
	NIE	$\Delta=81.90^{\circ}$	
	1P		13 59 39.0 C
	Pm		43.0
		Z: 1.5^S ; 0.11μ	
	i		14 00 05.0
12.XII Italy, EMSC: $46.29^{\circ}N$, $12.77^{\circ}E$, $H=15^h14^m49.8^s$, $h=8$ km			
	KSP	$\Delta=5.12^{\circ}$	
	ePn		15 16 07
	iSn		17 08.5
	iS st		28.5
	NIE	$\Delta=5.97^{\circ}$	
	iPn		15 16 19.0
	i		23.5
	1Pg		49.0
	iSn		17 29.0
	KRA	$\Delta=6.10^{\circ}$	
	(SKM) ePn		15 16 19
	eP ^x		31

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12.XII Kermadec Islands Region, NEIS: $32.466^{\circ}S$, $178.950^{\circ}W$, $H=22^h31^m41.6^s$, $h=52$ km, $MB=5.5$			
	NIE	$\Delta=157.77^{\circ}$	
	e1PKIKP		22 51 33
		Z: 1.2^S ; 0.026μ	
	ePKHKP		50
13.XII Kuril Islands, NEIS: $45.419^{\circ}N$, $146.353^{\circ}E$, $H=06^h02^m54.4^s$, $h=239$ km, $MB=4.4$			
	KRA	$\Delta=74.14^{\circ}$	
	(SKM) eP		06 14 04
		Z: 1.5^S ; 0.061μ	
	NIE	$\Delta=74.51^{\circ}$	
	e1P		06 14 07
		Z: 1.0^S ; 0.030μ	
14.XII Fiji Islands Region, NEIS: $20.089^{\circ}S$, $177.774^{\circ}W$, $H=04^h05^m33.2^s$, $h=403$ km, $MB=4.8$			
	NIE	$\Delta=147.35^{\circ}$	
	1PKP		04 24 31.5 D
		Z: 0.6^S ; 0.015μ	
	1PKP ₂		35
14.XII Southwestern USSR, Moscow: $45.53^{\circ}N$, $37.35^{\circ}E$, $H=05^h08^m25.8^s$, h normal, $MPV(A)=5.5$			
	NIE	$\Delta=12.16^{\circ}$	
	1P		05 11 15.5 C
		Z: 1.1^S ; 0.12μ	
	iS		13 27.0
	KRA	$\Delta=12.55^{\circ}$	
	(SKM) e1P		05 11 19.0 C
		Z: 0.7^S ; 0.049μ	
	ei		13 43.2
	KSP	$\Delta=15.00^{\circ}$	
	eP		05 11 59
14.XII Iran, NEIS: $32.098^{\circ}N$, $49.573^{\circ}E$, $H=07^h05^m20.9^s$, $h=24$ km, $MB=5.5$; $MPV=5.8$ (Kraków), 5.6 (Niedzica); $MLV=5.8$ (Kraków), 6.0 (Warszawa)			
	NIE	$\Delta=27.87^{\circ}$	
	1P		07 11 10.0 D



Date	Station	Phase	T.U. h m s
14.XII Iran - continuation			
	NIE	Pm	07 11 19.0
		Z: 1.5 ^S ; 0.20μ	
		1sP	22
	KRA	Δ=28.38 ^O	
	(SKM)	1P	07 11 14.1 D
		Z: 1.1 ^S ; 0.20μ	
		1sP	29.1
		1PP	12 01.1
	(SKD)	Lm	41
		NEZ: 20 ^S ; 24μ, 20μ, 24μ	
	WAR	Δ=28.90 ^O	
	(SKD)	eP	07 11 19
		ePcP	14 31
		ei	16 31
		Lm	24 19
		EZ: 20 ^S ; 97μ, 37μ	
14.XII Iran, NEIS: 32.226 ^O N, 49.454 ^O E, H=15 ^h 42 ^m 56.8 ^s , h=60 km, MB=4.8			
	NIE	Δ=27.70 ^O	
		eP	15 48 45
14.XII Molucca Passage, NEIS: 0.541 ^O N, 126.071 ^O E, H=19 ^h 26 ^m 00.6 ^s , h=53 km, MB=6.0; MPV=5.9 (Kraków, Niedzica), MLH=5.8 (Kra- ków)			
	KRA	Δ=99.90 ^O	
	(SKM)	eP	19 39 39
		Z: 1.1 ^S ; 0.041μ	
		1pP	56.8
	(SKD)	eSKS	50 11
		eSSP	58 27
		Lm	20 10
		NE: 40 ^S ; 6.6μ, 3.3μ	
	NIE	Δ=99.79 ^O	
		eP	19 39 40
		Z: 1.5 ^S ; 0.053μ	
		i	40 11
	WAR	Δ=98.76 ^O	
	(SKD)	eSKS	19 50 23
		ei	52 27
		eISKKS	20 03 15

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15.XII Kuril Islands, NEIS: 44.923 ^O N, 146.143 ^O E, H=02 ^h 25 ^m 42.7 ^s , h=27 km, MB=5.0; MPV=5.5 (Kraków), 5.3 (Niedzica)			
	KRA	Δ=74.48 ^O	
	(SKM)	1P	02 37 20.1 D
		Z: 0.8 ^S ; 0.023μ	
	NIE	Δ=74.84 ^O	
		1P	02 37 22.0 C
		Z: 0.8 ^S ; 0.022μ	
15.XII Rat Islands, NEIS: 52.069 ^O N, 175.364 ^O E, H=08 ^h 30 ^m 38.1 ^s , h=69 km, MB=5.7; MPV=5.8 (Kraków), 5.7 (Niedzica), MLV=5.6 (Warszawa)			
	WAR	Δ=73.84 ^O	
	(SKD)	eP	08 42 15
		eiSKS	52 19
		eL	09 06.5
		Lm	10 15
		Z: 32 ^S ; 6.0μ	
	KRA	Δ=76.13 ^O	
	(SKM)	1P	08 42 19.0
		Z: 1.2 ^S ; 0.13μ	
		epP	34
		i	53.5
	(SKD)	ePP	45 27
	NIE	Δ=76.68 ^O	
		e1P	08 42 23
		Z: 1.0 ^S ; 0.070μ	
		i	43 07.5
15.XII Iran, NEIS: 32.057 ^O N, 49.455 ^O E, H=20 ^h 53 ^m 26.7 ^s , h=60 km, MB=4.8; MPV=4.9 (Niedzica)			
	KRA	Δ=28.34 ^O	
	(SKM)	e1P	20 59 15
		esP	35
	NIE	Δ=27.83 ^O	
		e1P	20 59 16
		Z: 1.4 ^S ; 0.035μ	
16.XII Nevada, NEIS: 37.273 ^O N, 116.409 ^O W, H=15 ^h 30 ^m 00.0 ^s , h=0; MB=5.6; MPV=5.8 (Kraków), 5.9 (Niedzica)			

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16.XII Nevada - continuation			
	KRA	Δ=84.89 ^O	
	(SKM)	e1P	15 42 36
		Z: 1.3 ^S ; 0.11μ	
		ei	49
	NIE	Δ=85.56 ^O	
		e1P	15 42 39
		Z: 1.5 ^S ; 0.14μ	
		ei	43 02
16.XII Fiji Islands Region, NEIS: 20.400 ^O S, 177.797 ^O W, H=20 ^h 44 ^m 47.3 ^s , h=518 km, MB=5.0			
	KRA	Δ=147.23 ^O	
	(SKM)	1PKP	21 03 32.5 C
		Z: 0.7 ^S ; 0.029μ	
17.XII Yugoslavia, EMSC: 43.38 ^O N, 17.29 ^O E, H=02 ^h 18 ^m 50.1 ^s , h=10 km			
	NIE	Δ=6.39 ^O	
		e1Pn	02 18 23
		i	29
	KRA	Δ=6.92 ^O	
	(SKM)	ePn	02 18 32
		i	36.6
		Pm	38
		Z: 0.7 ^S ; 0.037μ	
17.XII Yugoslavia, EMSC: 46.12 ^O N, 14.26 ^O E, H=03 ^h 48 ^m 13.4 ^s , h=10 km			
	NIE	Δ=5.25 ^O	
		ePn	03 49 30
		i	50 05.5
18.XII South of Fiji Islands, NEIS: 24.252 ^O S, 177.025 ^O W, H=00 ^h 36 ^m 24.1 ^s , h=46 km, MB=5.0			
	KRA	Δ=151.05 ^O	
	(SKM)	1PKHKP	00 56 11.8
		Z: 0.6 ^S ; 0.039μ	
	NIE	Δ=151.43 ^O	
		1PKHKP	00 56 12.5 D
		Z: 0.8 ^S ; 0.044μ	
		i	49.0

Date	Station	Phase	T.U. h m s
18.XII KSP Δ=151.52 ^O			
		1PKP	00 56 13.0 C
		Z: 1.0 ^S ; 0.048μ	
18.XII El Salvador, NEIS: 13.025 ^O N, 88.172 ^O W, H=02 ^h 31 ^m 26.3 ^s , h=66 km, MB=5.3			
	KRA	Δ=91.38 ^O	
	(SKM)	eP	02 44 25
		ePP	48 06
	NIE	Δ=91.85 ^O	
		eP	02 44 27
18.XII Kazakh SSR, NEIS: 47.872 ^O N, 48.258 ^O E, H=07 ^h 59 ^m 57.6 ^s , h=0, MB=6.1			
	WAR	Δ=17.97 ^O	
	(SKD)	e1P	08 04 07
		Lm	12 19
		EZ: 12 ^S ; 22μ, 7.7μ	
	NIE	Δ=18.48 ^O	
		1P	08 04 10.5
		Z: 1.2 ^S ; 0.58μ	
		i	48.5
		i	05 05.0
	KRA	Δ=18.68 ^O	
	(SKM)	e1P	08 04 12 C
		i	15.7
		Pm	17.7
		Z: 0.9 ^S ; 0.56μ	
		i	29.9
	(SKD)	Lm	09 13
		NEZ: 10 ^S ; 4.6μ, 4.6μ, 4.7μ	
	KSP	Δ=20.94 ^O	
		1P	08 04 39.0
		Z: 1.0 ^S ; 0.062μ	
18.XII Sumatra, NEIS: 4.194 ^O N, 95.378 ^O E, H=08 ^h 26 ^m 20.8 ^s , h=62 km, MB=5.6; MPV=5.4 (Niedzica)			
	NIE	Δ=77.12 ^O	
		e1P	08 38 09
		Z: 1.0 ^S ; 0.033μ	
		1PcP	21
		1sP	43

Date	Station	Phase	T.U. h m s
18.XII Bouvet Island Region, NEIS: 55.403°S, 1.101°E, H=10 ^h 16 ^m 01.2 ^s , h=33 km, MB=5.5			
	NIE	Δ=105.69° ePKIKP	10 34 21
	KRA	Δ=106.26° (SKM) ePKIKP	10 34 25
	(SKD)	ei	43 37
	Lm		11 13.5
		FZ: 24 ^s ; 17μ, 8.5μ	
	Lm		15.5
		N: 22 ^s ; 12μ	
	WAR	Δ=108.54° (SKM) eiPKIKP	10 34 35
		eiPS	44 11
	Lm		11 23 03
		Z: 18 ^s ; 12μ	
19.XII NIE			
	1P		16 16 49.5
		Z: 1.1 ^s ; 0.032μ	
19.XII South of Honshu, Japan, NEIS: 33.290°N, 140.522°E, H=16 ^h 32 ^m 20.7 ^s , h=56 km, MB=5.2; MPV=5.5 (Kraków), 5.4 (Niedzica)			
	KRA	Δ=81.78° (SKM) 1P	16 44 35.0 D
		Z: 0.8 ^s ; 0.032μ	
	i		38.5
	NIE	Δ=82.03° e1P	16 44 36
		Z: 1.0 ^s ; 0.030μ	
	i		39.0
19.XII KSP			
	1P		17 12 39.0 C
20.XII Talaud Islands, NEIS: 3.898°N, 126.863°E, H=15 ^h 52 ^m 00.7 ^s , h=40 km, MB=5.5; MPV=6.0 (Niedzica), 6.2 (Kraków)			
	NIE	Δ=97.72° eiP	16 05 30 C
		Z: 0.9 ^s ; 0.040μ	
	isP		46.0
20.XII KRA Δ=97.79° (SKM) eP 16 05 31 Z: 0.7 ^s ; 0.049μ KSP Δ=99.79° 1P 16 05 40.5 C Z: 1.0 ^s ; 0.080μ			
21.XII Fiji Islands Region, NEIS: 21.730°S, 179.535°W, H=00 ^h 35 ^m 53.3 ^s , h=615 km, MB=5.5			
	KRA	Δ=147.83° (SKM) ePKP	00 54 26
		1PKP ₂	30.5
	Pm		31.0
		Z: 0.7 ^s ; 0.086μ	
	NIE	Δ=148.19° eiPKP	00 54 26.0 D
		1PKP ₂	31.2
	Pm		31.6
		Z: 0.8 ^s ; 0.17μ	
	i		42.0
	KSP	Δ=148.41° ePKP	00 54 27
		i	32.5
		Z: 1.0 ^s ; 0.24μ	
	1PKP ₂		37.0
		Z: 1.0 ^s ; 0.32μ	
21.XII Chile, NEIS: 36.492°S, 72.575°W, H=01 ^h 13 ^m 55.4 ^s , h=48 km, MB=5.6			
	AAS	Δ=27.16° eP	01 19 39
		Z: 1.4 ^s ; 0.97μ	
	KSP	Δ=116.60° ePKIKP	01 32 35
	NIE	Δ=118.36° ePKIKP	01 32 37 D
		Z: 0.7 ^s ; 0.018μ	
	i		51.5
21.XII Africa, Moscow: 11.56°N, 43.37°E, H=04 ^h 03 ^m 51.6 ^s , h normal, MPV(A)=5.5			
	NIE	Δ=42.30° eP	04 11 48
		Z: 1.8 ^s ; 0.039μ	
	ei		12 04

Date	Station	Phase	T.U. h m s
21.XII Africa - continuation			
	KRA	Δ=42.96° (SKM) eP	04 11 54
		Z: 1.5 ^s ; 0.074μ	
	i		15 13.6
	(SKD)	eS	18 20
	eSS		21 12
	Lm		29.7
		NEZ: 22 ^s ; 3.6μ, 4.1μ, 3.6μ	
21.XII Kuril Islands, NEIS: 44.327°N, 148.911°E, H=06 ^h 36 ^m 57.2 ^s , h=33 km, MB=4.6; MPV=5.6 (Kraków), 5.5 (Niedzica)			
	NIE	Δ=76.40° eP	06 48 45
		Z: 1.1 ^s ; 0.043μ	
	eisP		58
	KRA	Δ=76.03° (SKM) eP	06 48 47
		Z: 1.1 ^s ; 0.055μ	
21.XII KRA			
	(SKM)	eiP	08 20 34
		Z: 1.3 ^s ; 0.064μ	
	NIE		08 20 37.5
	1P		08 20 37.5
		Z: 1.0 ^s ; 0.028μ	
21.XII Southeast of Taiwan, NEIS: 22.069°N, 125.326°E, H=14 ^h 07 ^m 54.0 ^s , h=49 km, MB=4.9			
	KRA	Δ=82.71° (SKM) eP	14 20 13
	NIE	Δ=82.75° eiP	14 20 14
		ipP	19.5
21.XII Solomon Islands, NEIS: 11.142°S, 162.695°E, H=14 ^h 36 ^m 55.2 ^s , h=33 km, MB=5.7			
	NIE	Δ=130.76° ePKIKP	14 56 05
		ei	12
	WAR	Δ=128.67° (SKD) eiPP	14 58 17
		eiPKS	59 43
	ei		15 03 39
21.XII WAR Lm 15 50 03 Z: 24 ^s ; 13μ			
21.XII Kuril Islands, NEIS: 44.302°N, 148.094°E, H=19 ^h 41 ^m 34.9 ^s , h=33 km, MB=5.1; MPV=5.6 (Kraków), 5.5 (Niedzica)			
	KRA	Δ=75.74° (SKM) 1P	19 53 18.0
		Z: 1.0 ^s ; 0.060μ	
	NIE	Δ=76.11° 1P	19 53 20.5 C
		Z: 0.9 ^s ; 0.037μ	
	i		37.5
	KSP	Δ=76.42° eiP	19 53 21 C
		Z: 1.1 ^s ; 0.059μ	
22.XII Turkey, EMSC: 36.53°N, 28.27°E, H=03 ^h 53 ^m 24.1 ^s , h=10 km			
	KRA	Δ=14.80° (SKM) eP	03 56 52
23.XII Honshu, Japan, NEIS: 38.984°N, 144.293°E, H=01 ^h 39 ^m 41.8 ^s , h=33 km, MB=4.7			
	NIE	Δ=79.04° eiP	01 51 43
	KSP	Δ=79.61° eP	01 51 46
23.XII Flores Island Region, NEIS: 8.316°S, 121.475°E, H=05 ^h 10 ^m 51.7 ^s , h=33 km, MB=5.9; MLI=5.6 (Kraków)			
	NIE	Δ=103.52° eiP	05 24 52
	WAR	Δ=102.93° (SKD) eiPP	05 29 11
		e1SKS	36 23
		e1PS	38 09
	Lm		06 12 15
		Z: 28 ^s ; 5.0μ	
	KRA	Δ=103.73° (SKM) ePP	05 29 21
	(SKD)	eSKS	35 26

Date	Station	Phase	T.U. h m s
23.XII	South of Honshu, Japan, NFIS: 32.478°N, 141.314°E, H=10 ^h 24 ^m 19.7 ^s . h=38 km, MB=5.1; MPV=5.6 (Kraków, Niedzica) MLV=5.7 (Warszawa), 6.0 (Kraków)	KRA Lm	12 07 Z: 20 ^s ; 106μ
		NIE Δ=70.92°	iP 11 35 21.0 C Z: 1.0 ^s ; 0.89μ
		(SKD) eIP	10 36 31
		eIS	46 39
		Lm	11 15 03 Z: 20 ^s ; 4.0μ
		KRA Δ=82.82°	(SKM) eP 10 36 40 Z: 0.6 ^s ; 0.031μ
		ipP	52.2
		(SKD) eIS	47 02
		Lm	11 17 NFZ: 16 ^s ; 3.4μ, 3.8μ, 5.2μ
		NIE Δ=83.08°	eIP 10 36 44 Z: 0.7 ^s ; 0.031μ
		ipP	54.5
		isP	59.0
		KSP Δ=83.93°	eIP 10 36 46
		i	56.0
		Pm	59 Z: 1.0 ^s ; 0.096μ
23.XII	Taiwan Region, NEIS: 23.280°N, 122.114°E, H=11 ^h 23 ^m 14.1 ^s , h=38 km, MB=6.3; MPV=6.9 (Kraków), 6.8 (Niedzica), MLV=7.4 (Warszawa), 7.2 (Kraków)	WAR Δ=78.40°	(SKD) 1P 11 35 11 C
		isP	27
		IS	45 09
		Lm	12 16 04 Z: 18 ^s ; 160μ
		KRA Δ=79.89°	(SKM) 1P 11 35 10.4 C Z: 1.0 ^s ; 1.3μ
		iPcP	25.7
		isP	35.2
		(SKD) iPP	38 38
		IS	45 18
		Lm	12 05 NF: 36 ^s ; 270μ, 150μ
23.XII	North Atlantic Ocean, NEIS: 53.140°N, 35.200°W, H=12 ^h 49 ^m 41.0 ^s , h=33 km, MB=5.3; MPV=5.3 (Kraków), 5.0 (Niedzica)	KSP Δ=31.23°	eP 12 55 57
		KRA Δ=33.68°	(SKM) eIP 12 56 19 D Z: 1.3 ^s ; 0.064μ
		isP	33.2
		NIE Δ=34.19°	iP 12 56 24.0 C Z: 1.2 ^s ; 0.026μ
		ei	33
23.XII	NIE	eP	15 16 09 Z: 1.0 ^s ; 0.017μ
		KSP	eP 15 16 16
24.XII	Norwegian Sea, NEIS: 72.962°N, 5.063°E, H=22 ^h 52 ^m 19.2 ^s , h=10 km, MB=4.7; MPV=4.7 (Niedzica)	KSP Δ=22.74°	eP 22 57 25
		KRA Δ=23.90°	(SKM) eP 22 57 32
		NIE Δ=24.57°	eP 22 57 39
		Pm	47.5
		ei	58 10 Z: 1.3 ^s ; 0.030μ
25.XII	KRA	(SKM) eP	00 00 09

Date	Station	Phase	T.U. h m s
25.XII	continuation	NIE	iP 00 00 14.5 Z: 0.9 ^s ; 0.017μ
25.XII	Honshu, Japan, NFIS: 30.860°N, 141.759°E, H=21 ^h 03 ^m 01.9 ^s , h=33 km, MB=4.8	KRA Δ=84.38°	(SKM) eP 21 15 31
		NIE Δ=84.62°	eP 21 15 34
		epP	45
		KSP Δ=85.50°	eP 21 15 35
25.XII	Honshu, Japan, NFIS: 32.834°N, 141.665°E, H=21 ^h 38 ^m 14.8 ^s , h=33 km, MB=4.8	KRA Δ=82.69°	(SKM) eIP 21 50 37
		eIP	48
		KSP Δ=83.78°	eP 21 50 40
25.XII	Italy, FMSC: 44.94°N, 11.15°E, H=22 ^h 53 ^m 42.4 ^s , h=14 km	KSP Δ=6.84°	eP 22 55 22 D i 49.0
		KRA Δ=7.85°	(SKM) ePn 22 55 33
		eIP	43
		eiSn	57 04
		NIE Δ=7.69°	ePn 22 55 35
		eSn	57 03
26.XII	Off Coast of Mexico, NEIS: 10.230°N, 103.969°W, H=23 ^h 57 ^m 59.5 ^s , h=33 km, MB=5.9	KRA Δ=102.65°	(SKM) eIP 00 11 55 C Z: 1.5 ^s ; 0.074μ
		eiS	12 08
		(SKD) iPP	16 04
		iPS	25 18
		iSS	30 54
26.XII	KRA	Lm	00 47 NFZ: 45 ^s ; 23μ, 40μ, 35μ
		NIE Δ=103.21°	eP 00 11 58
		eIP	16 06.7
		WAR Δ=102.00°	(SKD) ei(PP) 00 16 31
		eiPS	25 11
		Lm	01 52 03 NFZ: 28 ^s , 26 ^s , 28 ^s ; 39μ, 64μ, 45μ
26.XII	Honshu, Japan, NFIS: 32.370°N, 141.553°E, H=03 ^h 37 ^m 08.1 ^s , h=33 km, MB=4.7; MPV=5.5 (Kraków, Niedzica)	KRA Δ=83.02°	(SKM) 1P 03 49 31.0 C Z: 1.0 ^s ; 0.036μ
		NIE Δ=83.28°	1P 03 49 32.0 C Z: 1.4 ^s ; 0.058μ
		iPcP	39.5
		KSP Δ=84.13°	1P 03 49 36.5 C
26.XII	Taiwan Region, NEIS: 22.885°N, 121.528°E, H=07 ^h 49 ^m 13.6 ^s , h=33 km, MB=4.9; MPV=5.5 (Kraków), 5.4 (Niedzica)	NIE Δ=79.87°	eP 08 01 20
		Pm	25.6
		Z: 1.5 ^s ; 0.049μ	eiS 35
		KRA Δ=79.85°	(SKM) eIP 08 01 24 D Z: 1.0 ^s ; 0.042μ
		eiPcP	30
		KSP Δ=81.64°	eP 08 01 29
26.XII	Fiji Islands Region, NEIS: 17.682°S, 179.734°W, H=08 ^h 56 ^m 21.6 ^s , h=630 km, MB=4.9	KRA Δ=144.04°	(SKM) 1PKP 09 14 46.7 D Z: 0.7 ^s ; 0.025μ

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
26.XII	Fiji Islands - continuation			29.XII	South of Kermadec Islands, NEIS:		
	KSP	$\Delta=144.53^{\circ}$			32.901 ^o S, 179.804 ^o E, H=01 ^h 58 ^m 18.9 ^s ,		
	1PKP		09 14 48.0		h=299 km, MB=4.4		
		Z: 1.0 ^s ; 0.10 μ			KRA	$\Delta=157.28^{\circ}$	
27.XII	Taiwan, NEIS: 23.423 ^o N, 121.930 ^o E,				(SKM)	ePKIKP	02 18 13
	H=14 ^h 46 ^m 38.0 ^s , h=46 km, MB=4.9; MPV=5.3				NIE	$\Delta=157.51^{\circ}$	
	(Kraków)					eIPKIKP	02 18 14
	KSP	$\Delta=81.45^{\circ}$				ePKP ₂	39
	1P		14 58 50.5 C	29.XII	Tonga Islands, NEIS: 21.540 ^o S,		
		Z: 1.0 ^s ; 0.048 μ			174.264 ^o W, H=05 ^h 49 ^m 14.6 ^s , h=41 km, MB=5.2		
	i		59 05.0		NIE	$\Delta=149.56^{\circ}$	
	KRA	$\Delta=79.68^{\circ}$				ePKP	06 08 50
	(SKM)	eiP	14 58 51			ei	09 02
		Z: 0.8 ^s ; 0.023 μ		30.XII	Afghanistan - USSR Border Region,		
27.XII	Southern Italy, EMSC: 41.11 ^o N,				NEIS: 38.237 ^o N, 70.787 ^o E, H=05 ^h 06 ^m 57.3 ^s ,		
	13.53 ^o E, H=17 ^h 46 ^m 12.1 ^s , h=398 km, MB=5.1				h=33 km, MB=5.1		
	(NEIS)				NIE	$\Delta=37.43^{\circ}$	
	NIE	$\Delta=9.59^{\circ}$				eiP	05 14 09
	1Pn		17 48 25.2 C			ei	23
		Z: 1.0 ^s ; 1.9 μ		30.XII	KSP		
	KSP	$\Delta=9.92^{\circ}$				1P	05 49 14.5 D
	1Pn		17 48 29.5 C			Z: 1.0 ^s ; 0.048 μ	
		Z: 1.0 ^s ; 0.72 μ		31.XII	Honshu, Japan, NEIS: 36.313 ^o N,		
	i		40.5		144.465 ^o E, H=10 ^h 51 ^m 44.7 ^s , h=39 km,		
		Z: 1.0 ^s ; 1.1 μ			MB=5.3; MPV=5.5 (Kraków)		
	KRA	$\Delta=10.01^{\circ}$			KRA	$\Delta=81.04^{\circ}$	
	(SKM)	1Pn	17 48 30.5 C		(SKM)	1P	11 03 56.6
		Z: 1.0 ^s ; 2.1 μ				Z: 0.8 ^s ; 0.037 μ	
	(SKD)	i	38.5			1pP	04 07
		ei	49 01.5	31.XII	Bulgaria, EMSC: 41.98 ^o N,		
		1(S)	50 24.5		23.28 ^o E, H=15 ^h 56 ^m 15.3 ^s , h=14 km		
	WAR	$\Delta=12.26^{\circ}$			NIE	$\Delta=7.73^{\circ}$	
	(SKD)	1P	17 48 55 C			eiPn	15 58 07
		ei	49 43			Z: 1.2 ^s ; 0.052 μ	
		1(S)	51 09			1P ⁿ	21.7
		i	23		KRA	$\Delta=8.40^{\circ}$	
28.XII	KRA				(SKM)	1Pn	15 58 16.9 D
	(SKM)	eiP	01 22 05			Z: 0.7 ^s ; 0.020 μ	
		Z: 0.7 ^s ; 0.033 μ				i	26.9
	NIE				KSP	$\Delta=10.09^{\circ}$	
		eiP	01 22 08			ePn	15 58 41
		Z: 1.0 ^s ; 0.019 μ					

Date	Station	Phase	T.U. h m s	Date	Station	Phase	T.U. h m s
31.XII	Bulgaria, EMSC: 42.01 ^o N, 23.31 ^o E,			31.XII	KRA	$\Delta=8.38^{\circ}$	
	H=16 ^h 26 ^m 07.7 ^s , h=10 km				(SKM)	1Pn	16 28 08.9
	NIE	$\Delta=7.70^{\circ}$				Z: 0.7 ^s ; 0.025 μ	
		eiPn	16 28 01.5			eP ⁿ	25
		i	29 03.2		KSP	$\Delta=10.07^{\circ}$	
						ePn	16 28 33



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B. SEISMOLOGY

The following volumes, which have been published previously in years 1963–1979, have been devoted to the problems of seismology:

- 2 Droste Z., Hordejuk J., Obsługa i wyznaczanie stałych sejsmografów polskiej sieci sejsmologicznej; PWN, Łódź–Warszawa 1964.
- 3 Wyniki rejestracji sejsmologicznych w polskich obserwatoriach 1959; PWN, Łódź–Warszawa 1964.
- 4 Wyniki rejestracji sejsmologicznych w polskich obserwatoriach 1960; PWN, Łódź–Warszawa 1964.
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- 21 Wyniki rejestracji sejsmologicznych w polskich obserwatoriach 1964; PWN, Warszawa 1968.
- 29 Résultats des enregistrements séismologiques dans les observatoires polonais 1965; PWN, Warszawa 1969.
- 40 Résultats des enregistrements séismologiques dans les observatoires polonais 1969. Bulletin séismologique préliminaire (parts 1–13); PWN, Warszawa 1974.
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- 52 Résultats des enregistrements séismologiques dans les observatoires polonais 1967; PWN, Warszawa 1972.
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- 65 Wojtczak-Gadomska B., Distribution of the released seismic energy and the number of earthquakes in deep structures of the Pacific area; PWN, Warszawa 1973.
- 66 Résultats des enregistrements séismologiques dans les observatoires polonais 1972. Bulletin séismologique (parts 1–5); PWN, Warszawa 1973.
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- B-1 (113) Bulletin séismologique 1975 (parts 1–5); PWN, Warszawa 1976–1977.
- B-2 (118) Bulletin séismologique 1976 (parts 1–5); PWN, Warszawa 1977–1978.
- B-3 (122) Macroseismic intensities observed in Czechoslovakia and Poland; PWN, Warszawa–Łódź 1978.
- B-4 (124) Seismological bulletin 1977 (parts 1–5); PWN, Warszawa–Łódź 1979.