DURHAM UNIVERSITY OBSERVATORY, ENGLAND.

Position:- 54° 46'N, 01° 35'W, height above M.S.L. 103 metres.

SEISMOLOGICAL BULLETIN FOR JANUARY 1964.

Instruments:- Wilson-Lamison seismometer free period 1 sec. coupled to G.E. galvanometer free period 3.4 sec., recording vertical component of velocity.
Milne-Shaw free period 12 sec., damping ratio 20:1, magnification 250, recording N and E component displacement.

Date	Phase and Component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
1	MN	18 16			77°.5	H 17 26 43 (USCGS)
3	iPKPZ	21 43 35		-	145°	H 21 24 56 .09 deep (USCGS)
	No horizontal recordings 0930 hrs. January 5 to 0930 hrs. January 6.					
6	iPZ	23 56 53		+	73°	H 23 45 23 (USCGS)
	iSKSN	24 07 16		+		
	MN	24 35	20	5		
9	iPZ	18 43 44		-	75°	H 18 31 52 (USCGS)
	iSN	53 33		+		
	iSKSN	54 03		+		
	iSSN	59 09		-		
	ME	19 22	20	8		
10	iPZ	05 02 53		-	78°	H 04 50 53 (USCGS)
	iSKSE	13 10		-		
	ME	05 36	25	10		
12	ME	06 48			71°.5	H 06 00 13 (USCGS)
12	iSE	13 00 39		-	43°	H 12 45 51 .01 deep (USCGS)
15	iPZ	21 48 59		-	90°	H 21 36 05 .01 deep (USCGS)
	ipPZ	49 31		-		
	iSKSN	59 24		-		
	iSN	22 00 08		-		
	ME	22 23	38	20		
	MN	22 29	20	7		
17	iPKPZ	03 14 09		+	146°	H 02 54 27 (USCGS)
	iPKPZ	14 25		-		
18	iPZ	12 17 27		-	87°.5	H 12 04 40 (USCGS)
	iSKSE	27 57		-		
	iSN	28 10		-		
	ME	12 54	20	135		Mag. 7.2
	ME	13 02	12	55		
	MZ	13 02	12			
18	iPZ	22 46 55		-	62°	H 22 36 18 .01 deep (USCGS)
19	iPZ	09 22 39		-	49°	H 09 13 53 (USCGS)

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
20	iPKPZ	17 27 52		+	146°	H 17 08 37 .02 deep (USCGS)
	iXZ	28 27		+		
	ipPKPZ	28 44		-		
	iPPZ	31 21		-		
	eSSE	50 14				
22	iPZ	16 10 14		+	75°	H 15 58 46 .01 deep (USCGS)
	No recording 09 hrs. January 24 to 09 hrs. January 28.					
28	iPE	14 18 01		-	52°	H 14 09 12 .03 deep (BCIS)
	ipPE	18 44		+		
	iPcPE	19 03		+		
	iPPE	20 40		-		
	iScPE	22 01		-		
	iPcSE	22 23		-		
	iXE	22 41		+		
	iSE	26 21		-		
	isSN	27 26		-		
	MN	14 30	10	26		

22nd June, 1964.

DURHAM

DURHAM UNIVERSITY OBSERVATORY, ENGLAND.

Position:- 54° 46'N, 01°35'W, height above M.S.L. 103 metres.

Insturments;- Wilson-Lamison siesmometer free period 1 sec. coupled to G.E. galvanometer free period 3.4 sec., recording vertical componant of velocity.
Milne-Shaw free period 12 sec., damping ratio 20:1, magnification 250, recording N and E component displacement.

Date	Phase and component	Time G.M. T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
2	ME	09 51			87°.5	H 08 54 48 (USCGS)
5	MN	12 23	20	10	83°	H 11 30 16 (USCGS)
5	iPKPZ	11 54 10		-	145°	H 11 35 19 .07 deep (USCGS)
6	iPZ	13 18 25		+	67°	H 13 07 25 (USCGS)
	iPcPZ	19 24		+		
	iPPZ	21 00		-		
	iSE	27 23		+		
	MN	13 49	20	175		
	ME	13 51	17	125		
	MN	13 54	17	95		
12	ME	21 45	20	5	122°	H 20 31 53 (USCGS)
14	iPKPZ	16 48 40		+	126°	H 16 29 45 .01 deep (USCGS)
	ME	17 34	30	6		
	ME	17 44	20	9		
21	MN	17 29			25°	H 17 14 45 (USCGS)
23	iPZ	22 46 13		-	23°.5	H 22 41 04 (BCIS)
	eSNE	50 24				
	ME	22 55	11	7		
26	ePKPZ	21 36 48			146°	H 21 17 08 (USCGS)
27	iPZ	15 22 30		-	75°.5	H 15 10 48 .02 deep (USCGS)
29	iPZ	15 32 47		-	85°	H 15 20 13 (USCGS)
	iSE	43 25		-		
	ME	16 19				

6th July, 1964.

DURHAM UNIVERSITY OBSERVATORY, ENGLAND.

Position:- 54° 46'N, 01°35'W, height above M.S.L. 103 metres.

Insturments;- Wilson-Lamison siesmometer free period 1 sec. coupled to G.E. galvanometer free period 3.4 sec., recording vertical component of velocity.
Milne-Shaw free period 12 sec., damping ratio 20:1, magnification 250, recording N and E component displacement.

Date	Phase and component	Time G.M. T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
2	ME	09 51			87°.5	H 08 54 48 (USCGS)
5	MN	12 23	20	10	83°	H 11 30 16 (USCGS)
5	iPKPZ	11 54 10		-	145°	H 11 35 19 .07 deep (USCGS)
6	iPZ	13 18 25		+	67°	H 13 07 25 (USCGS)
	iPcPZ	19 24		+		
	iPPZ	21 00		-		
	iSE	27 23		+		
	MN	13 49	20	175		
	ME	13 51	17	125		
	MN	13 54	17	95		
12	ME	21 45	20	5	122°	H 20 31 53 (USCGS)
14	iPKPZ	16 48 40		+	126°	H 16 29 45 .01 deep (USCGS)
	ME	17 34	30	6		
	ME	17 44	20	9		
21	MN	17 29			25°	H 17 14 45 (USCGS)
23	iPZ	22 46 13		-	23°.5	H 22 41 04 (BCIS)
	eSNE	50 24				
	ME	22 55	11	7		
26	ePKPZ	21 36 48			146°	H 21 17 08 (USCGS)
27	iPZ	15 22 30		-	75°.5	H 15 10 48 .02 deep (USCGS)
29	iPZ	15 32 47		-	85°	H 15 20 13 (USCGS)
	iSE	43 25		-		
	ME	16 19				

6th July, 1964.

DURHAM

DURHAM UNIVERSITY OBSERVATORY, ENGLAND

Position:- 54° 46'N, 01°35'W, height above M.S.L. 103 metres.

SEISMOLOGICAL BULLETIN FOR MARCH 1964

Instruments:- Wilson-Lamison seismometer free period 1 sec. coupled to G.E. galvanometer free period 3.4 sec., recording vertical component of velocity.
Milne-Shaw free period 12 sec., damping ratio 20:1, magnification 250, recording N and E component displacement.

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction.	Epicentral distance	Notes
2	iPKPZ	19 52 09		-	144°	H 19 32 42 .02 deep (USCGS)
8	ePKPZ	01 57 24			167°	H 01 35 48 (USCGS)
	ME	03 14	20	1		
10	iPPZ	14 18 41		+	109°	H 13 59 55 .02 deep (USCGS)
14	iPZ	02 39 55		+	10°	H 02 37 22 (BCIS)
	iPPZ	40 33		-		
	eSE	41 40				
	iXZ	41 55		-		
	iXZ	42 04		-		
	iXZ	42 29		-		
	iXE	42 45		-		
	iXE	43 01		+		
	iXE	43 05		+		
	iXE	43 10		-		
15	iPZ	22 34 52		-	19°.5	H 22 30 28 (BCIS)
	iPPE	35 24		-		
	eSE	38 19		+		
	iXN	38 29		+		
	iXE	38 34		-		
	ME	22 41	16	170		
	ME	22 43	10	140		
16	iPZ	08 56 17		+	76°.5	H 08 44 33 .02 dee (USCGS)
18	iPZ	04 48 03		-	71°	H 04 37 2 .07 deep (USCGS)
	iSE	56 38		-		
21	MN	04 43	25	5	117°	H 03 12 2 .06 deep (USCGS)
	ME	04 45	20	5		
23	iPZ	13 50 01		-	51°.5	H 13 40 2 .02 deep
	ipPZ	50 23		-		
	eSE	56 06		-		
23	iPZ	15 55 10		+		? seismic
27	iPKPZ	20 41 02		+	149°.5	H 20 22 .09 deep (USCGS)

The letter A denotes earthquakes of the Alaska swarm using origin times and positions as given by the U.S.C.G.S. preliminary determinations.

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
28	ePEZ	03 46 25		-	61°.4	H 03 36 13
	iPNE	46 30		+		A
	iPZ	46 34		+		
	iXE	46 49		-		
	iSE	54 53				
	ME	04 06	15	800		
	MZ	04 19	17	2000		
	G_4	08 14				
	G_5	09 06				
	G_6	10 46				
28	iPZ	05 04 35		+	62°.9	H 04 54 08
						A
28	iPZ	06 54 36		-	64°.7	H 06 43 57
						A
28	iPZ	07 20 57		-	63°.9	H 07 10 21
						A
28	iPZ	09 11 52		-	66°.5	H 09 01 01
						A
28	iPZ	10 03 28		-	62°.4	H 09 52 56
						A
28	iPZ	10 46 26		-	65°.9	H 10 35 39
	iSE	55 18		+		A
	iXE	55 28		-		
	ME	11 18	15	15		
28	iPZ	11 18 53		-	62°.4	H 11 08 26
						A
28	iPZ	12 31 44		+	66°.7	H 12 20 50
	iSE	40 38				
	ME	13 04	16	27		A
28	iPZ	14 58 03		-	61°.7	H 14 47 37
	iSE	15 06 25		+		
	ME	15 24	18	19		A
28	iPZ	14 59 44		-	61°.9	H 14 49 14
	iSE	15 07 54		-		A
28	iPZ	20 39 33		-	62°.7	H 20 29 09
	iXZ	39 37		+		A
	iSE	47 59		+		
	iXE	48 06		-		
	iXE	49 18		-		
	iXE	49 38		+		
	ME	21 08	15	16		
29	iPZ	06 15 40		-	67°.3	H 06 04 45
	iSE	24 36		-		A
	ME	06 47	15	8		

 1964 MARCH, DURHAM.

Date	Phase and componont	Tine G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
29	iPZ	16 51 25		-	62°.4	H 16 40 59 A
	iSE	59 55		+		
	ME	17 11	18	14		
	ME	17 20	16	11		
30	ePZ	02 28 56			66°.5	H 02 18 06 A
	iXZ	29 04		-		
	iXZ	29 11		-		
	iXZ	29 18		+		
	iSE	37 56		+		
	ME	03 01	18	100		
30	ePZ	07 19 50			61°.9	H 07 09 34 A
	iPZ	19 58		+		
	eSE	28 21				
	iSE	28 26		+		
	ME	07 48	18	20		
30	iSE	13 23 18		+	66°.5	H 13 03 35 A
	ME	13 46	18	6		
30	ME	14 15	18	5	66°.6	H 13 32 19 A
30	iPZ	16 20 18		+	66°.4	H 16 09 28 A
	iSE	29 08		+		
	ME	16 51	18	10		
30	iSE	17 12 50		+	66°.4	H 16 53 08 A
	ME	17 35	18			
31	iPZ	00 26 03		+	77°.5	H 00 14 12 .01 deep (USCGS)
	iXZ	27 24		-		
	iSE	36 07		+		
	ME	01 05	22			
31	iPZ	09 12 17		-	66°	H 09 01 30 (USCGS)
	iPPZ	14 17		+		
	iSE	21 15		+		
	ME	09 41	18	17		
31	MN	12 37			61°.9	H 11 52 14 A

11th August, 1964.

DURHAM UNIVERSITY OBSERVATORY, ENGLAND

Position:- 54° 46'N, 01° 35'W, height above M.S.L. 103 metres.

SEISMOLOGICAL BULLETIN FOR APRIL 1964

Instruments:- Wilson-Lamison seismometer free period 1 sec. coupled to G.E. galvanometer free period 3.4 sec., recording vertical component of velocity.
Milne-Shaw free period 12 sec., damping ratio 20:1, magnification 250, recording N and E component displacement.

The letter A denotes earthquakes of the Alaska swarm using origin times and positions as given by the U.S.C.G.S. preliminary determinations.

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
1	ME	04 04	17		65°.7	H 03 23 17 A
2	ePZ	01 24 43			89°	H 01 11 55 .02 deep (USCGS)
	iPZ	24 46		-		
	iPcPZ	24 52		-		
	iXE	25 21		+		
	iSKSE	35 24		+		
	iSE	35 44		+		
	iXE	43 48		+		
	iSSE	44 49		+		
	MN	02 06	20	40		
	ME	02 11	20	45		
2	iPZ	11 51 43		-	63°.9	H 11 41 11 A
	eSN	12 00 17				
2	ME	17 06			105°	H 15 56 53 .03 deep (USCGS)
2	iSE	22 53 17		+	61°.5	H 22 34 32 A
3	iSE	08 57 42		+	61°.9	H 08 38 43 A
3	iPZ	22 43 56		-	60°.9	H 22 33 42 A
	iSE	52 13		+		
	ME	23 10	20	5		
4	iPZ	05 04 20		+	62°.0	H 04 54 02 A
	iSE	12 54		+		
	iSSN	17 01		-		
	MN	05 32	19	10		
4	iSE	09 00 15		+	66°.5	H 08 40 30 A
	ME	09 23	19	15		
4	iPZ	09 21 45		-	66°.2	H 09 10 55 A
	iXZ	21 52		-		
	iSN	30 57		-		
4	iPZ	17 57 02		-	67°.0	H 17 46 09 A
	iSE	18 05 55		+		
	MN	18 27	20	48		
	MN	18 32	16	40		
4	iPZ	18 10 36			66°.9	H 17 59 43 A
	iSE	19 32		-		
	MN	18 42	16	16		
	MN	18 46	16	16		

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
4	iSN	22 35 52		-	62°.2	H 22 16 55
	ME	22 53	16	2		A
5	iPZ	01 33 08		-	67°.0	H 01 22 13
	iSE	41 58		+		A
	MN	02 02	20	10		
	MN	02 05	20	12		
5	iSE	02 01 41		-	67°.0	H 01 41 45
	ME	02 24	20	11		A
5	iPZ	19 38 38		-	61°.9	H 19 28 18
	eSN	47 11				A
	MN	20 07	14			
8	iPZ	11 10 00		-	76°.5	H 10 58 09
	iPPZ	12 45		+		.01 deep
	eSN	19 42				(USCGS)
	iSKSN	20 35		-		
	MN	11 51	15	4		
8	iPN	14 18 05		-	27°	H 14 12 33
	iSN	23 00		+		.02 deep
						(BCIS)
8	ME	20 13	15		62°.6	H 19 33 19
						A
9	eSN	13 24 57			62°.4	H 13 06 15
	MN	13 46				A
10	iPZ	01 18 38		-	64°.4	H 01 08 00
						A
10	ePZ	21 54 36			63°.3	H 21 44 07
	MN	22 22	20			A
11	ePZ	16 05 41			24°	H 16 00 39
	eSN	09 51				(BCIS)
	MN	16 14	12	7		
12	iPZ	01 35 20		+	66°.4	H 01 24 32
	iSN	44 16		-		A
	MN	02 05	18	14		
	MN	02 09	18	14		
12	iPZ	12 58 51		+	66°.2	H 12 48 02
	iSN	13 07 48		+		A
	MN	13 26	15			
13	iPZ	08 33 48		+	16°	H 08 30 05
	eSN	36 49				(BCIS)
	iPcPZ	39 12		-		
	ME	08 41	8	19		
13	ePZ	12 36 06			61°.7	H 12 25 36
	eSE	44 48				A
	ME	13 02	20	4		
14	MN	23 34	20	5	65°.1	H 22 55 31
						A
15	iPZ	15 41 37		+	66°.8	H 15 30 47
	iPcPZ	41 51		+		A
	iSE	50 45		+		
	ME	16 14	16	5		

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
15	iPZ	20 59 59			23°	H 20 54 37 (BCIS)
16	ME	01 57	18	4	83°.5	H 01 04 35 (USCGS)
16	iPKPZ	02 55 16			146°	H 02 35 40 .02 deep (USCGS)
	iPKPZ	55 20				
16	iPZ	19 37 59		-	66°.7	H 19 26 57 A
	iSE	46 41		+		
	ME	20 09	20	35		
17	ePZ	05 00 21			66°.6	H 04 49 31 A
	eSE	09 19				
	ME	05 31	18	7		
17	ME	09 52	15		65°.3	H 09 09 08 A
19	eXN	14 41 16			123°.5	H 14 12 22 (USCGS)
	eSSE	49 51				
	ME	15 04	35			
	ME	15 24	18			
	ME	15 35	16			
20	iPZ	12 06 58		-	61°.0	H 11 56 42 A
	iXZ	07 13		+		
	iSE	15 32		+		
	ME	12 34	19	4		
21	ePZ	05 11 51			61°.0	H 05 01 36 A
	eSN	20 06				
22	ePZ	09 51 53			19°	H 09 46 54 (USCGS)
	iSN	54 50		+		
	MN	09 58	16	4		
	MN	10 02	10	5		
23	iPKPZ	03 51 53		-	119°	H 03 32 50 (USCGS)
	iPPN	53 19		-		
	ME	04 36	25	25		
	MN	04 51	20	18		
	MN	05 53	17	4		
23	ePE	14 29 59			32°.5	H 14 23 43 (USCGS)
24	iPKPZ	06 04 59		-	122°.5	H 05 56 10 .02 deep (USCGS)
	iXZ	15 04		+		
	ipPKPZ	16 09		-		
	iSSE	33 19		+		
	GE	06 47				
	ME	06 55	38	28		
	ME	07 00	20	13		
27	ePKPZ	07 04 48			160°	H 06 44 25 (USCGS)
	eSSE	29 31				
	ME	08 16	22	4		
	ME	08 21	25	8		
	MN	08 27	20	4		

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
29	iPZ	04 26 13		+	24°	H 04 21 07 (BCIS)
	iXZ	26 57		+		
	iSE	30 21		−		
	ME	04 35	12	12		
29	iPZ	17 05 10		−	24°	H 17 00 02 (BCIS)
	iSE	09 20		−		
	ME	17 14	15	2		
30	ePKPZ	16 22 19			126°	H 16 03 31 .01 deep (USCGS)
	MN	17 14				
30	ME	18 01	15		60°.5	H 17 26 30 A

12th August, 1964.

DURHAM UNIVERSITY OBSERVATORY,

Position:- 54° 46'N, 01° 35'W, height above M.S.L. 103 metres.

SEISMOLOGICAL BULLETIN FOR MAY 1964

Instruments:- Wilson-Lamison seismometer free period 1 sec. coupled to G.E. galvanometer free period 3.4 sec., recording vertical component of velocity.
Milne-Shaw free period 12 sec., damping ratio 20:1, magnification 250, recording N and E component displacements.

The letter A denotes earthquakes of the Alaska swarm using origin times and positions as given by the U.S.C.G.S. preliminary determinations.

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
1	eSE	06 20 40			61°.4	H 06 01 55 A
	ME	06 40	15			
2	iPZ	16 22 53		+	77°	H 16 11 00 (USCGS)
	iPcPE	23 14		-		
	ePPE	25 52		+		
	iSE	33 03		11		
	ME	16 56	23	11		
	ME	17 01	20			
5	iPZ	08 13 22		+	78°	H 08 01 48 (USCGS)
6	ePcPE	15 38 02			66°.3	H 15 26 35 A
	iSE	46 23		-		
	iXE	47 54		-		
	ME	16 08	14	4		
7	iPZ	05 56 18		+	66°	H 05 45 30 (BCIS)
	iXZ	56 28		-		
	iPcPZ	56 50		+		
	iPPZ	58 54		-		
	iSE	06 05 09		+		
	ME	06 23	20	20		
	ME	06 30	15	13		
7	iPZ	08 10 22		-	79°	H 07 58 14 (USCGS)
	iPcPZ	10 28		-		
	iPPZ	13 22		-		
	iSE	20 23		-		
	iSKSE	20 38		-		
	iSSE	25 31		-		
	ME	07 43	20	65		
	MN	07 48	20	85		
	MZ	07 48	20			
7	iPZ	11 23 08		-	87°.5	11 11 05 .07 deep (USCGS)
7	iPZ	20 25 01		+	79°	H 20 12 49 (USCGS)
	iXZ	25 07		-		
	iPcPE	25 38		+		
	iXE	32 10		+		
	iSE	35 00		-		
	iSKSE	35 45		-		
	iSSE	40 08		+		
	ME	20 59	18	20		
	MN	21 01	15	18		
8	ME	17 04	17	4	66°.6	H 16 21 50 A
8	ME	22 12	10		60°.5	H 21 34 41 A

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
8	ME	24 31	20		73°	H 23 40 44 (USCGS)
8	ME	02 53			73°	H 02 02 29 (USCGS)
12	ePZ	18 27 39			66°.4	H 18 16 42
	iSE	36 28		+		A
	ME	18 58	17	13		
12	iPKPZ	18 36 45		-	145°	H 18 17 08 (USCGS)
13	iSSE	06 09 29		+	158°	H 05 25 26
	ME	06 54	19	10		(USCGS)
16	iPZ	06 09 29		+	46°	H 06 00 58 (BCIS)
16	iPZ	08 47 54		-	52°	H 08 38 54 .02 decp (USCGS)
16	ePKPE	16 27 56			158°	H 16 07 46 (USCGS)
	eXE	36 46				
	eSSE	51 47				
	ME	17 36	19	2		
17	ePE	01 00 29			61°.4	H 00 50 18
	iSE	09 08		-		A
	ME	01 25	17	9		
17	iPZ	19 32 37		+	31°	H 19 26 20
	iXZ	32 55		+		(BCIS)
	iSN	37 39		+		
	ME	19 42	11	22		
18	iPKPZ	14 31 54		-	146°	H 14 12 10
19	iPZ	23 16 08		+	84°.5	H 23 03 42 .01 deep
	iSN	26 32		-		(USCGS)
	iSKSE	26 54		-		
	iSSN	31 57		+		
	ME	23 52	20	7		
21	ePE	15 46 39			64°.3	H 15 36 01
	eSE	55 22				A
	ME	16 16	16			
24	iPKPZ	04 32(47) in minute break			147°	H 04 13 05
	iPKPZ	32 51		-		(USCGS)
24	ePZ	10 44 07			85°	H 10 31 24
	eSE	54 27				(USCGS)
	MN	11 27	16			
	MN	11 31	12			
25	eSKSE	20 08 17			98°	H 19 44 07
	eSE	09 07				(USCGS)
	eSSE	15 55				
	MN	20 53				

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
26	ePN	11 13 53			113°	H 10 59 12
	iXZ	14 21		-		.02 deep
	iPPZ	18 27		-		(USCGS)
	iSKSN	24 12		-		
	iSKKSN	25 17		+		
	iSPZ	28 09		-		
	iPSE	28 40		-		
	iSSE	33 54		-		
	G_1N	11 46				
	G_2E	12 44				
	ME	12 00	20	70		
	MN	12 03	18	80		
	MZ	12 03	18			
27	eXN	01 23 40			113°	H 00 56 43
	ePSN	25 51				.02 deep
	ME	01 57				(USCGS)
28	eSE	02 20 26			87°	H 01 56 59
	ME	02 56	12			(USCGS)
29	iPZ	10 28 02		+	61°.9	H 10 17 35
	iSN	36 30		-		A
	MN	10 56	16	2		
30	iPZ	14 43 17		+	83°.5	H 14 30 45
	ipPZ	43 30		-		(USCGS)
	iPcPZ	43 38		+		
	iSE	53 35		+		
	iSKSE	53 58		+		
	MN	15 25	19	12		
31	iPZ	00 52 39		-	78°	H 00 40 36
	iPcPZ	52 57		-		(USCGS)
	iXZ	53 35		-		
	iPPN	55 35		-		
	iSE	02 30		-		
	iSKSE	01 02 55		+		
	iScSE	03 14		-		
	iSSN	07 30		-		
	MN	01 23	30	80		
	MN	01 33	18	30		

August 21st, 1964.

DURHAM UNIVERSITY OBSERVATORY, ENGLAND

Position:- 54°46'N, 01°35'W, height above M.S.L. 103 metres

SEISMOLOGICAL BULLETIN FOR JUNE 1964

Instruments:- Wilson-Lamison seismometer free period 1 sec. coupled to G.E. galvanometer free period 3.4 sec., recording vertical component of velocity.
Milne-Shaw free period 12 sec., damping ratio 20:1, magnification 250, recording N and E component displacements.

The letter A denotes earthquakes of the Alaska swarm using origin times and positions as given by the U.S.C.G.S. preliminary determinations.

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
2	iPN	16 40 40		+	64°.6	H 16 29 41
	iSE	49 20		+		A
5	iPZ	04 48 58		-	17°	H 04 44 37
	iSN	51 38		-		BCIS
5	eSE	09 09 18			61°.6	H 09 50 35
						A
5	iPZ	22 17 41		+	65°.0	H 22 06 53
						A
9	MN	02 44	10		18•	H 02 33 37
						BCIS
10	iSKSE	22 41 21		+	107°	H 22 16 45
	iSE	42 09		+		USCGS
	iPSE	44 23		-		
	ME	23 17				
11	ME	18 08	25		119°	H 17 01 48
	ME	18 11	22			USCGS
12	ME	11 59			119°	H 10 50 09
						USCGS
12	iPKPZ	18 31 10		-	152°	H 18 12 20
	iPKPZ	31 22		+		.10 deep
						USCGS
14	iPZ	12 22 05		+	32°	H 12 15 33
	iSN	27 13		+		BCIS
	ME	12 40	13	10		
15	ePE	00 18 38			91•	H 00 05 31
	iPPE	22 20		+		USCGS
	eSKSE	29 23				
	eSE	29 38				
	MN	01 03	20	7		
	ME	01 07	18	9		
16	iPZ	04 14 11		-	81°.5	H 04 01 44
	iPcPZ	14 24		-		.01 deep
	iPPZ	17 19		-		USCGS
	iSE	24 26		-		
	iSKSE	24 38		+		
	iSSE	29 54		-		
	ME	04 53	20	370		
	MN	04 54	15	240		
	MZ	04 54	15			
16	ePZ	07 27 23			81°.5	H 07 14 57
	ME	07 44	20	10		USCGS

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
18	eSN	18 23 34			77°	H 18 01 48
	MN	18 54	15			USCGS
19	ePE	10 17 50			80°.5	H 10 05 36
	iSN	28 05		+		USCGS
21	iPZ	01 44 50		+	73°	H 01 33 11 .01 deep USCGS
23	iPZ	01 38 42		-	81•	H 01 26 37 .01 deep USCGS
	iPcPZ	38 48		-		
	ipPZ	39 01		+		
	iXZ	39 18		+		
	iPPPE	43 37		+		
	iSE	48 31		-		
	iScSE	48 55		+		
	GNE	02 00				
	MN	02 09	30	85		
	MN	02 17	18	20		
	MZ	02 17	18			
28	ePKPZ	13 10 27			121°.5	H 12 51 35
	ME	13 51	32	3		USCGS
	MN	14 06	12	1		
28	eSE	15 30 49			20°	H 15 22 45
	ME	15 33				BCIS
28	iPZ	17 37 47		-	57•	H 17 28 00
						USCGS
28	iPZ	19 19 31		-	64°.5	H 19 09 05
						A
30	iPPZ	14 05 29		-	109°.5	H 13 46 22
	iSKSE	11 02		+		USCGS
	iSN	13 00		+		
	iSPE	14 42		+		
	iSSN	20 50		-		
	GN	14 31				
	ME	14 49	20	13		
	ME	14 53	19	16		
	MN	15 03	20	15		
30	iSE	16 09 38		-	77°.5	H 15 47 41
						USCGS
30	ePZ	16 00 36			76°	H 15 48 43
	iSN	10 13		-		USCGS
	ME	16 39	20	1		
	MN	16 42	16	2		
30	ePZ	20 19 30			75°	H 20 08 29
	iPZ	19 33		-		.06 deep
	ipPE	20 43		-		USCGS
	ePPE	22 27				
	eSNE	28 27				
	eisSN	30 19		+		
	eSSN	33 32				

6th January, 1965

DURHAM UNIVERSITY OBSERVATORY, ENGLAND

Position:- 54°46'N, 01°35'W, height above M.S.L. 103 metres.

SEISMOLOGICAL BULLETIN FOR JULY, 1964

Instruments:- Wilson-Lamison seismometer free period 1 sec. coupled to G.E. galvanometer free period 3.4 sec., recording vertical component of velocity.
Milne-Shaw free period 12 sec., damping ratio 20:1, magnification 250, recording N and E component displacements.

The letter A denotes earthquakes of the Alaska swarm using origin times and positions as given by the U.S.C.G.S. preliminary determinations.

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
1	ePE	02 59 28			75°.5	H 02 47 34 (USCGS)
	eXE	03 05 59				
	ME	03 40				
2	ePE	01 29 10			61°.9	H 01 19 03 A
	ME	01 58	12			
2	ME	17 44	15		68°	H 17 17 34 (USCGS)
4	MN	11 23	14		21°	H 11 11 20 (BCIS)
5	ePE	04 58 13			23°	H 04 53 10 (BCIS)
	eSE	05 02 18				
5	ePE	19 20 13			79°	H 19 07 58 (USCGS)
	ePcPE	20 31				
	ePPN	23 10				
	eSN	29 58				
	iSN	30 06		+		
	eSKSN	30 27				
	eSSN	35 00				
	MN	19 49	19	20		
	ME	19 56	15	20		
5	iPZ	23 47 57		+	77°.5	H 23 36 01 .01 deep (USCGS)
	iPcPZ	48 10		+		
	iSN	57 46		-		
	iPSN	58 32		+		
	iSSN	24 02 39		-		
	MN	24 26	19	17		
5	iPZ	23 51 04		-	77°.5	H 23 39 10 .01 deep (USCGS)
	iPcPZ	51 21		+		
	iSN	24 00 57		-		
	MN	24 29	19	15		
6	ePZ	02 26 44			79°	H 02 14 36 (USCGS)
	iPZ	26 49		+		
	iPcPZ	26 59		-		
	iSN	36 40		-		
	iSKSE	36 58		-		
	iPSE	37 34		-		
	iSSN	41 44		+		
	GN	47 32				
	ME	03 01	15	60		
	MZ	03 01	15			

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
6	iPZ	07 34 14		+	80°	H 07 22 12
	ipPZ	34 34				.02 deep
	iPPN	37 21		+		(USCGS)
	iSN	44 16		-		
	isSN	44 59		-		
	iPSE	45 49		-		
	ME	08 04	35	180		
	ME	08 09	20	50		
	MZ	08 09	20			
6	iPZ	10 22 46		+	51°	H 10 13 45
	ipPZ	23 03		-		.02 deep
						(USCGS)
8	iPPZ	12 15 22		-	117°	H 11 55 39
	MN	12 57				.03 deep
						(USCGS)
9	iPKPZ	11 41 49		+	150°	H 11 22 05
	iPKPZ	42 12		+		(USCGS)
	iSSE	12 04 19		-		
9	iPKPZ	16 59 09		-	139°	H 16 39 49
	iPPZ	17 02 28		-		.02 deep
	ipPPN	02 39		+		(USCGS)
	iSKSN	06 03		+		
	iSKKSN	08 42		+		
	ME	17 49	25	33		
10	ME	01 47			56°.5	H 01 17 53
						(USCGS)
11	eSE	17 50 56			14°	H 17 44 30
						(USCGS)
11	eSE	20 44 12			62°.3	H 20 25 40
	ME	21 05	15			A
12	ePE	01 57 55			80°.5	H 01 45 26
	iSE	02 07 55		+		(USCGS)
	MN	02 36	14			
13	ME	16 33			20°	H 16 22 26
						(USCGS)
13	ME	21 27	14		53°.5	H 21 01 33
	ME	21 34	18			(USCGS)
14	iPZ	05 35 13		+	06°	H 05 33 56
	iXZ	36 12		+		(BCIS)
	iSE	36 24		+		
14	iPZ	14 09 27		-	71°	H 13 58 29
						(USCGS)
15	iPN	09 53 27		-	20°	H 09 49 06
	ME	10 01	10			(BCIS)
17	ePZ	02 39 28		-	24°	H 02 34 26
	iPZ	39 31		-		.03 deep
	ipPZ	39 57		-		(BCIS)
	iPPZ	40 31		-		
	iSE	43 31		+		
	isSE	44 16		+		
	iXZ	46 29		-		
	iXE	50 13		+		
	iXE	51 23		-		

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
17	ePZ	23 06 39			78°	H 22 54 42 (USCGS)
	eSE	17 05				
18	iPZ	03 45 49		+	27°	H 03 40 09 (BCIS)
	iSN	50 16		+		
	iXN	50 27		-		
19	iPZ	06 08 28		+	46°	H 05 59 59 (BCIS)
21	ePN	01 21 09			84°	H 01 07 56 (USCGS)
	iSN	32 16		-		
	ME	01 59	15			
21	iPKPZ	04 08 26		+	151°	H 03 48 59 (USCGS) .04 deep
	iPKPZ	08 34		+		
21	iPKPZ	21 20 46		+	126°	H 21 01 49 .01 deep (USCGS)
23	iPZ	19 18 28		-	62°.7	H 19 08 07 A
24	iPZ	07 02 41		-	76°	H 06 50 53 (USCGS)
	iSE	12 29		-		
	iSKSE	12 58		-		
	ME	07 34	21	7		
	ME	07 39	18	9		
24	iPN	08 24 28		-	76°	H 08 12 40 (USCGS)
	iPZ	24 31		+		
	eSN	34 00				
	iSKSN	34 45		-		
	iSSN	39 39		-		
	GE	08 55				
	MN	09 04	15	36		
	MZ	09 04	15			
24	iPZ	13 37 06		+	76°	H 13 25 18 (USCGS)
	eSE	46 50				
	eSKSN	47 22				
	MN	14 18	15			
	MN	14 26	18			
24	iPZ	17 14 36		-	76°	H 17 02 49 (USCGS)
	iSE	24 18		+		
	MN	17 55	15	7		
	ME	18 02	14	6		
24	iPZ	19 01 54		+	76°	H 18 50 04 (USCGS)
	eSE	11 28				
25	iXE	01 49 28		-	71°	H 01 33 21 .01 deep (USCGS)
	iXE	54 09		-		
	ME	02 18	16			
25	ePKPZ	12 39 34			145°	H 12 20 22 .03 deep (USCGS)
25	iPPN	19 49 07			101°	H 19 31 07
	iSKSE	55 36		+		
	iSKKSN	55 56		+		
	iPSN	58 15		-		
	ME	20 27	21	10		
	ME	20 31	20	8		

DURHAM UNIVERSITY OBSERVATORY, ENGLAND

Position:- 54°46'N, 01°35'W, height above M.S.L. 103 metres.

SEISMOLOGICAL BULLETIN FOR AUGUST, 1964

Instruments:- Wilson-Lamison seismometer free period 1 sec. coupled to G.E. galvanometer free period 3.4 sec., recording vertical component of velocity.
Milne-Shaw free period 12 sec., damping ratio 20:1, magnification 250, recording N and E component displacements.

The letter A denotes earthquakes of the Alaska swarm using origin times and positions as given by the U.S.C.G.S. preliminary determinations.

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
2	iPE	08 55 54		+	66°.4	H 08 36 17 A
	MN	09 16	16			
2	iSE	10 46 42		+	15°	H 10 40 26 (BCIS)
3	iSE	02 07 13		+	62°	H 01 48 33 (USCGS)
	iPSE	07 37		+		
	ME	02 21	20			
3	ePPE	08 01 07			89°	H 07 44 44 (USCGS)
	eSKSE	08 22				
	eSE	08 39				
	ME	08 35	20	6		
4	iPZ	17 36 11		+	76°	H 17 24 29 .02 deep (USCGS)
	iSE	45 46		-		
	iSKSN	46 22		-		
5	iPKPZ	11 25 30		+	157°.5	H 11 06 03 .04 deep (USCGS)
	iPKPZ	26 04		-		
	ipPKPZ	27 02		+		
	ipPKPZ	27 50		+		
	iPPZ	30 23		-		
	iSKKSN	36 05		-		
	iSSE	49 15		-		
	isSSE	51 09		-		
5	iPPZ	22 42 42		+	115°	H 22 23 13 (USCGS)
	iSKKSE	49 46		+		
	iPSE	52 55		+		
	ME	23 32	19	10		
6	iPZ	02 45 34		-	85°	H 02 33 39 .03 deep (USCGS)
6	iPZ	18 35 28		+	66°.1	H 18 24 51 A
	iSE	44 30		+		
	ME	19 07	18	7		
8	iPZ	15 12 20		+	87°.5	H 14 59 47 .02 deep (USCGS)
	iSKSN	22 35		+		
	eSN	22 49				
10	iPZ	01 20 23		-	62°	H 01 10 12 (USCGS)
	iXZ	20 28		-		
	eSE	28 34				
	ME	01 47	19			
12	iPZ	07 03 18		-	74°	H 06 51 50 .02 deep (USCGS)
13	iPKPZ	00 49 38		-	127°	H 00 31 14 .06 deep (USCGS)
	ipPKPZ	51 13		+		
	iPPE	51 39		-		
	iPKSE	52 53		-		
13	eSN	10 48 06			27°	H 10 38 05 (USCGS)

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
14	ePZ	21 37 17			55°	H 21 27 42 (USCGS)
	eSN	44 54				
	ME	21 55	11	3		
17	iPZ	15 19 23		-	19°	H 15 15 06 (BCIS)
	iSE	22 46		-		
	ME	15 25	11	2		
17	ME	22 58			18°	H 22 47 32 (USCGS)
18	ME	05 39	20	6	100°	H 04 44 58 (USCGS)
19	iSE	09 48 21		+	46°	H 09 33 10 .01 deep (USCGS)
	iSSE	51 28		-		
	ME	10 05	16			
19	MN	15 50	18		46°	H 15 20 14 .01 deep (USCGS)
20	ePN	02 12 18			19°	H 02 08 04 (BCIS)
	eSE	15 32				
	ME	02 19	12	2		
20	iPZ	03 59 35		+	13°	H 03 56 28 (BCIS)
	iPPZ	59 48		-		
	iSE	04 02 31		-		
	ME	04 06	10	7		
See foot Sheet 3 → 20	iPZ	16 34 08		+	19°	H 16 29 46 (BCIS)
	eSE	37 26				
	ME	16 40	13			
21	eSE	17 01 34			32°	H 16 49 13 (BCIS)
22	ePE	17 08 34		-	18°.5	H 17 04 31 (USCGS)
	ME	17 15	16			
22	eXE	17 29 19				
	ME	17 34				
	MN	17 35				
23	eSE	03 03 08			16°	H 02 56 13 (USCGS)
	ME	03 05				
23	MN	04 58	10		16°	H 04 47 46 (USCGS)
23	ePKPZ	15 43 02			126°	H 15 24 05 .01 deep (USCGS)
	iPPE	45 17		+		
	ME	16 38	20	1		
25	ME	11 31			28°	H 11 11 51 (BCIS)
25	ePZ	13 55 22			43°.5	H 13 47 21 .01 deep (USCGS)
	iPZ	55 23		-		
	ipPZ	55 45		-		
	iPcPZ	56 33		-		
	iPPZ	57 12		-		
	eSE	14 01 48				
	iSE	01 57		+		
	iXE	03 17		-		
	iSSE	05 16		-		
	GNE	05 28				
	ME	14 12	13			
	ME	14 24	17			
	ME	14 29	14			

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
26	iPE	03 22 42		+	19°	H 03 18 25 (BCIS)
	ME	03 29	11	1		
27	eSE	19 42 54			28°	H 19 32 01 (BCIS)
	MN	19 49	10	2		
28	iPKPZ	04 54 02		+	145°	H 04 35 29 .10 deep (USCGS)
29	ePN	02 47 45			12°	H 02 45 28 (BCIS)
	eSE	50 48				
30	ePE	02 46 11			68°	H 02 35 08 (USCGS)

14th April, 1965

20	eSN	05 54 20			46°	H 05 39 48 .01 deep (USCGS)
	MN	06 09	18			

DURHAM UNIVERSITY OBSERVATORY, ENGLAND

Position:- 54°46'N, 01°35'W, height above M.S.L. 103 metres

SEISMOLOGICAL BULLETIN FOR SEPTEMBER 1964

Instruments:- Wilson-Lamison seismometer free period 1 sec., coupled to G.E. galvanometer free period 3.4 sec., recording vertical component of velocity.
Milne-Shaw free period 12 sec., damping ratio 20:1, magnification 250, recording N and E component displacements.

The letter A denotes earthquakes of the Alaska swarm using origin times and positions as given by the U.S.C.G.S. preliminary determinations.

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
1	iPZ	13 33 53		-	70°	H 13 22 37
	iSN	43 06		-		(USCGS)
	iSKSE	43 54		-		
	ME	14 09	12	1		
1	ePZ	17 28 20			73°.5	H 17 16 40 (USCGS)
3	ePZ	21 26 22			79°	H 21 14 43
	eSE	36 30				(USCGS)
	ME	22 02	12			
4	iPZ	03 38 03		+	55°	H 03 28 33
	iXZ	38 10		+		(USCGS)
	eSE	45 45				
	ME	03 56	10	1		
	ME	04 03	18	1		
4	iPPN	10 54 16		-	116°	H 10 34 13
	ePSE	11 02 58				(USCGS)
	ME	11 45	25	3		
	MN	11 48	18	1		
	ME	11 51	20	2		
	ME	12 01	16	1		
5	ePKPZ	03 12 52			127°	H 02 53 51
	iPPZ	13 19		-		.01 deep
	iPKSN	16 10		-		(USCGS)
	iSKSE	19 45		+		
	iSSE	31 53		+		
	ME	04 04	20	5		
	ME	04 10	20	4		
	ME	04 18	20	4		
	ME	04 31	20	2		
5	ePZ	12 37 13			58°	H 12 27 22
	eSN	45 06				(USCGS)
	ME	12 55	14	3		
	MN	13 09	10			
5	eSE	21 15 59			18°	H 21 08 44 (BCIS)
6	iPZ	19 01 02		+	24°	H 18 55 47
	iSE	05 03		-		(USCGS)
	MN	19 09	10			
6	ME	19 40	24	2	107°	H 18 41 02 (USCGS)
7	ME	[illegible] 05	18		57°	H 11 27 15 (USCGS)
12	iPKPZ	13 02 34		-	122°	H 12 43 19
	iPPZ	03 50		-		.02 deep
	iPSN	14 05		+		(USCGS)
12	iPKPZ	15 37 52		-	141°.5	H 15 19 22 .09 deep (USCGS)

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	distance	
12	iPKPZ	22 27 07		+	169°.5	H 22 07 03 (USCGS)
	iPKPZ	28 26		-		
	iPPZ	32 13		-		
	iSKKSN	38 53		-		
	iSKSPN	42 40		+		
	ME	23 49	20	22		
	MN	23 50	20	17		
	MZ	23 55	18			
	ME	24 00	20	30		
14	ME	14 32				
15	ePZ	15 42 09			85°	H 15 29 32 (USCGS)
	iPZ	42 10		+		
	iPcPZ	42 34		-		
	iSKSN	52 34		+		
	iSE	52 57		+		
	iScSN	53 07		+		
	iSSE	58 18		-		
16	iPZ	01 39 05		-	83°.5	H 01 26 27 (USCGS)
16	iPZ	02 01 01		-	62°.4	H 01 50 34
	iSN	09 40		-		A
	ME	02 29				
16	iSN	22 38 35		-	45°.5	H 22 23 36 (USCGS)
17	iPZ	15 07 02		-	22°	H 15 01 48 (BCIS)
	iSE	11 05		+		
18	eSE	00 19 34			27°.5	H 00 08 50 (BCIS)
18	iPZ	13 19 16		-	103°	H 13 06 00 .01 deep (USCGS)
	[illegible]E	30 23		-		
18	iPZ	13 18 00		+	25°.5	H 13 12 30 (BCIS)
	iSN	22 33		+		
19	iPZ	05 20 20		+	79°	H 05 08 15 (USCGS)
	ipPZ	20 29		-		
	iSE	30 32		-		
	iSKSE	30 43		-		
	isSE	31 04		+		
	ME	05 55	16			
21	iPKPZ	04 41 59		+	146°.5	H 04 23 20 .10 deep (USCGS)
25	iPZ	15 53 32		-	75°	H 15 42 18 (USCGS)
	iSE	16 03 11		-		
26	iPZ	00 56 14		+	61°.5	H 00 46 03 .01 deep (USCGS)
	ipPZ	56 34		-		
	iSE	01 04 14		+		
	iSSE	08 59		-		
	iLQ	25 24		-		
27	iPZ	16 01 49		-	66°	H 15 50 55 (USCGS)
	eSE	10 34		+		
	ME	16 33	12	3		
28	iPZ	05 14 59		-	59°.5	H 05 04 55 (USCGS)
	eSE	23 04				
	iSSE	27 30		-		
	ME	05 41	14			
29	iPKPZ	14 19 53		+	144°.5	H 14 00 15 (USCGS)
	iXZ	20 27		+		
30	MN	04 55			26°.5	H 04 39 48 (BCIS)

27/4/65

DURHAM UNIVERSITY OBSERVATORY, ENGL.

Position:- 54°46'N, 01°35'W, height above M.S.L. 103 metres

SEISMOLOGICAL BULLETIN FOR OCTOBER 1964

Instruments:- Wilson-Lamison seismometer free period 1 sec., coupled to G.E. galvanometer free period 3.4 sec., recording vertical component of velocity.
Milne-Shaw free period 12 sec., damping ratio 20:1, magnification 250, recording N and E component displacements.

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
2	iPKPZ	13 20 04		-	133°	H 13 00 40 .01 deep (USCGS)
	ME	14 21				
6	iPZ	14 35 17		+	24°.5	H 14 29 57 (BCIS)
6	ePZ	14 36 40			24°.5	H 14 31 20 (BCIS)
	iPZ	36 42		-		
	iPPZ	37 22		+		
	iSE	41 03		+		
	iSSN	42 08		-		
	iXE	42 52		-		
	ME	14 48	15	420		
6	iPZ	18 28 42		+	16°.5	H 18 24 57 (BCIS)
11	ePZ	21 29 26			108°.5	H 21 15 04 (USCGS)
	ePPN	34 20				
	iSKSN	40 10		+		
	iSSE	49 20		-		
	ME	22 24	18	5		
	ME	22 32	16	5		
12	ME	16 46			108°	H 15 42 55 .01 deep (USCGS)
12	ME	23 17	13		125°.5	H 21 55 33 (USCGS)
	ME	23 23	18			
14	ePE	03 17 39			85°.5	H 03 05 00 (USCGS)
	eSKSE	28 12				
	eSE	28 20				
	ME	03 54	18			
	ME	04 04	12			
15	iPZ	20 38 53		-	77°	H 20 26 53 (USCGS)
	iSN	48 51		-		
	ME	21 12	20	7		
16	iPN	07 11 38		-	78°	H 06 59 39 (USCGS)
	iSE	21 30		+		
	ME	07 45	20	29		
16	iPZ	08 30 24		-	78°	H 08 18 28 (USCGS)
	eSN	40 18				
	ME	09 04	20	10		
16	iPN	09 30 18		+	78°	H 09 18 17 (USCGS)
	iSN	40 08		-		
	ME	10 04	20	12		
17	ePZ	09 56 13			27°	H 09 50 29 (BCIS)
	eSE	10 00 55				
18	iPZ	09 18 04		-	75°	H 09 06 26 (USCGS)

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
18	iPKPZ	12 50 04		+	115°.5	H 12 32 24 .09 deep (USCGS)
	iPPZ	51 22		+		
	iPPPE	53 17		-		
	iSKSE	55 34		-		
	iSKKSE	57 16		-		
	iSPZ	59 57		-		
	iSSN	13 06 41		+		
18	eSE	13 35 20			46°	H 13 20 14 (BCIS)
21	ME	19 28			19°	H 19 17 51 (BCIS)
21	iPZ	23 20 31		-	70°	H 23 09 19 (USCGS)
	iPcPE	21 08		-		
	iSE	29 41		+		
	iSKSE	30 34		-		
	iScSE	30 46		-		
	ME	23 54	18	70		
	ME	23 56	11	45		
	MZ	23 56	11			
23	iPZ	02 05 30		-	54°	H 01 56 03 (USCGS)
	iXZ	05 43		-		
	iSN	13 01		+		
	iXN	13 11		+		
	iXN	14 57		-		
	iScSN	15 26		+		
	iSSN	17 06		+		
	GN	18 57				
25	iPKPZ	12 27 28		+	147°	H 12 08 47 .09 deep (USCGS)
27	eXZ	19 51 25			13°	H 19 46 11 (BCIS)
	eXN	52 50				
	iXN	53 07		+		
	iXN	53 26		-		
27	MN	22 49	18	2		
29	ePE	04 31 05			12°.5	H 04 28 03 (BCIS)
29	iPZ	04 40 05		-	18°.5	H 04 35 55 (BCIS)

4th May, 1965

DURHAM UNIVERSITY OBSERVATORY, ENGLAND

Position:- 54°46'N, 01°35'W, height above M.S.L. [illegible]

SEISMOLOGICAL BULLETIN FOR NOVEMBER 1964

Instruments:- Wilson-Lamison seismometer free period 1 sec., coupled to G.E. galvanometer free period 3.4 sec., recording vertical component of velocity.
Milne-Shaw free period 12 sec., damping ratio 20:1, magnification 250, recording N and E conponent displacements.

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
1	ePE	12 41 01			109°	H 12 26 06 .01 deep (USCGS)
	iSKSE	51 31		+		
	iSE	52 55		+		
	iXE	56 02		-		
	iSSE	59 38		-		
2	iPZ	07 03 20		+	85°	H 06 50 58 .015 deep (USCGS)
	ipPZ	03 58		-		
	eSKSE	13 07				
	eSE	13 33				
	isSE	14 32		-		
3	ePE	02 34 02			45°	H 02 25 49 (BCIS)
	eSE	40 33				
6	ePZ	10 05 12			77°.5	H 09 53 22 .01 deep (USCGS)
	eSN	15 04				
	ME	10 43	20	3		
7	iPZ	18 50 55		-	96°	H 18 37 43 .02 deep (USCGS)
	ME	19 38				
8	ME	04 22	20		169°.5	H 02 43 57 (USCGS)
	ME	04 30	20			
8	ePZ	10 41 36			44°.5	H 10 33 26 (BCIS)
15	iPZ	09 42 31		-	46°	H 09 33 43 (BCIS)
16	iPZ	06 08 24		+	46°	H 06 00 00 (BCIS)
17	iPKIKPZ	34 37		+	126°	H 08 15 39 (USCGS)
	iPKPZ	34 44		-		
	iSSN	54 30		+		
	MN	09 21	30	40		
	MN	09 27	25	32		
17	iPKPZ	11 21 47		+	146°	H 11 03 07 .09 deep (USCGS)
18	iPKPZ	22 40 33		-	144°.5	H 22 21 02 (USCGS)
19	ePKIKPZ	23 54 12			126°	H 23 35 06 (USCGS)
	iXZ	54 14		-		
	iPKPZ	54 22		-		
	iXZ	54 25		-		
	iPKSN	57 45				
	iSKSN	24 00 51		-		
	iSKKSN	03 01				
	iSSN	14 11		+		
24	ePN	12 54 25			98°	H 12 40 51 (USCGS)
	iSKSN	13 05 13		+		
	iSN	06 04		+		
	MN	13 29	50	20		
	MN	13 38	20	17		
	MN	13 41	20	14		

November sheet 2

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
26	MN	12 18	12	8	86°.5	H 10 21 07 (USCGS)
30	iPZ	12 40 29		+	88°	H 12 27 39 (USCGS)
	iXZ	40 39		+		
	iSN	51 12		+		
	MN	13 29	18	5		
	MN	13 38	19	7		

11-5-65

DURHAM UNIVERSITY OBSERVATORY, ENGLAND

Position:- 54°46'N, 01°35'W, height above M.S.L. 103 metres

SEISMOLOGICAL BULLETIN FOR DECEMBER 1964

Instruments:- Wilson-Lamison seismometer free period 1 sec., cuopled to G.E. galvanometer free period 3.4 sec., recording vertical component of velocity.
Milne-Shaw free period 12 sec., damping ratio 20:1, magnification 250, recording N and E component displacements.

Date	Phase and component	Time G.M.T.	Period sec.	Amplitude microns and direction	Epicentral distance	Notes
1	iPKPZ	05 12 32		-	142°	H 04 53 24
	ipPKPZ	13 49		-		.04 deep
						(USCGS)
1	iPZ	07 45 04		+	25°	H 07 39 42
						(BCIS)
10	ePZ	15 23 09			79°	H 15 11 05
	iSN	33 09		-		(USCGS)
	eSKSN	33 28				
	MN	15 59	14	7		
	MN	16 03	18	10		
13	MN	14 08			91°	H 13 15 50
						(USCGS)
14	MN	02 59			109°	H 01 59 06
						(USCGS)
22	iPZ	04 45 23		-	49°.5	H 04 36 34
	iPPZ	46 47		+		(BCIS)
	MN	05 10	18	2		
22	iPPZ	08 13 44		-	62°	H 08 01 13
						.02 deep
						(USCGS)
22	ME	21 39	20	4	77°	H 20 54 35
						(USCGS)
23	ME	20 45			85°	H 19 47 59
						(USCGS)
24	iPKPZ	19 04 37		+	124°.5	H 18 45 45
	iSPZ	16 39		+		.01 deep
						(USCGS)
26	eSE	14 50 34			71°.5	H 14 30 29
	iSSE	55 24		+		.02 deep
						(USCGS)
28	iPKPZ	16 34 46		-	147°	H 16 16 11
	ipPKPZ	37 05		-		.10 deep
	iSKSE	41 50		+		(USCGS)
	iSSE	56 30				
31	iPZ	16 23 37		-	27°	H 16 18 03
						.02 deep
						(BCIS)

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