S E I S M O L O G I C A L O B S E R V A T O R Y

R A T H F A R N H A M C A S T L E

B U L L E T I N

for January 1 to March 31, 1956

Rathfarnham

Co. Dublin, Ireland

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Jan. 1	Z	ePKP	23	27	34		
	Z	ePP		29	07		
3	Z	iP	05	57	(00)	D	Time by measurement.
	Z	iP	15	52	52	C	
	Z	i		53	01		
	Z	i		53	24		
	Z	ePP		55	40		
	Z	iP	23	36	11		
6	Z	iP	05	47	46	D	
	Z	i		47	52	D	
				48	34		
		i		50	46		
	Z	iP	07	11	05		
	Z	iP	12	21	14	C	1·6s 1·3μ
	Z	i		21	21		40N 27E BCIS
	Z	ePP		21	41		12 15 42
	Z	i		22	14		
	Z	iP	18	03	19	C	
7	Z	iP	10	27	47	C	
	Z	i	11	22	07		
8	Z	iP	07	23	41	C?	
	Z	iP	17	46	21		
	ZN	iP	21	07	20	D	19S 70W
	Z	ipP		07	34	D?	H = 20 54 13
	NZ	ePP		10	54	C	D = 10200 km
	NZ	ePPP		12	52		
	NE	e		17	47		
	N	iS		18	07		
	NE	i		18	32		
	NE	e		20	22		
	N	eLQ		30	45		
	NE	eLR		35	00		
	N	M		45	00		
9	Z	iPKP	12	24	34	C	

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Jan. 9 (contd.)	Z	i	12	24	39	C	
	Z	i		24	47		
	Z	e		25	46		
	Z	e		25	58		
	Z	e		27	03		
10	Z	i	08	12	33		cf. Nature No.4500
	Z	i		13	10		52·8N 1·4W
	Z	i		13	13		H = 08 11 51
	Z	iPKP	09	12	43	C	25S 176W
	Z	i		13	03	D	H = 08 52 36
	Z	i		13	53		D = 16700 km
	Z	e		14	57		
	Z	e		17	01		
	NE	e		23	54		
	NE	e		25	10		
	NE	ePSKS		26	00		
	N	i		27	11		
	NE	eSS		35	15		
	NE	eSSS		41	00		
	E	eLQ		56	-		
	N	eLR	10	03	40		55s
	N	eL		14	00		
	N	eL2		34	00		18s
	N	eL		59	00		
	Z	e	09	48	03		Doubtful
	Z	e	18	32	05		
11	No records from 00 hrs - 08 hrs.						
	Z	i	11	05	15		
	Z	i	22	21	45		
	Z	i	22	55	42		
12	Z	iP	05	50	15·5	C	1s 1·5μ
	Z	i		50	22	D	47·5N 19·5E (BCIS)
	Z	iPP		50	33	C	H = 05 46 04
	Z	i		50	44	C	D = 2000 km
	Z	i		51	05	C	
	N	eL		55	08		
	E	eL		55	21		
	NZ	iLg		55	34		
	NE	M		55	54		13s 30μ
	Z	iL		56	02		
13	Z	e(P)	03	39	(00)		Microseisms

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Jan.14	Z	e	07	35	14		Seismic?
	Z	iP	14	20	26	C	
		i		20	29	D	
15	Z	e	09	22	59		
16	ZE	iP	23	49	57	C	D = 9100 km
	ZE	i!		50	00	D	0·5S 80·5W
	Z	i		50	09	C	
	ZE	iPP		53	03	D	H = 23 37 37
	N	iS	00	00	08		20s 100μ
	NE	ePS		00	52		
	NE	eSS		04	50		
	N	eSSS		08	50		
	N	eLQ		11	00		
	E	eLR		14	55		
	NEZ	M		22	00		20s 300μ
17	Z	e	00	01	19		
18	Z	i	02	59	16		
	Z	i	05	01	34		
19	Z	e	08	56	34		
	Z	e	20	01	47		
21	Z	e	12	42	49		Microseisms
	Z	iP	17	45	45		
26	Z	i	15	47	29		
27	Z	iPKP	13	58	38		
	Z	e		58	57		
28	Z	eP	05	02	14		
30	Z	iPKP	08	53	14		
	Z	ePKP	09	03	26		Microseisms
31	Z	iPKP	09	35	35	D	
	Z	i		36	15		
	Z	e		39	09		
	Z	e		42	23		
Feb. 1	Z	iPKP	01	52	40	C	

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Feb. 1	Z	e	01	52	55		
(contd.)	Z	i		53	22		
	Z	i		54	18		
	Z	iP	13	55	13	D	D = 10400 km
	Z	i		55	18		19N 145·5E
	Z	ipP		56	39		H = 13 41 44
	Z	e		58	40		h = 350 km
	Z	iPP!		59	28		
	Z	esPP	14	01	24		
	Z	iP	15	15	12	D	39·5N 16. (BCIS)
	Z	i		15	22		H = 15 10 48
	Z	ipP		15	33		h = 200 km
	Z	i		15	39		D = 2300 km
	Z	eS?		18	28		
	Z	iPcP?		19	06		
2	Z	iP	03	30	36	C	17·5N 46·5W
				30	39		H = 03 21 45
	Z	i	19	35	22	D	Seismic? Microseisms
3	Z	e	21	53	34		
9	ZE	iP	14	44	26	C	D = 8500 km
	Z	ePP		47	22		32N 116W
	NE	eS		54	12		H = 14 32 38
	E	eSS		59	08		
	N	e	15	04	15		
	N	eLQ		06	15		
	E	eLR		08	10		
	N	M		09	10		35s
	NE	M		13	00		25s
	NE	M		18	00		
10	Z	iP	00	15	20	C	
	Z	e	14	42	30		
	Z	i	16	53	44		Seismic?
11	Z	iP	05	51	54	D	
	Z	i		54	25	D?	
	Z	i		55	30		
	Z	i		58	56		
	Z	iP	06	23	20		
12	Z	iP	12	02	48	D	

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Feb.12	Z	e	12	04	56		
(contd.)	Z	ePP		56	36		
14	Z	iP	01	05	33	D	
	Z	iP	18	45	28	D	
15	Z	iP	15	58	25		
	Z	iP	17	42	13		Very small
	Z	i		42	28		Doubtful
	Z	i		44	10		
	Z	iS?		44	58		
	Z	eL		45	19		
17	Z	e	18	42	32		
18	NZ	iP	07	46	38	D	30N 137½E
	Z	i		46	55		H = 07 34 16
	Z	ipP		48	26	D	h = 500 km
	ZN	e		49	50		D = 10200 km
	ZN	iPP		50	22	C	
	ZN	i!!		50	27		
	Z	ipPP		51	54		
	NE	ePPP		52	50		
	NE	e		54	04		
	NEZ	eSKS		56	00		
	NE	iS		56	38		
	ZNE	iSP?		58	06		
	NE	e		59	10		
	NE	eSS	08	03	20		
	NE	eSSS		07	00		
	NE	e		10	55		
	Z	e		13	23		
	Z	i	11	55	17		
	Z	i		55	31		
19	N	eS	02	37	31		No Z record
	N	e		42	38		00 hrs - 09 hrs
	N	e		52	40		
	NE	eLQ		55	00		
	NE	eLR		56	55		
	N	M	03	01	00		
	Z	i	15	06	29		
	Z	e		07	00		
	Z	e		08	24		
20	Z	i	01	32	35		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Feb.20	ZE	iP	20	37	33	C	39·7N 30·7E
(contd.)	Z	i!		37	36	D	H = 20 31 36
	Z	i		37	53		BCIS
	Z	iPP		38	11	D	D = 3100 km
	Z	iPPP		38	35	C	
	Z	e		40	39		
	NE	eS		42	25		
	N	eLQ		46	30		
	E	eLR		48	07		
	N	M		49	00		
	E	M		50	30		
21	Z	iPKP	20	51	39		
	Z	i		52	15		
	Z	e		53	40		
23	Z	iP	01	27	52	C	D = 3850 km
	Z	i		27	56		31N 42W
	Z	iPPP		29	15	C	H = 01 21 03
	Z	eLR		40	20		
24	Z	i	04	52	11		Seismic?
	Z	i	05	42	15		Seismic?
27	Z	e	08	49	24		
29	Z	iP	21	03	17		Microseisms
	Z	e		03	35		D = 8700 km
	NS	eS		13	20		23N 94E
	NS	eL		30			20 51 18
Mar. 2	Z	eP	15	01	(00)		Strong microseisms
3	Z	e	00	04	21		
	Z	ePKP	00	25	52		Microseisms
	Z	i	18	26	10		
4	Z	iP	16	28	27		
5	Z	i	07	22	12		Seismic?
	Z	i		24	50		
	Z	iP	23	41	52	C	
	Z	i		42	00		D = 8900 km
	Z	i		42	11		44·5N 144E
	Z	i		42	26		H = 23 29 41
	NE	eS		51	52		
	NE	eL	00	08	-		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Mar. 6	Z	iP	09	04	27	C	
	Z	e		04	34		
	Z	i		04	47	D	
	Z	e		05	17		
	Z	iP	09	18	39	C	
	Z	iP	09	23	30	D?	
	Z	iP	13	52	40	C	
	Z	e		56	59		
	Z	iP	21	02	09		
12	Z	iPKP	20	10	15	C	Mircoseisms
13	Z	iP	13	25	16		
	Z	i		25	33		D = 9500 km
	Z	iPP		28	37		7N 82W
	NE	eL		52	-		H = 13 13 10
14	Z	i	16	35	27		
16	Z	iP	19	50	47		Microseisms
	NE	e		54	50		
	Z	e		56	08		
19	Z	i	06	04	34	C	
	Z	ePKP	17	55	04		6S 150E
	Z	ePP		57	19		H = 17 35 57
22	Z	iP	06	46	19		Microseisms
	Z	i		46	28		
	Z	e		47	42		
	NE	eL	07	07	-		
25	Z	e	23	39	14		
26	Z	i	05	12	28		
28	Z	iP	03	30	35	D	
	Z	e		34	05		
	Z	iP	22	17	27		
30	Z	iPKP	22	35	18	D	
	Z	e		39	15		

R. E. Ingram, S.J.

S E I S M O L O G I C A L O B S E R V A T O R Y

R A T H F A R N H A M C A S T L E

B U L L E T I N

for April 1 to June 30, 1956

Rathfarnham

Co. Dublin, Ireland

Seismological Bulletin

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Apr. 1	Z	i	05	47	37	D	
1st April 10.00 hrs - 3rd April 7.00 hrs No Records							
4	Z	i	04	15	44	C	
	Z	i		16	02		
5	Z	i	04	13	32	C	Microseisms
	Z	i	04	14	20	D	
6	Z	iP	07	20	43	C	36·5N 71E
	Z	i		20	51		H = 07 11 34
	Z	i		21	06		h = 200 km
	Z	ipP		21	17	C	D = 6100 km
	Z	ePP		22	47	D	
	Z	ePPP		24	01		
	NEZ	iS		28	19		
	Z	i		28	49		
	NZ	i		31	23		
	EZ	eL		34	-		
7	Z	e	18	24	52		
8	Z	i	10	52	28		
	Z	iP?	13	49	27	C	
10	Z	eP	13	29	39		Indistinct
	Z	e		31	40		
	Z	ePP		34	38		D = 11500 km
	Z	e		38	08		3S 102E
	NE	eSS		49	00		H = 13 16 04
	NE	eL	14	09	-		h = 150 km
12	Z	iP	22	42	38	D	
	Z	i		42	45		D = 4700 km
	Z	i		42	52		37N 50E
	Z	ePP		44	13	D	H = 22 34 44
15	Z	e	23	31	25		
17	Z	i	12	29	09	C	
18	Z	eP	11	12	00		
	Z	i		12	03		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Apr.19	Z	eP	18	42	42		37·2N 3·7W (BCIS)
	Z	i		42	49		H = 18 38 59
	Z	ePP		42	57		D = 1800 km (P - H)
	Z	e		43	16		
20	Z	iPKP?	15	34	40		
	Z	iP	16	50	00		
	Z	i		50	07		
22	Z	eP	17	33	14	C	
	Z	i		33	22	D	
	Z	e		33	52	D	
23	Z	iP	03	43	54	C	
	Z	i		44	05	D	D = 8900 km
	Z	e		44	18		42·5N 142·5E
	Z	e		45	53		H = 03 31 40
	NE	eS		54	02		
	NE	eL	04	10	-		
24	Z	iP	23	36	18	D	
27	Z	e	03	03	44		Microseisms
28	Z	e	06	47	13	D	
	Z	i		49	25		
	Z	e	07	10	05		Seismic?
29	Z	eP?	00	19	35		
	Z	iP	22	04	27	C	
	Z	e		04	41		
May 3	Z	i	02	25	31	C	
4	Z	e	11	23	12		
	Z	ePKP?	14	33	58		
	Z	iPP	19	02	55	D	
	Z	i		04	26		
	Z	i	23	27	38·5	D	East Anglia
	Z	i		27	57		
	Z	i		28	05		
	Z	i		28	35		
	Z	i		28	43		
	Z	i		28	49		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
May 5	Z	ePKP	03	41	48	D?	Microseisms
	Z	i	12	50	33		"
	Z	i	20	44	37		"
6	Z	eP	21	08	40	D?	
				09	51		
7	Z	iPKP	11	17	35	C	
	Z	e		20	29		
8	Z	iP	20	59	00	D	
	Z	i		59	08		
10	Z	eP	05	59	34		Microseisms
11	Z	i	16	57	56	C	
12	Z	i	02	46	25		Microseisms
13	Z	iP	08	00	32	D?	70N 70E
	Z	e			38		H = 07 50 33
	Z	e		03	34		D = 6900 km
	NZ	iS		08	43		
	NE	eL		20	-		
	Z	i!	22	53	14		
	Z	i		54	56		
15	Z	i	12	46	15		
	Z	iP	18	39	38		36·75N 21E (BCIS)
	Z	i		38	45		H = 18 34 05
	ZN	e(S)		44	04		D = 2900 km (P - H)
	Z	eL		49	30		
	Z	iP	23	02	21		36·75N 21E (BCIS)
	Z	i		02	29		H = 22 56 45
	Z	eL		13	-		D = 2900 (P - H)
17	Z	iP?	03	41	55	D	
	Z	e		42	54		
	Z	iP	06	13	02		
	Z	e		13	16		
	Z	e		15	45		
18	Z	iPKP	08	38	06	C	

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
May 18	Z	iP	22	13	48		Greece
(contd.)	Z	i		13	58		H = 22 08 25
19	Z	iPKP	01	49	54	D??	7S 156E
	Z	i		50	05	C	H = 01 30 36
	Z	i		51	13		D = 14700 km
	Z	i		52	25		
	Z	iPKS		53	17		
	Z	i		53	56		
	Z	e	20	17	24		
	Z	i		20	52		
	Z	i		21	26		
22	Z	iPKP	13	54	23	C	4S 152·5E
	Z	i		55	12		H = 13 36 12
	Z	ipPKP		56	30		h = 550 km
	Z	iPP		56	56	C	D = 14200 km
	Z	i		57	17		
23	Z	e	00	13	26		
	ZN	iPKP	21	07	06	D	2s. 0·2μ
	Z	e		07	26		
	Z	e		08	12		h = 450 km
	Z	ipPKP		08	36	C	D = 15700 km
	Z	i		08	59	D	
	ZN	iPP		10	15	D?	15·5S 179W
	ZNE	iPKS?		11	39		H = 20 48 30
	Z	epPP		11	44		
	Z	ePPP		13	40		
	ZNE	eSKKS		16	25		
	NE	e		19	12		
	NE	ePS		21	10		
	NE	eSS		28	10		
	NE	e		31	03		
	NE	e		32	19		
	NE	e		36	12		
	NE	e		43	30		
26	Z	iP	18	43	36	C	
	Z	i		43	40	C	
	Z	i		44	09	C	
	Z	iPKP	20	39	55	D	
	Z	i		39	59		19S 178·5W
	Z	e		40	59		H = 20 21 14
	Z	ipPKP		42	32		h = 600 km
	Z	eSKP		43	01		D = 16000 km
	Z	iPP		43	31	C	

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
May 26 (contd.)	Z	epPP?	20	44	32		
	Z	i		50	29		
	Z	e		54	31		
28	Z	iP	01	51	48		
				52	39		
30	Z	iPKP	16	01	04		Earlier phase may be in hour-mark.
	Z	i		01	51		
June 1	Z	iP	10	49	29	C	64N 22W
	Z	iPP		49	38	D	H = 10 46 20
	Z	i(S?)		52	23		D = 1500 km (P - H)
2	Z	eP	23	10	40		Time by measurement (∓ 2 secs)
	Z	i		11	31		
	Z	i!		12	28		
3	Z	iP	05	27	13	C	
	Z	i		27	23	C	
	Z	i		27	42	C	
	Z	i	13	44	58		
4	Z	iP	07	21	00		
	Z	ePKP	12	26	43	C	
	Z	i		26	53	C	
5	Z	i	05	44	41		
	Z	i	19	14	34		
	Z	i	20	29	59		
8	Z	i	04	18	26		
	Z	e	12	50	31		Microseisms
	Z	e		52	35		
	Z	e		53	41		
	Z	iP	14	06	35	C	"
	Z	i		06	58		
9	No Z record.						
	NE	e	10	58	30		
	NE	eL	11	02	00		
	NE	M		05	00		
	NEZ	iP	23	23	13		35·5N 67·5E

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
June 9 (contd.)	E	ePP	23	25	11		H = 23 13 51
	E	ePPP		26	14		D = 5900 km
	NE	e		26	27		
	NE	iS		30	49		
	NE	i		30	54		
	NE	iSS		34	52		
	NE	eSSS		36	21		
	N	eLQ		37	50		50s
	E	eLR		39	30		55s
	N	iLg		41	50		
	NE	M		43	10		33s 600μ
	N	M		47	00		22s 500μ
	NE	M		50	00		18s 400μ
	E	M		52	00		15s 300μ
10	Z	i	23	20	46		
No Z record June 11th 00 hrs - 07 hrs. 40 min.							
11	Z	i	08	25	43		Small foreshock?
	Z	iP	08	25	51	C	D = 1750 km
	Z	i		25	56	D	52N 31·5W
	Z	i		26	00	C	H = 08 22 09
	Z	ePP		26	03		
	Z	iPPP?		26	07	C	
	Z	i		26	35	C	No surface waves
	Z	iS		28	54		
13	Z	e	12	27	16		
14	Z	iP	12	24	30	C	
15	Z	i	05	30	23		
16	Z	iP	06	32	26		
17	Z	iPKP	03	21	15		
	Z	e		21	19		
	Z	e		21	47		
19	Z	e	05	09	28		
	Z	e		09	57		
20	Z	iPKP	16	49	27		
	Z	e		49	56		
23	Z	iP	02	29	19	C	1·0s 4·5μ
	Z	iPcP		29	39	C	56·5N 163·5E
	Z	iPP		31	58	D	H = 02 18 02

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Jun.23	Z	ePPP	02	33	30	C	D = 7750 km
(contd.)	Z	iPKPPKP		57	13		No NE record.
	Z	iPKP	23	38	52		
24	Z	iPKP	21	17	49		
	Z	i(PKS)		21	16		
25	Z	i	01	15	14		
26	Z	iPKP	00	19	47	C	
	Z	i		19	52	C	
	Z	iP?	01	55	02		
	Z	e	21	03	15		
27th 08 hrs - 29th 08 hrs No Z record.							
27	NE	e(S)	23	18	47		
	NE	e		21	56		
	NE	e		26	20		
	NE	eL		29	00		
	NE	eL		34	05		
	NE	M		38	00		18s 60μ.
30	Z	iP	01	55	54		
	Z	i		56	08		

R. E. Ingram, S.J.

S E I S M O L O G I C A L O B S E R V A T O R Y

R A T H F A R N H A M C A S T L E

B U L L E T I N

for July 1 to September 30, 1956

Rathfarnham

Co. Dublin, Ireland

Seismological Bulletin

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
July 3	Z	i	03	32	34	C	
	Z	eP?	15	58	16	C	Very small
	Z	iP!	23	35	24	D	1·1s 0·9μ
	Z	i		36	06		36·5N 71E (USCGS)
	Z	i		36	30	C	H = 23 26 17
	Z	ePP		37	25	C	h = 250 km
	Z	i		37	30	C	D = 6100 km
	ZE	eL		47	30		
4	Z	iPKP	00	58	42	D*	18S 178·5W
	Z	i		58	53	D	H = 00 39 55
	Z	e		59	14		h = 450 km
	Z	e	03	29	20		
	Z	iPKP	04	02	04		
7	Z	i	10	38	52		Doubtful
9	Z	iPn?	01	02	09		230km?
	Z	iSn?		02	34		Cheshire
	Z	i		02	43		Doubtful interpretation
	ZE	iP	03	17	31	C	2·0s. 10μ
	N	iP		17	34	C	H = 03 11 41 (BCIS)
	E	i		17	36		Samorin Is. 36·5N 25·5E
	NE	iPP		18	15	C?	Aegean Sea
	NEZ	i		18	25	D	
	NE	iS		22	17		D = 3050 km
	NE	iSS		23	41		
	NE	iLQ		23	47		
	E	iLR		25	01		
	NE	M	-	-	-	-	Pens knocked off.
	Z	iP	03	29	55	C?	Repetition
	Z	eP	04	07	22	D?	"
	Z	e(P)	04	39	17	D?	"
	Z	eP	06	24	(51)		"
	Z	iP	06	28	42	D?	"

* Through Beck Luminex

Date	Comp.	Phase	G.. M. T.			Type	Remarks
1956			h.	m.	s.		
July 9 (contd.)	Z	iP	07	42	23	C	Repetition
	Z	iP	09	51	03		"
	Z	iP	10	06	17	D	D = 6800 km
	Z	i		06	28	D?	20N 73W
	Z	ipP?		06	42		H = 09 56 13
	Z	i		07	27		h = 100 km
	Z	iPP		08	32	C	
	Z	iPPP		09	57	D?	
	NE	eS		14	30		
	E	eL		21	00		
	NE	eL		24	30		
	NE	M		28	00		
	Z	iP	20	19	43		
	Z	eP	21	34	(18)		
10	Z	eP	03	07	20	D?	
	Z	e		07	48		
11	Z	i	14	09	14		Local disturbance
	Z	i	14	16	10		" "
	Z	i		16	12		
	Z	i	14	36	51		" "
12	Z	iP	15	13	10	D	
	Z	i		13	21	C	
	Z	ePP		15	48		
14	NE	eL	19	16	00		
15	Z	eP	13	04	56		
	Z	iP	18	51	47		
16	Z	iP	15	19	20	D	23·5N 96E ?
	Z	i		19	28	C	H = 15 07 06
	Z	e		20	02		
	Z	ePP		22	26		
	Z	ePPP		24	22		
17	Z	i	07	49	33		Seismic?
	Z	e		50	20		"
	Z	e		51	30		"
	Z	iPKP		52	11	D	0·7s 0·4A.
	Z	e		52	59		7S 126·5E

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
July17	Z	iPP	07	53	19	C	H = 07 34 07
(contd.)	Z	ipPKP?		54	03		h = 450 km
	Z	epPP		55	02	C	
	Z	i		55	21	C	
	Z	iPPP		56	20	D	
	Z	i		58	09	D	
	Z	iPKKP	08	02	21	D	
	NZ	iSKKP		06	22	D	
	Z	eP	15	24	02	C?	D = 2100 km
	Z	e		24	18		41N 27W
	Z	eS		27	34		H = 15 19 38
	NE	eL		29	15		
18	Z	iPKP	00	46	40	C	
	Z	e		46	54		
	Z	e		49	56		
	Z	eP	06	34	38	C?	D = 13300 km
	Z	ePKP		38	10	C?	5S 130E
	Z	i!		38	16	D	H = 06 19 15
	Z	epPKP?		38	58	D	Deep?
	Z	ePP		39	36		
	Z	i		40	25		
	NEZ	eSKP		40	56		
	Z	e		42	58		
	NEZ	eS?		48	28		
	NZ	e		51	38		
	NEZ	eSS		56	00		
	Z	iP?	06	48	25		
19	Z	iP	23	38	10	C	
	Z	i		38	17	C	
21	Z	iP	00	18	05	D	
	Z	i		18	13		1N 26W
	Z	i		18	28		H = 00 08 31
	Z	iPP		20	10	C	
	Z	i		23	04		
	NE	eS		26	00		
	NE	eL		32	00		
	Z	iP	15	01	47	D	50·5N 147·5E
	Z	ipP		03	58	C?	H = 14 51 06
							h = 600 km
	Z	iPKP(?)		41	13		
	Z	e		41	27		
	Z	i		41	34		

Date	Comp.	Phase	G. M. T. h.	m.	s.	Type	Remarks
1956							
July 21	EZ	iP	15	43	01	C	1·2s 0·7μ
(contd.)	Z	i		43	06	C	H = 15 32 25
	Z	e		43	32		D = 7250 km
	Z	i		44	00		23N 70E
	Z	ePP		44	58		
	NE	eS		51	51		
	NE	eL	16	13	00		
22	Z	iP	03	34	55		Aegean Sea. Aftershock
	Z	e		35	35		
	Z	iP	09	38	06	D	
	Z	i		38	12		
	Z	ipP?		38	27		
	Z	i		38	40		
	Z	iPP		41	42		
	Z	i	19	45	16	D	
	Z	i		47	20		
24	Z	iP	13	12	34	C	1·0s 0·3μ
26	Z	iPP	18	11	16		
	Z	e		15	18		
28	Z	iP	07	13	23	D	
	Z	i		13	24	C	
	Z	e		13	33		
30	Z	eP	05	47	(00)		36N 26E
	Z	e		49	40		H = 05 41 00
	Z	eS?		51	40		D = 31·00
	NE	eL		55	00		Strong microseisms
	ZN	eP	09	21	(00)		Repetition
	Z	i		21	39		
	N	eS		25	40		Strong microseisms
	EZ	eL		29	50		
	Z	i	10	45	(17)		
31	Z	e	12	48	50		
	Z	e	16	49	20		
Aug. 2	Z	e	07	24	30		
	Z	iP?	18	53	18	C	
5	Z	e	09	29	40		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Aug. 6	Z	i	02	04	28		
	Z	i	14	57	01		Doubtful
	Z	iP?	17	35	12		
	Z	e		36	20		
9	Z	$iPKP_1$	03	23	01	C	1·0s 0·7μ
	Z	$iPKP_2$		23	07	D	18·5S 179E
	Z	i		23	15	D	H = 03 04 16 h = 400-500 km
	Z	i	04	28	46		
	Z	$iPKP_1$	23	19	42	C?	15S 176W
	Z	$iPKP_2$		19	51		23 00 42
	Z	ipPKP		21	04	D	h = 250 km
	Z	iPP		23	01	D	First movement is in minute mark
	Z	i		23	04	D	
	Z	epPP		24	03		D = 15500 km
	NZ	eSKS		26	12		
	NS	eSS		41	40		
10	Z	iP	02	28	53	D	1·5s 0·5μ
	Z	i		28	57	D	
	Z	ePKP	15	44	15		
	Z	e		44	21	D?	
11	Z	i	01	56	57		(Beginning of microseismic
	Z	i		58	12		storm)
12	Z	$iPKP_1$	00	44	58	D?	Microseisms
	Z	$iPKP_2$		45	04	D?	19S 176W
	Z	ipPKP		45	58	D?	H = 00 25 42
	Z	i		46	20	C	h = 200 km
	Z	e	10	36	02		Doubtful phases
	Z	i		37	28		
	Z	iP	17	12	26	D?	Microseisms
	Z	i		12	47	C	34N 138E
	Z	ePP		15	47	D?	H = 16 59 33
	Z	e		16	25		D = 9900 km
	NE	eS		22	50		
	NE	eL		44	00		
14	Z	ePP	02	11	(30)		Microseisms
	Z	i		12	13		
	Z	iPKP	12	07	38	C	
	Z	e		08	23	D	

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Aug. 14	Z	$iPKP_1$	23	53	15	D?	
(contd.)	Z	$iPKP_2$		53	18	D	
	Z	e		58	33		
15	Z	i	05	19	00	C	Seismic?
	Z	e	05	36	06		
	Z	i		38	06		
	ZN	e		45	21		
	Z	ePP	11	09	24		(D = 12500 km)
	Z	e		11	02		0·5S 123E
	NZ	e		13	06		H = 10 51 19
	NS	eSKS		16	35		h = 150 km
	NS	eSS		26	00		
	NS	eL		51	00		
	Z	iP	12	07	13	D?	43·1N 15·9E (BCIS)
	Z	i		07	26		H = 12 02 54
	Z	iPP		07	31	D	D = 2100 km
	Z	iPPP		07	35	D	
	Z	i		10	14	C	
	ZN	e(S?)		10	39		
	ZN	iLg		12	50		
	Z	eRg?		14	30		
	Z	M		15	30		
	Z	iP	13	24	22	C	2·0s 1·2μ
	Z	i		24	32	C	46N 151E
	Z	i		25	27	D	H = 13 12 10
	Z	iPPP		29	31	C	D = 9000 km
	NS	eSS		40	10		
	NS	eL		48	00		
16	Z	iP	00	44	22	C	Very small
	Z	i		44	56		D = 2500 km
	Z	i		45	06	D	
	Z	e		45	54		
	Z	eS?		48	22		
	Z	iP	02	13	30	D?	37N 8·5W
	Z	iPP?		13	41	C	H = 02 09 37
	Z	iPPP?		13	45		D = 1800 km
	Z	i		16	15		
	Z	i		16	35		i 02 16 15 may be a repetition
	Z	iS?		16	41		
	Z	eL?		19	50		
	Z	i	23	48	08		
17	Z	eP	01	27	21		Small

	Comp.	Phase	G. M. T. h.	m.	s.	Type	Remarks
1956							
Aug. 17	Z	i	01	29	57		
(contd.)	Z	i		30	35		
	Z	eP	02	04	03		Very small
	Z	iP	05	15	36	C	
	Z	e		16	06		
19	Z	iPKP?	05	37	25	D	
	Z	e		39	06		
	Z	iPKP	09	08	30	D	
	Z	e		08	54		
	Z	i		09	00	C	
20	Z	iP	05	45	29	C	
	Z	i		45	42	C	
21	Z	iP	11	37	52	D	
22	Z	iPKP	11	45	38	C	
	Z	i		45	50		
	Z	e		47	05		
	Z	iP?	19	52	04		
23	Z	iP	14	01	09	D	
	Z	ipP		01	43	C	15S 68W
	Z	e		05	02		H = 13 48 30 h = 100 km
	Z	iP?	16	32	04·5		Argyleshire? D = 300 km (approx.)
	Z	iPg?		32	10		Durham
	Z	iS?		32	34		e 16 : 32 : 42
	Z	iSg?		32	42		i 32 : 46
	Z	iL		32	44		i 32 : 55
	Z	i	16	35	50		
	Z	i		37	17		
	Z	i	22	14	08	C	
24	Z	iP	04	39	03	C	D = 8200 km
	Z	i		39	08	D	53N 172·5E
	Z	iPP		41	42	D	H = 04 27 33
	Z	ePPP		43	16		
	NS	eS		48	43		
	ZNS	eL		59	30		
	Z	iP	05	01	17		
	Z	eP?	08	47	42		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Aug. 28	Z	iPKP	10	07	(00)		Time by measurement. Trace very faint.
29	Z	iP	03	16	00	D	
	Z	i		16	58		
30	Z	iP	04	35	46	C	54N 164W
	Z	i		36	02		H = 04 24 24
	Z	ePP		38	41		D = 8000 km
	NS	eL		55	00		
Sep. 1	Z	i	18	08	22		Small
2	Z	i	14	42	51	C	Seismic?
	Z	iP?	18	46	34	C	
4	Z	iPKP	12	14	48		
	Z	i	14	23	31		Local disturbance ?
	Z	i	14	50	16		" "
6	Z	eP	11	52	47		Poorly recorded
	Z	i		53	07		
	Z	e	13	05	20		" "
7	Z	iPKP	04	13	26		
8	Z	eP	18	13	29		Very small
	Z	e		14	17		
9	Z	iPKP	15	38	36	C	Small
	Z	iPP?	17	54	21		
	NS	eL	18	34	00		
10	Z	iP	14	17	21		
	Z	e		19	22		
11	Z	iPKP?	08	56	11		
	ZN	iP	21	15	49	D	D = 8600 km
	Z	i		15	58		49·5N 155E
	N	ePP		18	48		H = 21 03 56
	NE	eS		25	41		
	N	eL		35	00		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Sep. 13	Z	i	06	26	22	C	Seismic?
	Z	e		26	48		
16	ZE	iP	08	46	51	C	D = 6100 km
	Z	e		47	14		34N 69·5E
	Z	ePP		48	53	D	H = 08 37 22
	Z	ePPP		50	03		
	E	eS		54	35		
	N	e		54	47		
	N	e		56	42		
	N	eLQ	09	03	30		
	E	eLR		05	35		
	N	M		08	30		30s
	E	M		13	30		22s
	Z	iP	18	13	41		
	Z	i		14	43		
18	Z	iP	09	53	36		
19	Z	iP	23	59	34		
20	Z	iP	20	17	53		
	Z	iP	22	03	44	D?	
	Z	i		03	52		
	Z	e		10	13		
	Z	eP?	23	12	55		
	Z	i		12	59		
	Z	e		14	29		
21	Z	iP	19	24	16		26·5S 63W
	Z	ipP		26	39		H = 19 11 59
22	Z	i	18	36	37		
24	Z	iP	10	30	09		
	Z	i		30	16		
	Z	e		31	41		
26	Z	i	13	59	17		
	Z	i		59	34		
27	Z	i	09	11	38		
28	Z	e	15	09	23		
	Z	e		10	38		
29	Z	iP	21	33	25	D	37·5N 141E

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Sep. 29 (contd.)	Z	i	21	33	40		H = 21 20 52
	Z	i	22	30	51		
	Z	iP	23	33	31	C	35·5N 140E
	Z	i		33	42		H = 23 20 52
	Z	ipP		33	48		h = 100 km
	Z	i		36	55		D = 9500
	NE	eS		44	00		
	NE	eL	00	02	00		

R. E. Ingram, S.J.

S E I S M O L O G I C A L O B S E R V A T O R Y

R A T H F A R N H A M C A S T L E

B U L L E T I N

for October 1 to December 31, 1956

Rathfarnham

Co. Dublin, Ireland

Seismological Bulletin

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Oct. 1	Z	iP	18	15	17	D	
	Z	e		15	24		
2	Z	iP	15	07	54	C?	Followed by D
	Z	i		08	04		
	Z	epP?		08	15		
	Z	e		08	59		
5	Z	iPKP	22	01	53		Microseisms
	Z	i		03	09		
6	Z	iPKP	17	19	30	C	Microseisms
7	Z	iPKP	19	53	51		
	Z	iPKP	21	46	07		
8	Z	iPKP	15	15	30		19·5S 174·5W
	Z	i		15	48		H = 14 55 49
	Z	e		17	08		D = 16000 km
	NE	eSS		39	00		
	NE	eL	16	19	00		
9	Z	iPKP	06	39	17	C	
	Z	i		39	20		
	Z	i		39	44		
	Z	iP	11	01	33		
	Z	e	14	54	(13)		
10	Z	iP	15	42	16	D	
	Z	i		42	27		
11	ZN	iP!	02	36	31	C	46N 150·5E
	Z	epP		36	55		h = 100 km
	Z	i		37	19		H = 02 24 33
	Z	i		38	39	D	D = 8700 km
	ZN	ePP		39	27	D	
	N	iPPP		40	59	C?	
	NE	iS!		46	21		
	NE	iPS		47	00		
	E	e		48	13		
	NE	eSS		51	30		
	E	eLQ		57	30		
	NE	eLR		03	00		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Oct.11	N	M	02	04	30		40s.
(contd.)	E	M		11	00		
	Z	i	03	03	03		
	Z	i	03	30	05		
	Z	iP	17	00	20		40·5N 126·5W
	Z	i		01	30		H = 16 48 46
	E	e(S)		10	00		D = 8200 km
	N	eLQ		19	00		S wave is small and indistinct
	E	eLR		22	00		
	N	M		25	00		
	E	M		28	30		
12	Z	iP	12	34	59		
	Z	e		38	55		
13	Z	iP	08	30	32	D	
	Z	i		31	08	C	
	Z	i	09	05	30		
	Z	i		05	51		Seismic?
	Z	i		05	59		
	Z	iP	15	24	00		
19	Z	eP	20	59	(10)		Strong microseisms
22	NE	eL	13	41	00		Microseisms
24	Z	eP	14	54	00		D = 8400 km
	Z	ePP		56	44		12N 87W
	E	eS	15	03	50		H = 14 42 10
	E	e		04	25		
	E	eSS		09	10		
	E	e		11	30		
	N	eL Q		16	00		
	E	eLR		17	30		
	NE	M		21	00		20s. 100μ
	E	eL2		23	00		
	E	M		25	30		20s. 80μ
25	Z	i	09	14	53		
26	Z	ePKP	23	09	56		
	Z	ePP		12	52		D = (16000)
	Z	e		13	29		
	Z	i		14	28		
	NE	eSS		31	30		

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Oct.27	Z	e	00	57	34		
28	Z	i	03	47	00		
	Z	iPKP1	03	48	38	D	32S 179W
	Z	iPKP2		48	57	C	H = 03 28 41
	Z	e		49	15		(D = 17,600 km)
	Z	ePP		53	10		
	NE	eSS		14	10		
	NE	eL		35	00		
30	Z	iP	00	14	13		
	Z	i	23	03	41		
31	Z	iP	14	12	52	D	26·5N 54·5E
	Z	i		12	56		H = 14 03 38
	Z	i		13	07		D = 5900 km
	Z	ePP		15	00		
	NE	eS		20	27		
	NE	eSS		24	10		
	NE	eL		33	30		
	NE	M		37	00		
	Z	iP	14	31	30		
Nov. 1	Z	iP	06	01	43	D	
	Z	iP	15	52	09	D	
2	Z	eP	16	09	55		39N 23E
	Z	i		10	10		H = 16 04 30
	Z	eL		17	00		
4	Z	iP	05	39	54	D	
	Z	ipP		40	13	D	
	Z	iPKP1	07	25	25	C?	22S 175W
	Z	iPKP2		25	28	C	H = 07 05 43
	Z	i		25	44		
	Z	i		26	20		
	Z	i		27	15		
6	Z	iPKP1	00	22	59		
	Z	iPKP2		23	16		
	Z	e		26	49		
8	Z	i	04	04	25		Very small
	Z	iPKP	07	09	07	C?	

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Nov. 8	Z	i	07	09	14		
(contd.)	Z	i		10	08		
9	Z	iP	06	07	31	D	36N 34·5W
				07	49		H = 06 01 51
		e		11	44		N.Atlantic
	Z	iP	13	17	43	D	17N 94W
	Z	ipP		18	19	D	H = 13 06 10
	Z	i		18	53	D	h = 150km
	Z	e		21	05		D = 8400
	Z	e		23	50		
	NE	eS		27	13		
	NE	eL		39	00		
10	Z	iP?	00	20	31		
11	Z	iP	19	27	35	D	
13	Z	e	03	03	20		
	Z	iPKP	10	15	15		
	Z	e		15	39		
14	Z	P	01	00	-		Beginning in hour mark
	Z	ipP		01	26		36N 71E
	Z	isP		01	46		H = 00 51 27
	Z	iPP		02	50	D	h = 150 km
	Z	eS		07	43		D = 6100 km
							No surface waves
16	Z	iP	12	05	03	D	
	Z	e		05	32		
17	Z	iP?	08	36	23		Seismic?
	Z	i		37	50		
	Z	eP	20	38	07		
	Z	e		38	54		
18	Z	i	10	03	55		Seismic?
	Z	ePKP	18	36	29		Very small
	Z	i		36	43		Doubtful
19	Z	e	12	30	04		
20	08 hrs - 20 hrs no Z record.						
21	Z	iP	07	46	02	C	

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Nov.21	Z	e	07	48	14		
(contd.)	Z	e		50	03		
24	Z	iPKP	21	01	26		
25	Z	e	14	32	45	D	
	Z	e		35	00		
26	Z	i	03	16	28		
	Z	iPKP1	23	49	30	D?	Strong microseisms
	Z	iPKP2		49	39		
28	Z	iP	19	39	04	D	Microseisms
	Z	ipP?		39	31		49·5N 155E
	Z	e		43	28		H = 19 27 11
	NS	eL	20	11	00		
30	Z	iPKP	17	11	22		
		i		11	30		
	Z	i	19	46	36		
Dec. 2	Z	i	07	33	10	D	
3	Z	iP	07	31	44	C	
	Z	i		32	05		
	Z	e		35	02		
	Z	iP	07	56	31		
4	Z	i	06	26	10		Seismic?
	Z	eP	10	53	(44)		Indistinct
	Z	e		58	06		
	Z	iP	23	11	25	C	
	Z	iP	23	13	04		
	Z	i		13	46		
	Z	e		14	22		
8	NZ	iP	16	22	13	C	51N 179·5W
	Z	i		22	15	D	H = 16 10 27
	Z	i		22	25	C	D = 8400 km
	Z	i		22	42		
	NE	eS		32	00		
	N	eSS		37	05		
	N	eLR		50	30		
	NE	M		52	10		

Date	Comp.	Phase	G. M. T.	Type	Remarks
1956			h. m. s.		
Dec. 8 (contd.)	NE	M	17 02 00		
	Z	iP	16 28 18		
9	Z	i	12 10 45		
11	Z	e	17 04 08		
15	Z	ePKP	17 44 08		
16	Z	iP	01 53 29	D?	
	Z	i	53 52		
17	18.00 hrs - 18 Dec. 08.00 hrs no records				
	Z	(P)	18 00 (10)		In hour mark
	Z	i	01 16		
	Z	i	01 51		
19	Z	iP	01 29 53	C	
	Z	i	29 59	D	
	Z	i	30 37	C	
20	10 hrs - 12 hrs Records disturbed by work near observatory				
21	Z	iP	00 09 09	D	
	Z	eP	09 09 56		D = 7400 km
	NE	eS	18 56		51N 131W
	N	e	23 20		H = 08 58 53
	N	eLQ	31 10		
	E	eLR	34 00		
	NZE	eL	37 10		
	NEZ	M	38 15		18s. 100μ
	NE	M	43 20		18s. 15μ
22	Z	iPKP	22 58 29	C	
	Z	i	58 46		
	Z	i	23 10 28		
25	Z	iP?	03 02 44	D?	Very small
	Z	e	03 50		Microseisms
	EZ	iP	09 36 58	C	D = 1670 km
	Z	iPP	37 09	D	49N 29W
	Z	i	37 29		H = 09 33 31
	NE	iS	39 54		(BCIS)
	NE	iL	40 34		
	NE	M	41 30		15s. 70μ
	N	M	42 40		15s. 50μ

Date	Comp.	Phase	G. M. T.			Type	Remarks
1956			h.	m.	s.		
Dec. 25	E	M	09	43	00		14s. 50μ
(contd)	Z	e		46	21		
27	Z	iPKP	00	33	33	D	24S 177W
	Z	i		33	36		H = 00 14 15
	Z	ipPKP		33	58		h = 200 - 300 km
	Z	i		34	10		D = 16700 km
	Z	i		34	32		
	Z	i		35	06	C	
	Z	i		36	28		
	Z	iPP		37	26	C	
	Z	ePPP?		39	48		
	Z	e		53	22		
28	Z	i	14	43	44		Seismic?
	Z	e		46	02		
30	Z	iP?	18	30	04		
	Z	e		31	03		

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