

Seismological Bulletin.



Date.	Phase.	G. h.	M. m.	T. s.	Period secs	A_N	A_E	A_2	Δ Km.	Remarks
Jan. 1	L M _N F	20	51	50.	20	14				Greatly confused by wind and microseisms. Earlier phases could not be made out.
6	eP PR, S L M _N M _N M _E M _E F	14	24	20 10 3 48					9660	The undulatory movement (commencing at 14h48m decrease after 14h58m and sinusoidal movement begins at 14h59m.
6		20 21	to							Slight disturbance.
7	?e F	10	10							
9	iP _Z i _Z L F	5	17	45 29 31 20						Times from vertical record, so that L is rather doubtful. Between 5h31m and 5h35m there are large movements of Z component, so large that record was practically indecipherable.
10	L F	14	25							
17	iP iS ^Z L? F	4	1	49 10 6					8020	Record badly confused by microseisms. L phase irregular and time of commencement uncertain.
19-20		22	30	to						No time marks. L phase fairly well developed, but confused by microseisms.
22		4	35	to						
26	L M _E F	10	6		18		6			Initial phases masked by microseisms. Record failed during disturbance.
31	eP iS SR ₁ ? SR ₂ ? L M _N F	13	28	51 17 36 26 52 51 15					8070	Well marked groups of waves of smaller amplitude appeared until 16h20m.
Feb. 2		4	to							Slight disturbance.
5	L F	4	36							Group of waves of low amplitude.
10	e L F	0	9	30 25 1						Faintly marked disturbance.

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		h	m	s						
Feb.										
14	?e	12	12	38						
✓	L	12	16	28						
	M _N	12	18	24	16					
	F	12	25			3				
14	e	12	27	28						
✓	L	12	31							
	M _E	12	32	40	16		4			
	M _N	12	33	29	15	6				
	F	12	45							
14	e	13	9							
	L	13	22	28						
	M _E	13	43		24		7			
	M _N	13	57		18	4				
	F	14	35							
15	L	9	30							
6	F	10	15							
15		15	48	to						Slight disturbance.
		16	8							
16	e(?P)	2	55	13						L Phase irregular.
	e(?S)	2	58	23						
	L	2	59							
	F	3	20							
b16	e(?S)	3	36	8						
✓	L	3	47							
	M _E	3	58)		19		12			
		3	59)							
	F	5								
27	L	21	29							Small disturbance
	F	22								confused by microseisms
Mar.										
2		10	16	to						Group of small waves.
		10	21							
2	L	15	4							Small disturbance.
	F	15	25							
4	i P	13	18	31				77570		L Phase very irregular.
	i S	13	27	29						Time of arrival could
	F	14	45							not be assigned.
17		23	35	to						Trace of slight
		24								disturbance, confused
										by microseisms.
8	e	17	45							
	L	17	48							
	F	18	2							
10	?e	11	43							
	L	11	55							
	M _N	12	2	4	19		9			
	F	12	40							
10	i N	17	11	9						
	i N	17	14	36						
	i N	17	20	32						
	?i E	17	32	49						
	?i E	17	36	26						
	F	18	30							



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		h m s	secs.				Km.	
Mar. 12	e	17 11 12						
	e	17 20 37						
	e	17 26 37						
	L	17 40						
	M _N	17 55 33	20					
	F	19 30						-19
15	L	3 44						
	F	4 10						
21	?e	17 11						
	L	17 20						
	F	17 45						
24	eP	12 26 30						
	eS	12 30 4						
	L	12 31 28					72120	L Phase irregular and commencement not well defined (earthquake felt at Belgrad, Serbia).
	M _N	12 35 5	11					
	M _E	12 35 5	12					-9
	F	13 15						15
28	eP	4 11 7						
	PR	4 14 44						
	iS	4 21 29					9230	Time for L could not be assigned.
	iN _E	4 22 1						
	iN	4 23 26						
	?SR	4 28 41 41						
	M _E	4 28 28	24					28
	M _N	4 38 7	28					22
	F	6						
b 29	L	8 22						
	F	8 50						
31	e	10 42						
	F	10 55						
Apr. 2	L	17 38	16					1
	F	18 5						
2	P _N	19 29 3					7850	This gives 0 19h 17m 50s.
	S	19 38 15						
	L _E	19 48 ¹ / ₂						
	L _N	19 52						
	M _N	20 0 58	20					17
	M _E	20 14 14	20					17
	L	21 50						
	F	22 30						
5								Traversing clock clock failed soon after 9h. Evidence of earthquake, with well-marked L phase, at some time between 9h and 21h. No vertical record.
6	e	3 37						
	L	3 57						
	M _E	4 4	20					2
	F	4 45						

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		h	m	s						
Apr. 6	e L F	8	24	47						
7	?e L M _E M _N M _E F	16	22							
		16	40							
		16	47	52	21		6			
		16	55	28	16	-10				
		16	55	18	16		4			
		17	30							
8	e L F	3	59							
		4	25							
		5	10							
8		11	20	to						Very slight disturbance.
		11	30							
8	✓ 1P _N S L * M _N F	20	46	17				1910		Origin at 20h 42m 15s *Record partially off sheet. Times and amplitude approximate.
		20	49	32						
		20	50	47						
		20	51	22	20	120				
		22	30							
8	L	23	39							
9	F	0	25							
9	?eL F	13	26							Very feeble movement.
		13	38							
10	e F	4	55							Very feeble movement.
		6								
11	e _N e _N ?e _S L M _N F	0	40	44						Apparently a distant earthquake.
		0	50	46						
		0	59							
		1	26							
		1	44		19	4				
		3								
11	?e e(?S) L M _E F	4	40	51						
		4	43	56						
		4	46							
		4	48	1	21		9			
		5	15							
11	L F	8	17							Very faint.
		9								
11	L F	17								Very feeble.
		18								
16	L M _N F	13	41							Record badly confused by wind effects.
		13	51	14	15	-11				
		14	15							
23	?e L M _E M _N F	22	3							
		22	16							
		22	24	53	24		8			
		22	25	5	22	7				
		23								
25	e _N e	21	41	12						
		21	58	35						



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Date.	Phase.	G. M. T. h m s	Period. secs.	A _N	A _E	A _Z	Δ Km	Remarks.
Apr. 25	eN	21 41 12						
	e	21 58 ¹ / ₂						
	L	22 24						
	ME	22 44 14	20		5			
	MN	22 44 56	20	6				
	ME	22 53 22	18		-4			
	MN	23 5 7	18	4				
	ME	23 8 44	17		-6			
	ME	23 19 42	17		4			
26	F	0 40						
26	?e	1 22 ¹ / ₂						
	e	1 25,9						
	e	1 34 10						
	e	1 39 52						
	L	1 50						
	MN	2 4 56	19	5				
	ME	2 5 6	20		-5			
	F	2 40						
26	eP	4 11 3						
	e	4 17 2						
	iS	4 20 54				8600		?A double shock. If e at 4h 17m 2s is P' and i at 4h 26m 52s is S', then Δ' is equal to 8600km.
	i	4 26 52						In this case L' should be about 4h 43m, and there appears to be increased movement about that time
	L	4 37						
	ME	4 50 56	19		-7			
	MN	4 51 50 ⁴⁹	16	8				
	ME	4 54 19	16		-7			
	ME	4 56 23	20		7			
	MN	4 56 45	17	8				
	MN	5 0 7	17	9				
	ME	5 5 42	17		8			
	F	7 30						
28	L	8 3						
	F	8 35						Slight. Confused by wind effects.
3	L	23 3						
	F	23 30						
M ^U . 1	L	11 40						Very slight.
	F	12 5						
1	L	13 13						Very slight.
	F	14 2						
2	e	11 33						L phase well-marked.
	L	11 49						
	MN	11 55 38	23	20				
	ME	11 55 38	23		-19			
	MN	12 1 14	20	17				
	F	13						
3	e	4 21 30						
	L	4 36						
	ME	4 47 30	18		2			
	F	5 45						
4	iP	9 24 46						
	?PR,	9 27 40						
	iSE	9 34 32				8510		O at 9h 12m 58s
	?SR1	9 39 45						
	LE	9 46						
	LN	9 49						
	ME	9 56 42	23		-9			
	MN	10 2 25	18		-7			

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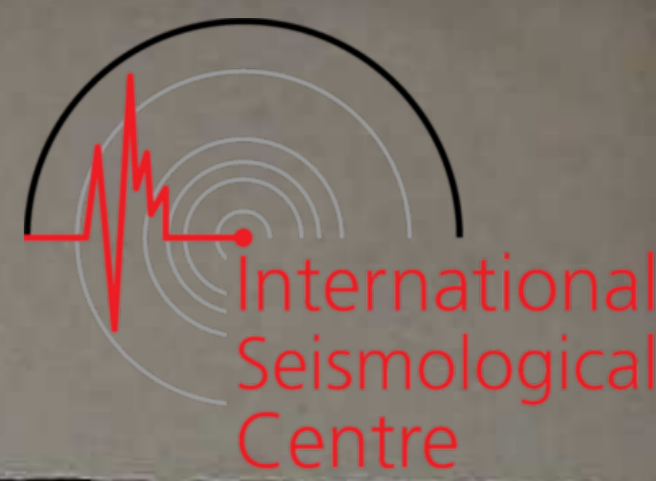
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Date.	Phase.	G.M. h m s	T. s	Period secs.	A _N	A _E	Δ Km	Remarks.
May.								
4	M _E	10 9 12		16		-8		Wind and microseism disturbances.
(contd).	M _N	10 17 40		19	7			
	F	11 30						
5		Between 1h and 2h						Some long waves. Record confused by microseisms and wind effects
6	?e	12 41						
	L	13						
	F	13 35						
9	e _E	14 10 13						
	i _E	14 15 46						
	i	14 16 59						
	?S	14 20						
	L	14 42						
	F	15 20						
11	e	1 15						
	L	1 38						
	F	2 35						
11	eP	6 55 55						
	S _N	7 4 17					6860	Gives origin at 6h45m 36s.
	S _E	7 4 13						
	L	7 14						
	M _N	7 20 9		20	5			
	M _E	7 20 13		19		16		
	F	8 20						
11	e	9 34 50						
	?e	9 46 29						
	L	10 20						
	F	12						
12	P _N	18 59 9						Regular sinusoidal waves.
	i _E	19 2 31						
	i _N	19 12 44						
	i _N	19 21 41						
	L	?19 40						
	M _E	20 4 28		20		6		
	M _N	20 5 8		19	-7			
	M _N	20 9 18		19	7			
	M _E	20 18 24		18		7		
	F	-						
15	L	21 2						Earlier phases masked by wind disturbance.
	M _E	21 13 50		20		5		
	F	21 45						
16	L	8 50						
	M _N	9 7		17	6			
21		1 09 to 1 16						A few waves of period 16 secs and small amplitude.

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Date.	Phase.	G. h	M. m	T. s	Period. secs.	A _N	A _E	Δ km	Remarks.
May.									
21	L	6	2						
	F	6	40						
21	e	16	6						
	e	16	8.8						
	L	16	26						
	M	16	42&43		20	2	2		
	F	17	30						
22	?e	18	3						
	L	18	46						
	M _N	18	53	20	23	9			
	M _E	18	54	14	20		9		
	M _N	19	1	40	16	15			
	M _E	19	1	35	17		-6		
	F	20							
28	L	1	15						Small waves of about 20
	F	2	30						secs period.
28	L	5	34						Small waves: period 16-
	F	6	50						20 secs.
28	L	15	41						
	F	15	52						

N.B. Throughout May there was no Vertical record, the clocks being under repair (as in Feb., Mar., April).

Date.	Phase.	G. h	M. m	T. s	Period. secs.	A _N	A _E	Δ km	Remarks.
June.									
1	L	17	3						
	F	17	25						
2	?e	20	30 ¹ / ₂						Remainder of record vitiated by failure of traversing clock. Evidence of maximum of period 19 secs, amplitude 12μ, on N-S component.
	e	20	36	34					
	e?S	20	37	48					
	L	21	2						
24	L	17	24						
	F	17	50						
27	e	14	54	38					
	i	14	55	48 58					
	L	15	24						
	M _N	15	36	35 45	22	5			
	F	16	30						

During the month clocks gave much trouble. There were no Vertical records and on several days the horizontal records were defective or absent.

Date.	Phase.	G. h	M. m	T. s	Period. secs.	A _N	A _E	Δ km	Remarks.
July.									
2	iP	13	46	1					
	PR ₂	13	51	32				7780	
	S	13	56	10					
	SR	14	1	22					
	L	14	9						
	M _N	14	11	16	32	-56			
	M _N	14	15	54	24	78			
	M _N	14	17	21	20	40			

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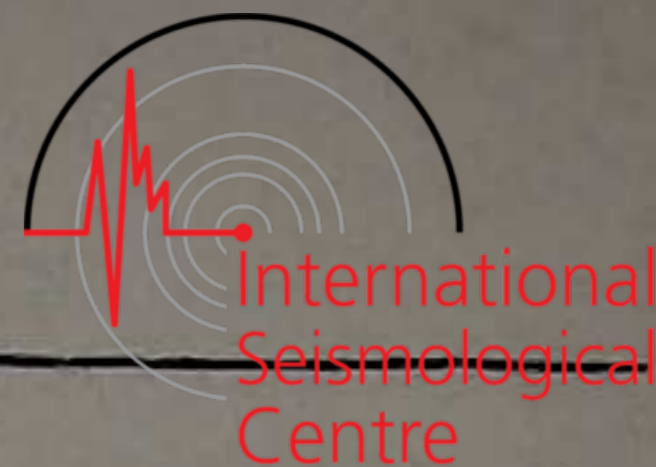
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Date.	Phase.	G. h	M. m	T. s	Period secs.	A _N	A _E	Δ km	Remarks.
July 2 (contd)	MN F	14	22	47	20	-22			Gives origin at 13h 55m 51s Well developed long waves (E-W component trace blocked out by time-shutter).
3	e(?S) L F	5	52	35					
5		21	3	to 21 35					Trace of small waves.
10	eZ eZ eZ i(?S) F	9	50	10					L phase cannot be distinguished from wind tremors.
11	e e e(?S) e(?L)	14	36	48					L phase feeble.
12	L F	5	25						A very few waves of period 20-25 secs and small amplitude.
13		2	45	to 3 10					Slight disturbance.
13	e ?e u L MN ME F	5	23	30					
13	L F	5	31	45					
13		5	36	30					
13		5	47						
13		5	55	55	22	12			
13		5	56	25	23		12		
13		6	40						
13	L F	21	57						
19	?e L M F	13	18	20					
19		13	37						
19		13	42	&44	25-26	9	9		
19		14	10						
22		13	27	to 13 43					Feeble disturbance.
22	ePZ eS L MN ME MN ME F	16	32	39				2870	Gives origin 16h 26h 55s P very indistinct.
22		16	37	13					
22		16	41						
22		16	42	39	23	-7			
22		16	42	41	20		-4		
22		16	45	45	17	4			
22		16	45	47	17		-4		
22		17	30						
24		1	0	to 1 30					Slight disturbance

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Date.	Phase.	G. M. T.	Period.	A _N	A _E	Δ	Remarks.
		h m s	secs.			Km.	
July							
26	L F	6 44 7	12-15	1	1		
28	L F	8 50 9 10					
28	• L	23 56 4 23 57 45					
29	F	0 20					
Aug.							
5	• F	4 26 5					Very feeble.
6	✓ ?eZ •E L M _N M _E F	1 8 1 18 35 1 38 1 51&52 1 53&54 2 30	17 16	2	2		
6	L F	6 56 7 25					
7	eZ (?P) • • • L F	12 43 0 12 45 36 12 48 26 12 52 46 13 25 14 10					Long waves feebly developed.
8	P S L M F	3 54 42 3 59 10 4 1 48 4 6&7 4 30.				2800	Gives origin 3h 49m 5s.
10	L F	6 17 6 40					Very feeble.
11	✓ P S L M _N M _E M _E M _N F	8 25 ¹ / ₂ 8 30 24 8 33 8 36 4 8 36 5 8 40 13 8 40 18 10 30	21 21 16 16	-69 -45 -22 -23			P masked by an non-seismic movement.
11	✓ eP S • L M _N M _E M _E M _N F	13 49 16 13 58 19 14 3 14 10 ¹ / ₈ 14 14 29 14 16 6 14 33 18 14 39 23 15 20	22 21 18 17	3 -3 2		7660	



Date.	Phase.	G. M. T.	Period.	A _N	A _E	Δ	Remarks.
		h m s	secs.			Km	
Aug. 13	oP	0 15 57				2960	Long waves well marked on Vertical component. Faintness of W-E trace did not permit of measurement of Maxima.
	iS	0 20 37					
	L	0 23					
	M _N	0 24 15	35	180			
	M _N	0 25 57	25	-167	-167		
	M _N	0 27 12	18	86			
	M _E	0 33 3	16		33		
	M _N	0 33 47	14	41			
	F	2 30					
13	L	3					
	F	4					
13	oZ	12 53					
	o	12 56 55					
	L	13					
	M _N	13 2 35	23	-18			
	M _E	13 2 37	22		-10		
	F	13 35					
14	iZ	11 51 36					L phase imperceptible
	i	11 54 20					
	o(?S)	12 0 6					
	oE	12 3 16					
	F	12 50					
14		21 37 to 22					Traces of very feeble waves.
15	oE	15 3 0					No other phases discernible.
16	iP	16 7 46		~	~	z	7840 Origin at 15h 56m 33s Azimuth N 20° E. These values give epicentre between Japan and Kamchatka 147° E 52° N. On W-E component large movement resembling commencement of L begins at 16h 27m.
	S	16 16 58					
	SR ₁	16 22 ¹ / ₂					
	L	16 31					
	M _E	16 35 35 ⁴ / ₃	24		12		
	M _N	16 36 35	20	11			
	M _E	16 38 44	22		-13		
	M _N	16 38 50	23	-16			
	M _E	16 40 57	22		25		
	M _N	16 43 20	20	14			
	M _N	16 48 44	16	18			
	M _N	16 59 10	20	-26			
	M _E	17 1 10	19		10		
	M _N	17 4 4	18	-11			
18		5 53 to 6 10					Very feeble disturbance
18	L	20 29					
	F	21 5					
21		20 5 to 20 50					Feeble disturbance



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		h m s	secs.			Km	
Aug.							
25	iN(P)	11 51 51					Origin at 11h 47m 20s L phase on N-S poorly developed.
✓	oG(S)	11 55 29				2170	
	L	11 56 ¹ / ₂					
	ME	11 58 14	15		-7		
	F	12 10					
25	L	12 50					
	ME	13 3&4	22		3		
	MN	13 8&9	20	3			
	F	13 30					
25	iPZ	19 39 3					z 5900
✓	oPNE	19 39 3		+	+		
	S	19 46 34					
	SR ₁	19 50 35					
	L	19 54					
	MN	19 58 16	25	16			
	ME	19 58 52	24		18		
	MN	20 / 4 43	20	24			
	MN	20 4 3	16	-13			
	ME	20 4 20	14		15		
	F	21					
26	L	3 18					
	F	3 40	28		2		
26	L	7 47	16-20	1	1		
	F	8 40					
29	e	3 42 23					
	e	3 47 15					
	M	3 56&57	14	1	1		
	F	4 10					
29	oZ	17 18&19					A distant earthquake: epicentral distance probably 10500 km.
	e(S)	17 25 ¹ / ₂					
	L	17 46					
	MN	17 54 1	25	16			
	ME	17 54 31	26		-30		
	ME	17 58 16	22		18		
	ME	17 58 28	21	16			
	MN	18 4 19	19	23			
	ME	18 4 12	18		-13		
	ME	18 5 10	18		-14		
	MN	18 5 10	17	-19			
	F	19 40					
30	L	11 17					
	F	11 50					
30	L	23 19	20	1			
	F	23 45					
Sept.							
1	oZ	13 8.8m					
	L	13 15					
	F	13 35					



Date.	Phase.	G. h	M. m	T. s	Period. secs.	A _N	A _E	Δ	Remarks.
						<i>μ</i>	<i>μ</i>	<i>Km</i>	
Sept. 1	iP	19	28	54					Initial displacements give azimuth 53° or 54° E of N or W of S (V record failed). (Destructive earthquake in N. Formosa).
	PR ₁	19	32	24				9690	
	PR	19	35	52					
	?PS	19	38	48					
	i	19	39	22					
	S	19	39	38					
	i	19	40	59					
	SR ₁	19	45	34					
	M	19	46	52	35	79			
	SR ₂	19	49	34					
	L	19	55 ¹ / ₂						
	M _N	20	1.49		32	190			
	M _E	20	2	43	30		166		
	M _N	20	3	44	26	135			
	M _N	20	12	49	18	98			
	M _E	20	13	4	19		86		
	M _N	20	14	49	18	80			
	M _N	20	17	7	18	63			
	F	23	45						
2	L	11	46						Very feeble.
	F	11	55						
2	e	17	50						
	L	18	16						
	F	18	55						
2	L	21	38						Very feeble.
	F	23	30						
3	e	2	58						Very feeble.
	e	3	23						
	L	4	2						
	F	4	15						
4	About 17h-18h.								Small disturbance. No horizontal records. Vertical record defective.
5	L	4	3						Very feeble.
	F	4	50						
5	e	16	9						Very feeble.
	F	16	14						
6	L	22	53						
	M	23	0&1		22-24	6	8		
	M	23	4&5		17	4	2		
	F	23	30						
7		20	42	to					Trace of very feeble long waves.
		20	49						
8	e	6	8	55					Feebly developed.
	e	6	15	36					
	e	6	18	54					
	L	6	20 ¹ / ₂						
	F	6	45						



Date.	Phase.	G. h	M. m	T. s	Period secs.	A _N	A _E	Δ	Remarks.
Sept. 8	●Z L F	14	26	(30)	16		2		
11	i _Z	13	1	2					The i _Z very well marked Trace of disturbance 13h 19m to 13h 25m and an exceedingly faint trace of long waves about 13h 40m.
11	e e L F	15	2						
		15	12 ¹ / ₈						
		15	36						
		16	30						
11	■ F	21	19						Very feeble.
		21	40						
11	L F	22							Very feeble.
		22	30						
12	?e L F	11	56						Feeble, and confused by wind disturbance.
		12	16						
		13							
14	✓ ●P _Z S SR ₁ SR ₂ M _N L M _N M _E F	19	44	30					SR ₁ and SR ₂ associated (9500) with wave movement - especially SR ₂ . Later maxima lost owing to clock stopping.
		19	55	8					
		20	1						
		20	4 ¹ / ₈						
		20	5	51	25	13			
		20	13						
		20	19	5	26	45			
		20	19	21	25	32	39		
		22							
16	✓ e(?S) e(?SR ₁) L M _N M _E M _E M _N	23	8	34					
		23	14	24					
		23	24						
		23	32	42	24	42			
		23	32	51	24		49		
		23	40	9	18		-20		
		23	40	58	19	18			
17	F	0	15						
17	?e L M L F	7	46						Confused by microseisms and wind disturbance.
		8	7						
		8	19	5	18	25			
		8	38						
		9	5						
17	e e ● L M _E M _N F	10	22	35					Microseism and wind disturbances (indentification of phases difficult. The first e resembles an S, and the wave movement associated with the 2nd and 3rd e, together with
		10	29						
		10	33						
		10	43						
		10	54	50	20		19		
		10	55	40	17	-34			
		11	30						

time interval between suggest that Δ was same as on 14th September.

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Date.	Phase	G. M. T.	Period.	A _N	A _E	Δ	Remarks.
		h m s	secs.			Km	
Sept. 17	e L F	22 47 22 53 23 5	17	2			
18	eN eE e(L) MN F	6 43 30 6 49 30 7 3 30 7 16&17 7 35	16	3			
22	e F	18 28 18 40					Extremely feeble.
22	e e F	21 39 27 21 42 25 22 25					
23		1 1					Exceedingly feeble trace of movement on E-W comp.
24	eE iN LE iE iN LE ME MN F	12 33 45 12 37 19 12 38 12 39 56 12 43 29 12 44 12 45 30 12 48 46 13 10	17 10	2	3		?Two shocks. Intervals 12h 33m 45s - 12h 37m 19s and 12h 39m 56s - 12h 43m 29s are 3m 34s and 3m 33s, and if these are taken as P _S and S _S , Δ is equal to 2120 km. i _E at 12h 39m 56s occurred in the wave movement starting at 12h 38m.
28	L MN ME MN F	22 48 22 52 6 22 52 8 22 55 23 23 30	20 20 16	5 3	-6		Earlier phases masked by microseism and wind disturbance.
29	e L ME MN F	19 5 35 19 10 19 13 57 19 45 7	20 20	19	12		Clock failed before termination of disturbance.
Oct. 3		12 58 to 13 10					Very slight disturbance.
3		22 36 to 22 39					Very slight disturbance.
4		2 ^b 2 to 1 6					A few feebly developed waves.
4	LE F	14 33 14 37	15- 16 }				Very feeble.
5	e e L F	5 38 48 5 42 8 6 2 6 45					

Date.	Phase.	G. M. T.	Period.	A_N	A_E	Δ	Remarks.
		h m s	secs.			Km	
Oct. 6	?ex i L F	5 39 4 5 46 50 5 58 6 15		μ	μ		L poorly marked.
6		19 48 to 20 10					Very feeble disturbance Phases indiscernible.
7		0 58 to 1 30					Very feeble disturbance Phases indiscernible.
7		14 30 to 14 50					Very feeble disturbance
8		17 to 17 45					Very feeble disturbance
9		9 25 to 9 36					Feebly developed L wave Earlier phases missing through clock failure.
11	P PR ₁ PR ₂ S L MN MN ME ME MN F	15 2 52 15 6 36 15 8 36 15 13 23 15 28 15 35 29 15 38 29 15 38 43 15 41 51 15 45 26 17 30	35 22 23 18	+ + + -34 -38 59 44 57	+ + +	9410	Azimuth 20° S of W.
14	e L F	0 38 31 1 0 1 35	22-20	2	2		
14 15	eP eS SR ₁ SR ₂ L MN ME MN F	23 59 45 0 10 0 0 16 0 20 0 29 0 34 44 0 34 49 0 39 52 2 30	24 24 18	29 -32 -40		9090	
16	L F	3 2 3 18	15	1	1		

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Date.	Phase.	G. M. T.	Period	A _N	A _E	Δ	Remarks.
		h m s	secs.			Km	
Oct.							
16	L	4 43					
	F	5 0					
16	✓ iP _Z	16 11 46					S not well marked. L irregular.
	PR ₂	16 15 18					
	■S	16 20 2					
	L	16 29 (30)					
	M _N	16 39 29	14	15			
	F	17 30					
17		7h to 8h					A disturbance recorded on Vertical component. Phases indistinct. Clock failure on horizontal records.
19		14 22 to 14 37					Small disturbance.
24	iP _N	21 32 45		+	+	8230	Approx. azimuth 16° E of or 16° W of S. The former gives with Δ gives South of Kamchatka, the latter gives 17° W, 22° S. (approx.) Recurrence of waves until 0h325m, 25th.
	PR ₁	21 36 10					
	iS	21 42 16					
	L	21 57 (30)					
	F	23 30					
27	?e	14 37					
	e	14 46					
	?SR	14 56 (30)					
	L	15 6					
	M _N	15 12	23	9			
	M _E	15 12	23		9		
	M _N	15 20	16	16			
	F	16					
Nov.							
3		19 to 19 20					Faint disturbance, confused by microseisms.
4		3 58 to 4 8					Trace of very slight disturbance.
4	✓ iR	4 25 6				2540	Clock failed before end of disturbance.
	iS	4 29 14					
	L	4 30 34					
	M _N	4 34 0	22	10			
	M _E	4 34 12	22		-13		
	M _E	4 39 12	14		-3		
	F	?					

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Date.	Phase.	G. M. T.	Period	A _N	A _E	△	Remarks.
		h m s	secs	μ	μ	Km	
Nov.							
7	e	23 18 25					
	S	23 24 44					
	L	23 44					
	MN	23 47	34	48			
	ME	23 47	35		-35		
	MN	23 56	22	26			
	ME	23 57	22		-17		
	MN	24 1	20	-20			
	ME	24 1	20		24		
8	F	1 50					
8	e	23 52 31					Feeble disturbance.
	e(?L)	23 59					
9	F	0 35					
11	Great Chilean Earthquake (4h) record lost - clock failed shortly after midnight.						
11	e	11 52					Feeble disturbance.
	L	11 57					
	F	12 40					
11	e	18 23 28					e at 18h 23m 28s
	e	18 27 41					very faint.
	e	18 33 58					
	i _E	18 34 11					
	e	18 36 29					
	?SR	18 42 23					
	L	18 53					
	ME	18 55 30	38		23		
	MN	18 55 44	40	27			
	ME	19 2 0	28		-14		
	MN	19 5 3	21	14			
	ME	19 5 7	21		9		
	F	21					
11	L	21 44					Feeble.
	F	22					
11	i	22 21 55					Slight disturbance.
	F	22 34					
11		23 20 to					Traces of waves of
		23 25					small amplitude.
12	e	0 12					Small waves, period
	F	0 53					18 secs.
12	L	18 50					Small waves, period
	F	19 8					18-20 secs.

Date.	Phase.	G. h	M. m	T. s	Period. secs.	A _N μ	A _E μ	Δ km	Remarks.
Nov.									
13	?e	4	0						
	e(?S)	4	2	20					
	F	4	15						
13		4	57	to					Slight disturbance.
		5	40						
14		5	23	to					Slight disturbance,
		6	15						confused by microseisms.
17	e(?S)	11	27	41					
	i	11	28	36					
	?SR	11	36						
	L	11	47						
	MN	11	49	16	40	60			
	ME	11	49	20	36		-45		
	ME	12	3	3	18		15		
	MN	12	34	03	18	-14			
	ME	12	7	51	16		-17		
	F	13	30						
18	?e	19	33	10					
	L	19	40						
	M	19	45&46		22	3	4		
	F	20	10						
19		17	14	to					Slight disturbance.
		17	22						
20		4	40	to					A few waves of small
		4	47						amplitude.
20	?e	15	42						
	e	15	47						Slight disturbance.
	L	15	44	54					
	F	16	30						
20		22	to						Traces of waves of low
		23	30						amplitude.
21		4	30	to					Feeble disturbance.
		5	5						

~~Throughout~~ Throughout this month there were frequent failures of the recording clock mechanisms, and consequently losses of record.

Date.	Phase.	G. M. T.	Period.	A _N	A _E	Δ	Remarks.
		h m s	secs.			Km	
Dec. 2	e _E (?S)	4 10 13					
	L _E	4 27					E-W record only.
	M _E	4 34 39	23		18		
	M _E	4 41 59	19		13		
	F	5 10					
6	iP _E	14 4 28			+		
	i _E	14 5 37			-	75380	
	i _E (?PR ₁)	14 6 30					L irregular.
	?iS _E	14 11 31					
	F	15 20					
7		16 to 18					Two disturbances. Records vitiated by clock failures and failure of time marker
8	About 2h						Disturbance (L only discernible) complete failure of timemarker.
8		22 to 24					Disturbance. Complete failure of time marker
14	e	23 34 26					
	e	23 41 36					
	L	23 56					
15	MN	0 9 56	28	-12			
	F	1 30					
17		0 to 2					Disturbance. Failure of driving clocks and of timing vitiated record.
23&24		23 to 1					Trains of waves of low amplitude, confused by microseisms.
25		5 to 6h					Disturbance: phases masked by microseisms.
31	eP	7 31 58					
	iS	7 41 46					
	SR1	7 47 20			8550		eP confused by microseisms
	L	7 56					
	MN	8 5 56	20	23			
	ME	8 7 10	20		28		
	ME	8 9 29	18		-25		
	MN	8 9 38	18		23		
	MN	8 10 58	18		-29		
	F	10 30					

ESKDALEMUIR OBSERVATORY,
LANGHOLM, DUMFRIESSHIRE, SCOTLAND.

Latitude $55^{\circ} 19' N$: Longitude $3^{\circ} 12' W$.

Earthquake Bulletin (provisional) 1922.

Equipment:- Three Galitzin pendulums, with galvanometric registration, arranged to record displacements in north, east, and vertical directions.

The constants were as published in the British Meteorological and Magnetic Year Book, 1915.