

British Association for the Advancement of Science.

Circular No. 7, issued by the Seismological Committee, Professor J. W. JUDD, C.B., F.R.S. (Chairman), Mr. JOHN MILNE, F.R.S., *Shide, Isle of Wight* (Secretary).

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I. *General Notes on Registers from Similar Horizontal Pendulums (Milne type).*

THE following registers are continuous with those published by the Seismological Investigation Committee in their first six circulars and in the Reports of the Association, 1896 to 1899.

In the next circular these registers should be continued up to June 30, 1903, and, so far as possible, be supplemented by corresponding registers from the following places: Strassburg, Coimbra, Beirut, Vizagapatam, Ceylon, Swarthmore (Philadelphia), Melbourne, Sydney, Arequipa, Honolulu, Tifis, Tashkent, Wellington, and Cordova.

1††

If observers at these and other places will kindly send a copy of their register, together with copies of their more important seismograms, to the Secretary of the Seismological Investigation Committee, British Association, Burlington House, London, W., as early as possible after June 30, and again after December 31 of each year, the interval of time which must elapse before they receive copies of the registers of co-workers in various parts of the world will be considerably reduced.

The time employed is Greenwich mean time (civil) expressed in hours, minutes, and in decimals of minutes. 24 or 0 hours=midnight.

Amplitude indicates half of the complete range of the maximum motion, and is expressed in millimetres. Values less than one millimetre refer to the thickening of the line and indicate half its width.

As 1° turn of the calibrating screw in the bed-plate of the instrument causes a tilt of 1''/5, and as this is accompanied by a measurable displacement of the outer end of the boom, it is easy to determine the angular value corresponding to a one millimetre displacement. This quantity should be stated at the end of each register.

At Shide, Kew, Bidston, and Edinburgh the instruments are at present so adjusted that a 4° turn of the screw results in a displacement of the outer end of the boom of 14 mm. One millimetre displacement therefore equals 0''/55.

II. *Registers.*

*The Register from Shide, Isle of Wight, England.
Observer, JOHN MILNE; Assistant, SHINGOBU HIROTA.*

No.	Date	P.T. Commence		L.W. Commence		Max.	Max. Amplitude	Duration	Remarks
		H.	M.	H.	M.				
1902.									
615	July 1	9	10.2	—	—	—	0.25	0 5	—
616	" 5	15	9.2	15	12.2	15 12.2	4.0	0 24	—
617	" 6	—	—	—	—	13 40.6	—	—	Series of irregular movements.
618	" 9	—	—	—	—	14 41.0	0.75	2 15	—
619	" 20	—	—	—	—	4 8.1	0.5	0 30	—
						9 33.0	0.5	—	Air tremors present.
621	Aug. 3	—	—	—	—	17 15.0c	—	—	620 see next register.
									622, 623, 624 & 625 see next register.
626	" 22	3	10.0	3	35.3	—	> 15.0	—	—
							4 46.0	> 15.0	—
627	" 22	—	—	—	—	10 8.9	—	—	—
628	" 22	—	—	—	—	16 32.2	0.75	0 10	—
631	" 23	—	—	—	—	13 31.6	0.5	0 8	629 & 630 see next register.
632	" 24	2	13.2	—	—	2 23.0	0.5	0 10	—
635	" 29	15	35.6	—	—	15 39	0.75	0 12	633 & 634 see next register.

The Register from Shide, Isle of Wight, England—continued.

No.	Date	P.T. Commence		L.W. Commence		Max.	Max. Amplitude	Duration	Remarks
		H.	M.	H.	M.				
636	Aug. 30	22	0-7	22	8-7	22 22-0	8-0	1 55	— 637 & 638 see next register.
639	Sept. 16	11	37-1	—	—	11 41-0	0-5	0 35	— 640 see next register.
641	" 22	2	6-5	—	—	—	0-5	1 0	Record spoiled by a spider. 642 & 643 see next register.
644	Oct. 6	9	30-4	—	—	9 45-0	0-75	0 27	— 645 see next register.
646	" 13	13	2-7	—	—	—	0-25	0 35	—
647	" 15	8	41-4	—	—	—	0-25	0 5	— 648 to 657 see next register. Oct 29 to Nov. 17 not working.
658	Nov. 20	21	1-3	—	—	—	0-5	1 53	—
659	" 21	7	30-0	—	—	8 5-0	3-0	1 5	—
660	" 25?	13	30abt.	—	—	—	—	—	A blur.
661	Dec. 12	23	36-2	—	—	23 56-0	3-5	1 10	—
662	" 13	17	27-2	—	—	17 54	0-5	0 45	—
663	" 16	5	24-5	—	—	5 36	0-2	1 5	This includes a 2nd shock.
664	" 17	16	38-7	—	—	—	0-25	0 3	Doubtful.
		18	7-2	—	—	—	0-25	0 3	Doubtful.
665	" 20	23	48-7	—	—	—	0-25	0 5	—

The period of this pendulum, which is the type instrument recording E.W. motion, has varied between 16 and 17 seconds. A 4° turn of the calibrating screw has given deflections of 14 to 15 mm. 1 mm. of amplitude may therefore represent a tilt of 0"55.

Records from the Yarrow Pendulums at Shide.

Where there are two entries for the same earthquake, the first refers to E.W. motion and the second to N.S. motion. D=duration and A=amplitude.

No.	Date	P.T. Commence		L.W. Commence	Max.	Max. Amplitude	Duration	Remarks	
		H.	M.						H.
615	July 1	9	2-0	—	—	0 25	0 15	N.S. not visible.	
616	" 5	15	1-0	15	7-0	—	3-0	0 36	—
616	" 5	—	—	—	—	—	3-5	0 32	—
617	" 6	—	—	—	12 20-6	—	—	—	Irregular movements.
		—	—	—	14 34-8	—	—	—	N.S. just visible.
		—	—	—	16 28-7	—	—	—	—
619	" 20	—	—	—	9 33-2	0-5	—	—	618 not recorded. Air tremors present.
619	" 20	—	—	—	9 33-2	0-3	—	—	—

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Records from the Yarrow Pendulum at Shide—continued.

No.	Date	P.T. Commence		L.W. Commence	Max.	Max. Amplitude	Duration	Remarks	
		H.	M.						H.
620	Aug. 3	—	—	—	—	2 30-0c.	0-2	0 10	N.S. not visible.
621	" 3	—	—	—	—	—	—	—	—
622	" 8	—	—	—	19 30-0	1-0	—	—	Air tremors present.
623	" 9	—	—	—	8 33-1	1-5	—	—	N.S. not visible. Air tremors present.
624	" 16	—	—	—	—	—	—	—	N.S. not visible. Air tremors.
624	" 16	—	—	—	2 23-5	0-2	1 20	—	Air tremors?
625	" 21	—	—	—	12 19-1	0-5	0 25	—	N.S. not visible.
626	" 22	2	59-8	3	29-5	3 37-3	>22-0	4 20	A second max. 4h. 45-3m.
626	" 22	3	10-2	—	—	—	12-0	—	A = 18mm. 627, air tremors.
628	" 22	15	55-7	—	16 13-0	—	0-75	1 30	N.S. just visible at the E.W. max.
629	" 23	2	44-5	—	—	—	0-25	0 8	N.S. not visible.
630	" 23	4	43-5	—	—	—	0-25	0 8	—
		7	54-6	—	—	—	0-25	0 8	N.S. not visible.
		10	52-6	—	—	—	0-25	0 8	—
631	" 23	13	25-2	—	—	—	0-25	0 10	N.S. just visible.
632	" 24	2	19-0	—	2 23-0	—	0-5	0 15	—
633	" 25	15	29-1	—	—	—	3-75	0 10	N.S. not visible.
634	" 28	9	23-0	—	—	—	0-3	0 8	—
635	" 29	15	34-2	—	15 38-0	—	0-5	0 10	—
635	" 29	15	34-2	—	15 38-0	—	0-2	0 3	—
636	" 30	21	59-7	22	11-0	22 25-6	7-0	1 25	—
		21	59-7	—	—	22 25-6	4-5	1 15	—
637	Sept. 2	10	19-0	—	—	10 22-0	1-0	0 25	N.S. not visible. Doubtful record.
638	" 8	17	20c.	—	—	—	—	—	—
639	" 16	11	27-6	—	11 31-0	—	0-5	0 20	—
		11	27-6	—	—	—	0-5	0 15	—
640	" 20	6	45-0	—	—	—	0-5	0 30	Air tremors
		6	45-0	—	—	—	0-75	0 26	—
641	" 22	2	5-4	—	2 49-0	—	8-0	2 40	Also a max. at 2h. 21-7m.
642	" 23	2	5-4	—	2 49-0	1-5	1 30	—	—
		20	30-9	—	21 7-4	>17-0	3 27	—	—
		20	30-9	—	21 7-0	1-5	1 30	—	—
643	Oct. 3	21	58-5	—	—	—	0-5	0 15	Doubtful. N.S. not visible
644	" 6	9	32-2	—	—	—	0-5	0 36	—
		9	27-1	—	—	—	1-0	0 38	—
645	" 12	16	22-0	—	—	—	0-25	0 3	Also 17h. 47-7m. A = 0-25. D = 3min. N.S. not visible. 646&647 see pre- ceding register.
648	" 18	4	6-3	—	—	—	0-25	0 3	E.W. only.
649	" 25	15	24-4	15	26-4	—	0-5	0 8	Also 16h. 9-2m. A = 5. D = 5m. E.W. only.
650	" 27	18	24-6	—	—	18 35-0	0-5	0 30	—
651	" 28	11	14-5	11	17-4	—	0-5	0 12	—
652	" 31	13	44-0	—	—	—	0-25	0 3	N.S. slightly less.

Records from the Yarrow Pendulum at Shide—continued.

No.	Date	P.T. Commence		L.W. Commence		Max.	Max. Amplitude	Duration	Remarks
		H.	M.	H.	M.				
653	Nov. 4	12	5·7	12	10·7	12 12·7	0·5	0 25	—
654	" 5	23	0·e	—	—	—	—	—	654, see preceding register.
655	" 15	15	51·7	—	—	—	0·25	0 5	E.W. only.
656	" 17	1	38·2	—	—	—	0 10	0 20	" "
657	" 17	20	30·7	—	—	—	0·5	0 20	658, see preceding register.
659	" 21	Instrument placed on a new pier near the type instrument.		7	29·0	7 59·0	2·5	0 52	—
			7 40·0	—	8 0·0	—	2·5	0 52	660, see preceding register.
661	Dec. 12	23	36·9	—	23 56·9	3·0	1 15	1 15	D. of 1st P.T.s 7m.
661	" 13	23	36·9	—	23 56·9	2·0	1 15	1 15	—
662	" 13	17	42·9	—	17 53·0	1·0	0 25	0 20	—
		17	42·9	—	17 48·0	1·5	0 20	1 0	B not working.
663	" 16	5	25·7	—	5 35·2	2·0	1 0	0 5	664, see preceding list.
665	" 20	23	48·7	—	—	—	0·25	0 5	N.S. not visible.

Period of Pendulum for E.W. motion until November 17 varied between 18 and 19 seconds, whilst that for N.S. motion had a period of 10 seconds. When this instrument was placed on its new pier side by side with the type instrument the orientations of the Yarrow booms were interchanged. The periods were also altered, so that the boom for E.W. motion has now practically the same sensibility as that of the type instrument (1 mm. deflection = 0"·55). The period of the boom for N.S. motion was raised to 20 seconds.

Register from National Physical Laboratory (Kew Observatory). Director, R. T. GLAZEBROOK, D.Sc., F.R.S.; Superintendent of Observatory Department, C. CHREE, LL.D., F.R.S.; Observer, E. G. CONSTABLE.

No.	Date	P.T. Commence		L.W. Commence		Max.	Max. Amplitude	Duration	Remarks
		H.	M.	H.	M.				
1902.									
379	June 16	2	17·0	—	—	—	0·25	0 5	Omitted on preceding register.
380	" 22	3	34·2	—	—	—	0·25	0 6	
381	July 5	15	0·5	15	7·0	15 7·8	1·9	0 34	—
382	" 5	17	31·6	—	—	—	0·25	0 5	—
383	" 6	13	40·7	—	—	—	0·25	0 22	A series of slight irregular movements.
384	" 6	14	26·5	14	34·3	14 46·0	1·0	2 20	Oscillations very slight after max.
385	" 7	9	53·7	—	—	—	0·25	0 8	—
386	" 9	4	6·5	—	4 8·4	—	0·75	0 27	—
	" 16	A number of slight oscillations between 18h. 30m. and 19h. 50m.		—	—	—	0·5	0 30	—
387	" 20	9	9·5	—	9 23·8	—	0·5	0 30	—
388	Aug. 2	10	6·0	—	—	—	0·25	0 5	—
389	" 3	2	7·5	—	—	—	?	?	Masked by air tremor.

Register from National Physical Laboratory (Kew Observatory)—continued.

No.	Date	P.T. Commence		L.W. Commence		Max.	Max. Amplitude	Duration	Remarks
		H.	M.	H.	M.				
390	Aug. 3	17	7·5	—	—	17 15·0	0·5	0 27	Ill-defined throughout.
	" 8-10	Traces lost though touching h. paper plate on clock-box.		—	—	17 34·0	—	—	—
391	" 22-23	About 15 h. 30m., a number of very small tremors.		—	—	—	0·25	0 6	—
392	" 25	9	22·0	—	—	—	0·6	0 10	—
393	" 28	15	33·7	—	—	15 38·0	0·6	1 17	Max. movement very sudden.
394	" 29	15	33·7	—	—	15 38·0	0·6	1 17	—
	" 30	22	5·0	22	18·4	22 22·7	6·25	1 17	—
395	Sept. 16	11	27·4	—	—	—	0·4	0 21	—
396	" 20	6	47·2	—	—	6 51·5	0·6	0 26	—
397	" 22	2	5·3	2	11·5	2 48·6	8·5	2 54	Also a max. at 2h. 21·3m. Origin, Kashgar?
398	" 23	20	31·2	20	55·7	23 10·0	>17·0	3 26	Origin, Guatemala?
399	" 24	5	26·2	—	—	5 33·4	0·5	0 33	—
400	" 24	8	18·0	—	—	8 26·2	0·6	0 18	Time of P.T. somewhat doubtful.
401	" 26	9	24·4	—	—	9 39·0	0·5	0 19	—
	" 29	A number of small oscillations between 11h. 40m. and 13h. 50m., but origin doubtful.		—	—	—	—	—	—
402	Oct. 2	17	55·7	—	—	18 37·5	0·5	1 0	Ill-defined throughout.
403	" 3	21	58·3	—	—	—	0·25	0 10	—
404	" 6	9	32·0	—	—	—	0·75	?	Duration uncertain, owing to air tremors.
405	" 7	16	46·0	—	—	—	0·25	0 14	—
406	" 12	16	32·0	—	—	—	0·25	0 5	—
	" 13	A number of oscillations varying from 7h. 37m. and 10h. 15m., but origin doubtful.		—	—	—	0·25 to 0·5	0·5 mm., between 0·25 to 0·5 mm., but origin doubtful.	—
407	" 13	13	8·4	—	—	—	0·25	0 35	—
408	" 15	8	21·7	—	—	—	0·25	0 7	—
409	" 28	11	17·0	—	—	—	0·25	0 6	—
410	" 31	13	45·0	—	—	—	0·25	0 3	—
		13	51·5	—	—	—	—	—	—
411	Nov. 4	12	9·2	—	—	12 20·0	0·5	0 29	—
412	" 17	20	31·6	—	—	—	0·25	0 11	—
413	" 20	21	9·5	—	—	22 9·0	0·25	1 35	Series of detached small swings.
414	" 21	7	28·2	7	53·7	7 59·4	1·8	1 20	Apparently faint 'repetitions' 9h. 44m. and 10h. 30m.
415	Dec. 12	23	40·0	23	49·2	23 57·3	2·5	1 3	Max. phase lasted 3 min.
416	" 13	17	38·3	17	46·2	17 47·8	1·0	0 25	? Faint 'repetition' at 19h. 4m.
417	" 16	5	25·8	5	34·0	5 35·2	1·5	0 59	Well-marked second max. at 5h. 39m.
418	" 28	2	5·8	2	13·7	2 15·3	0·75	0 30	—

The period of the pendulum has varied between 18 and 19 seconds, and the scale has been taken as 1 mm. amplitude = a tilt of 0"·54 from July 1 to August 31, 0"·53 from September 1 to November 30, and 0"·55 since.

Register from Liverpool Observatory, Bidston. Director, W. E. PLUMMER.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1902.								
212	July 1	H. M.	H. M.	H. M.	H. M.	MM.	H. M.	—
213	" 5	—	14 59.3	15 8.0	15 35	1.6	0 36	—
214	" 6	—	—	2 30	—	—	—	Line thickening; photo bad.
215	" 6	—	13 38.7	14 28.5	15 36	0.7	1 58	Prob. Strassburg 9 and 10.
216	" 9	—	4 2.0	4 11.1	4 28.0	0.5	0 26	—
217	" 10	—	11 50	—	11 59	—	—	Small.
218	" 13	—	12 9	—	12 18	—	0 9	—
219	" 19	—	10 28.0	10 31.4	—	—	—	Distinct.
220	" 20	—	9 5.3	9 17.2	9 43	0.5	0 38	—
221	" 21	—	—	8 59	—	—	—	Near disturbance of watch winding; possibly insect.
222	" 25	—	23 28	—	23 35	—	0 7	—
223	" 28	—	0 27	—	0 43	—	0 16	Small.
224	Aug. 2	—	14 42	15 27.0	16 30	0.3	1 43	—
225	" 2-3	—	23 42.5	0 1.8	0 19	0.2	0 28	—
226	" 3	—	—	2 2	2 40	—	0 58	Small.
227	" 3	—	17 2.3	17 13.4	17 56	0.4	0 54	—
228	" 4	—	9 48.0	10 13.2	10 52	0.3	1 4	—
229	" 7	—	9 49.3	10 37	10 17	—	0 38	Small.
230	" 7	—	12 50.6	12 54.4	13 19	—	0 20	—
231	" 8	—	10 5.0	10 10.2	10 20	0.2	0 15	—
232	" 8	—	21 40.7	21 44.1	21 58.2	0.2	0 18	—
233	" 9	—	15 54.4	16 5.1	16 25.5	0.3	0 31	—
234	" 10	—	18 35.2	18 47.0	14 7.7	0.2	0 32	—
235	" 10	—	20 32.0	20 42.9	20 58	0.4	0 25	—
236	" 12	—	17 37.7	—	17 56	—	0 19	Small.
237	" 13	—	4 25.3	4 46.4	5 2.5	0.4	0 28	—
238	" 14	—	8 50	9 4	9 4	—	0 14	—
239	" 16	—	8 42.3	9 12.8	10 33	0.4	1 51	—
240	" 21	—	11 39.7	11 48.2	12 44	0.6	1 5	—
241	" 22	—	2 56.0	3 33	7 18	?	4 22	Exceeded width of paper.
242	" 22	—	10 14	—	10 24	—	0 10	Photo; trace faint.
243	" 22	—	14 4	14 13	14 22	—	0 13	—
244	" 23	—	7 23	—	7 43	—	0 17	Small.
245	" 23	—	13 24	—	13 33	—	0 9	—
246	" 24	—	2 12.4	2 20.1	2 28	0.5	0 26	—
247	" 24	—	5 33	5 47	6 11	—	0 35	Photo. trace faint.
248	" 25	—	15 30.2	15 34.0	15 38	0.3	0 8	—
249	" 30	—	7 42	—	8 8	—	0 26	—
250	" 30	—	21 59.4	22 17.1	23 12	2.4	1 13	—
251	" 31	—	—	2 20	—	—	0 10	Small.
252	Sept. 1	—	16 13	16 19.2	17 13	—	0 60	Possibly insect.
253	" 3	—	—	17 54	—	—	0 20?	Line irregular.
254	" 4	—	0 58.3	—	1 8	—	0 11	Slight.
255	" 4	—	8 46.2	—	9 0	—	0 14	—
256	" 5	—	1 15	—	1 45	—	0 30	Line 'varicose' and irregular; possibly A.T.
257	" 5	—	21 41	—	22 3	—	0 22	—
258	" 6	—	18 48.2	18 55.7	19 10.9	0.2	0 23	—
259	" 7	—	1 41.1	2 28.3	2 34.0	0.2	0 53	—
260	" 8	—	16 56	17 10.0	—	—	—	End uncertain.
261	" 10	—	21 18.6	21 30.4	21 42.5	—	0 24	Slight.
262	" 12	—	19 2.0	19 20.3	19 32.7	—	0 31	—
263	" 13	—	21 41	—	22 25	—	—	Possibly A.T.
264	" 15	—	7 3.3	7 9.0	7 21.2	0.2	0 18	—
265	" 18	—	11 33.7	11 48.5	12 38.9	0.3	0 55	—
266	" 18	—	4 15	—	5 12	—	—	Possibly A.T.
267	" 18	—	20 7.3	20 29.0	20 42.4	0.2	0 35	—
268	" 20	—	6 44.8	6 52.0	7 33	0.4	0 48	—
269	" 22	—	1 59.6	2 46.3	4 32.0	7.9	2 32	—
270	" 23	—	20 27.5	21 3.0	23 20.7	—	2 53	Exceeded width of paper.
271	" 24	—	5 20.9	5 28.2	5 38.0	0.6	0 15	—
272	" 24	—	10 36.2	10 43.4	10 53.7	0.4	0 23	—
273	" 27	—	20 18.4	20 28.0	20 34.0	—	0 16	Slight.
274	" 28	—	16 15.5	—	16 35	—	0 18	—
275	" 29	—	—	15 12	—	—	0.4	Short duration.

Register from Liverpool Observatory, Bidston—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
276	Oct. 2	H. M.	H. M.	H. M.	H. M.	MM.	H. M.	—
277	" 3	—	15 18.7	18 30.4	18 43.0	0.4	0 26	Small.
278	" 6	—	9 20.2	9 27.2	9 59.6	0.9	0 39	—
279	" 10	—	—	16 30	—	—	—	Line 'varicose.'
280	" 11	—	23 12.3	—	23 28	—	0 14	Small.
281	" 12	—	8 24.4	8 32.1	8 43.6	0.3	0 19	—
282	" 13	—	12 49.0	13 17.3	13 54.2	0.3	1 5	—
283	" 14	—	—	16 10	—	—	—	Possibly A.T.
284	" 15	—	8 59	—	8 53	—	0 14	Watch wound
285	" 26	—	21 50	—	23 40	—	—	Sh. 45.
286	" 28	—	11 16	—	11 27	—	0 11	Line uneven, possibly A.T.
287	" 31	—	14 17	—	15 12	—	0 55	Slight.
288	Nov. 1	—	14 48	—	15 2	—	—	Line uneven.
289	" 4	—	12 7.2	12 18.7	12 31.4	0.6	0 24	Possibly A.T.
290	" 6	—	—	8 3	—	—	—	—
291	" 9	—	—	15 57	—	—	—	Slight and doubtful.
292	" 10	—	7 8	—	7 24	—	0 16	Possibly insect.
293	" 13	—	22 28	22 36.2	22 54	—	0 28	Slight.
294	" 15	—	10 29.4	10 40	10 51.6	0.1	0 22	Doubtful.
295	" 17	—	12 59.1	13 1.8	13 6.4	0.1	0 7	—
296	" 17	—	20 22.0	20 33.6	20 44.2	0.5	0 22	—
297	" 20	—	20 48.4	21 12.0	22 0.6	0.4	1 12	Possibly A.T.
298	" 21	—	7 26.5	8 2.2	8 38.0	1.2	1 12	—
299	" 25	—	5 38	—	6 52	—	—	Line uneven.
300	" 26	—	0 57.2	0 59.9	1 5.0	0.1	0 11	—
301	" 28	—	20 27	—	20 54	—	—	Line uneven? A.T.
302	Dec. 3	—	6 51	—	7 30	—	0 39	—
303	" 4	—	0 8	0 14	0 28	0.2	0 26	—
304	" 4	—	—	23 0	—	—	—	Line uneven.
305	" 10	—	21 53.3	22 1.5	22 10.7	0.2	0 17	—
306	" 15	—	3 46	4 17.4	4 28	—	0 42	—
307	" 16	—	4 45.2	5 39.1	6 48.0	1.3	1 53	—
308	" 19	—	—	16 12	—	—	—	—
309	" 20	—	23 39.4	23 51.2	23 58	0.2	0 19	—
310	" 23	—	22 21.0	22 33.9	22 53.0	0.1	0 22	—
311	" 24	—	1 43.1	1 46.4	1 58	0.2	0 15	—
312	" 27	—	13 36	—	13 44	—	0 8	Slight.
313	" 28	—	2 50	—	3 37	—	0 38	—

During December there is evidence that the end of the boom sometimes rested on the top of the photographic box. Period of the boom, 17 to 18 sec. 1 mm. deflection of the outer end of the boom = 0".56.

Register from Royal Observatory, Edinburgh. Director, Dr. R. COPELAND.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1902.								
160	July 5	H. M.	H. M.	H. M.	H. M.	MM.	H. M.	—
161	" 6	15 1.5	15 9.0	15 10.5	16 36.5	4.1	1 35.0	—
162	" 9	13 44.8	14 38.0	14 49.7	15 53.0	0.7	2 8.2	—
163	" 20	5 58.0	4 7.6	4 13.7	4 24.0	0.4	0 36.0	—
164	Aug. 2	15 32.5	—	15 36.5	15 50.0	0.3	0 43.5	Possibly A.T.'s.
165	" 3	17 7.5	—	—	17 28.0	—	0 20.5	Possibly small A.T.'s.
166	" 8	21 50.0	—	21 52.5	22 4.0	0.3	0 14.0	—
167	" 13	4 45.5	—	4 47.5	5 5.0	0.25	0 20.5	—
168	" 16	3 45.0	—	—	10 30.0	—	—	A.T.'s.
169	" 21	12 10.0	—	12 23.0	12 33.5	0.5	0 33.5	—
170	" 22	3 9.5	3 17.5	3 30.5	7 11.0	>17.0	4 1.5	—
171	" 22	16 10.0	—	16 12.0	16 14.0	0.25	0 4.0	—
172	" 23	13 26.0	—	13 34.0	13 36.5	0.2	0 10.5	—
173	" 24	2 18.5	—	2 28.0	2 38.5	0.4	0 20.0	—
174	" 29	15 34.0	—	15 39.5	15 54.0	0.25	0 20.0	—

Register from Royal Observatory, Edinburgh—continued.

No.	Date	P.T. Commence		L.W. Commence		Max.	End	Max. Amplitude		Duration	Remarks
		H. M.	H. M.	H. M.	H. M.			MM.	H. M.		
175	Aug. 30	8 9.0	—	—	—	—	—	0.2	0	4.0	—
176	" 30	22 6.0	22 18.0	22 27.5	23 19.0	2.5	1 13.0	—	—	—	—
177	Sept. 12-13	18 0.0	—	—	—	—	7 30.0	—	13	30.0	Line slightly irregular.
178	" 16	11 31.5	—	11 40.5	12 45.0	0.2	1 10.5	—	—	—	Thickening.
179	" 19	20 28.5	—	—	20 31.5	—	0 5.0	—	—	—	—
180	" 20	6 45.5	6 51.0	7 8.2	7 16.0	0.5	0 30.5	—	—	—	—
181	" 22	2 2.0	2 6.0	2 50.2	5 10.5	3.5	3 8.5	—	—	—	—
182	" 23	—	20 31.5	21 8.0	23 51.0	22.0±	3 18.5	—	—	—	No P.T.'s
183	" 24	5 5.5	5 29.0	5 32.0	5 44.0	0.4	0 33.5	—	—	—	—
184	" 24	7 58.5	8 22.0	8 24.0	8 43.0	0.7	0 44.5	—	—	—	—
185	" 24	10 43.0	—	10 45.0	10 50.5	0.25	0 7.5	—	—	—	—
186	Oct. 2	18 17.5	18 25.5	18 29.5	19 8.0	0.7	0 48.5	—	—	—	—
187	" 6	9 25.0	9 31.0	9 37.0	10 16.5	1.0	0 51.5	—	—	—	—
188	" 15-17	6 0.0	—	—	0 0.0	—	42 9.0	—	—	—	Frequent A.T.'s.
189	Nov. 17	20 28.5	—	20 35.0	20 52.0	0.9	0 23.5	—	—	—	—
190	" 20	21 4.5	—	22 5.0	22 56.0	0.25	1 51.5	—	—	—	—
191	" 21	7 23.5	7 48.0	7 50.0	8 53.5	1.1	1 30.0	—	—	—	—
192	" 23	20 49.0	—	—	20 43.0	0.2	0 3.0	—	—	—	Perhaps A.T.
193	Dec. 2-4	5 0.0	—	—	12 39.0	—	55 32.0	—	—	—	Numerous A.T.'s
194	" 4	0 12.0	—	0 14.0	0 18.5	0.55	0 6.5	—	—	—	Perhaps A.T.
195	" 12-13	23 30.5	23 50.0	23 56.2	0 58.5	3.5	1 28.0	—	—	—	—
196	" 13	17 28.0	17 48.0	17 58.5	18 33.0	0.7	1 5.0	—	—	—	—
197	" 14-15	6 30.0	—	—	8 30.0	—	26 0.0	—	—	—	A number of A.T.'s.
198	" 16	5 29.0	5 27.5	5 42.5	6 10.5	2.0	0 48.5	—	—	—	—
199	" 16	6 13.5	6 17.6	6 22.0	6 30.0	0.7	0 18.5	—	—	—	—
200	" 20	23 50.0	—	23 51.5	23 55.5	0.25	0 6.5	—	—	—	Perhaps A.T.
201	" 27-29	15 30.0	—	—	13 0.0	—	45 30.0	—	—	—	A.T.'s very frequent.
202	" 28	2 9.0	2 13.0	2 14.5	3 0.0	1.2	0 31.0	—	—	—	—

Measures of sensitiveness were made during the half year as follow:—

June 29	1° of foot-screw = 3.6 mm. at end of boom
Oct. 3	1° " = 3.5 mm. " "
Nov. 7	1° " = 3.3 mm. " "
Dec. 18	1° " = 3.65 mm. " "

Mean 1° = 3.51 mm. " "

From which the tilt of pillar = 0".544 for 1 mm. of amplitude.

Register from the Coats Observatory, Paisley.
Chairman of Directors, Rev. A. HENDERSON, LL.D., F.R.A.S.

No.	Date	P.T. Commence		L.W. Commence		Max.	End	Max. Amplitude		Duration	Remarks
		H. M.	H. M.	H. M.	H. M.			MM.	H. M.		
1902.											
1	Jan. 1	—	—	6 29.5	7 7	0.75	—	—	—	—	—
2	" 9	—	—	0 51(?)	0 10	—	—	—	—	—	Thickening of trace.
3	" 17	—	—	0 44	—	—	—	—	—	—	—
4	" 18-19	23 50	24 7.5	24 9.5	24 16(?)	1.5	0 17(?)	—	—	—	—
5	" 21	22 6.5	—	—	22 40(?)	—	—	—	—	—	Thickening of trace.
6	" 25	0 0(?)	—	—	—	0.5	2 0(?)	—	—	—	—
7	" 28	18 (?)	—	—	—	—	2 (?)	—	—	—	Thickening of trace.
8	" 30	14 22.4	14 48	14 51	15 43.5	3.0	1 21	—	—	—	Obscured.
9	" 31	2 30(?)	—	—	—	—	—	—	—	—	Beginning and end obscured.
10	Feb. 13	—	10 2.5	10 4	—	5.0	—	—	—	—	Obscured.
11	" 17	1 (?)	1 7	1 22	—	3.0	—	—	—	—	Obscured.
12	" 25	—	—	16 45	—	—	0 7	—	—	—	Thickening of trace.

14-3

Register from the Coats Observatory, Paisley—continued.

No.	Date	P.T. Commence		L.W. Commence		Max.	End	Max. Amplitude		Duration	Remarks
		H. M.	H. M.	H. M.	H. M.			MM.	H. M.		
13	Mar. 5	19 38(?)	—	—	—	—	—	1.5	—	—	Instrument disturbed.
14	" 9	6 59	—	—	—	—	—	—	1 11	—	Thickening of trace.
15	" 12	16 25(?)	—	—	—	—	—	—	0 35	—	" "
16	" 28	15 16.5	—	15 59.5	16 23	1.0	—	—	1 6.5	—	" "
17	April 7	13 35	—	—	—	—	—	—	—	—	Thickening of trace.
18	" 17	—	—	21 34.5	—	—	—	2.5	—	—	Obscured.
19	" 19	2 22(?)	2 43	3 13	?	10.0	?	—	—	—	Maxima 3h. 6.5m. (7.5 mm.). 3h. 19m.
20	" 26	—	—	9 7	—	—	—	—	—	—	Thickening of trace.
21	May 2	12 16	—	12 20.5	12 35(?)	0.5	0 19	—	—	—	—
22	" 8	3 (?)	—	3 17.5	—	2.0	—	—	—	—	—
23	" 31	16 13	—	—	16 45	—	—	—	—	—	Thickenings at intervals.
24	June 1	6 43.5	—	—	—	—	—	—	—	—	—
25	" 8	17 22	—	—	18 16	—	—	—	0 54	—	" "
26	" 11	—	—	6 50	—	1.0	—	—	0 35(?)	—	" "
27	" 15	—	—	13 40	—	—	—	—	—	—	Thickenings at intervals.
28	" 17	15 25	—	—	15 31	—	—	—	—	—	" "
29	" 22	15 46	—	—	16 25	—	—	—	—	—	" "

Experiments were being carried out during nearly the whole of this period. The period of the boom was 15 from January 1 to January 16 (1 mm. displacement = 0".76), and again from June 21 to end of above period; from January 16 to March 8, period of boom = 20 (1 mm. = 0".38), and again from April 24 to June 21; from March 8 to April 24, boom = 16 (1 mm. = 0".75).

30	July 5	15 6.2	15 10.1	15 11.4	15 27	2.5	0 20.8	—	—	—	—
31	" 5	—	—	22 36	—	0.5	—	—	—	—	—
32	" 6	13 45	—	—	—	—	—	—	—	—	Thickening.
33	" 6	14 36	—	—	15 26	—	0 50	—	—	—	" "
34	" 9	4 18	—	—	—	—	—	—	—	—	" "
35	" 18	16 50	—	—	17 19	—	0 29	—	—	—	" "
36	" 20	9 16	9 17.5	9 18.5	9 32	0.6	0 16	—	—	—	—
37	Aug. 22	3 10	3 22.5	3 34.9	5 44	>17.0	2 34	—	—	—	10.5 mm. at 4h. 46.2m.
38	" 22	16 10	—	—	16 15	—	—	—	—	—	Thickening.
39	" 23	13 26	—	13 31.5	—	—	—	—	—	—	" "
40	" 25	13 19	—	—	13 22	—	—	—	—	—	" "
41	" 29	15 36.5	—	15 40.5	15 45	0.5	0 8.5	—	—	—	—
42	" 30	?	22 20	22 23	?	5.0	—	—	—	—	—
43	Sept. 16	—	—	12 41	—	0.5	—	—	—	—	—
44	" 19	11 15	—	—	11 25	—	0 10	—	—	—	Thickening. And at 13h. 43m.
45	" 20	6 46.5	6 50.5	6 53	7 12	0.5	0 25.5	—	—	—	—
46	" 22	2 5.2	2 16	3 20.6	4 13	2.5	2 7.3	—	—	—	—
47	" 23	20 30.5	20 40.5	21 6.5	22 31	6.0	2 0.5	—	—	—	Watch wound during movement.
48	Nov. 4	12 9.5	—	—	12 42	0.5	0 31	—	—	—	—
49	" 15	8 19	—	—	—	—	—	—	—	—	Thickening repeated 8h. 52m. & 9h. 23m.
50	" 21	7 50(?)	—	—	—	—	—	—	—	—	Obscured.
51	Dec. 12-13	23 31.3	23 49.5	23 54	24 56	3.5	1 25	—	—	—	—
52	" 16	5 28.7	—	5 40	7 58	1.5	2 32	—	—	—	—
53	" 30	21 57.5	22 0.5	22 1.5	22 15	1.0	0 17	—	—	—	—

From June to November 1 the period is as in June. From November 1, 1 mm. displacement = 0".55 arc.

The Register from the Toronto Observatory, Ontario, Canada.
Director, Professor R. F. STUPART.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1902.								
411	July 5	H. M. 15 37.6	H. M. —	H. M. —	H. M. *15 47.0	MM. 0.1	H. M. 0 9.5	—
412	" 6	13 28.6	14 8.0	14 20.5	15 19.5	2.0	1 50.9	Large.
413	" 21	7 59.3	—	—	8 0.4	0.05	0 1.1	Marked thickening.
414	Aug. 8	21 27.0	—	—	21 32.0	0.05	0 5.0	Mere thickening.
415	" 10	20 31.2	—	—	*21 35.0	0.1	1 4.8	Very small (Alaska).
416	" 13	4 14.4	—	—	4 42.4	0.05	0 28.0	Small (Japan) (much more prolonged than at Victoria).
417	" 16	8 36.0	—	—	10 25.0	0.05	1 49.0	Prolonged thickenings.
418	" 22	3 25.8	3 57.2	4 6.3	6 26.0	5.6	3 0.2	Large (Philippines).
419	" 30	22 14.2	—	23 0.6	23 19.0	0.05	1 4.8	(Martinique).
420	Sept. 19	20 5.5	—	—	20 10.5	0.1	0 5.0	Very small.
421	" 22	2 6.4	2 16.4	2 17.4	4 36.0	4.4	2 26.6	Large and continuous (China). Bifilar Magnetometer vibrated
Over								
422	" 23	20 24.2	20 29.0	20 34.0	23 0.0	20.0	2 35.8	Mexican.
423	" 24	4 57.0	—	5 2.0	*5 20.0	0.9	0 23.0	Very small, decided.
424	" 24	7 59.2	—	7 55.0	*8 15.5	0.5	0 25.3	"
425	Oct. 2	17 5.7	18 13.8	18 14.3	*19 28.0	2.9	2 22.3	Moderate.
426	" 6	9 35.4	—	—	10 14.4	0.05	0 39.0	Thickening.
427	" 24	4 35.4	—	—	—	0.05	—	Very slight thickening.
428	" 28	10 46.4	—	—	10 55.5	0.1	0 9.1	Very faint
429	" 28	11 6.5	—	11 10.0	11 20.0	0.2	0 11.5	Small, but decided.
430	Nov. 15	10 12.0	—	—	*11 3.0	0.05	0 51.0	Thickening extended.
431	" 17	20 7.0	—	20 9.0	Uncertain	1.1	—	Small, but decided.
432	" 20	20 48.1	—	21 46.5	*22 7.0	0.5	1 18.9	Small and extended.
433	" 21	7 32.7 ?	—	8 18.5	*8 25.5	0.1	0 52.8	Very small.
434	Dec. 12	(23 17.0) (23 21.1)	23 26.2	23 28.3	*24 32.0	9.5	1 16.0	Large.
435	" 13	18 18.5	—	—	18 25.6	0.05	0 7.0	Thickenings.
436	" 16	6 2.9	—	—	6 24.0	0.1	0 21.1	Small and well defined.
437	" 28	2 38.4	—	—	*2 47.2	0.05	0 8.8	Mere thickening (Russia).

Omission.—May 8, 2h. 40-5m. Minute thickening.

* About.

Vibration of boom 14.6 seconds.

Register from Victoria, British Columbia.
Superintendent, E. BAYNES REID.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1902								
405	July 5	H. M. 15 46.4	H. M. —	H. M. —	H. M. *15 51.1	MM. 0.15	H. M. 0 4.7	Very small.
407	" 6	13 25.8	—	—	14 27.3	0.4	1 51.6	Small, but well developed.
408	" 13	9 14.6	—	—	9 18.2	0.2	0 3.6	Very small vibration.
409	" 21	7 56.5	—	—	8 4.0	0.05	0 7.5	Thickening.
410	" 28	7 5.2	—	—	7 11.8	0.15	0 6.6	" (California)
411	Aug. 3	17 2.2	—	—	*17 44.3	0.2	0 42.1	Small and defined.
412	" 4	10 10.3	—	—	*10 16.3	0.1	0 6.0	Thickening.
413	" 8	21 32.8	—	—	21 44.8	0.2	0 12.0	"
414	" 10	20 16.5	—	—	*20 23.5	0.2	0 7.0	Small and well marked.
415	" 12	11 50.3	—	—	*11 52.3	0.05	0 6.0	Mere thickening.
416	" 13	4 22.8	—	4 27.1	4 35.4	1.0	0 13.1	Medium, well marked.
417	" 14	8 32.2	—	8 37.9	8 44.2	0.15	0 12.0	Small.
418	" 16	8 27.0	—	—	*9 56.0	0.5	1 29.0	"
419	" 22	3 16.0	gradual	4 2.0	*6 38.0	6.2	3 22.0	{ Large. Tremors for a long time.
420	" 30	3 24.2	—	22 48.8	*23 50.8	0.3	1 39.2	Small, but extended (Martinique).
421	Sept. 19	19 47.1	19 48.2	19 48.6	*20 1.0	0.5	0 13.9	Small.
422	" 20	7 10.0	—	—	*7 21.0	0.1	0 11.0	Thickenings.
423	" 22	1 58.5	2 8.7	2 10.5	4 47.0	7.1	2 45.6	Large and continuous.
424	" 23	lost	20 26.0	20 44.4	*23 22.0	20.0	—	Very large (Mexico).
425	" 24	4 52.6	—	5 18.0	*5 31.7	0.3	0 39.1	Very small.
426	" 24	7 44.6	—	—	*8 11.6	0.3	0 27.0	"
427	Oct. 2	17 52.7	17 53.7	18 0.0	*19 4.5	1.0	1 11.8	Small, but well defined.
428	" 6	9 39.9	—	—	*10 24.4	0.2	0 44.5	Marked thickenings.
429	" 24	4 17.1	—	—	4 18.0	0.1	0 0.9	Thickening.
430	" 28	11 7.0	—	—	11 16.0	0.05	0 3.0	Mere thickening.
431	Nov. 4	12 25.6	—	—	12 46.4	0.15	0 10.8	Thickening.
432	" 15	9 59.7	—	—	*10 58.4	0.15	0 59.7	Small, but prolonged.
433	" 17	19 57.3	19 58.8	19 59.8	20 12.0	4.0	0 14.8	Medium.
434	" 20	20 49.2	—	—	22 19.7	0.1	1 39.5	Very small, but extended.
435	" 21	7 26.7	—	—	8 37.7	0.2	1 11.0	"
436	" 27	6 48.8	—	—	7 12.8	0.5	0 24.0	Marked thickening.
437	Dec. 12	23 14.2	23 20.2	23 23.1	25 16.5	11.0	2 2.3	Large.
438	" 13	18 0.5	—	—	18 27.6	0.1	0 27.0	Very small.
439	" 15	23 2.0	—	—	—	0.05	—	Slight undulatory movement.
440	" 16	6 1.0	—	—	6 28.0	0.1	0 27.0	Very small.
441	" 31	21 23.3	—	—	21 23.3	0.05	0 2.0	Slight thickening.

* About.

Vibration of boom 15 seconds.

Register from San Fernando, Spain.
 Instituto y Observatorio de Marina. Director, Admiral J. VINEGRA.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1902								
169	July 5	H. M. 15 52	H. M. —	H. M. 15 11.7	H. M. 15 39.7	MM. 1.8	H. M. 9 45.5	—
170	" 6	13 20.7	—	—	15 29.7	—	2 9.0	Very small.
171	" 9	3 44.1	—	—	3 55.1	—	0 11.0	" "
172	" 10	9 3.0	—	9 16.3	9 32.0	0.6	0 29.0	" "
173	Aug. 16	9 24.0	6 57.0	10 1.2	10 20.2	0.5	0 56.2	—
174	" 22	3 9.1	3 19.3	2 41.6	7 5.8	15.0	3 56.7	—
175	" 30	22 5.0	22 23.5	22 20.5	22 9.5	4.5	1 4.5	—
176	Sept. 22	2 5.2	2 14.2	2 54.2	5 21.2	10.0	3 16	—
177	" 23	13 32.7	10 42.2	20 0.0	22 59.0	10.0	3 25.3	—
178	Oct. 2	18 30.4	—	18 37.4	18 30.2	0.6	0 20.2	—
179	Nov. 20	20 45.2	21 9.2	21 15.7	22 55.2	0.8	2 10.0	—
180	" 21	7 55.5	7 58.0	8 3.2	8 47.5	3.00	0 52.0	—
181	Dec. 12-13	23 9.5	23 51.2	23 35.2	24 51.7	3.7	1 20	—
182	" 13	17 45.7	—	17 54.2	18 24.0	0.5	0 53.5	—
183	" 16	6 25.7	6 40.2	6 42.2	7 29.7	1.0	1 4.0	—
184	" 28	2 12.0	2 19.0	2 22.2	2 44.2	4.0	0 32.0	—
185	" 30	5 31.2	5 32.2	5 33.7	5 33.2	1.7	0 22.0	—

1 mm. amplitude = 0° 43.

Register from Abbassia Observatory, Cairo, Egypt.
 Director, Captain J. H. LYONS, R.E.; Superintendent, E. B. H. WADE.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1902.								
121	July 5	H. M. 14 53	H. M. 15 06	H. M. 15 07	H. M. 15 28	" 0.5	H. M. 0 30	—
122	" 5	—	—	15 12	—	—	—	—
" 6	20 58	—	20 59	20 59	23 50	0.5	2 30	—
" 6	—	—	—	21 15	—	0.7	—	—
" 6	—	—	—	21 50	—	—	—	—
" 6	—	—	—	22 53	—	—	—	—
123	" 7	2 15	2 23	2 23	3 06	0.5	0 51	—
" 7	—	—	—	2 34	—	—	—	—
" 7	—	—	—	2 33	—	—	—	—
" 7	—	—	—	2 42	—	—	—	—
124	" 8	2 20	3 23	3 25	4 10	—	1 30	—
" 8	—	—	—	3 28	—	0.5	—	—
" 8	—	—	—	3 49	—	—	—	—
125	" 9	3 50	3 51	3 52.5	4 08	—	0 18	—
" 9	—	—	—	3 53.5	—	—	—	—
126	" 9	5 02	5 05	5 06.0	5 12	—	0 12	—
127	" 9	doubtful	16 20	16 22.0	19 10	0.5	2 50	Nature doubtful.
" 9	—	—	—	0 28.0	—	—	—	—
" 9	—	—	—	0 40.0	—	0.5	—	—
" 9	—	—	—	0 53.0	—	—	—	—
" 9	—	—	—	17 3.5	—	—	—	—
" 9	—	—	—	0 17.0	—	—	—	—
" 9	—	—	—	0 38.0	—	—	—	—
128	" 9	doubtful	21 56	21 56.5	—	—	0 55	Nature doubtful.
" 9	—	—	—	0 41.5	—	0.4	—	—
" 9	—	—	—	22 3.0	—	—	—	—
129	" 12	13 48	13 56.5	13 59.0	14 13	0.5	0 50	—
130	" 14	23 29	23 31.0	23 31.5	24 20	—	1 0	—
" 14	—	—	—	23 43.0	0 44.0	0.35	—	—
" 14	—	—	—	1 56.0	2 53	0.5	1 15	—
" 14	—	—	—	2 2.0	2 2.5	—	—	—
" 14	—	—	—	2 13.0	2 15.0	—	—	—
131	" 18	19 20	19 52	19 55.0	20 40	0.5	1 20	—
" 18	—	—	—	0 39.0	—	0.5	—	—
" 18	—	—	—	20 0.0	—	—	—	—
" 18	—	—	—	20 4.0	—	—	—	—
" 18	—	—	—	20 7.0	—	—	—	—
" 18	—	—	—	20 33.5	—	—	—	—

Register from Abbassia Observatory, Cairo, Egypt—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Duration
132	July 23	H. M. 19 33	H. M. 19 45	H. M. 19 46	H. M. 20 20	" 0.3	H. M. 0 50	—
133	Aug. 13	14 40	14 43	14 45	15 20	0.5	0 40	—
134	Sept. 22	2 4.0	2 5.0	2 5.0	3 48.0	—	1 44	—
" 22	—	—	—	0 11.0	—	1.0	—	—
" 22	—	—	—	0 17.5	—	—	—	—
" 22	—	—	—	0 30.0	—	—	—	—
" 22	—	—	—	0 34.3	—	—	—	—
" 22	—	—	—	0 48.0	—	—	—	—
" 22	—	—	—	0 51.0	—	—	—	—
" 22	—	—	—	0 53.0	—	—	—	—
" 22	—	—	—	0 55.0	—	—	—	—
135	" 23	20 32	20 41	20 43.3	22 52	2.0	2 20	—
" 23	—	—	—	0 58.5	—	—	—	—
" 23	—	—	—	0 59.0	—	—	—	—
" 23	—	—	—	0 36.0	—	—	—	—
" 23	—	—	—	0 43.0	—	—	—	—
136	Oct. 1	none	16 35	16 38.0	16 45	—	0 12	Minute.
137	Nov. 12	13 33	—	13 37.3	14 3.0	0.25	0 30	—
" 12	—	—	—	0 43.0	—	—	—	—
" 12	—	—	—	0 51.0	—	—	—	—
138	" 17	20 00	20 18	20 20.0	23 00.0	—	3 0	—
" 17	—	—	—	20 21.0	—	—	—	—
" 17	—	—	—	20 42.0	—	—	—	—
" 17	—	—	—	21 12.0	—	—	—	—
" 17	—	—	—	0 39.0	—	—	—	—
" 17	—	—	—	22 3.0	—	0.5	—	—
139	Dec. 13	17 36	17 38	17 39.0	17 41.0	0.5	0 30	—
" 13	—	—	—	0 42.0	—	—	—	—
140	" 16	5 20	5 31	5 32.3	6 20.0	0.8	1 0	—

Register from the Royal Observatory, Cape of Good Hope.
 Director, Sir DAVID GILL, K.C.B., F.R.S.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1902.								
166	June 11	H. M. 7 20.5	H. M. 7 24.5	H. M. 7 27.6	H. M. 7 30.5	MM. 0.27	H. M. 0 10	—
167	July 5	15 13.0	15 35.0	15 39.0	15 44.0	3.0	0 50	—
168	" 9	4 14.0	4 15.5	4 16.5	4 21.0	0.8	0 20	—
169	" 20	—	9 9.3	{ 9 9.3 }	9 22.0	{ 0.8 }	0 15	—
170	" 29	16 0.0	—	—	—	—	15 0	Continued slight disturbance. ? Air tremors.
171	Aug. 7	12 29.0	—	12 36.0	—	0.5	0 9	—
172	" 16	8 35.3	9 8.5	9 10.8	9 14.9	—	0 46	—
173	" 22	3 14.8	3 24.3	3 53.7	5 49.0	10.0	2 50	—
174	" 30	22 11.0	22 38.8	22 41.7	22 56.5	—	1 12	—
175	Sept. 19	0 17.5	—	0 18.3	—	—	0 3	—
176	" 22	2 6.3	—	2 5.6	—	—	5.8	—
177	" 22	—	2 9.6	—	13 51.8	—	—	Slight undulation.
178	" 23	—	20 38.7	21 22.9	22 40.3	8.2	2 51	—
179	Oct. 6	9 50.0	—	—	—	—	1 40	Slight. ? spider.
180	Nov. 4	12 9.0	12 22.6	12 27.8	12 30.9	1.0	0 36	—
181	" 15	10 5.0	10 21.8	10 23.0	10 28.8	0.6	0 30	—
182	" 20	20 54.2	21 0.0	21 53.6	21 55.2	1.0	2 10	—
183	" 21	7 29.5	{ 7 47.0 }	8 4.2	8 54.7	1.6	1 35	*Disturbed by opening case.
184	Dec. 13	0 15.0	0 27.0	0 31.0	0 32.0	0.8	1 3	Times approx. Watch not in.

1 mm. = 0° 23.

Register from Alipore Observatory, Calcutta.
G. W. KÜCHLER, Assistant Meteorological Reporter.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1902.								
175	July 9	H. M. 3 49.2	H. M. 3 55.8	H. M. 3 50.5	H. M. 4 17.1	MM. 1.50	H. M. 0 28.0	Sensibility 1° = 4mm.
176	Aug. 21	11 24.3	11 41.6	11 34.1	12 18.1	0 075	0 50.0	
177	" 22	—	—	4 23.2?	6 15.5	3.00?	—	The light was out from after 7 A.M. to 10 A.M. of August 22, hence the commencement of the P.T. and L.W. and duration cannot be determined. The maximum noted in this list is what can be ascertained from the trace after the light was put up.
178	" 22	9 52.7	—	—	9 55.8	—	0 51	Thickening of line.
179	" 22	15 51.2	—	15 52.2	15 55.8	0 075	0 46	Sensibility 1° = 5mm.
180	" 22	17 2.4	—	—	17 5.9	—	0 3.6	Thickening of line.
181	" 23	13 3.5	—	13 10.9	13 17.1	0 075	0 7.6	Sensibility 1° = 4mm.
182	" 24	1 56.8	2 9.7	2 1.3	2 25.2	0 49.3	—	" "
183	" 25	8 11.4	—	8 31.2?	8 49.5	1.25?	0 38.1	Doubtful.
184	" 29	15 16.2	—	15 17.7	15 26.4	0.50	0 10.2	Sensibility 1° = 4mm.
185	" 30	7 30.4	—	7 34.0	7 44.6	1.25	0 14.2	" "
186	" 30	21 53.2	21 59.8	22 0.8	23 0.8	7.50	1 7.6	Trace slightly damaged, so that it was not possible to take photo. copies.
187	Sept. 5	21 23.3	—	21 23.9	21 38.6	0.50	0 15.3	Sensibility 1° = 5mm.
188	" 10	21 3.2	—	—	21 10.3	—	0 7.1	Thickening of line.
189	" 11	5 4.2	—	5 3.2	5 22.0	0.50	0 17.8	Sensibility 1° = 5mm.
190	" 15	6 31.1	—	6 32.5	6 38.7	0.50	0 7.6	" "
191	" 20	6 41.6	—	6 46.2	7 4.0	0.50	0 22.4	" "
192	" 22	1 55.8	2 40.?	2 18.2	4 4.0	7.50	2 8.2	Sensibility 1° = 5mm.
193	" 23	20 33.5	21 36.5	21 45.6	22 13.6	2.75	2 4.1	" "
194	Oct. 4	6 56.7	—	6 59.3	7 3.3	0.50	0 7.1	Sensibility 1° = 4mm.
195	" 6	9 19.2	9 22.3	9 23.3	10 2.4	3.00?	0 43.2	The true max. amplitude is 6mm., as measured from the base line; but the central trace is too faint to show this.
196	" 15	0 57.2	—	—	2 38.3	—	1 41.2	Thickening of line.
197	" 19	13 15.4	—	—	4 28.6	—	1 13.2	" "
198	" 20	0 52.0	—	—	3 35.8	—	1 43.8	" "
199	Nov. 4	11 22.8	—	—	11 24.8	—	0 2.0	" "
200	" 4	11 33.0	—	11 43.6	12 20.2	1.50	0 42.2	Thickening of line.
201	" 5	0 22.3	—	—	2 11.2	—	1 48.3	doubtful.
202	" 6	0 58.8	—	—	2 42.0	—	2 10.2	" "
Every day from November 6 to 14, between about 0 and 3 hours, there are continuous displacements apparently due to air current.								
203	" 17	0 49.5	0 52.5	1 4.2	1 9.5	0.50	0 20.3	Sensibility 1° = 4mm.
204	" 20	20 40.6	20 51.3	20 51.8	22 14.2	3.23	1 35.6	" "
205	" 21	—	—	7 27.7	—	—	—	Trace is too faint for the other data to be ascertained.
206	Dec. 12	1 41.2	—	1 40.7?	3 13.4	0.75	1 35.2	Doubtful.
207	" 15	0 6.6	—	—	1 25.9	—	1 19.3	Thickening of line, doubtful.
208	" 13	1 53.4	—	—	3 0.5	—	1 7.1	" "
209	" 18	17 7.6	17 8.6	17 13.7?	18 11.2	4.00?	1 3.6	The max. swing exceeded the breadth of the trace. Sensibility 1° = 4mm.
210	" 16	5 23.9	5 27.5	5 31.6	6 2.1	2.50	0 38.2	Sensibility 1° = 4mm.

Register from the Government Observatory, Bombay.
Director, N. A. F. MOOS.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1902.								
321	July 9	H. M. 3 44.8	H. M. 3 49.7	H. M. 3 55.0	H. M. 4 50.3	MM. 1.3	H. M. 1 5.5	
406	Aug. 3	17 6.5	—	—	17 15.7	17 39.9	0.3	0 23.4
437	" 22	3 5.4	3 9.3	—	—	5 49.7	—	2 44.3
441	" 24	1 56.8	2 0.1	2 0.9	—	2 25.2	2.0	0 28.4
471	" 30	21 56.7	—	22 0.8	22 33.3	4.4	1 36.6	—
526	Sept. 20	6 34.3	6 36.9	6 37.2	6 58.5	1.0	0 25.2	—
530	" 22	1 57.7	2 7.5	2 14.8	3 50.2	2.7	2 1.5	—
533	" 23	20 39.3	—	(21 40.9)	22 54.3	(2.0)	2 15.0	—
554	Oct. 6	9 18.0	9 20.2	9 25.7	10 0.1	1.7	0 42.1	—
561	" 15	8 20.5	—	8 22.8	8 24.1	0.3	0 3.8	—
577	Nov. 4	11 17.8	11 45.4	11 46.0	12 43.7	3.5	1 25.9	—
583	" 20	20 45.0	20 51.6	21 7.0	22 15.6	0.9	1 30.6	—
590	" 21	7 11.5	—	7 35.8	8 25.8	1.3	1 14.3	—
615	Dec. 13	9 13.9	—	9 37.3	1 22.5	0.3	1 8.8	—
619	" 13	17 11.8	—	17 18.2	18 2.4	2.5	0 50.6	—
625	" 16	5 12.9	5 18.5	5 20.2	5 47.1	5.4	0 34.2	—
626	" 16	5 55.5	—	5 59.5	6 13.4	0.3	0 17.9	—
642	" 28	1 58.8	2 3.9	2 6.2	3 15.2	1.5	1 16.4	—
644	" 30	5 10.3	—	5 19.5	5 26.0	0.3	0 9.7	—

Between July 1 and November 14, 1 mm. of amplitude = 0° 62.
Between November 15 and December 31, 1 mm. of amplitude = 0° 50.
Where no distinction of P.T. or L.W. can be made, the commencement of disturbance is entered in the column 'P.T. Commence.'

Register from the Kodaikānal Solar Physics Observatory, Madras.
Director, C. MICHE SMITH.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1902.								
49	July 5	H. M. 15 31.3	H. M. 15 35.4	H. M. 15 37.0	H. M. 15 46.0	MM. 0.4	H. M. 0 3	0 15
50	" 6	13 27.7	14 08.7	14 11.8	15 24.0	0.6	0 3	2 06
51	" 9	3 48.3	3 55.6	3 56.7	4 14.2	1.2	0 6	0 26
52	" 9	—	—	13 23.1	—	—	—	0 66
53	" 9	—	—	17 25.7	—	—	—	0 62
54	Aug. 2	—	—	23 41.0	—	—	—	0 63
54A	" 3	—	—	2 00.5	—	—	—	0 68
55	" 3	17 07.7	—	17 11.8	17 12.0	?	0 3	0 2
56	" 7	12 00.7	(12 07.0)	12 07.9	—	—	0 7	0 3
57	" 12	—	—	4 05.8	12 19.9	—	1.0	0 5
58	" 21	11 30.7	11 34.6	11 35.0	12 09.0	0.6	0 3	0 38
59	" 22	3 04.8	3 09.9	(3 14.0)	—	—	11.0	4.9
				(3 16.6to)	—	—	—	—
				(3 25.4)	—	—	—	—
				(3 39.5)	6 45.0	—	8.0	3.9
60	" 23	—	—	13 13.1	—	—	—	—
				14 06.8	—	—	—	—
61	" 24	1 41.1	2 03.7	2 04.8	2 21.2	2.6	1.1	0 40
62	" 28	—	—	15 20.2	15 27.4	0.5	0.2	0 07
63	" 30	21 59.5	22 08.2	22 08.7	22 59.6	8.0	3.8	1 00
64	Sept. 6	4 44.1	—	4 54.9	5 06.7	0.8	0.2	0 23
65	" 16	—	—	11 21.4	11 22.5	—	—	0 13
66	" 18	—	—	19 06.9	19 08.0	—	—	0 04
67	" 19	—	—	5 01.2	(5 02.8)	—	—	(11.2)
				(5 20.7)	5 49.0	—	—	(5 5.1)
68	" 20	6 40.5	6 43.1	6 43.1	6 58.5	0.4	0.2	0 18

Felt in Srinagar

Kodakānal—continued.

No	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
69	Sept. 22	H. M. 1 57.6	H. M. 2 06.8	H. M. 2 22.8	H. M. 3 56.5	MM. " 1.0 0.6	H. M. 1 59	Many subsidiary maxima.
70	" 22	10 17.1	—	10 19.2	—	0.2	0 10	—
71	" 23	20 39.0	21 38.0(?)	21 46.2	22 47.0	1.1 0.7	2 08	—
72	Oct. 6	?	?	8 48.0?	10 00.3	2.0 ?	—	New sheet started 28m. This E.Q. damaged the Chitral Fort.
73	Nov. 1	—	—	9 41.0	—	—	—	Widening of line.
74	" 4	—	11 44.0	11 45.5	—	1.5 0.8	—	Sudden disturbance.
75	" 11	—	—	18 46.2	12 23.5	2.0 1.1	0 39.5	No P.T.'s. Thickening of line.
76	" 13	—	—	8 05.4	—	0.5 0.3	—	Thickening of line (elongated).
77	" 15	—	—	9 59.8	—	—	—	—
78	" 20	—	20 50.9	20 50.9	—	—	0 10.4	—
79	" 21	7 10.0	7 17.8	7 59.5	21 40.5	0.8 0.2	0 49.6	—
80	Dec. 13	—	—	9 19.5	8 01.8	0.75 0.4	0 51.5	Thickening of line.
81	" 13	17 11.7	17 16.8	17 16.8	—	1.2 0.6	—	—
82	" 16	5 18.8	5 23.5	5 23.5	17 52.1	2.5 1.1	0 40.4	Andijan destroyed by this E.Q.
83	" 18	—	—	17 20.8	5 11.7	1.0 0.5	0 52.0	—
84	" 19	—	—	0 45.1	—	—	—	Marks exactly similar to hour marks.
85	" 21	—	—	1 59.4	—	—	—	Thickening of line.
85	" 28	2 01.0	2 04.6	2 06.6	—	0.75 0.4	—	Continuous undulating upheaval of earth in Andijan and adjoining districts.
				10.8	2 17.2	1.75 0.9	0 16.2	—

Register from Batavia. Director, Dr. S. FIGEE.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Amplitude Double	Duration	Remarks
1902.								
400	July 6	H. M. 13 15.0	H. M. 13 24.6	H. M. 13 50.8	H. M. 15 31	MM. " 2.0 0.8	H. M. 1 40	Moderate.
401	" 9	—	4 15.0	4 20.0	4 42	1.0 0.4	0 22	Small.
402	" 11	—	2 37.3	2 38.0	2 44	0.7 0.3	0 6	Very small.
403	" 12	—	7 26.9	7 28.3	7 30	0.6 0.2	0 3	"
404	" 13	—	2 7.9	2 8.1	2 10	0.7 0.2	0 2	"
405	" 15	—	17 59.7	18 0.0	18 3	0.6 0.2	0 2	"
406	" 17	—	2 51.7	2 52.7	2 56	0.6 0.2	0 3	"
407	" 19	23 13.7	23 21.4	23 22.7	23 43	2.1 0.7	0 20	Small.
408	" 22	—	23 55.7	23 56.7	23 40	0.6 0.2	0 3	Very small.
409	Aug. 2	14 28.6	14 30.2	14 41.5	15 47	2.5 1.0	1 6	Moderate.

Register from Batavia—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Amplitude Double	Duration	Remarks
410	Aug. 2	H. M. —	H. M. 22 57.1	H. M. 23 21.1	H. M. 24 1	MM. " 1.5 0.5	H. M. 0 40	Small.
411	" 7	—	17 7.9	17 8.2	17 35	1.0 0.3	0 25	"
412	" 7	11 50.7	11 50.4?	11 51.7	12 33	23.0 7.7	0 42	Strong.
413	" 9	—	14 36.7	15 7.2	15 38	0.8 0.2	0 29	Very small.
414	" 10	—	12 47.7	12 59.5	13 20	0.7 0.2	0 20	"
415	" 16	—	6 10.2	6 11.5	6 15	0.5 0.2	0 3	"
416	" 16	—	7 36.5	7 37.4	7 39	0.3 0.1	0 2	"
417	" 16	—	8 12.7	8 39.5	9 50	2.1 0.6	1 10	Moderate.
418	" 18	—	22 38.8	22 41.1	22 47	0.5 0.2	0 8	Very small.
419	" 21	11 20.7	11 24.7	11 27.7	12 28	4.6 1.5	1 0	Moderate.
420	" 22	3 9.0	3 17.9	3 14.1	3 14.1	6 57	1.1 0.3	Very strong.
				19.7	—	4.4 1.4	—	
				23.3	—	6.5 2.1	—	
				24.7	—	7.0 2.2	—	
				31.2	—	14.0 4.5	—	
				33.5	—	36.0 11.0	—	
				34.7	—	60.0 18.0	—	
				36.7	—	33.0 13.0	—	
				35.7	—	40.0 12.0	—	
				41.8	—	40.0 12.0	—	
				45.0	—	21.0 6.3	—	
				49.6	—	10.2 5.9	—	
				58.0	—	6.0 1.8	—	
421	" 22	—	23 35.7	23 38.1	23 43	1.0 0.3	0 5	Very small.
422	" 24	—	2 6.3	2 29.1	2 59	0.3 0.3	0 30	Small.
423	" 25	—	17 17.7	17 28.2	17 45	0.8 0.2	0 17	Very small.
424	" 30	—	7 41.7	7 50.0	8 7	0.9 0.3	0 17	"
425	" 30	—	22 12.7	22 25.7	23 26	5.0 1.4	1 0	Moderate.
426	Sept. 15	—	13 13.6	13 19.7	13 40	1.1 0.4	0 20	Small.
427	" 16	10 58.5	11 2.3	11 10.2	12 0	3.3 1.0	0 50	Moderate.
428	" 20	—	10 35.2	10 35.5	10 42	1.0 0.5	0 7	Small.
429	" 22	—	1 55.3	2 8.0	3 36	11.0 5.4	3 30	Strong.
430	" 23	19 40.5	—	19 56.0	22 41	10.0 4.9	2 45	"
				21 10.7	—	5.0 1.9	—	
431	Oct. 4	1 33.5	—	1 35.5	1 40	1.0 0.3	0 6	Small.
432	" 6	9 26.7	9 30.7	9 45.4	10 35	2.0 0.7	1 8	Moderate.
433	" 10	11 12.8	11 16.3	11 32.9	11 48	1.2 0.4	0 35	"
434	" 10	21 12.6	—	21 18.0	21 23	0.7 0.3	0 10	Small.
435	" 13	12 2.7	—	12 24.2	12 53	1.1 0.4	0 50	"
436	" 13	14 13.5	—	14 16.2	15 4	8.0 3.1	0 50	Moderate.
437	" 14	17 43.7	—	17 49.3	18 5	1.0 0.3	0 21	Small.
438	" 16	10 8.3	—	10 9.7	10 10	0.4 0.2	0 2	Very small.
439	" 19	7 52.7	—	7 53.4	7 58	0.8 0.3	0 5	"
440	" 23	7 15.8	7 24.6	7 17.5	7 27	1.3 0.4	0 11	Small.
441	" 25	8 50.7	—	8 51.3	9 14	0.8 0.3	0 23	Very small.
442	Nov. 2	11 48.4	11 56.7	11 57.9	12 38	7.6 2.8	0 50	Moderate; duration first period of P.T. 28m. and of second period 55m.
443	" 12	9 32.4	—	9 32.9	9 35	0.5 0.2	0 2	Very small.
444	" 15	9 28.1	9 32.1	9 41.2	10 31	1.6 0.5	1 3	Moderate.
				47.7	—	1.8 0.6	—	
				52.4	—	1.6 0.5	—	
445	" 17	6 46.8	—	6 47.4	1 27	2.2	0 40	"
445A	" 17	2 38.4	—	2 38.8	2 41	1.6	0 2	Very small.
446	" 19	2 18.8	—	2 17.7	2 27	0.5 0.2	0 10	"
447	" 20	20 37.6	20 46.0	20 54.3	22 13	6.0 2.0	1 25	Moderate.
448	" 21	7 7.5	7 14.5	7 29.2	8 28	8.0 2.7	1 20	"
449	" 21	18 52.4	—	18 54.3	18 57	0.5 0.2	0 4	Very small.
450	" 22	9 35.4	—	9 37.3	9 46	0.5 0.2	0 10	"
451	" 22	14 57.4	—	14 42.5	14 58	1.1 0.4	0 20	Small.
452	" 26	6 14.2	—	6 15.2	6 22	4.8 1.6	0 8	Moderate.
453	Dec. 7	11 55.0	—	11 57.4	12 1	0.6	0 6	Very small.
454	" 12	16 9.9	16 13.7	16 15.7	16 35	3.0 1.2	0 25	Small.
455	" 13	17 15.4	17 22.2	17 27.9	18 5	6.5 2.7	0 50	Moderate.
				34.7	—	4.0 1.6	—	
456	" 16	5 34.0	—	5 48.4	6 35	1.3 0.5	1 0	Small.
				6 22.4	—	0.7 0.3	—	
457	" 28	2 14.6	2 18.0	2 18.7	2 40	2.0 0.7	0 25	"

Register from the Johns Hopkins University, Baltimore, U.S.A., May 27 to December 31, 1902. Professor HARRY FIELDING REID.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1902								
No record June 3, 19 ³⁰ h., to June 6, 1h.								
" " " 6, 11 ⁵ h., to 2 ² h.								
134	June 8	H. M. 13 52.5	H. M. 13 56	H. M. 13 57.3	H. M. 14 42	" 0.6	H. M. 0 49.5	E.Q. Principal part lasted 10 minutes.
135	" 11	8 51	7 2	7 4.5	7 37	1.1	0 46	
No record June 18, 20h., to June 19, 1h.								
" " " 20, 22h., to June 21, 1 ² h.								
136	" 24	14 24.2	—	—	14 36.2	—	—	Small disturbance of beam, not E.Q.
No record July 1, 2h., to July 2, 0h. 45m.								
" " " 3, 14h., to 13h. 35m.								
137	July 6	13 29.3	—	14 14	15 22	0.6	—	E.Q. Principal part lasted about 80m.
No record July 10, 23h., to July 11, 1h. (lamp out)								
" " " 26, 23h., to July 27, 5 ⁵ h.								
138	" 28	15 37	—	15 37.2	15 41.5	0.2	—	Small disturbance dying out.
No record July 29, 22 ³ h., to July 30, 1h.								
" " " 31, 15h., to August 1, 15h.								
" " " August 4, 19h. 30m., to August 5, 15h.								
" " " 6, 18h., to August 7, 18h.								
140	Aug. 13	—	4 15	4 17.5	4 42	0.8	—	—
No record August 13, 20h., to August 14, 0h.								
" " " 14, 0h., to 17h.								
" " " 18, 19h., to August 17, 0h.								
" " " 21, 18h., to 23h.								
141	" 22	3 24.5	3 53.3	4 15	6 17.5	5.5	—	E.Q. Record faint & times inaccurate.
No record September 1, 19 ² h., to September 15, 14 ⁵ h. (instrument out of order)								
" " " 22, 1h., to September 23, 15 ² h. (film caught)								
142	Oct. 2	—	18 16.5	18 19	18 22	1.0	—	Record faint at times, very inaccurate.
No record October 8, 15 ³ h., to October 17, 2h. (lamp out)								
" " " 18, 21 ⁵ h., to October 19, 1 ³ h.								
143	" 23	21 7	—	—	—	0.3	—	Sudden small disturbance dying out. Probably not E.Q.
No record October 27, 16h. 21m., to 17h. 59m.								
144	Nov. 1	0 7.5	—	—	13 5	0.3	—	Air current.
147	" 8	0 7.7	—	—	15 0	—	—	" "
No record November 10, 20 ⁴ h., to November 11, 20 ⁵ h.								
151	" 15	11 15	—	—	12 45	0.3	—	Probably air current.
No record November 20, 14 ⁵ h. to 17h.								
156	" 20	20 48.5	—	21 49	—	0.7	—	E.Q.
157	" 21	7 30	—	—	9 0	—	—	E.Q.
159	" 23	1 24	—	—	—	—	—	10-15h. a small disturbance. Record faint.
No record November 24, 9h. to 19 ⁴ h.								
166	Dec. 12-13	23 17.6	23 26	23 28	0 44	14.5	—	Large E.Q.
168	" 16	6 11.6	—	—	6 24	0.5	—	—

Register from the Royal Alfred Observatory, Mauritius.
Director, T. F. CLAXTON, F.R.A.S.; Observer, A. WALTER, F.R.A.S.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1901.								
167	Oct. 3	H. M. 4 55.2	H. M. 4 58.3	H. M. 4 58.3	H. M. 5 7.6	MM. 0.65	H. M. ?	Thickening, very slight.
168	" 8	23 51.3	—	—	23 59.4	0.65	—	Active air tremors.
169	" 8	3 34.0	—	—	3 59.6	5 7.6	0.65	?
170	" 11	4 25.6	—	—	4 33.9	—	—	Several thickenings.
171	" 17	0 23.8	—	—	0 30.8	—	0 20.6	Two thickenings.
172	" 17	1 44.1	—	—	2 14.0	—	0 41.7	Several thickenings.
173	" 17	?	6 20.8	—	6 24.1	0.65	0 27.5	Beginning masked A.T.'s
174	" 19	9 14.7	10 48.2	10 49.8	12 22.9	0.70	3 8.2	—
175	" 20	3 17.8	—	—	3 18.9	8 24.0	0 6.2	Thickening.
176	" 23	7 52.±	8 31.5	8 39.1	9 8 41.1	0.50	—	Large movements cease.
177	" 31	6 9.6	6 39.2	6 40.3	7 5.6	—	0 56.0	Thickening. Tremors for some hours.
178	" 31	—	—	9 27.2	—	—	—	Several tremors.
179	Nov. 3	12 50.4	—	—	12 51.9	—	0 7.1	Thickening.
180	" 8	11 7.9	—	—	11 21.6	—	0 23.1	?
181	" 9	9 23.9	—	—	9 27.0	9 33.1	—	Two maxima. Thickening.
182	Dec. 2	14 48.8	—	—	14 51.4	14 53.4	—	Thickening.
183	" 5	17 43.3	18 10.1	18 14.2	18 30.0	0.60	0 19.9	—
184	" 6	14 8.6	14 27.9	14 44.5	15 57.4	0.60	1 22.1	—
185	" 9	2 54.6	—	—	2 58.4	3 26.9	—	Thickening.
186	" 13	22 23.5	—	—	22 27.7	22 29.6	—	0 6.0
187	" 14-15	23 9.2	23 18.4	23 40.9	1 57.0	2.95	—	2 58.6
188	" 18	16 51.6	—	—	18 53.2	17 0.2	—	6 8.6
189	" 18	0 52.0	—	—	1 1.7	1 8.8	—	0 16.9
190	" 24	—	—	—	21 2.5	—	—	Slight thickening.
191	" 26	10 22.0	10 35.1	—	11 53.5	1.00	—	Several thickenings.
192	" 31	6 30.±	—	—	8 30.±	—	—	? Air tremors.
193	" 31	9 21.3	9 32.0	10 44.3	12 21.9	—	3 0.6	—
Scale Values: 1 mill.=0.52								
From Oct. 3 to Nov. 8 (Nos. 167-180).								
" =0.30 Dec. 2 to Dec. 5 (Nos. 182-183).								
" =1.12 Dec. 6 to Dec. 9 (Nos. 184-185).								
" =0.33 Dec. 13 to Dec. 31 (Nos. 186-193).								

Register from the Botanical Department, Trinidad.
Superintendent, J. H. HART, F.L.S.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1902.								
83	July 1	H. M. 14 36	H. M. 14 31	H. M. 14 23	MM. 1	H. M. 0 3	—	—
84	" 1	19 59	—	—	—	—	—	0 4
85	" 3	19 7	—	—	—	—	—	0 3
86	" 6	14 3	14 6	14 10	14 38	1	0 35	—
87	" 11	16 27	—	—	16 29	1	0 5	—
88	" 13	12 2	—	—	—	—	—	0 16
89	" 17	17 33	—	—	—	—	—	0 2
90	" 19	14 49	—	14 42	14 44	1	0 4	—
91	" 22	16 29	—	—	—	—	—	0 4
92	" 23	13 42	—	—	—	—	—	0 4
93	Aug. 2	17 52	—	—	—	—	—	0 5
94	" 11	18 56	—	—	—	—	—	0 4
95	" 13	13 39	—	—	—	—	—	0 3
96	" 22	15 26	15 30	16 13	?	3	?	—
97	" 31	14 38	—	—	14 41	—	0 3	Thickening of line.

Register from the Botanical Department, Trinidad—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
98	Sept. 4	H. M. 19 16	H. M. —	H. M. 19 16	H. M. 19 21	MM. 1.5	H. M. 0 5	—
98	" 17	17 49	—	17 51	17 55	1	0 5	—
100	" 22	2 4	2 8	3 20	4 23	1.5	2 19	—
101	" 23	20 24	—	20 34	22 37	10	3 13	Thickening of line.
102	" 27	18 3	—	—	18 5	—	3 2	—
103	Oct. 4	14 4	—	—	14 6	—	0 2	—
104	" 4	14 33	—	14 35	14 39	1.5	0 6	—
105	" 18	16 21	—	16 22	16 24	1	0 3	—
106	Nov. 1	14 53	—	—	14 53	—	0 3	Thickening of line.
107	" 8	18 12	—	—	18 14	—	0 2	—
108	" 12	18 56	—	—	19 0	—	1	—
109	" 15	18 9	—	14 11	14 15	—	0 4	—
110	" 20	20 56	—	—	22 36	—	1 40	Series of thickenings
111	" 26	12 47	—	—	12 50	—	0 3	Thickening of line.
112	Dec. 12-13	23 21	23 35	23 42	0 10	1.5	0 49	—
113	" 18	3 41	—	3 42	3 46	1	0 5	—

Register from Irkutsk Magnetical and Meteorological Observatory.
Director, A. V. VOZNESSENSKY.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
1902.								
13	Jan. 1	H. M. 5 27.9	H. M. 5 39.3	H. M. 5 50.6	H. M. 8 17.4	MM. 2.4	H. M. 2 49.5	—
14	" 12	19 45.3	22 38.2	23 08.9	23 44.1	0.5	1 09.9	—
15	" 17	21 42.1	19 40.7	19 57.7	20 49.8	1.2	0 57.5	—
16	" 17	21 42.1	—	21 44.0	21 48.9	0.2	0 05.8	—
17	" 18-19	23 59.5	—	—	0 48.4	—	0 58.9	—
18	" 21	23 18.5	—	—	23 45.4	—	0 28.9	—
19	" 22	10 04.3	—	—	10 06.7	0.2	0 02.4	—
20	" 23	18 45.1	—	18 59.2	16 18.5	0.1	0 33.4	—
21	" 24	11 33.6	—	—	11 39.7	—	0 16.1	—
22	" 24-25	23 38.7	23 47.7	0 08.1	3 03.2	0.9	3 24.5	—
23	" 27	0 12.0	—	—	0 23.8	—	0 11.2	—
24	" 28	19 46.5	—	—	20 04.3	—	0 17.8	—
25	" 30	10 50.2	—	—	11 09.5	—	0 10.3	—
26	" 30	14 05.6	14 10.8	14 18.1	16 07.1	10.5	1 58.5	—
27	" 31	1 46.8	1 51.3	1 58.9	3 20.3	5.2	1 32.5	—
28	Feb. 1	19 12.4	—	19 14.8	19 27.8	0.35	0 18.4	—
29	" 3-4	23 39.9	—	23 51.8	0 43.2	0.23	1 02.3	—
30	" 9	7 52.9	8 00.9	8 53.2	13 10.6	0.89	5 17.7	—
31	" 13	9 52.9	9 56.3	10 05.6	11 09.0	1.50	1 16.1	—
32	" 13	14 20.9	—	—	14 24.3	0.1	0 08.4	Shemaku.
33	" 15	10 38.0	—	10 39.0	10 46.4	0.05	0 08.4	—
34	" 15	21 51.2	21 52.1	21 53.3	22 04.6	0.55	0 13.4	—
35	" 17	0 53.5	1 33.6	1 53.8	2 24.3	0.90	1 35.8	—
36	" 30	2 00.4	2 03.2	2 08.9	2 20.3	0.30	0 28.5	—
37	" 20	15 42.9	15 47.3	15 53.2	16 34.1	0.80	0 51.2	—
38	" 20	23 44.3	—	23 46.3	23 46.9	—	0 02.6	—
39	" 21	17 30.3	—	17 32.5	17 36.8	0.27	0 06.5	—
40	" 25	11 56.0	—	—	11 59.6	—	0 03.0	—
41	" 25	15 31.5	15 36.3	15 07.2	16 34.8	0.40	0 43.3	—
42	" 26	15 25.8	—	15 29.8	15 30.6	1.15	0 10.8	Probably non-cis- nit.
43	" 28	—	17 08.1	17 17.4	17 22.9	2.10	0 14.8	—
44	Mar. 1	0 23.2	0 29.7	0 32.5	1 34.1	0.95	1 10.9	—
45	" 2	1 08.5	—	1 08.9	1 16.2	0.20	0 07.7	—
46	" 3	0 31.5	—	0 32.5	0 42.6	0.15	0 11.1	—
47	" 5	19 22.1	19 45.6	20 43.1	21 58.9	0.40	2 36.8	—
48	" 9	8 01.8	—	8 21.4	8 35.8	—	0 34.0	—
49	" 10	6 21.0	—	5 41.2	5 47.8	—	0 29.9	—
50	" 10	10 32.7	—	10 34.5	10 41.2	0.30	0 08.5	—
51	" 12	8 47.2	—	8 51.1	9 18.0	0.32	0 27.8	—
52	" 12	15 30.2	—	15 31.2	17 05.3	0.20	1 35.1	—
53	" 17	2 20.1	—	—	2 28.2	—	0 08.1	—

Register from Irkutsk—continued.

No.	Date	P.T. Commence	L.W. Commence	Max.	End	Max. Amplitude	Duration	Remarks
54	Mar. 17	H. M. 12 12.6	H. M. —	H. M. 12 24.3	H. M. 12 37.3	MM. —	H. M. 0 24.7	—
55	" 20	2 11.9	—	2 17.2	2 18.7	1.70	0 35.8	—
56	" 22	8 50.5	—	8 51.1	8 04.4	—	1 13.9	—
57	" 22	22 29.4	23 00.8	23 07.3	0 30.0	0.60	1 50.6	—
58	" 23	—	9 57.5	9 58.6	10 10.1	0.90	0 12.6	—
59	" 23	12 28.6	—	—	12 32.3	—	0 03.7	—
60	" 24	18 46.4	—	—	19 10.2	—	0 23.8	—
61	" 25	6 08.0	—	6 35.7	6 44.5	0.10	0 38.5	—
62	" 28	9 46.9	—	10 03.4	10 23.0	0.30	0 53.1	—
63	" 28	14 33.8	15 18.8	15 02.7	2.75	3 08.9	—	—
64	" 28	20 23.1	15 01.7	20 25.4	20 43.9	0.15	0 26.8	—
65	" 31	8 45.9	—	5 53.9	6 08.6	0.30	0 22.7	—
66	" 31	15 52.2	—	16 13.2	16 30.4	0.15	0 38.2	—
67	April 2	2 18.5	2 19.2	2 19.4	2 24.0	0.65	0 05.5	—
68	" 2	4 39.7	—	4 39.4	4 44.8	0.17	0 08.1	—
69	" 2	5 43.1	—	5 45.1	5 47.3	0.15	0 04.2	—
70	" 3	9 53.9	—	9 55.9	10 07.4	0.20	0 14.2	—
71	" 3	11 13.0	—	11 14.5	11 27.9	0.20	0 14.2	—
72	" 3	18 51.8	—	16 53.2	16 50.8	0.20	0 05.0	—
73	" 5	19 14.3	19 23.2	19 29.3	19 50.1	0.60	0 44.8	—
74	" 5	23 05.5	—	23 07.8	23 13.9	0.20	0 07.4	—
75	" 7	9 33.5	—	9 34.2	9 38.9	0.15	0 05.4	—
76	" 7	13 18.4	—	13 21.0	13 26.9	0.20	0 08.5	—
77	" 10	14 37.6	—	—	15 06.0	—	0 28.4	—
78	" 11-12	—	23 43.7	23 44.3	—	13.0	3 09.3	No. 79. On April 12 4h. 53m. to 4h. 56m. not regis- tered by Milne's recorder.
80	" 12	—	—	11 46.1	—	—	—	—
81	" 12	—	—	14 56.7	—	—	—	—
83	" 12	17 41.1	—	17 41.5	17 46.4	0.30	0 05.3	No. 82. On April 12 17h. 16m. to 17h. 17m.
84	" 12	—	—	—	—	—	—	—
85	" 12	—	—	22 59.0	—	—	—	—
86	" 13	—	—	0 02.1	—	0.20	0 02.9	—
87	" 13	—	—	13 57.4	—	—	—	No. 83. April 13, 14h. 40m.-14h. 45m. not registered on Milne's recorder.
89	" 14	—	—	14 27.3	14 38.4	0.15	0 11.1	—
90	" 14	—	—	17 07.7	17 14.0	—	0 05.3	—
91	" 15	—	—	18 36.2	18 54.8	0.25	0 18.8	—
92	" 15	23 45.4	—	—	23 51.8	—	0 08.4	—
93	" 16	10 21.4	—	10 21.8	10 45.3	0.50	0 23.9	—
94	" 16	—	—	17 22.7	17 37.7	0.55	0 15.0	—
95	" 17	7 18.6	—	7 33.0	7 38.3	0.20	0 20.0	—
96	" 17	21 16.2	—	21 21.8	21 30.5	0.15	0 14.3	—
97	" 17	23 07.1	—	—	23 12.8	—	0 06.7	—
98	" 18	—	—	7 07.0	—	0.15	0 04.3	—
99	" 18	—	—	12 03.2	—	—	—	—
100	" 19	2 43.7	2 51.5	3 35.9	5 26.1	2.50	2 41.4	—
101	" 19	11 49.7	—	11 50.1	11 53.2	0.20	0 03.5	—
102	" 19	12 52.5	—	—	12 57.9	—	0 05.4	—
103	" 21	17 52.1	18 26.3	18 28.1	19 18.8	0.35	1 23.7	—
104	" 21	20 44.1	—	—	20 56.2	—	0 12.1	—
105	" 22	16 00.9	—	16 05.5	16 13.4	0.17	0 12.5	—
106	" 22	0 25.1	—	—	0 42.9	—	0 17.8	—
107	" 28	1 02.1	—	—	1 11.9	—	0 08.8	—
108	" 28	22 07.6	—	—	22 17.9	—	0 10.3	—
109	" 27	8 16.4	—	—	8 28.6	—	0 12.1	—
110	" 28	13 28.8	—	—	13 46.5	—	0 19.7	—
111	May 1	3 03.9	—	3 15.3	3 21.9	0.10	0 18.0	—
112	" 2	—	4 39.5	4 39.9	4 40.6	0.60	0 01.3	—
113	" 2	11 35.6	11 41.5	11 43.2	13 15.7	2.43	1 39.1	—
114	" 2	16 21.8	—	16 22.4	16 26.7	0.30	0 04.9	No. 115. On May 2 17h. 13.9m. to 17h. 25.1m. not registered on Milne's recorder.

Register from Irkutsk—continued.

No.	Date	P.T. Commence		L.W. Commence		Max.	End	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	H. M.	H. M.					
116	May 4	—	—	18 06.6	—	0.25	—	—	—	—
117	" 6	15 09.8	—	15 1.3	15 21.7	0.80	0 11.9	—	—	—
118	" 8	2 28.5	2 31.0	2 38.7	>3 17.0	1.50	0 31.3	—	—	—
119	" 10	22 18.6	—	—	22 52.4	—	0 35.9	—	—	—
120	" 25	16 59.9	17 07.1	17 10.6	18 20.9	1.10	1 25.0	—	—	—
121	" 28	9 12.4	—	9 20.1	9 29.1	0.35	0 16.7	—	—	—
122	June 8	13 35.4	—	13 39.0	14 03.9	0.85	—	—	—	—
123	" 11	6 16.7	6 19.6	6 23.3	7 31.8	3.20	—	—	—	—
124	" 16	1 51.7	1 54.9	1 55.3	2 07.6	0.50	—	—	—	—
125	" 18	10 11.9	—	—	10 23.1	—	—	—	—	—
126	" 21	22 26.5	—	22 27.6	22 29.3	—	0.10	—	—	—
127	July 1	8 27.2	8 34.9	8 35.9	8 49.7	0.60	0 22.5	—	—	—
128	" 5	15 17.9	15 25.8	15 31.5	15 50.5	0.50	0 32.6	—	—	—
129	" 6	13 27.7	—	14 34.7	15 52.1	0.30	2 24.4	—	—	—
130	" 8	14 16.5	—	14 26.1	14 40.9	0.35	0 24.4	—	—	—
131	" 9	3 56.2	4 03.3	4 05.6	4 32.9	0.60	0 26.7	—	—	—
132	" 13	11 15.3	—	11 14.2	11 15.8	0.17	0 01.9	—	—	—
133	" 19	19 45.0	—	19 45.4	19 56.9	0.40	0 10.9	—	—	—
134	Aug. 2	14 40.9	14 54.5	14 59.3	15 26.4	0.40	0 55.5	—	—	—
135	" 3	1 46.4	—	1 58.1	2 00.2	0.35	0 25.6	—	—	—
136	" 3	10 53.3	10 56.6	10 58.4	10 58.7	1.10	0 45.4	—	—	—
137	" 4	10 00.9	10 02.1	10 04.9	10 32.9	0.35	0 32.0	—	—	—
138	" 7	9 38.2	—	9 39.3	9 44.5	0.45	0 06.3	—	—	—
139	" 7	12 29.3	—	12 25.1	12 34.0	0.20	0 11.4	—	—	—
140	" 16	8 25.0	—	8 48.9	9 33.2	0.19	1 08.2	—	—	—
141	" 21	11 32.0	11 40.0	11 41.7	12 31.1	0.50	0 59.1	—	—	—
142	" 22	3 05.4	3 06.0	3 14.2	6 49.8	35.0	3 44.4	Kashgar.	—	—
143	" 22	9 54.2	—	—	9 56.3	—	0 02.1	—	—	—
144	" 22	15 51.7	—	—	16 01.4	—	0 09.7	—	—	—
145	" 22	17 09.4	—	—	17 05.4	—	0 05.0	—	—	—
146	" 23	1 57.2	—	—	1 58.2	—	0 01.0	—	—	—
147	" 23	15 06.1	—	15 09.6	15 28.2	0.25	0 22.1	—	—	—
148	" 24	1 38.3	2 01.2	2 08.3	2 34.8	0.95	0 56.5	—	—	—
149	" 24	9 08.9	—	9 11.0	9 15.5	—	0 06.6	—	—	—
150	" 25	13 03.0	—	—	13 07.1	—	0 04.1	—	—	—
151	" 26	17 38.6	—	17 40.8	17 51.0	—	0 12.5	—	—	—
152	" 26	—	—	11 32.8	—	—	—	—	—	—
153	" 29	15 04.7	15 18.9	15 23.1	15 25.4	0.50	0 30.7	—	—	—
154	" 30	7 39.8	—	7 41.2	7 50.2	0.45	0 10.4	—	—	—
155	" 30	21 53.7	21 58.1	22 02.4	23 33.9	6.6	1 40.2	—	—	—
156	" 31	12 38.4	—	—	12 42.5	—	0 04.1	—	—	—
157	Sept. 8	21 26.8	—	21 27.1	21 27.5	0.35	0 09.7	Bukhal.	—	—
158	" 10	9 15.6	—	—	9 16.2	—	0 09.6	—	—	—
159	" 10	21 16.0	—	—	21 20.2	—	0 04.2	—	—	—
160	" 11	5 18.3	—	—	5 18.6	—	0 02.3	—	—	—
161	" 15	6 31.3	—	—	6 34.7	—	0 05.1	—	—	—
162	" 16	11 15.4	11 20.1	11 20.9	11 44.6	0.50	0 29.2	—	—	—
163	" 18	19 04.8	—	19 05.7	19 13.0	0.35	0 08.2	—	—	—
164	" 20	6 36.6	6 41.7	6 42.3	7 38.1	0.45	1 01.5	—	—	—
165	" 22	1 56.0	1 56.9	2 06.7	4 55.3	13.9	3 30.3	—	—	—
166	" 23	20 31.1	20 46.5	21 34.2	23 33.0	4.8	2 58.9	—	—	—
167	" 24	6 37.7	—	—	6 45.1	—	0 07.4	—	—	—
168	" 27	2 06.8	—	—	2 46.6	—	0 39.8	—	—	—
169	" 29	2 41.3	—	2 41.9	2 56.9	0.45	0 15.6	—	—	—
170	Oct. 2	18 12.5	18 18.8	18 25.0	18 49.3	1.00	0 58.8	—	—	—
171	" 4	7 04.2	—	7 05.3	7 32.1	—	0 27.9	—	—	—
172	" 6	9 21.7	9 25.4	9 27.7	11 27.0	1.70	2 08.3	Margelan earth-quake.	—	—
173	" 9	19 49.8	—	19 48.5	19 55.3	0.30	0 14.7	—	—	—
174	" 10	11 01.8	—	—	12 11.0	—	1 09.8	—	—	—
175	" 15	8 11.0	—	8 13.7	8 31.2	0.80	0 20.2	Soufriere.	—	—
176	" 22	9 49.1	—	9 56.6	10 24.4	0.20	0 35.5	—	—	—
177	" 23	5 33.2	—	5 38.9	5 45.3	0.25	0 12.1	—	—	—
178	" 25	16 40.9	—	16 46.2	16 52.6	—	0 11.7	—	—	—
179	" 31	7 49.0	—	7 45.7	7 59.0	—	0 19.9	—	—	—
180	" 31	22 13.0	—	—	22 25.4	—	0 12.4	—	—	—
181	Nov. 4	9 29.9	—	9 43.6	10 00.5	0.50	0 20.6	—	—	—
182	" 4	10 12.2	—	10 17.1	10 28.1	1.2	0 18.9	—	—	—
183	" 4	11 37.5	11 44.2	11 48.1	13 11.1	6.3	1 53.5	—	—	—
184	" 6	12 21.4	—	12 22.3	12 44.3	0.20	0 22.9	—	—	—
185	" 7	18 31.7	—	18 36.2	18 42.0	0.75	0 10.3	—	—	—
186	" 8	16 05.0	—	16 11.4	16 29.7	0.70	0 24.1	—	—	—
187	" 8	16 39.6	16 43.7	16 45.4	16 53.2	0.55	0 13.6	—	—	—
188	" 8	18 09.1	18 10.9	18 12.3	18 30.0	0.70	0 20.9	—	—	—
189	" 9	16 38.4	—	16 43.4	16 54.7	0.90	0 16.2	—	—	—

Register from Irkutsk—continued.

No.	Date	P.T. Commence		L.W. Commence		Max.	End	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	H. M.	H. M.					
190	Nov. 9	17 35.4	—	—	17 37.5	17 54.7	0.60	0 13.3	—	—
191	" 9	20 17.5	—	—	20 28.3	20 37.1	0.80	0 19.5	—	—
192	" 14	21 52.2	—	—	—	22 11.3	—	0 18.1	—	—
193	" 15	9 28.9	—	—	9 48.5	10 41.2	0.25	1 12.3	—	—
194	" 15	16 06.1	—	—	16 07.4	16 12.0	—	0 06.8	—	—
195	" 16-17	0 51.8	0 54.3	—	1 06.6	1 29.6	0.45	0 28.8	—	—
196	" 17	20 37.4	—	—	20 42.9	20 53.6	0.25	0 16.2	—	—
197	" 20	20 39.8	20 51.5	—	20 52.4	22 25.1	0.60	1 46.3	—	—
198	" 21	7 11.3	7 18.5	—	7 25.0	8 37.4	4.3	1 25.1	—	—
199	" 24	5 36.7	—	—	5 48.0	6 13.6	0.15	0 36.9	—	—
200	" 24	11 16.3	11 21.0	—	11 23.3	11 58.3	0.50	0 42.0	—	—
201	" 25	0 07.2	—	—	0 12.6	0 20.6	0.20	0 13.4	—	—
202	Nov. 3.	—	—	—	—	—	—	—	Recorder out of order	—
203	—	—	—	—	—	—	—	—	Other instruments record earthquake 23h. 32m. to 23h. 49m. No. 202.	—
205	Dec. 4	4 34.0	—	—	4 35.3	4 41.4	0.20	0 07.4	—	—
206	" 12-13	28 35.3	0 04.1	—	0 09.4	1 06.5	0.55	1 07.3	—	—
205	" 13	17 14.3	17 18.9	—	17 23.7	18 16.9	3.7	1 01.6	—	—
205	" 16	5 18.5	5 13.4	—	5 23.8	6 28.7	3.3	1 10.2	Andishan earth-quake.	—
207	" 16	15 19.2	—	—	—	15 22.4	—	0 05.2	—	—
208	" 19	14 58.9	—	—	14 58.0	15 04.8	0.15	0 08.9	—	—
209	" 21	23 30.0	—	—	23 30.5	23 38.0	0.45	0 08.9	—	—
210	" 23	21 49.4	—	—	—	22 16.7	—	0 36.3	—	—
211	" 24	1 10.8	—	—	1 15.2	1 18.4	0.45	0 07.6	—	—
212	" 27	13 15.4	—	—	13 16.5	13 21.3	0.35	0 05.9	Mont Pelee eruption.	—
213	" 27	18 27.4	—	—	—	18 31.8	—	0 04.4	—	—
214	" 28	1 48.2	1 49.3	—	1 49.7	2 35.0	2.6	0 48.8	Altai earthquake.	—

The earthquakes of April 12, Nos. 79, 82, of April 13, No. 83, and of May 2, No. 116, are of local origin. They all are registered on heavy horizontal pendulums.
1mm. of amplitude corresponds 0.68.

Register from Perth Observatory, Western Australia.
Director, W. E. COOKE, M.A., &c.

No.	Date	P.T. Commence		L.W. Commence		Max.	End	Max. Amplitude	Remarks
		H. M.	H. M.	H. M.	H. M.				
55	July 2	3 30	to	July 3	12 3	MM.	—	—	Continual thickenings.
55	Max. at	July 2	14 15	—	—	—	—	0.45	
56	" 6	13 14.8	13 40.2	13 50.2	15 28.3	2.8	—	—	—
57	" 7	3 5 5.5	3 8.6	3 14.2	3 34.5	0.4	—	—	—
58	" 13	—	9 59.6	10 2.0	10 7.4	0.3	—	—	—
59	" 19	22 21.3	22 27.0	22 31.2	22 45.2	0.45	—	—	—
60	Aug. 2	14 29.3	14 37.1	14 43.3	16 2.4	11.0	—	—	—
61	" 2	22 54.3	23 0.5	23 11.8	23 59.4	0.9	—	—	—
62	" 4	10 8.5	10 23.4	10 25.1	10 32.5	—	—	—	—
63	" 7	—	12 3.2	12 6.7	12 43.7	0.45	—	—	—
64	" 9	—	14 48.7	14 51.7	15 45.6	0.95	—	—	—
65	" 10	—	12 47.6	12 58.6	13 40.2	3.6	—	—	—
66	" 15	—	—	3 10.5	—	0.1	—	—	—
				3 21.5	—	0.15	—	—	—

Register from Perth, Western Australia—continued.

No.	Date	P.T. Commence		L.W. Commence		Max.	End	Max. Amplitude	Remarks
		H. M.	H. M.	H. M.	H. M.				
67	Aug. 16	8 12.3	8 19.0	8 35.4	9 32.5	7.0		MM.	—
68	" 21	—	11 30.0	11 43.8	12 33.0	0.95		0.95	—
				11 45.6		7.0		6.0	—
				3 53.0		6.0		6.0	—
				3 56.5		5.0		4.9	—
				3 59.8		4.8		5.5	—
69	" 22	2 10.3	3 13.6	4 2.9	6 27.2	5.0		5.0	—
				4 6.2		4.8		5.5	—
				4 9.4		5.0		0.35	Slight thickenings.
				4 24.5		11 4		0.6	—
70	" 22	—	10 51	10 55	11 4	0.35		0.45	Slight thickenings.
71	" 30	22 11.7	22 34.0	22 41.1	23 42.6	0.6		0.45	Slight thickenings.
72	Sept. 5	—	6 40	7 6	7 45	0.45		0.15	1 Air tremors
73	" 8	—	2 30	to	17 30	—		—	Very slight thickenings.
74	" 11	3 5.1	3 15.3	3 23.9	3 44.2	0.15		—	—
75	" 17	23 40 to 18 ^h 10 ^m	—	—	—	—		—	—
76	" 18	4 35	4 22.5	4 23.1	5 2.7	1.5		—	—
				4 38.9		1.6		0.55	—
77	" 19	—	10 46.8	10 49.3	11 18.5	0.55		0.3	—
78	" 20	—	—	5 37.2	—	0.3		0.7	—
79	" 22	—	1 57.7	2 16.9	4 29.8	0.7		4.0	—
80	" 23	—	20 40.1	20 53.6	23 13.2	4.0		1.25	—
81	" 26	11 14.8	11 25.0	11 31.6	—	1.25		0.45	—
82	Oct. 5	15 20.5	15 23.4	15 27.4	16 1.5	0.45		0.3	—
83	" 5	—	19 38.6	19 41.5	19 47.7	0.3		0.3	—
84	" 6	9 37.2	9 48.5	9 49.6	10 19.9	0.3		2.1	—
85	" 6	11 6.8	11 19.6	11 27.7	12 39.6	2.1		0.65	—
86	" 13	11 55.6	12 10.8	12 18.7	12 54.4	0.65		0.6	—
87	" 13	—	14 22.6	14 39.6	15 11.9	0.6		0.2	Slight thickening.
88	" 23	—	—	7 27	—	0.2		1.35	—
89	" 28	10 17.9	10 21.8	10 27.8	11 25.7	1.35		0.3	—
90	Nov. 4	—	12 5	12 23	12 39	0.3		0.85	—
91	" 14	—	23 9.2	23 10.1	23 18.2	0.85		10.5	—
92	" 15	9 34.8	9 42.7	9 44.1	11 12.3	10.5		1.5	—
93	" 16	—	—	0 44.9	—	1.5		0.15	Slight thickenings for about 5".
94	" 18	—	—	7 52	—	0.15		8.5	—
95	" 20	20 36.8	20 40.6	21 0.9	22 19.5	8.5		1.0	—
96	" 21	—	7 20.7	7 36.8	8 40.0	1.0		0.45	Thickenings.
97	Dec. 12	16 20.5	16 26.4	16 28.7	16 41.5	0.45		0.55	—
98	" 13	—	0 22	to	0 52	—		—	Slight thickenings.
99	" 13	17 26.5	17 47.8	17 54.4	18 15.0	0.55		—	—
100	" 23	—	21 44	to	22 7	—		0.75	—
101	" 25	5 43.0	5 46.0	5 51.0	6 37.0	0.75		—	—

1 mm. = 0"60

Register from Magnetic Observatory, Christchurch, New Zealand.
Observer, C. COLERIDGE FARR, D.Sc.

No.	Date	P.T. Commence		L.W. Commence		Max.	End	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	H. M.	H. M.					
1902.										
88	July 6	7 28.0	—	7 32.0	—	6.3	—	0.3	0 30	Elongated levelling.
89	" 6	8 49.0	—	8 50.0	—	6.2	—	0.2	0 23.0	—
90	" 6	13 07.8	13 15.0	13 18.0	—	7.1	—	3.0	—	Uncertain tremors continue till 22h. 30m.
				33.0	—	3.2	13 52.1	0.5	—	—
92	" 7	2 39.5	—	2 45.6	—	3.0	—	0.5	0 50.5±	—
93	Aug. 2	—	—	22 51.9	—	3.0	—	2.5	—	—
				56.0	—	—	—	—	—	—
94	" 3	—	—	20 12.0	—	—	—	—	—	—
95	" 9	—	—	14 44.3	—	2.1	—	—	—	—
				46.4	—	0.3	—	0.3	0 9.6	Isolated levelling.
96	" 15	4 54.6	—	—	—	2.1	—	—	—	—
97	" 16	8 11.8	8 24.0	8 25.6	—	8.0	—	1.57.0	—	Sudden P.T. and A.T. obscured. Elongated levelling.
				—	—	—	—	—	—	—
98	" 22	3 20.6	3 41.2	4 20.4	—	3.5	8 36.3	7.2	3 54.1	Turkestan?
				—	—	4.0	—	—	—	—
99	Sept. 10	12 07.9	—	—	—	0.3	4 34.6	0.3	0 4.0	Cheviot.
100	" 11	3 00.6	—	—	—	0.4	—	0.4	0 19.8	Elongated levelling.
		18th to 22nd.	Not in operation.	—	—	—	—	—	—	—
101	" 23	1 57.3	2 02.0	2 06.4	2 51.6	14.3	—	4 0.3	—	—
102	" 23	?	20 44.7	21 10.9	21 51.6	18.0	—	4 18.0+	—	—
103	" 24	5 31.5	—	—	—	0.6	—	0 25.4	—	Very similar in appearance; elongated levellings rather like repetitions.
104	" 24	8 25.2	—	—	—	0.8	—	0 25.5	—	—
105	" 24	10 50.7	—	—	—	0.2	—	0 12.0	—	—
106	Oct. 28	9 54.2	—	10 16.0	—	1.1	—	?	—	—
107	Nov. 13	10 31.6	—	10 32.5	—	0.2	—	0 3.8	—	—
108	" 20	20 51.8	20 35.6	20 42.0	26 49.3	6.5	—	2 2.0	—	—
109	" 21	7 25.6	—	—	—	0.8	—	1 28.7	—	Prolonged but slight.
110	Dec. 1st to Dec. 24th.	Not in operation.	—	—	—	—	—	—	—	—
	" 25	5 32.7	5 36.7	—	—	—	5 41.9	1.7	1 01.0	—

1 mm. = 0"43. Boom Period = 16.6.

The Seismological Institute, Imperial University, Tokyo (Japan).
Director, Dr. F. OMORI. Observer, A. IMAMURA.

No.	Date	P.T. Commence		L.W. Commence		Max.	Max. Amplitude	Duration	Remarks	
		H. M.	H. M.	H. M.	H. M.					
1903.										
39	Feb. 25	—	—	22 20.6	—	1.7	—	—	—	Air currents interfere. Origin near Tokyo.
40	Mar. 4	2 58.1	—	2 58.1	—	1.3	0 5.0	—	—	Origin near Tokyo.
41	" 4	5 18.2	—	6 18.2	—	0.1	0 1.5	—	—	Local shock.
42	" 9	7 29.8	—	7 29.8	—	0.1	0 1.5	—	—	—
43	" 9	2 35.3	2 51.2	2 51.3	—	2.5	1 0.0	—	—	—
44	" 12	1 32.4	1 54.7	1 34.7	—	6.0	1 0.0	—	—	Origin in N.E. Japan.
45	" 14	14 55.6	—	14 55.6	—	0.7	0 7.8	—	—	Origin near Tokyo.
46	" 21	15 56.8	15 56.5	15 56.5	—	0.6	0 6.7	—	—	Origin in Central Japan.
47	" 26	8 32.4	—	8 32.4	—	1.8	0 7.0	—	—	Origin near Tokyo.
48	" 26	8 44.9	—	8 44.5	—	0.5	0 3.5	—	—	—
49	" 26	11 52.4	—	11 52.4	—	1.1	0 6.0	—	—	Origin near Tokyo.
50	Apr. 14	22 49.4	22 48.8	22 48.8	—	5.4	0 13.0	—	—	—
51	" 24	6 5.5	6 6.5	6 6.5	—	10.3	0 10.0	—	—	—

Tokyo (Japan)—continued.

No.	Date	P.T. Commence		L.W. Commence		Max.	Max. Amplitude		Duration	Remarks
		H. M.	M. S.	H. M.	M. S.		MM.	H. M.		
52	Apr. 24	H. M.		H. M.		H. M.				Origin in S.W. of Japan.
		23 19.3		23 23.6		23 23.6				
53	May 20	23 29.5		23 29.4		23 29.4	2.1	0 17		Local shock.
54	" 22	22 14.5		22 14.5		22 14.5	0.9	0 12		
55	June 2	1 12.2		1 13.8		1 13.6	0.3	0 8.0		
56	" 2	20 30.7		20 41.4		20 41.4	1.5	0 28.0		
57	" 25	6 46.8		6 48.2		6 48.2	0.3	0 6.7		
58	" 25	6 47.3		6 47.3		6 47.3	3.2	0 7.0		
59	" 25	12 12.2		12 12.5		12 12.5	0.5	0 2.6		Local shock.
60	" 29	0 56.0		0 56.0		0 56.0	0.4	0 3.0		
61	" 29	23 19.1		23 19.1		23 19.1	0.3	0 3.0		
62	July 7	2 46.5		2 46.8		2 46.8	0.7	0 1.5		
63	" 8	2 46.4		2 46.7		2 46.7	3.3	0 7.5		Origin near Tokyo.
64	" 22	9 18.7		9 20.1		9 20.1	0.2	0 5.0		
65	" 22	13 24.3		13 24.7		13 24.7	1.8	0 19.0		
66	Aug. 5	4 22.5		4 22.5		4 22.5	14.8	1 20.0		Origin near N.E. Japan.
67	Sept. 2	17 55.0		17 55.0		17 55.0	6.5	—		
68	" 14	15 48.3		15 48.3		15 48.3	0.2	0 2.0		
69	" 24	3 36.8		3 36.8		3 36.8	1.0	0 12.0		Origin in N.E. Japan.
70	" 30	0 31.9		0 34.9		0 34.9	6.0	—		
71	Oct. 7	21 11.5		21 23.0		21 23.0	4.8	2 15.0		
72	" 8	5 40.4		5 40.4		5 40.4	0.2	0 6.0		
73	" 9	12 37.0		12 48.2		12 50.5	4.8	3 20.0		
74	" 11	19 2.7		19 2.7		19 2.7	0.5	0 1.5		
75	" 12	23 0.1		23 1.8		23 1.8	1.0	0 13.7		
76	" 15	4 4.2		4 4.6		4 4.6	0.5	0 4.0		
77	" 23	18 45.4		18 45.4		18 45.4	0.5	0 3.0		
78	Nov. 5	5 0.4		5 0.4		5 10.6	0.9	0 7.0		
79	" 6	7 41.3		7 41.5		7 41.5	38.0	0 35.0		No. 89 interferes with end portion.
80	" 5	—		—		8 18.7	8.5	>0 14.0		After shock of No. 79.
81	" 5	10 38.1		10 38.7		10 38.7	0.4	0 5.5		After shock of No. 79. Origin near Izu Islands.
82	" 5	12 17.8		12 18.3		12 18.3	0.4	0 4.0		After shock of No. 79.
83	" 5	12 35.1		12 35.4		12 35.4	0.4	0 7.0		
84	" 6	12 45.3		12 45.9		12 45.9	0.4	0 7.0		
85	" 6	9 13.3		9 13.5		9 13.8	2.0	0 9.0		
86	" 9	2 30.7		2 31.5		2 31.5	0.7	0 5.0		
87	" 9	17 54.9		17 56.1		17 56.1	33.0	3 0.0		Origin near Izu Islands.
88	" 12	1 12.2		1 24.2		1 24.4	2.0	2 40.0		
89	" 14	7 31.3		7 31.8		7 31.8	0.3	0 4.0		
90	" 14	15 3.0		15 3.4		15 3.4	0.3	0 4.0		
91	" 14	21 36.8		21 37.8		21 37.8	2.2	1 20.0		
92	" 15	4 10.5		4 11.5		4 11.5	1.7	0 4.0		
93	" 15	10 41.5		10 42.0		10 42.7	0.3	0 23.0		
94	" 15	13 53.3		13 53.6		13 53.6	0.7	0 2.5		
95	" 19	4 34.6		4 35.3		4 36.3	0.6	0 20.0		
96	" 19	13 57.9		13 57.9		13 59.9	0.9	0 3.0		Origin off the coast of Tokaido.
97	" 20	9 20.0		9 20.0		9 20.5	0.2	0 3.5		
98	" 24	5 4.2		5 4.9		5 4.0	0.3	0 3.5		
99	" 24	7 58.9		8 2.1		8 6.4	5.0	2 20.0		Origin off the coast of Nemuro.
100	" 27	12 19.0		12 19.0		12 19.0	0.2	0 4.5		Origin in C. Japan.
101	Dec. 1	3 33.0		3 33.4		3 33.4	0.5	0 3.0		
102	" 3	14 6.2		14 8.0		14 8.7	3.8	1 0.0		
103	" 7	7 11.4		7 14.1		7 14.2	1.0	0 30.0		
104	" 20	8 27.3		8 27.8		8 31.0	1.0	0 10.0		
105	" 21	—		—		12 28.6	0.3	—		Air currents interfere.
106	" 25	5 3.5		5 3.0		5 3.0	16.0	2 30.0		
107	" 25	7 58.2		—		7 58.2	0.4	0 2.7		
108	" 25	11 3.8		11 4.2		11 4.2	1.3	0 7.0		

Tokyo (Japan)—continued.

No.	Date	P.T. Commence		L.W. Commence		Max.	Max. Amplitude		Duration	Remarks
		H. M.	M. S.	H. M.	M. S.		MM.	H. M.		
E.P.C.L.										
109	Jan. 4	H. M.		H. M.		H. M.				Origin off the coast of Hokkaido.
		15 51.9		16 53.4		16 53.4	0.3	0 7.0		
110	" 6	7 49.5		—		7 49.5	3.0	—		Air currents interfere. Origin near Tokyo.
111	" 7	5 21.6		5 22.6		5 22.6	0.7	0 12.0		Origin in N.E. Japan.
112	" 13	5 47.1		—		5 47.1	0.4	0 4.0		
113	" 13	22 41.1		22 43.1		22 46.1	7.0	1 20.0		Aomori earthquake.
114	" 14	7 27.0		—		7 27.9	0.3	0 3.0		
115	" 15	6 48.0		—		6 48.0	0.3	0 2.0		
116	" 16	2 1.3		—		2 2.0	1.9	0 16.0		Origin in Settsu.
117	Feb. 15	8 3.9		8 18.9		8 20.9	2.5	0 45.0		
118	" 18	0 26.8		—		0 26.8	2.1	0 20.0		Origin near N.E. Japan.
119	" 20	9 53.8		9 58.0		10 0.8	1.4	1 0.0		
120	Mar. 4	8 58.2		—		8 58.2	0.5	0 6.5		
121	" 6	6 53.0		—		6 53.0	0.7	0 3.0		
122	" 18	23 50.9		23 58.6		23 59.9	2.6	0 15.0		Origin near N.E. Japan.
123	" 20	3 33.8		—		3 33.8	0.8	0 13.0		
124	" 21	0 27.2		—		0 27.2	0.8	0 2.0		
125	" 23	15 29.3		15 27.8		15 29.9	0.5	1 20.0		
126	April 5	22 33.3		22 35.6		22 36.4	0.6	0 4.0		
127	" 5	23 30.4		23 30.7		23 40.7	13.0	2 53.0		Origin off the coast of Nemuro.
128	" 7	18 15.0?		18 16.2?		18 17.4?	2.0	0 35.0		
129	" 22	18 9.5		—		18 9.5	15.0	0 11.0		Origin near Tokyo.
130	May 3	1 43.8		—		1 43.8	0.5	0 3.0		
131	" 13	20 10.6		—		20 10.6	14.0	0 15.0		Origin near Tokyo.
132	" 14	6 54.0		6 55.0		6 57.0	2.8	2 0.0		Origin off the coast of Nemuro.
133	" 16	3 29.8		—		3 29.8	0.5	0 2.0		
134	" 16	4 54.5		—		4 54.5	0.3	0 15.0		
135	" 18	8 21.8		6 22.5		6 22.5	1.3	—		
136	" 23	2 8.1		—		2 8.1	0.7	0 4.0		Local shock.
137	" 23	1 45.0		—		1 45.0	1.2	0 6.0		
138	June 6	8 20.9		—		8 20.9	0.3	0 2.0		
139	" 12	1 44.8		—		1 44.8	0.6	0 2.3		
140	" 13	3 25.4		3 27.7		3 24.8	1.4	2 0.0		
141	" 13	18 40.2		—		18 40.2	0.8	0 3.0		Local shock.
142	" 13	21 54.7		—		21 54.7	0.4	0 3.2		
143	" 14	13 14.1		—		13 14.1	0.5	0 3.8		
144	" 14	18 39.7		—		18 39.7	0.9	0 3.0		
145	" 15	0 43.1		—		0 43.1	0.6	0 6.8		
146	" 15	9 33.8		—		9 33.8	0.7	0 6.0		
147	" 21	8 16.1		—		8 16.1	0.5	0 3.2		
148	" 21	9 23.8		—		9 23.8	0.4	0 3.6		
149	" 21	13 17.9		—		13 17.9	0.4	0 2.5		
150	" 25	4 26.8		—		4 26.8	0.6	0 4.0		
151	" 25	9 1.8		—		9 1.8	5.8	0 7.0		
152	" 25	9 59.6		—		9 59.6	0.6	0 4.3		
153	" 26	19 20.9		—		19 20.9	0.8	0 3.4		
154	" 27	0 58.3		—		0 58.3	0.7	0 3.2		
155	" 27	6 27.5		—		6 27.5	0.5	0 3.2		
156	" 27	6 41.5		—		6 41.5	0.5	0 2.8		
157	" 27	12 23.0		—		12 23.0	4.5	0 1.0		
158	" 27	13 33.2		—		13 33.2	0.7	0 3.6		
159	" 28	17 40.5		—		17 40.5	0.5	0 10.0		
160	" 28	18 44.0		—		18 44.0	0.5	0 3.0		
161	" 28	15 7.5		—		15 7.5	0.2	0 6.5		
162	" 30	0 59.2		—		0 59.2	1.4	0 1.2		
163	July 4	15 50.6		—		15 50.6	0.9	0 5.0		
164	" 6	0 44.6		—		0 44.6	0.5	0 3.0		

Tokyo (Japan)—continued.

No.	Date	P.T. Commence		L.W. Commence		Max.		Max. Amplitude	Duration	Remarks
		H.	M.	H.	M.	H.	M.			
165	July 6	1	52.9	—	—	0.5	0 3.0	—	—	—
166	" 6	2	7.4	—	—	0.4	0 2.0	—	—	—
167	" 7	2	54.4	—	—	3.5	0 2.2	—	—	—
168	" 7	6	10.9	—	—	0.6	0 3.0	—	—	—
169	" 7	6	16.7	—	—	0.7	0 3.2	—	—	—
170	" 10	22	11.4	—	—	0.8	0 3.5	—	—	—
171	" 10	22	21.2	—	—	0.6	0 3.9	—	—	—
172	" 11	10	34.5	10	34.9	10	35.0	2.0	0 8.5	Origin near Tokyo.
173	" 14	17	27.2	—	—	0.5	0 2.4	—	—	Origin off the coast of Izu.
174	" 14	18	27.3	—	—	1.0	0 4.0	—	—	—
175	" 14	18	32.6	—	—	0.6	0 2.5	—	—	—
176	" 14	19	24.5	—	—	0.4	0 2.4	—	—	—
177	" 14	20	19.4	20	19.8	0.6	0 5.0	—	—	—
178	" 14	22	10.0	—	—	4.7	0 5.0	—	—	—
179	" 14	22	33.9	—	—	0.4	0 2.0	—	—	—
180	" 14	22	39.0	—	—	0.6	0 3.5	—	—	—
181	" 19	14	27.7	—	—	1.0	0 4.9	—	—	—
182	" 21	9	42.8	—	—	9	42.8	2.6	0 7.3	—
183	" 21	16	22.8	—	—	0.4	0 3.5	—	—	—
184	" 22	6	57.2	—	—	0.6	0 4.9	—	—	—
185	" 22	7	26.2	7	26.7	7	26.7	7.2	0 10.0	—
186	" 23	7	33.3	—	—	7	33.3	6.5	0 3.5	—
187	Aug. 9	9	25.5	—	—	—	—	—	—	Aomori earthquake.
188	" 9	18	35.8	—	—	—	—	—	—	Aomori earthquake.
189	" 10	1	54.9	2	2.6	2	4.4	3.0	0 53.0	—
190	" 11	11	28.4	11	29.4	11	29.4	0.5	0 13.9	After shock of No. 187.
191	" 11	14	41.7	14	53.7	14	53.7	0.9	0 52.9	—
192	" 12	12	13.5	—	—	0.9	0 35.9	—	—	—
193	Sept. 25	8	36.2	8	44.1	8	44.1	1.0	0 45.9	—
194	Oct. 1	6	11.7	—	—	0.4	0 2.3	—	—	—
195	" 4	2	56.1	—	—	0.6	0 2.5	—	—	—
196	" 5	5	29.1	—	—	0.5	0 3.0	—	—	—
197	" 6	0	18.9	0	18.6	0	18.6	4.3	0 4.3	—
198	" 6	8	25.0	—	—	8	25.0	0.4	0 2.0	—
199	" 10	10	29.9	10	31.6	10	31.6	0.8	0 32.9	Origin near Japan.
200	" 19	10	12.9	10	14.4	1.3	0 35.0	—	—	—
201	Nov. 4	7	57.6	7	58.4	7	58.4	5.5	0 18.0	—
202	" 6	3	38.2	3	38.5	3	38.5	0.7	0 5.5	—
203	" 8	6	6.7	6	8.4	6	8.4	1.1	0 22.0	—
204	" 27	2	11.4	2	12.4	2	12.4	1.3	0 8.0	Origin about Noto.
205	" 28	1	25.0	1	26.6	2.2	0 12.0	—	—	—
206	Dec. 5	3	44.4	3	45.7	3	45.7	0.6	0 12.0	Origin near Japan.
207	" 13	6	19.9	—	—	6	19.9	0.4	0 4.0	—
208	" 13	7	23.0	—	—	7	23.0	0.4	0 3.0	—
209	" 14	22	55.9?	23	7.9?	23	10.0?	8.7	1 35.0	—
210	" 16	1	22.8	1	23.1	1	23.1	0.5	0 4.0	—
211	" 18	—	—	—	—	18	26.0	7.5	—	—
212	" 16	—	—	—	—	16	31.0	14.0	—	Air currents interfere.
213	" 18	6	57.6	—	—	6	57.6	0.3	0 5.0	—
214	" 18	7	30.8	—	—	7	30.8	0.6	0 3.5	—
1902.										
215	Jan. 21	8	20.4	—	—	8	20.4	0.6	0 3.5	—
216	" 21	12	53.6	12	54.4	12	54.4	0.4	0 4.0	—
217	" 29	14	26.8	14	27.6	14	27.6	2.4	0 7.5	—
218	" 31	9	10.0	—	—	9	10.0	0.6	0 3.5	—
219	" 31	12	20.7	—	—	12	20.7	1.5	0 2.0	—
220	Feb. 3	1	45.6	—	—	1	45.6	1.3	0 3.0	—
221	" 20	1	49.7	1	50.2	1	50.2	8.9	0 17.0	Origin near Tokyo.

Tokyo (Japan)—continued.

No.	Date	P.T. Commence		L.W. Commence		Max.	Max. Amplitude	Duration	Remarks	
		H.	M.	H.	M.					MM.
222	Feb. 20	15	40.2	15	41.2	15	43.2	2.3	0 25.0	Origin in Aomori.
223	" 21	2	54.5	—	—	2	54.5	0.7	0 4.0	—
224	" 22	4	13.9	—	—	4	13.9	0.7	0 5.0	Local shock.
225	" 24	2	13.3	—	—	2	13.3	0.5	0 3.6	—
226	" 25	6	49.2	—	—	6	49.2	0.5	0 6.0	—
227	" 26	0	23.5	0	23.5	0	23.5	1.7	0 35.9	—
228	March 17	1	59.9	1	59.9	1	59.9	1.4	0 17.0	Local shock.
229	" 17	4	43.9	—	—	4	43.9	0.7	0 4.0	—
230	" 18	1	12.2	—	—	1	12.2	0.5	0 3.0	—
231	" 18	4	37.2	—	—	4	37.2	0.6	0 3.5	—
232	" 18	5	58.9	—	—	5	58.9	0.8	0 6.0	—
233	" 18	23	52.1	—	—	23	52.1	0.4	0 3.0	—
234	" 19	4	28.3	—	—	4	28.3	0.5	0 4.0	—
235	" 19	23	44.7	—	—	23	44.7	0.6	0 4.9	—
236	" 23	0	37.8	—	—	0	37.8	1.5	0 7.0	—
237	" 25	5	55.3	—	—	5	55.3	4.2	0 19.0	Origin near Tokyo.
238	April 11	23	55.6	23	56.6	23	56.6	1.8	0 11.0	—
239	" 19	2	41.6	2	49.6	2	49.6	2.2	0 9.0	—
240	" 19	23	19.0	23	19.0	23	19.0	2.2	0 7.0	—
241	May 2	6	19.5	6	20.0	6	20.0	0.8	0 5.5	Origin in N.E. Japan.
242	" 2	11	32.0	11	33.4	11	33.4	16.0	1 50.0	Origin in N.E. Japan.
243	" 8	2	20.9	2	23.1	2	24.6	4.0	1 10.0	Origin near Kiushu.
244	" 13	22	39.5	—	—	22	39.5	0.9	0 4.0	—
245	" 18	9	6.7	9	8.3	9	8.3	0.7	0 25.0	—
246	June 1	6	19.7	6	19.7	6	19.7	2.5	1 20.0	—
247	" 14	8	38.1	—	—	8	38.1	0.8	0 2.0	—
248	" 16	10	12.5	—	—	10	12.5	1.7	0 5.0	—
249	" 20	8	49.2	8	49.6	8	49.6	4.0	0 8.0	—
250	" 22	22	52.9	—	—	22	52.9	13.0	0 13.0	—
251	" 23	7	42.6	7	43.2	7	43.2	0.5	0 8.0	—
252	" 26	5	25.5	—	—	5	25.5	1.0	0 3.0	—
253	" 26	7	44.2	—	—	7	44.2	0.4	0 3.5	—
254	" 27	13	42.5	—	—	13	42.5	3.5	0 6.5	—
255	" 28	7	27.2	—	—	7	27.2	1.1	0 4.9	—
256	July 1	8	13.5	8	13.5	8	13.5	1.1	0 13.0	—
257	" 3	15	24.3	—	—	15	24.3	0.6	0 5.0	—
258	" 7	22	2.8	—	—	22	2.8	0.8	0 4.0	—
259	" 8	14	9.1	—	—	14	9.1	0.4	0 8.0?	—
260	" 10	7	19.0	—	—	7	19.0	0.4	0 3.0	—
261	" 11	11	0.1	11	1.7	11	1.7	0.6	0 7.0	—
262	" 11	5	21.1	—	—	5	21.1	0.3	0 0.5	—
263	" 16	7	35.7	—	—	7	35.7	0.6	0 4.0	—
264	" 18	0	13.7	—	—	0	13.7	0.4	0 2.5	—
265	" 20	1	30.6	—	—	1	30.6	0.4	0 4.0	—
266	" 25	22	50.8	—	—	22	50.8	0.7	0 5.0	—
267	" 30	7	18.5	—	—	7	18.5	0.5	0 3.0	—
268	Aug. 1	10	19.0	—	—	10	19.0	0.7	0 3.5	—
269	" 7	3	35.9	—	—	3	35.9	0.9	0 5.0	—
270	" 7	9	23.3	9	23.5	9	23.5	1.2	0 35.0	Local shock. Origin in N.E. Japan.
271	" 22	3	6.8	3	25.8	3	24.8	25.0	3 0.0	—
272	Sept. 21	8	34.6	—	—	8	34.6	0.9	0 3.5	—
273	" 21	15	8.7	—	—	15	8.7	0.3	0 2.5	—
274	" 21	20	43.0	—	—	20	43.0	0.3	0 5.0	—
275	" 22	1	51.3	1	57.3	1	57.3	20.0	2 20.0	—
276	" 25	20	36.4	20	45.4	20	36.4	3.0	1 20.0	—
277	" 24	9	47.6	—	—	9	47.6	0.7	0 2.5	—
278	Oct. 10	1	50.4	—	—	1	50.8	0.5	0 3.0	—
279	" 10	2	9.8	—	—	2	12.1	0.4	0 20.0	—
280	" 12	1	23.4	—	—	1	23.4	0.8	0 1.0	Local shock.
281	" 13	4	18.8	—	—	4	18.8	0.5	0 12.0	Origin near Tokyo.
282	" 15	16	56.3	—	—	16	56.3	1.0	0 1.5	Local shock.
283	" 25	0	24.1	—	—	0	24.1	0.4	0 1.5	Local shock.
284	Nov. 2	11	19.7	—	—	11	19.7	0.5	0 2.5	—
285	" 7	6	58.7	—	—	6	58.7	0.5	0 1.5	Local shock.
286	" 15	9	32.5	9	37.0	9	37.0	1.4	0 30.0	—
287	" 19	23	33.0	—	—	23	33.0	1.0	0 4.0	Origin in N.E. Japan.

List of Earthquakes observed in 1902 at Tokyo—continued.

No.	Month	Day	Tokyo Mean Time 9 hrs. fast on Greenwich	Duration	Direction	Horiz. Motion		Vert. Motion		Remarks
						2a	T	2a	T	
2015	X.	25	H. M. S. 9 35 30 A.M.	M. S. —	—	MM.	S.	MM.	S.	—
2016	"	28	2 52 30 P.M.	—	—	Slight	—	—	—	Unfelt.
2017	XI.	5	5 48 55 "	—	—	"	—	—	—	Unfelt.
2018	"	6	11 17 14 A.M.	—	—	"	—	—	—	Unfelt.
2019	"	7	3 58 12 P.M.	—	—	"	—	—	—	Unfelt.
2020	"	10	8 19 57 A.M.	—	—	"	—	—	—	Unfelt.
2021	"	13	8 15 06 "	—	—	"	—	—	—	Unfelt.
2022	"	20	8 35 46 "	—	—	"	—	—	—	—
2023	XII.	1	10 37 47 "	—	—	"	—	—	—	Unfelt.
2024	"	6	0 47 03 P.M.	—	—	"	—	—	—	—
2025	"	7	11 31 55 "	—	—	"	—	—	—	—
2026	"	9	1 52 33 A.M.	—	—	"	—	—	—	—
2027	"	14	1 57 20 P.M.	2 25	NE-SW	1·8	0·7	0·4	0·4	The preliminary tremor lasted 12 sec., after which the max. horiz. and vert. movements suddenly took place; duration of principal portion=55s.
2028	"	17	9 48 49 A.M.	—	—	Slight	—	—	—	Unfelt.
2029	"	19	7 47 32 P.M.	—	—	"	—	—	—	Unfelt.
2030	"	20	5 37 45 "	—	—	"	—	—	—	Unfelt.
2031	"	22	3 25 01 "	—	—	"	—	—	—	Unfelt.
2032	"	23	4 45 21 A.M.	—	—	"	—	—	—	—
2033	"	23	9 53 37 "	—	—	"	—	—	—	Unfelt.
2034	"	24	2 04 39 P.M.	—	—	"	—	—	—	Unfelt.
2035	"	27	7 02 21 A.M.	—	—	"	—	—	—	Unfelt.
2036	"	27	5 09 15 "	1 10	SE-NW	0·6	0·4	0·1	0·2	The max. motion occurred at the 6th sec. after the start; duration of principal portion=10s.
2037	"	31	2 39 08 P.M.	3 10	SE-NW	3·8	1·0	0·6	0·8	The max. motion occurred at the 6th sec. after the start; duration of principal portion=35s.