

British Association for the Advancement of Science.

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Shide, Isle of Wight (Secretary).

CONTENTS.

	PAGE
I. General Notes on Registers from Similar Horizontal Pendulums (Milne type)	99
II Registers from :—	
Shide, Newport, Isle of Wight, England (July 1 to December 31, 1911, Nos. 2848 to 3136)	100
Kew, England (July 1 to December 31, 1911, Nos. 1263 to 1369)	111
Bidston, England (July 3 to December 31, 1911, Nos. 1794 to 1907)	113
Stonyhurst, England (July 1 to December 31, 1911, Nos. 393 to 496)	115
Edinburgh, Scotland (July 1 to December 31, 1911, Nos. 701 to 918)	117
Gualtford, England (July 1 to December 31, 1911, Nos. 202 to 329)	120
Haslemere, Surrey, England (July 1 to December 31, 1911, Nos. 494 to 532)	122
Eskdalemuir, Scotland (July 1 to December 31, 1911, Nos. 236 to 348)	124
Paisley, Scotland (July 4 to December 31, 1911, Nos. 1114 to 1221)	127
West Bromwich, England (July 1 to December 31, 1911, Nos. 295 to 400)	129
Ponta Delgada, Azores (July 1 to December 16, 1911, Nos. 446 to 470)	132
San Fernando, Spain (July 1 to December 31, 1911, Nos. 206 to 420)	133
Rio Tinto, Spain (July 4 to December 31, 1911, Nos. 211 to 374)	136
Valetta, Malta (July 1 to December 31, 1911, Nos. 409 to 454)	137
Cairo (July 1 to December 31, 1911, Nos. 1239 to 1486)	138
Cape of Good Hope (July 1 to December 31, 1911, Nos. 771 to 816)	144
Ascension Island (July 6 to December 16, 1911, Nos. 35 to 61)	145
Fernando Noronha (July 3 to December 16, 1911, Nos. 24 to 49)	146
Seychelles, Indian Ocean (July 4 to December 31, 1911, Nos. 12 to 46)	147
Toronto, Canada (July 1 to December 31, 1911, Nos. 1020 to 1071)	147
Victoria, B.C., Canada (July 1 to December 29, 1911, Nos. 1039 to 1086)	149
Alipore, Calcutta (July 4 to December 31, 1911, Nos. 780 to 832)	151
Bombay (June 30 to December 31, 1911, Nos. 309 to 507)	152
Kodaikānal, Madras (July 4 to December 31, 1911, Nos. 43 to 95)	153
Colombo, Ceylon (July 4 to December 31, 1911, Nos. 164 to 193)	155
Cocos, Keeling Islands (July 12 to December 31, 1911, Nos. 21 to 42)	155
Perth, W. Australia (July 4 to December 31, 1911, Nos. 15 to 41)	156
Adelaide, S. Australia (July 3 to December 31, 1911, Nos. 1 to 56)	157
Sydney, N.S.W. (July 3 to December 3, 1911, Nos. 628 to 705)	158
Honolulu, T.H. (July 1 to December 31, 1911, Nos. 900 to 986)	160

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 twenty-four circulars and in the Reports of the Association, 1896 to 1899.

If observers 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 1 millimetre refer to the thickening of the line or minute ripples, and indicate half its width.

As 1° turn of the calibrating screw in the bed-plate of the instrument causes a tilt of 1°·9, 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 1 millimetre displacement. In each register this quantity should be stated.

Records only obtained at a single station have been excluded.

II. Registers.

The Register from Shide, Newport, Isle of Wight, England. 50°41'N. 1°17'W.
JOHN MILNE; Assistants, MESSRS. S. HIROTA AND J. H. BURGESS.

The following entries refer to three pendulums, A, B, and C. The pendulums B and C, given to the Shide Observatory by Mr. A. F. Yarrow in 1901, respectively record E.W. and N.S. motion. A records E.W. motion. The records are photographic.

- A. With multiplying lever :
July 1 to Sept. 26 15 secs. period. 1mm. = 0°·19.
Sept. 26 to Dec. 31 18 secs. period. 1mm. = 0°·14.
- B. Period 18 seconds. 1° turn = 5mm.
- C. June 30 to July 13 20 secs. period. 1° turn = 7.5mm. ca.
July 13 to Dec. 31 18 secs. period. 1° turn = 6mm. ca.

Ats. = air tremors. P₂ refers to the commencement of the second phase of motion. d. = duration. a. = amplitude. If this is less than 1 or with Ats d. is not given.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1911						
2848	July 1	II. M. 22 21.5 H. M. 22 45.2 MM. 22 48.7 22 21.5 22 42.5 22 48 22 21	22 21.5	22 45.2 22 48.7 22 42.5 22 48 22 47 22 47	6.0 3.2 2.0 1.0 1.2	2 30 A. P ₂ 22-30.5 2 30 B. P ₂ 22-30.5 2 30 C. P ₂ 22-30.5
2849	" 2	—	—	3 0	1.1	A.B.C.
2850	" 2	—	—	15 25.5	0.1	B.C.
2851	" 3	—	—	19 50	0.1	A.B.
2852	" 3	20 3	20 3	20 36.5	0.5	A.B.C. a. for B.C. = 0.2mm.
2853	" 3	21 55	21 55	22 18 22 56.5	0.5 0.4	A.B.C. a. for B.C. = 0.1mm. 2nd max. for B. = 22-51
2854	" 4	1 0	1 0	20.5	0.1	0 45 A.C.

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

No.	Date	Com-mence-ment			Max.	Max. Ampli-tude	Dura-tion	Remarks
		H. M.	H. M.	MM.				
2855	July 4	13	41.7	14	6	12.0	2 30	A. P ₂ 13-50
		14	9.5	15.0				
		13	41.7	14	10	6.0	3 0	B. P ₂ 13-49.5
2856	" 4	13	42.5	14	0.5	4.2	3 0	C. P ₂ 13-49.5
		14	9	3.5				
		20	8.5	0.1				A. B.C. dismantled
2857	" 5	2	22.5	2	45.5	2.0	3 20	A. P ₂ 2-31.2
		2	48.2	2.0				
		2	22.5	2	46	0.7	3 15	B. P ₂ 2-31.5
2858	" 5	2	23	2	44.5	0.8	3 15	C. P ₂ 2-31.5
		2	46	0.8				
		18	53.2	19	8.5	1.0	—	A. P ₂ 18-59
2859	" 7	18	54	19	9	0.2	—	B. Max. for C. 19-10
		5	13	0.1				
		1	8.7	1	12	1.7	—	A. P ₂ 1-9.5
2860	" 8	1	9.5	1	10	0.2	—	B.
		1	8	—				C.
		2	21	0.2				A. Movement continued
2861	" 8	2	22	0.1			—	B. until 4h. A 2nd max.
		2	26	0.1				C. occurred at 3-27
		7	1	0.2	0 10			A.B.C. a. for B.C. 0.1mm.
2862	" 8	6	59	7	1	0.2	—	A.B. Max. for C. 17-55
		17	14	17	53	0.1	—	A.
		8	54	8	54	0.2	—	A.C. Max. for B. 17-23
2863	" 9	17	22.5	17	22.5	0.1	—	A.
		1	50	1	50	0.5	—	A.C. Max. for C. 0.2mm.
		1	53	1	53	0.1	—	A.
2864	" 10	4	48	4	48	0.6	—	A.C. a. for C. 0.2mm.
		21	48	21	48	0.1	—	A.
		5	9	19.0	3 0			Record on smoked paper
2865	" 11	5	9	5	9	17.0	—	P ₂ 4-35
		5	15.5	17.0				
		9	15	0.1				A.
2866	" 11	13	19	13	37	0.1	—	A.
		9	37	0.2				A.
		2	55	0.5	2 0			A.
2867	" 12	3	29	0.5			—	B.
		2	2.7	0.2	2 0			C.
		2	4.2	0.2	2 0			A.B.
2868	" 12	22	49.5	23	9	0.1	0 50	C.
		22	50	23	7	0.1	0 50	A.
		12	26	12	42.5	0.2	—	B.C.
2869	" 15	14	19	14	19	0.2	—	B. Max. for C. 16-15
		6	17.3	0.3				B.C.
		20	8	0.1				A.B.C.
2870	" 16	10	20.5	10	33	0.5	1 55	A. P ₂ 10-25
		10	45.5	0.6				B.C.
		14	57.3	0.1				B.
2871	" 17	21	30	21	30	0.5	3 0	C.
		22	29.5	0.3				
		20	56.7	21	32.7	0.5	3 0	A.
2872	" 18	22	33	22	33	0.2	—	A.
		14	27	0.2				A.
		12	10	0.2				B. Max. for C. 12-9
2873	" 18	7	44	7	44	0.1	—	A.B.C.
		21	44	0.1				A.B.C.
		4	18.5	0.1				B. Max. for C. 4-12
2874	" 19	6	26	6	26	0.2	—	B. Max. for C. 6-29.3
		17	33.5	2.0	>3 0			A. P ₂ 17-6. Light out
		17	36.5	2.5				on B.
2875	" 20	18	46.5	18	46.5	0.5	>3 0	C.
		17	34	1.0				
		18	47	0.5				A.
2876	" 21	2	3.7	0.3			—	A.
		16	55.3	17	34	1.0	>3 0	C.
		18	47	0.5				A.

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

No.	Date	Com-mence-ment			Max.	Max. Ampli-tude	Dura-tion	Remarks
		H. M.	H. M.	MM.				
2889	July 25	—	5	56.5	0.1	—	A.	
2890	" 27	—	1	17	0.5	—	A.	
		1	0	1	16	0.2	0 40	B. Max. for C. 1-16.7
2891	" 27	12	12	12	39	0.2	1 50	B. Max. for A. 12-40
		12	12	12	38	0.1	1 50	C.
2892	" 29	9	56	10	35	0.5	>3 0	A.
2893	" 29	—	17	55	0.1	—	A.	
2894	" 29	—	19	29	0.1	—	A.	
2895	" 30	—	13	12.5	0.3	—	A.	
2896	" 30	—	15	19	0.1	—	A.	
2897	Aug. 2	1	28.5	1	47	0.1	1 0	B.
		1	30	1	42	0.1	1 0	C.
2898	" 3	—	18	32	0.1	—	B.C.	
2899	" 4	1	34	2	25	0.2	1 40	B.
		1	32	2	22.5	0.2	1 40	C.
2900	" 4	—	4	35	0.2	—	A.B.C. a. for B.C. 0.1mm.	
2901	" 5	—	6	9	0.2	—	A.B.C. a. for B.C. 0.1mm.	
2902	" 6	—	14	2.5	0.1	—	A.	
2903	" 6	—	14	4	0.1	—	B.C.	
		—	15	17.5	0.2	—	A.	
2904	" 6	—	15	23	0.2	—	B.	
		—	15	16.7	0.2	—	C.	
2905	" 6	—	17	7	0.2	—	B.C.	
2906	" 7	—	0	3.5	0.1	—	A.	
		15	55	16	6	0.1	—	A.
2907	" 7	—	15	54	0.1	—	B. Max. for C. 16-6.5	
		—	16	58.5	0.1	—	B.C.	
2908	" 7	—	16	8.5	0.1	—	B.C.	
		—	19	36.5	0.1	—	B.	
2909	" 7	21	35	21	50	0.1	B. Max. for C. 21-51	
2909	" 8	14	33	15	24.5	1.2	A. P ₂ 14-42	
2910	" 8	18	37	19	33	0.3	2 45	A.
2911	" 10	—	1	38	0.1	—	B. Max. for C. 1-39	
2912	" 10	5	26	6	0	0.2	—	A. Max. for B. 5-59
		5	27	5	58	0.1	—	C.
2913	" 10	—	7	42.5	0.3	—	A.	
2914	" 10	19	17	19	25	0.2	—	B. Max. for C. 7-42
		20	2	20	2	0.1	—	B.C.
2915	" 11	19	23.5	19	40	0.2	0 50	A.B.C.
		19	24	19	42	0.1	0 50	B.
2916	" 12	—	13	20	0.1	—	A.B.	
2917	" 12	17	25	17	59	0.3	1 15	A.
		18	7	18	7	0.2	—	A.
2918	" 12	22	8	22	14	0.6	1 0	B. Max. for C. 22-12
		22	8	22	11.5	0.2	1 0	B.
2919	" 13	—	7	0	0.1	—	B.C.	
2920	" 14	—	19	48	0.1	—	A.B.C.	
2921	" 14	21	16	22	2	0.3	—	A.B. a. for B. 0.1mm.
		—	—	22	2.5	0.1	—	C.
2922	" 16	13	58	14	12.5	0.1	A.	
2923	" 16	—	15	14.5	0.1	—	A.	
2924	" 16	22	55.5	23	53	>25.0	>4 0	A. P ₂ 23-7.2
		—	—	0	0.2	>12.0		
2925	" 17	22	55.5	23	53.3	>15.0	>4 0	B. P ₂ 23-6.5.
		—	—	23	58.2	>10.0		
2926	" 18	22	55.5	23	53.3	>15.0	>4 0	C. P ₂ 23-6.5.
		—	—	23	54.7	>17.0		
2925	" 17	12	2.5	12	28	0.6	0 53	A.
		12	24	12	27.5	0.2	0 55	B. Max. for C. 12-28
2926	" 18	3	14	4	4	0.2	3 0	B.
		3	16	4	6	0.2	3 0	C.

The Register from Skide, Newport, Isle of Wight, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
2927	Aug. 18	H. M.	H. M.	MM.	H. M.	A.B.
2928	" 19	—	7 10.5	0.1	—	A.
2929	" 19	—	0 33.5	0.1	—	A.
2930	" 20	—	1 8.5	0.1	—	A. Max. for C. 1-11
2931	" 21	—	1 16	0.1	—	A.
		—	2 32	0.1	—	A. End 20-10
		—	17 24	1.0	—	A.
		—	17 8.5	1.0	—	B.
		—	17 25	0.3	—	B.
		—	17 58.5	0.5	—	C.
		—	17 23	0.3	—	C.
		—	17 59	0.5	—	C.
2932	" 21	23 31.5	23 46	0.2	0 45	B. Max. for C. 23-37.5
2933	" 22	—	6 36.5	0.1	—	A. End at 8-30
		—	7 30	0.5	—	B.C.
		—	6 37	0.1	—	B.C.
		—	7 28	0.2	—	A.
2934	" 22	—	10 51	0.1	—	A.
2935	" 22	—	23 27	0.2	—	A.
2936	" 23	16 1.5	16 43.5	3.5	3 0	A.
		—	16 50.5	2.0	—	A.
2937	" 24	—	15 9	0.1	—	A.
2938	" 25	—	16 33	0.1	—	A.
2939	" 26	—	11 26.5	0.1	—	B.C.
2940	" 27	—	11 34.5	0.2	—	B.C.
2941	" 27	—	15 1	0.2	—	B.C.
		—	15 2	0.1	—	B.C.
2942	" 28	6 41	6 45.5	1.0	0 30	A.
2943	" 29	—	4 20	0.1	—	A.
2944	" 29	—	7 42	0.1	—	A.
2945	" 29	14 52.5	15 5	1.2	2 0	A.
		14 52.5	15 5.5	0.7	2 0	B. Max. for C. 15-5
2946	" 29	21 7.5	21 16	0.3	—	A.
		—	21 15.5	0.1	—	C.
2947	" 30	14 20.5	14 28.5	0.5	—	A. End lost in Ats.
		—	14 52	1.5	—	C. Com. and end lost in Ats.
		—	14 28	0.2	—	C.
		—	14 47	0.5	—	C.
2948	" 30	19 6	19 21	0.2	1 20	A.
		—	19 20.5	0.1	—	C.
2949	" 31	—	12 47.5	0.2	—	A.
		—	12 51	0.2	—	C.
2950	Sept. 2	—	1 1	0.1	—	B. Max. for C. 0-59
2951	" 3	16 5.2	16 19	0.1	0 45	B.
		16 4	16 15	0.1	0 45	C.
2952	" 4	5 44	6 30.7	0.5	1 45	A.
		—	6 27.5	0.1	—	B.
2953	" 5	—	2 59	0.1	—	A.
2954	" 5	9 46.5	10 9	0.3	—	A.
2955	" 6	1 3.5	1 14	0.3	1 40	B.
		—	1 28	0.3	—	C.
		—	1 33	0.3	—	C.
		—	1 26	0.3	1 40	B.
2956	" 6	—	4 22	0.3	—	B. Max. for C. 13-55
2957	" 6	—	13 52	0.1	—	A.B.C.
2958	" 6	—	23 51.5	0.1	—	A.B.C.
2959	" 8	12 14	12 25	0.2	0 35	A.
2960	" 8	22 55	23 37	0.5	2 5	B.C.
		—	23 41	0.5	—	2nd Max. B. only
2961	" 10	1 20	1 25	0.2	0 30	A.
		—	1 24	0.1	—	B. Max. for C. 1-25
2962	" 10	2 4.5	2 20	0.1	0 40	A.
		—	2 17	0.1	—	B. Max. for C. 2-18.5

The Register from Skide, Newport, Isle of Wight, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
2963	Sept. 10	H. M.	H. M.	MM.	H. M.	C.
2964	" 10	—	3 32.5	0.1	—	B. Max. for C. 4-19
2965	" 10	—	4 13	0.1	—	A.
		—	6 7.5	0.1	—	A.
		—	6 12	0.1	—	B. Max. for C. 6-10
2966	" 11	—	1 57	0.1	—	B.C.
2967	" 11	—	2 10	0.1	—	B.C.
2968	" 11	—	4 29	0.1	—	B.
		—	4 28	0.1	1 0	C.
2969	" 11	4 24	4 28	0.1	—	B.C.
2970	" 12	13 17	13 55	0.1	—	A.B.C.
2971	" 13	—	3 49	0.2	—	A. P ₂ 3-23.5
		—	3 11	0.3	2 15	B.
		—	3 15	0.5	2 15	C.
2972	" 13	22 18.5	22 36.5	0.2	—	B.C. End in Ats.
2973	" 15	—	14 2	3.0	—	A. Com. lost in Ats.
		—	14 10	4.0	—	B.
		—	13 22.5	0.5	—	C.
		—	14 1	0.5	—	C.
		—	13 37	0.5	—	C.
		—	14 2	0.6	—	C.
		—	14 11	0.5	—	C.
2974	" 15	—	17 31.5	0.2	—	A. a. for B. 0.1mm.
		—	17 31	0.1	—	C. End at 17-47
2975	" 16	—	5 42.5	0.2	—	A. End in Ats.
2976	" 16	—	11 52	0.3	—	A.
2977	" 16	—	15 43	0.1	—	A.
2978	" 17	—	0 43	0.1	—	B. Max. for C. 0-46
2979	" 17	—	4 23.7	7.0	—	A. P ₂ 3-48. Com. and end lost in large Ats.
		—	4 27.5	6.0	—	A.
		—	4 34.5	7.5	—	A.
		—	5 15	6.0	—	A.
		—	5 20.5	6.5	—	A.
		—	5 45	3.0	—	A.
		—	4 24	0.8	—	B. P ₂ 3-48.5. End lost in Ats.
		—	4 30	1.0	—	C.
		—	5 14	9.3	—	C.
		—	4 21.7	3.5	—	C. P ₂ 3-49. End lost in Ats.
		—	4 35	2.0	—	C.
		—	5 15	0.6	—	C.
		—	5 23	1.0	—	C.
2980	" 17	—	21 20	0.1	—	A.B.C.
2981	" 18	—	0 36	0.2	—	A.B.C.
		—	0 40	0.2	—	2nd Max. A only
2982	" 18	14 23	14 55	1.0	0 40	A.
		14 23.5	14 35	0.3	0 40	B.
		14 24	14 36.5	0.3	0 40	C.
2983	" 19	19 12.5	19 23	0.4	1 40	A.
		—	19 23.5	0.2	—	B.C.
2984	" 19	—	21 2	0.2	—	A.
		—	21 18	0.2	—	B.C.
		—	21 19	0.1	—	B.C.
2985	" 20	—	6 45	1.2	—	A. End at 7-23
		—	5 21	1.5	—	B. End in Ats.
		—	5 20.5	0.3	—	C.
2986	" 21	—	5 18	1.5	—	A.
		—	5 22.5	0.3	—	B.
		—	5 25.5	0.3	—	C.
2987	" 21	—	6 9	1.5	—	A.
		—	6 6	0.3	—	B.C.
2989	" 21	—	8 18	0.2	—	B.
		—	8 19	0.3	—	C.
2990	" 22	—	5 43.5	1.1	—	A. Com. and end in Ats.

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

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
2991	Sept. 24	H. M. —	H. M. 4 22.5	MM. 0.3	H. M. —	A.
			4 22	0.1	—	B. Max. for C. 4-25
2992	" 24	4 50.5 ?	5 9.5	0.5	—	A. with Ats.
		4 51 ?	5 9	0.1	—	B. "
		4 51 ?	5 7	0.1	—	C. "
2993	" 24	—	7 4.5	0.2	—	A.B.C. "
2994	" 24	—	20 7	0.1	—	A.
2995	" 25	—	8 42	0.1	—	B.
		—	8 41.5	0.2	—	C.
2996	" 25	—	9 24	0.1	—	B.
		—	9 24	0.2	—	C. End at 11-15
2997	" 26	4 37	4 49	0.2	1 10	A.
		—	5 2	0.2	—	
		—	4 27	0.1	—	C.
2998	" 26	14 33.	14 58	1.0	1 30	A. a. for B. C. 0.2mm.
		14 34.5	14 59.5	0.5	1 10	C.
2999	" 27	—	14 56	0.1	—	A.B.
		—	14 57.5	0.1	—	C.
3000	" 27-28	23 34.5	0 4	0.2	1 45	A.
		—	0 2.5	0.1	—	B. Max. for C. 0-4
3001	" 28	—	7 25	0.1	—	A.
3002	" 30	8 24	8 35	0.3	0 35	A. a. for B. 0.1mm.
3003	" 30	—	9 38.5	0.2	—	A.B.
		—	9 32.5	0.3	—	C. Com. and end lost in Ats.
		—	9 38	0.2	—	
3004	" 30	—	10 27	0.1	—	A.
		—	10 25	0.1	—	B.C.
3005	Oct. 1	—	4 20.5	0.1	—	A.B.C.
3006	" 2	13 46	14 21	0.2	1 30	A. a. for B. 0.1mm.
		—	14 20	0.1	—	C.
3007	" 2	—	16 56	0.1	—	A.B.C.
3008	" 4	—	7 50	0.1	—	A.C.
3009	" 5	6 43	7 13	0.2	—	A.
		6 40.5	7 13	0.1	—	B.
		6 43	7 11.5	0.1	—	C.
3010	" 5	—	15 56.5	0.2	—	A.
		15 30	15 42	0.2	1 0	B. Com. for C. 15-29
		—	15 54	0.1	—	
3011	" 6	10 11.5	10 52.5	2.5	3 10	A. P ₂ 10-22.5
		—	10 57.5	6.5	—	
		—	11 38	0.6	—	
		10 15	10 57.5	2.6	3 10	B.
		10 16	10 44	1.2	3 10	C.
		—	10 50.5	1.0	—	
		—	11 4	1.0	—	
		—	11 19.5	1.0	—	
3012	" 6	15 14	15 20	0.3	—	A. a. for B.C. 0.2mm.
3013	" 6	—	16 26	0.3	—	A. End at 18h.
		—	16 36	0.3	—	
		—	16 30	0.2	—	B. Max. for C. 16-27
3014	" 7	5 19	5 36.5	0.5	2 0	A.
		—	5 42.2	0.6	—	
		5 19	5 36.5	0.2	2 0	B.
		—	5 41.5	0.2	—	
		5 18.5	5 35	0.3	2 0	C.
		—	5 42.5	0.2	—	
3015	" 7	—	16 40	0.1	—	A.C. Max. for B. 16-39
3016	" 8	2 36.5	2 54	0.2	1 30	A.
		—	2 52	0.1	—	B. Max. for C. 2-51.5
3017	" 8	7 21.5	7 44	0.3	3 40	A. a. for B. 0.1mm.
		—	8 6	0.5	—	a. for B. 0.1mm.
		—	8 24	0.5	—	

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

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
3017	Oct. 8	H. M. —	H. M. 7 43.5	MM. 0.2	H. M. —	C. 3rd Max. 8-24
			8 10	0.1	—	
3018	" 10	—	9 24.5	0.2	—	A.
		—	9 23.5	0.1	—	B. Max. for C. 9-21
3019	" 10	12 26	12 40	0.5	1 0	A. a. for B. 0.1mm.
		12 25.5	12 40.5	0.2	1 0	C.
3020	" 10	13 24	13 57.5	3.0	4 0	A. P ₂ 13-34.5
		—	14 3	3.0	—	
		13 26	13 55.5	1.5	4 0	B. P ₂ 13-34
		—	14 2	2.5	—	
		13 23	13 49	1.0	4 0	C. P ₂ 13-32.5
		—	13 56	1.0	—	
		—	14 3.5	1.0	—	
3021	" 10	—	23 28	0.1	—	A. Max. for B.C. 23-29
3022	" 12	—	6 53	0.1	—	A. " " 6-55
3023	" 12	22 22	22 40	0.1	0 45	A. " " 22-37
3024	" 13	2 44.5	3 24	3.0	3 50	A. P ₂ 2-55
		—	3 28	3.0	—	
		—	3 30	2.5	—	
		—	3 39	2.0	—	
		2 44.5	3 23	1.0	3 40	B. P ₂ 2-55
		—	3 39	1.5	—	
		2 44.5	3 22	1.6	3 40	C. P ₂ 2-55
		—	3 25	1.5	—	
		—	3 28	1.5	—	
3025	" 13	10 7	10 21	1.0	0 50	A.B.C.
3026	" 13	—	16 39	0.1	—	A.C. Max. for B. 16-38
3027	" 14	—	5 51	0.2	—	A.
		5 23.5	6 4	0.1	—	B.
		5 23.5	6 0	0.2	—	C.
3028	" 14	—	7 11.5	0.7	—	A. End at 8-45
		—	7 4	0.2	—	B. Max. for C. 7-4.5
3029	" 14	12 36	13 15.5	0.8	3 40	A. P ₂ 12-46
		—	13 22.5	2.1	—	
		—	13 32.5	2.2	—	
		12 37.5	13 15.5	0.6	3 40	B.
		—	13 19	0.7	—	
		—	13 30.5	1.0	—	
		12 37.5	13 14.5	1.2	3 40	C.
		—	13 19	1.7	—	
3030	" 14	16 55	17 33	1.5	—	A. P ₂ 17-3
		—	17 49	1.1	—	
		16 46.5	17 30	0.2	—	B. P ₂ 16-57
		—	17 36	0.4	—	
		—	17 50	0.4	—	
		16 46	17 28	0.4	—	C.
		—	17 34.7	0.6	—	
		—	17 45	0.6	—	
3031	" 14-15	23 33.5	0 0	1.6	3 30	A. P ₂ 23-41.5
		—	0 4	3.0	—	
		—	0 0	1.0	—	B. P ₂ 23-42
3032	" 15	23 34	23 59.2	2.0	3 30	C. P ₂ 23-42
		5 44	5 50	0.2	1 15	A.
		—	5 53.5	0.2	—	
		—	6 4	0.2	—	
		5 44	5 51	0.1	1 15	B.C.
		—	6 3	0.1	—	
3033	" 15	7 53	8 0	0.2	0 45	A. a. for B.C. 0.1mm.
		8 10	—	—	—	A.
		—	9 3	0.1	—	B.C.
3034	" 15	12 33.5	12 45	0.4	1 10	A.
		—	12 52.5	0.4	—	

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

No.	Date	Com-mence-ment		Max.	Max. Amplitude	Dura-tion	Remarks
		H. M.	H. M.				
3034	Oct. 15	12 33	12 45	0.3	—	B.	
		12 31.5	12 44	0.5	—	C.	
3035	" 15	21 23.5	21 31	0.1	1 30	B.	
			21 48.5	0.1	—		
			22 7.5	0.1	—		
			21 26.5	0.1	—	C.	
			22 5	0.1	—		
3036	" 15-16	23 52	0 25	0.2	2 0	B.	
		23 53.5	0 28	0.3	2 0	C.	
3037	" 16	—	6 21	0.1	—	B.	Max. for C. 6-22
3038	" 16	13 47	13 53	0.1	1 30	B.	
			14 22	0.1	—		
			14 51	0.1	—		
		13 47.5	13 53.5	0.2	1 30	C.	
			14 22	0.1	—		
			14 41	0.1	—		
3039	" 16	—	23 7	0.1	—	A.B.	Max. for C. 23-8
3040	" 17	—	3 45	0.2	—	A.	
3041	" 17	—	10 29	0.1	—	A.	
3042	" 17	—	12 43	0.2	—	A.	
			12 49	0.3	—		
			12 45	0.5	—	B.	
			12 50	0.5	—		
			12 46.5	1.0	—	C.	
3043	" 18	—	0 25	0.1	—	B.C.	
3044	" 19	—	2 46.5	0.2	—	A.B.C.	
3045	" 19	—	9 35	0.1	—	A.	
3046	" 19	10 33.5	10 46	0.6	1 0	A.	
			10 49.2	1.0	—		
			10 45.5	0.6	—	B.	
			10 49.5	0.6	—		
			10 45.2	0.6	—	C.	
			10 51	0.6	—		
3047	" 20	18 2	18 20.5	0.2	—	A.B.C.	
			19 25.5	0.3	—	B.	
			19 20	0.5	—	C.	End at 20-40
			19 26	0.4	—		
3048	" 22	—	17 12.5	0.2	—	B.	Max. for C. 17-12
3049	" 22	—	22 47.5	1.0	—	A.	End lost in Ats.
3050	" 22	—	23 46.5	0.2	—	B.	Max. for C. 23-49
3051	" 23	20 29.5	20 37	0.1	1 40	A.	
			21 12	0.2	—		
			21 10	0.1	—	B.	Max. for C. 21-12
3052	" 24	0 22.5	1 27	0.2	3 30	A.	
			1 30	0.5	—		
			2 22.5	0.2	—		
			2 32.5	0.3	—		
		0 23	1 31	0.3	3 30	B.	
			2 20	0.1	—		
			2 32.5	0.2	—		
			1 26.5	0.2	—	C.	
			2 32.5	0.2	—		
3053	" 24	—	4 30	0.1	—	A.	
3054	" 26	—	13 6.5	0.2	—	A.	a. for B. 0.1mm.
			13 7	0.1	—	C.	
3055	" 26	14 49	15 11	0.5	0 55	A.	
			15 9	0.2	—	B.	
			15 4	0.1	—	C.	
3056	" 26	—	22 24	0.1	—	A.	
3057	" 28	6 55.5	—	—	—	A.	
3058	" 29	—	1 16	1.0	—	A.	

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

No.	Date	Com-mence-ment		Max.	Max. Amplitude	Dura-tion	Remarks
		H. M.	H. M.				
3059	Oct. 29	—	19 4	1.2	—	A.	End at 22h.
			19 4.5	0.7	—	B.	
			19 7.5	0.5	—	C.	
3060	" 30	—	14 5.5	0.2	—	A.	
3061	" 31	—	12 3	0.2	—	A.B.C.	
3062	Nov. 1	4 37	4 48	0.1	1 25	A.B.	
			4 42	0.1	—	C.	
			4 53.5	0.1	—		
3063	" 1	9 53	10 18	4.0	2 10	A.	
			10 17	2.0	—	B.	a. for C. 1.6mm.
3064	" 2	2 10.5	2 28.5	1.0	2 0	A.	
			2 29	0.4	—	C.	
3065	" 2	—	13 7	0.2	—	A.C.	
			13 4	0.2	—	B.	
3066	" 2	—	14 32	0.2	—	A.C.	Max. for B. 14-33.5
3067	" 5	—	19 56.5	1.0	—	A.	a. for B. 0.3mm.
			19 56	0.3	—	C.	
3068	" 6	—	16 17	1.0	—	A.	a. for B. 0.2mm.
			16 17.5	0.1	—	C.	
3069	" 7	—	6 36	0.3	—	A.	
			6 36.5	0.1	—	B.	
3070	" 8	—	15 6.5	1.2	—	A.	Com. and end in Ats.
3071	" 9	—	5 33.5	0.5	—	A.	a. for B. 0.2mm.
			5 26	0.2	—	C.	
			5 35	0.3	—		
3072	" 9	—	10 12	0.2	—	A.C.	Max. for B. 10-9
3073	" 10	15 4.5	15 47	0.2	—	A.B.	End in Ats.
3074	" 13	2 8.5	2 19	0.2	—	A.	
3075	" 13	16 34	16 59	2.0	—	A.	P ₂ 16-32.5. End in Ats.
			17 11	3.0	—		
			17 25.5	3.2	—		
3076	" 14	—	14 19	0.2	—	A.B.C.	
3077	" 14	—	19 20	0.2	—	B.	Max. for C. 19-19
3078	" 15	—	21 42.5	0.5	—	A.	
			21 50	0.5	—		
			21 48.5	0.2	—	B.C.	
3079	" 16	—	13 5.5	0.5	—	A.	a. for B. 0.2mm.
			13 29	0.5	—		
3080	" 16	21 27.5	21 29.5	7.0	—	P.	21-28.7
3081	" 17	—	12 27	0.2	—	A.	B.C. dismantled
3082	" 18	7 46.2	8 30	2.0	>3 0	A.	with Ats.
		7 46.5	8 26.5	0.6	>3 0	C.	
			8 40	0.4	—		
3083	" 19	—	3 21	0.5	—	A.	a. for C. 0.3mm.
3084	" 19	—	15 24	0.6	—	A.	a. for C. 0.4mm.
3085	" 19	—	20 47.5	0.1	—	A.B.C.	
3086	" 20	—	10 15	0.2	—	A.B.C.	
3087	" 20	—	11 5.5	0.2	—	A.B.C.	
3088	" 20	13 8	13 25	0.5	—	A.	
		13 8.5	13 28	0.2	—	B.	
		13 9	13 27	0.2	—	C.	
3089	" 20	13 52.5?	14 39	5.0	>3 30	A.	P ₂ 14-4
			14 47.5	3.0	—		
			13 56?	14 39	2.5	>3 10	B.
			13 56.5?	14 38.5	1.5	>3 10	C.
3090	" 21	—	19 22.5	1.0	—	A.	
			19 21.5	0.3	—	B.	Max. for C. 19-20
3091	" 21	—	20 22	1.5	—	A.	with Ats.
			20 23.5	0.5	—	B.	Max. for C. 20-22.5
3092	" 22	—	10 48	0.3	—	C.	
			10 45	0.2	—	B.	
3093	" 22	—	20 23	0.2	—	A.B.	Max. for C. 20-20

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

No.	Date	Com-mence-ment		Max.	Max. Ampli-tude	Dura-tion	Remarks										
		H. M.	H. M.														
3094	Nov. 22-23	22	56.5	23 55.5	0.2	—	A. End in Ats.										
				0 19	0.2												
				0 45.5	0.5												
		22	56	1 8	0.3	—	B. End in Ats.										
				23 55.5	0.2												
				0 12	0.2												
		22	55	0 46	0.2	—	C. End in Ats.										
				1 7.5	0.1												
				23 51.5	0.2												
		3095	" 23	—	—	0 17.5	0.2	—	A. Max. for B.C. 2-14								
						0 4.5	0.2										
						1 5	0.2										
2 13	0.1					—	A.B. a. for C. 0.1mm.										
20 33.5	0.3																
4 15.5	0.1																
20 20	0.3									—	A. Max. for B.C. 2-16						
20 19	0.3																
20 18.5	0.2																
2 15.5	0.1											—	A. Max. for B.C. 2-16				
10 56	11 3													0.1			
10 55	11 3													0.2			
15 29	17 0	0.2	—	B. C.													
17 3	0.3																
16 58.5	0.2																
5 1	5 18	0.1			—	C. Two quakes ?											
11 19	0.1																
12 11	0.1																
10 57	11 18.5	0.1					—	B.									
12 12	0.5																
11 18	0.1																
10 57	12 10	0.4							—	C.							
0 19	0.1																
0 17.5	0.1																
4 37.5	0.3	—	A. Max. for C. 0-16.5														
4 36	0.2																
13 32	0.2																
14 54	1.5			—	B. Max. for C. 13-35												
14 46.5	14 56.5					0.5											
14 45	14 55					0.6											
3108	" 6					—	—	9 15			1.0	—	A.				
								9 34			1.0						
								9 16			0.3						
								9 32	0.3	—	C.						
								23 55.5	1.5								
								23 55.5	1.5								
		23 56	1.0					—	A. End lost in Ats.								
		10 30	1.0														
		10 29.5	0.2														
		3110	" 10	—	—									12 3.5	0.5	—	A. Max. for C. 10-31
														12 16.5	1.2		
														12 22	1.2		
12 38	1.0					—	B.										
12 4	0.5																
12 21	0.5																
11 56	0.5									—	C.						
12 5	0.3																
12 15	0.3																
15 23	0.1							—	A.B. Max. for C. 15-25								
9 12	1.0																
9 13	0.2																
23 50	0.5	—	A.B.C.														
0 37	0.2																
3115	" 14			—	—							0 37	0.2	—	A.C. Max. for B. 0-37.5		

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

No.	Date	Com-mence-ment		Max.	Max. Ampli-tude	Dura-tion	Remarks												
		H. M.	H. M.																
3116	Dec. 14	—	—	15 31	0.1	—	A.B.												
				17 21.5	0.2			—	A.B.C.										
				22 3	0.2					—	A.B.C.								
				19 27	20 10							11.0	—	A. P ₂ 19-38					
				20 15.5	11.0														
				20 11	8.2							—			B. a. for C. 4.6mm.				
				13 36.5	0.1														
				6 47	2.5											—	B.C.		
				6 52.5	2.5														
				6 55.5	3.0													—	A. P ₂ 6-22.5
				6 49.5	1.0														
				6 50	0.2														
3 27	0.1																		
3 8	0.2	—	C. End in Ats.																
13 19	0.6																		
13 19	0.2			—	A.B.														
13 50	1.0																		
18 47	0.2					—	A. Com. in Ats.												
19 10	1.0																		
20 36	0.3							—	A. a. for B. 0.6mm.										
20 34	0.1																		
21 55.5	1.0									—	A.								
21 55.5	0.5																		
14 27	0.6											—	A.						
14 26	0.2																		
7 57	0.5	—	B. C.																
7 56	0.2																		
17 5	0.1			—	A. B. P ₂ 21-27														
17 10	0.3																		
12 52	0.2					—	C. P ₂ 21-27												
12 53	0.2																		
16 25	0.2							—	A.										
16 25	0.2																		
16 25	0.2									—	B. Max. for C. 12-50								
16 28.5	0.2																		
16 25	0.2											—	A.						
16 25	0.2																		
16 31.5	0.5	—	B.																
3 37	0.1																		
10 24	0.1			—	C.														
10 23	0.2																		
7 25	0.4					—	A. a. for C. 0.1mm a.												
7 31	0.4																		
7 25	2.0							—	A.										
7 31	1.0																		
8 22	0.5									—	B. P ₂ 7-14								
7 25	1.2																		
7 30	1.0											—	C.						
8 22.5	1.0																		
15 15.5	0.1	—	A.B.C.																

Register from M.O. Central Observatory, Kew Observatory, Richmond.
51°28'N. 0°19'W.
Director, DR. W. N. SHAW, F.R.S.; Superintendent, DR. C. CHREE, F.R.S.;
Observer, E. G. CONSTABLE.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
1911						
1263	July 1	H. M. 22 32.3 H. M. 22 43.1	MM. 1.0	H. M. 0 32		
1264	" 2	15 27				B.O.T. = merely a broadening of the trace.
1265	" 3	22 36				
1266	" 4	13 42.7	14 9.1	3.0	1 25	
1267	" 4	20 22				B.O.T.
1268	" 5	2 42.7	2 47.5	0.6	0 27	
1269	" 5	19 10	0.3	1		Masked by A.T.
1270	" 12	4 26.1	5 11.0	5.1	3 4	
1271	" 12	8 39.5	8 32.7	0.3	0 36	Perhaps continuation of preceding.
1272	" 13	9 31.2	9 36.5	0.4	0 16	
1273	" 14	2 51				B.O.T.
1274	" 18	7 45				
1275	" 19	10 34				
1276	" 19	21 23	21 29.5	0.3	0 32	Commencement uncertain.
1277	" 22	5 17				B.O.T.
1278	" 23	17 17.3	17 33.6	0.6	0 26	
1279	" 23	18 46.4	19 2.5	0.4	0 21	
1280	" 27	12 48				B.O.T.
1281	" 29	10 21.0	10 40.3	0.4	?	Interrupted by change of paper.
1282	" 29	19 29				B.O.T.
1283	" 30	13 24				
1284	Aug. 6	14 10 16 53				
1285	" 7	16 11				
1286	" 8	13 17.7	15 19.5	0.4	0 11	
1287	" 12	13 32				B.O.T.
1288	" 16-17	23 4.0	23 55.2	12.6	3 6	
1289	" 21	17 3.5	17 39.0	0.3	1 3	Ill-defined.
1290	" 23	16 24	16 40.5	0.7	1 10	
1291	" 24	15 0				B.O.T.
1292	" 28	6 36.7	6 43.3	0.3	0 54	Ill-defined.
1293	" 29	4 28				B.O.T.
1294	" 29	15 6				
1295	" 30	12 49				" August 31!
1296	Sept. 4	6 33.8	6 35.9	0.3	0 12	
1297	" 6	1 14.5	1 26.4	0.3	0 42	Ill-defined.
1298	" 11	13 54				B.O.T.
1299	" 12	13 10				
1300	" 13	3 49				
1301	" 15	13 33.8	14 2.3	1.0	2 23	
1302	" 17	5 49.1	4 25.3	2.8	2 48	
1303	" 20	5 54				B.O.T.
1304	" 21	6 11				
1305	" 22	5 31.5	5 44.5	0.4	0 48	Ill-defined.
1306	" 24	7 7				B.O.T.
1307	" 27	14 56				
1308	" 28	7 19				
1309	" 30	8 31				A.T.
1310	Oct. 4	9 33				B.O.T.
1311	" 6	10 36.2	11 7.3	1.4	1 23	Commencement uncert., changing paper.
1312	" 7	5 36				B.O.T.
1313	" 10	9 25				
1314	" 10	13 38.6	13 59.7	1.6	1 10	
1315	" 12	22 12				B.O.T.
1316	" 13	3 13.7	3 32.0	0.6	1 9	
1317	" 13	16 36				B.O.T.
1318	" 11	6 50				
1319	" 11	12 45.3	13 21.4	0.5	1 15	
1320	" 14	16 58.5	17 32.5	0.3	1 15	Ill-defined.
1321	" 14	23 56.3	23 59.5	1.0	0 42	
1322	" 15	12 51				B.O.T.
1323	" 16	13 9				

Register from M.O., Central Observatory, Kew Observatory—continued.

No.	Date	Commencement	Max.	Max. Amplitude	Duration	Remarks
1324	Oct. 16	H. M. 14 7	H. M. 12 25	MM. 0.3	H. M. 0 37	B.O.T.
1325	" 17	10 26				
1326	" 17	12 25	12 46.5	0.3	0 37	Ill-defined.
1327	" 19	9 28				B.O.T.
1328	" 19	10 38.8	10 45.7	0.9	1 12	
1329	" 20	18 23	19 10.5	0.3	0 57	Ill-defined.
1330	" 22	22 46				B.O.T.
1331	" 26	15 4				
1332	" 26	22 18				
1333	" 28	7 10				B.O.T.
1334	" 29	18 55.5	19 3.5	0.4	0 51	
1335	" 30	7 40				B.O.T.
1336	" 30	14 5				
1337	" 31	12 2				
1338	Nov. 1	9 34.2	10 12.5	1.6	1 33	Commencement uncertain.
1339	" 2	2 23				B.O.T.
1340	" 2	2 40				
1341	" 8	14 56.3	15 6.4	0.4	0 52	
1342	" 10	15 46				B.O.T.
1343	" 13	16 33.8	17 7.7	1.9	1 20	
1344	" 16	21 29.1	21 30.6	1.2	0 10	
1345	" 17	12 17				B.O.T.
1346	" 18	8 19.5	8 24.0	0.7	0 20	
1347	" 19	15 21				B.O.T.
1348	" 20	11 10				
1349	" 20	14 37.0	14 44.2	1.0	0 38	
1350	" 21	20 21				B.O.T.
1351	" 25	20 19				
1352	" 28	16 48				
1353	" 30	17 5	12 26.5	0.3	0 31	
1354	Dec. 1	0 16				B.O.T.
1355	" 2	4 37				
1356	" 3	13 24				
1357	" 4	14 54				
1358	" 6	23 48.3	23 57.8	1.0	0 31	
1359	" 11	11 55	12 0.5	0.3	0 40	Ill-defined.
1360	" 13	9 17				B.O.T.
1361	" 14	15 24				
1362	" 16	19 26.0	20 5.8	7.1	2 46	
1363	" 20	6 15.7	6 48.7	0.6	1 23	
1364	" 22	13 44	13 51	0.3	0 34	Ill-defined.
1365	" 23	21 42.5	21 55.7	0.7	0 36	
1366	" 25	8 18				B.O.T.
1367	" 29	16 21				
1368	" 30	10 23				
1369	" 31	7 11.0	7 30.4	0.8	0 43	

Scale, 1mm. = 0.55 of arc.
Period = 18 seconds.

Register from Liverpool Observatory, Bidston. 53°24'N. 3°4'W.
Director, W. E. PLUMMER.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1911						
1794	July 3	H. M. 22 59.8	H. M. 13 55.0	MM. 2.8	H. M. 0 5	
1795	" 4	" 13 47.2	" 5 8	"	" 1 13	
1796	" 7	"	" 2 22	"	"	
1797	" 8	"	" 3 6.2	0.2	0 19	
1798	" 8	"	" 17 53	"	"	
1799	" 8	"	" 9 14.4	"	"	
1800	" 12	"	" 9 30.6	0.1	0 30	
1801	" 13	" 9 18.0	" 12 45	"	"	
1802	" 15	"	" 10 39.2	0.2	0 33	
1803	" 17	"	" 21 17.0	0.1	"	End uncertain.
1804	" 19	" 21 17.0	" 21 29.5	0.1	"	
1805	" 23	" 17 12.5	" 17 27.0	0.3	1 41	
1806	" 27	"	" 1 8	"	"	
1807	" 30	"	" 13 15	"	"	
1808	Aug. 2	" 1 40.4	" 1 46.2	0.1	0 21	
1809	" 3	"	" 18 28	"	"	
1810	" 4	"	" 2 23	"	"	
1811	" 6	"	" 13 13	"	"	
1812	" 6	"	" 17 9	"	"	
1813	" 8	" 15 9.3	" 15 17.2	0.2	0 44	
1814	" 8	"	" 19 30	"	"	
1815	" 12	" 17 57	"	"	0 14	
1816	" 12	"	" 22 12	"	"	
1817	" 16	" 14 9.3	" 14 12.2	0.1	0 6	
1818	" 16	" 23 0.0	" 23 53	12.0	1 29	
1819	" 18	" 3 53.9	" 4 0.7	0.3	0 35	
1820	" 19	"	" 0 36	"	"	
1821	" 21	" 17 6.5	" 17 36.2	0.9	1 32	
1822	" 21	"	" 23 37	"	"	
1823	" 23	" 16 18.7	" 16 25.0	0.4	1 0	
1824	" 26	"	" 11 34	"	"	
1825	" 27	" 11 28.7	" 11 34.0	0.1	0 26	
1826	" 28	" 6 40.1	" 6 45.3	0.3	0 27	
1827	" 29	" 4 20.7	" 4 23.4	0.1	0 29	
1828	" 29	" 7 29.3	" 7 36.2	0.2	0 34	
1829	" 29	" 14 57.7	" 15 6.1	0.3	0 28	
1830	" 30	"	" 14 23	"	"	
1831	" 31	"	" 12 48	"	"	Record lost, given away apparently
1832	Sept. 3	" 16 22	"	"	0 6	
1833	" 6	" 1 8	"	"	"	Light failed.
1834	" 8	"	" 12 19	"	"	
1835	" 8	" 23 15.6	" 23 36.2	0.7	1 19	
1836	" 10	"	" 1 30	"	"	Probably A.T. continued over 2h.
1837	" 11	" 1 40.8	" 1 49.0	0.1	0 29	
1838	" 12	"	" 13 15	"	"	
1839	" 13	" 3 39.3	" 3 47.2	0.4	"	End uncertain.
1840	" 15	" 13 33.4	" 14 1.8	2.5	"	Light bad.
1841	" 16	" 15 51.0	" 15 59.0	"	0 22	Doubtful.
1842	" 17	" 3 49.2	" 4 12.5	1.3	3 39	
1843	" 19	"	" 21 17	"	"	
1844	" 21	"	" 5 47	"	"	
1845	" 21	" 8 13.2	" 8 18.5	"	"	Lost in winding.
1846	" 22	" 5 22.2	" 5 42.0	0.3	0 54	
1847	" 24	" 6 54.2	" 7 2.0	0.8	0 33	
1848	" 24	"	" 20 19	"	"	
1849	" 25	" 9 13.6	" 9 27.2	0.3	0 49	
1850	" 26	" 14 54.2	" 15 3.5	0.2	0 30	
1851	" 30	"	" 9 41	"	"	
1852	Oct. 4	"	" 8 8	"	"	
1853	" 6	" 10 35.7	" 10 51.9	0.9	1 24	Continued wavy and uncertain for some time.
1854	" 6	"	" 15 23	"	"	
1855	" 7	" 5 31.0	" 5 42.0	"	0 18	
1856	" 10	" 13 36.9	" 13 57.3	1.5	1 30	
1857	" 10	" 23 31.9	" 23 50.0	"	"	Uncertain.
1858	" 13	" 3 3.4	" 3 29.7	0.7	1 27	
1859	" 14	"	" 5 56	"	"	
1860	" 14	" 6 49.0	" 6 58.3	0.2	0 50	
1861	" 14	" 13 3.8	" 13 13.1	0.3	1 7	
1862	" 14	" 16 58.0	" 17 10.9	0.2	1 3	

Register from Liverpool Observatory, Bidston—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1863	Oct. 14	H. M. 23 59.5	H. M. 0 8.2	MM. 0.3	H. M. 1 26	
1864	" 15	" 12 35.0	" 12 38.2	0.2	0 31	
1865	" 16	" 0 21.3	" 0 24.4	0.1	0 9	
1866	" 16	"	" 23 5	"	"	
1867	" 17	" 10 26.0	" 10 36.7	0.2	0 52	
1868	" 17	" 12 36.2	" 12 42.8	0.2	0 28	
1869	" 19	" 10 40.8	" 10 47.4	0.5	0 32	
1870	" 20	" 18 19.4	" 18 30.0	0.1	0 23	
1871	" 20	"	" 19 9	"	"	
1872	" 22	" 22 43.8	" 22 48.1	0.2	0 24	
1873	" 24	" 1 21.2	" 1 29.1	0.2	0 27	
1874	" 26	" 12 56.2	" 13 3.9	0.2	"	Uncertain A.T.
1875	" 26	" 22 14.3	" 22 24.2	0.3	0 33	
1876	" 29	" 18 53.6	" 19 2.2	0.3	0 36	
1877	" 31	"	" 12 3.0	0.1	"	
1878	Nov. 1	"	" 4 49.7	"	0 12	
1879	" 1	" 9 58.7	" 10 14.4	1.6	1 1	
1880	" 2	" 2 15.0	" 2 32.2	0.4	0 43	
1881	" 2	"	" 14 30	"	"	
1882	" 6	" 6 6.0	" 6 12.4	0.1	0 16	
1883	" 8	" 14 59.2	" 15 3.3	0.6	0 41	
1884	" 9	" 5 13.7	" 5 29.6	0.2	0 31	
1885	" 13	"	" 2 19	"	"	
1886	" 13	" 16 46.2	" 17 21.7	0.5	1 8	
1887	" 14	"	" 19 20	"	"	
1888	" 15	" 21 42	" 21 48	0.1	0 23	
1889	" 16	" 21 8.8	" 21 32.0	0.4	0 59	
1890	" 19	" 15 13.7	" 15 23.5	0.2	0 29	
1891	" 20	" 14 11.2	" 14 38.3	0.7	1 0	
1892	" 21	" 20 17.4	" 20 26.5	0.1	0 15	
1893	" 25	" 20 16.9	" 20 22.0	0.1	0 19	
1894	" 28	" 16 51.9	" 17 3.3	0.2	0 39	
1895	Dec. 2	" 4 20.3	" 4 32.5	0.1	0 31	
1896	" 4	" 14 41.1	" 14 52.6	0.3	0 42	
1897	" 6	" 23 39.0	" 23 58.2	0.4	0 59	
1898	" 10	"	" 10 52	"	"	
1899	" 11	" 11 53.7	" 12 15.1	0.3	1 20	
1900	" 13	" 23 45.2	" 23 49.4	0.2	0 51	
1901	" 14	"	" 15 22	"	"	
1902	" 16	" 19 25.5	" 20 3.8	7.2	3 52	
1903	" 20	" 6 16.2	" 6 41.0	0.7	2 57	
1904	" 22	" 13 18.3	" 13 45.8	0.4	1 7	
1905	" 29	" 16 13.2	" 16 20.7	0.5	1 8	
1906	" 30	" 10 14.6	" 10 22.5	0.3	0 31	
1907	" 31	" 6 35.7	" 7 17.4	0.7	1 50	

Pendulum vibration 18.5 seconds.
Four degrees displacement = 15.3mm.

Register from Stonyhurst College Observatory. 53°50'N. 2°28'W.
Director, REV. W. SIDGREAVES, S.J.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude 2A	Dura- tion	Remarks
1911						
393	July 1	H. M. 22 31.8	H. M. 22 45.5	MM. 1.7	H. M. 1 29	P ₂ 22h.39m., P ₃ 22h.42m.
394	" 2	20 1.5	20 14.8	0.2	1 0	"
395	" 3	22 15.5	—	< 0.1	1 0	"
396	" 4	13 44	13 56	6.2	3 40	"
397	" 5	2 30	2 50	0.6	2 30	"
398	" 5	19 —	18 38.5	—	—	"
399	" 5	19 1.2	19 12.5	0.3	1 30	"
400	" 8	—	2 20.3	—	—	"
401	" 8	3 1	—	< 0.1	—	"
402	" 8	—	17 55.3	—	—	"
403	" 11	21 52	22 45	< 0.1	1 50	"
404	" 12	4 23.2	5 16.8	12.1	3 40	P ₂ 4h.34.3m., P ₃ 5h.3m.
405	" 12	8 13	9 16	0.1	1 15	"
406	" 12	—	13 36	—	—	"
407	" 13	9 27.5	9 37.6	0.5	0 30	"
408	" 14	2 43	2 53	0.1	0 30	"
409	" 14	22 36.5	23 6	0.1	0 25	"
410	" 19	20 42	21 24	0.2	2 10	"
411	" 22	6 15	6 28	< 0.1	—	P ₂ 6h.19.5m.
412	" 23	—	17 8	—	—	"
413	" 23	—	18 52.5	0.3	—	End at 19h.22m.
414	" 25	—	7 23	—	—	"
415	" 27	—	1 16	—	—	"
416	" 29	10 22.5	10 38.5	0.5	?	"
417	Aug. 2	—	1 55	—	—	"
418	" 4	2 2	2 28.3	0.1	0 43	P ₂ 2h.13m., P ₃ 2h.19.2m.
419	" 6	—	14 22.5	—	—	"
420	" 6	—	15 16.7	—	—	"
421	" 6	—	15 24.5	—	—	"
422	" 12	—	17 9	—	—	"
423	" 12	—	22 13	—	—	"
424	" 16	22 58.5	23 53	15.0	5 0	P ₂ 23h.6.5m., P ₃ 23h.39.7m.
425	" 18	3 31.5	4 8	0.4	1 20	P ₂ 2h.56.6m., P ₃ 4h.3m.
426	" 21	16 51.8	17 15.5	0.5	1 40	"
427	" 23	16 20.7	17 33.5	—	—	"
428	" 28	6 43	16 47	0.6	—	"
429	" 29	—	6 47	0.5	0 20	Preceded by 4 maxima at 4h.25m., 4h.32m., 4h.44m., and 6h.23m.
430	" 29	—	7 37.5	0.3	—	"
431	" 29	—	14 46	—	—	"
432	" 31	—	21 25	—	—	"
433	Sept. 6	1 6.7	12 56.5	—	—	P ₂ 1h.16m.
434	" 8	23 5.5	1 28.1	0.5	1 11	"
435	" 10	—	23 37.7	0.5	0 58	"
436	" 11	13 46	1 27.3	—	—	"
437	" 12	—	13 51.8	0.1	0 14	"
438	" 12	—	13 45.5	—	—	"
439	" 13	3 24.3	14 52.5	—	—	"
440	" 13	—	3 36	0.1	1 0	"
441	" 15	—	3 46.2	—	—	"
442	" 16	—	22 49.5	—	—	"
443	" 17	3 50.5	14 3.5	2.0	3 11	P ₂ 13h.35m., P ₃ 13h.59m.
444	" 19	—	5 39.8	—	—	"
445	" 19	—	4 26.8	2.1	3 57	"
446	" 20	5 22	5 23.8	2.4	—	"
447	" 22	5 18	19 39	—	—	"
448	" 26	4 38.5	21 11.5	< 0.1	1 11	"
449	" 28	—	5 54.6	—	—	"
450	Oct. 6	10 21.5	5 34	0.4	1 40	"
			6 14	0.3	—	"
			4 39.8	< 0.1	0 12	"
			7 31	—	—	"
			10 57	2.4	2 6	P ₂ 10h.33.8m. Max. uncertain: Visitor in the room 10h.43m. to 10h.48m.

Register from Stonyhurst College Observatory—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude 2A	Dura- tion	Remarks
451	Oct. 7	H. M. 5 31.5	H. M. 5 38.5	MM. 0.1	H. M. 0 23	—
452	" 8	2 44.5	2 49.5	<< 0.1	0 13	—
453	" 10	13 34.9	14 1.6	1.6	1 20	P ₂ 13h.45.5m., P ₃ 14h.0m.
454	" 13	2 51.5	3 28.5	1.6	2 35	P ₂ 3h.5.7m., P ₃ 3h.20m.
455	" 14	6 52.3	7 6.5	0.3	0 44	—
456	" 14	12 41.7	13 14.5	0.5	2 0	—
			13 18.2	0.7	—	"
457	" 14	16 56	17 34.8	0.5	1 42	P ₂ 17h.13.5m., P ₃ 17h.31.2m.
458	" 14	23 41.5	24 2.0	1.5	1 12	—
			24 8	—	—	"
459	" 15	12 29	12 42	0.1	0 42	—
460	" 16	0 7.6	0 23	0.1	1 3	—
461	" 17	20 17.7	10 55	0.1	?	—
			11 0	0.4	—	"
462	" 17	12 26.7	12 47	0.5	1 0	P ₂ 12h.34.5m., P ₃ 12h.42.2m.
463	" 19	2 39.5	2 49.5	0.1	0 17	—
464	" 19	9 22.5	9 30.5	0.1	0 22	—
465	" 19	10 21	10 47.5	0.5	!	Work in room 11h. to 12h. P ₂ 10h.25.6m. P ₃ 10h.49.3m.
466	" 20	18 7	18 39.3	0.1	2 23	—
			19 4.9	0.2	—	"
467	" 22	22 44.5	22 50.5	0.5	0 17	—
468	" 24	0 43.3	1 32	0.1	2 10	P ₂ 1h.29.5m.
			1 36	0.1	—	"
469	Nov. 1	9 40.7	10 14.5	1.5	2 56	P ₂ 9h.48.5m., P ₃ 10h.9m.
470	" 2	2 4.7	2 32	0.6	1 22	—
471	" 13	16 34.5	17 12	1.4	3 3	Commencement very sudden.
			17 21.8	1.6	—	"
472	" 14	—	14 20.5	—	—	—
473	" 14	—	19 30.5	—	—	—
474	" 16	—	13 9.5	< 0.1	—	—
475	" 16	21 30.7	21 35	0.5	0 53	—
476	" 18	7 46.7	8 25.2	0.6	—	—
477	" 19	3 16.2	3 18	< 0.1	0 19	—
478	" 20	—	10 29	—	—	—
479	" 20	14 1.9	14 39.5	0.7	1 45	—
			14 44	0.6	—	"
			14 49	0.5	—	"
			20 24.5	—	—	"
			2 37.7	—	—	"
480	" 25	—	—	—	—	—
481	" 27	—	—	—	—	—
482	" 28	16 13	—	—	0 33	—
483	" 28	16 52.5	17 5.1	0.5	1 10	P ₂ 16h.59.3m., P ₃ 17h.3.8m.
484	" 30	—	12 14	0.3	—	—
485	" 30	23 56	24 6.5	< 0.1	0 33	—
			24 21.3	—	—	"
486	Dec. 2	—	4 35.5	—	—	—
487	" 3	—	13 29.5	—	—	—
488	" 4	14 48.5	14 54	0.5	1 20	—
489	" 6	—	24 3.5	0.5	—	P ₂ 23h.45.3m., P ₃ 23h.59m.
490	" 11	—	12 33.5	0.2	1 30	—
491	" 16	19 27	20 6.1	15.0	5 20	P ₁ preceded by micro-tremors beginning 19h.11.7m. P ₂ 19h.37.3m. P ₃ 20h.2.6m.
			20 19.7	9.0	—	"
492	" 20	6 2.6	6 26.5	0.3	3 13	—
			6 37.5	0.5	—	"
			6 52.7	1.0	—	"
493	" 21	3 15.5	3 24	< 0.1	0 50	—
			3 28.3	—	—	"
494	" 22	13 19.5	13 51	0.5	0 43	—
495	" 29	15 52.8	16 33.5	0.4	1 35	—
496	" 31	6 21.4	7 23.5	1.6	3 53	P ₂ 6h.38.5m., P ₃ 7h.41.7m. P ₁ preceded by micro-tremors 6h.13.7m.

Imm. - Boom deviation 220°.
Pillar inclination, 0°41'.
Period 18 secs.

Register from Royal Observatory, Edinburgh. 55°55'N. 3°11'W.
Director, R. A. SAMPSON, D.Sc., F.R.S.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1911						
701	July 1	H. M. 22 22.0	H. M. 22 43.3	MM. 0.4	H. M. 1 29.2	
702	" 2	"	3 3.8	"	0	
703	" 3	"	19 25.0	"	00	
704	" 3	20 2.4	20 15.6	0.1	1 1.6	
705	" 3	"	22 24.5	"	0	
706	" 3	"	22 52.6	"	0	
707	" 4	"	1 1.9	"	00	
708	" 4	13 42.3	"	3 9.3		Max. uncertain, time-signal remained on.
709	" 5	2 28.7	2 45.9	0.2	1 41.9	
710	" 5	18 59.2	19 11.3	0.2	1 19.7	
711	" 8	1 11.8	1 12.6	0.1	0 27.7	
712	" 8	"	2 18.9	"	0	
713	" 8	3 2.9	3 27.6	"	0 42.4	
714	" 8	17 52.3	17 56.0	0.1	0 11.8	
715	" 10	"	11 38.3	"	00	
716	" 11	"	1 33.7	"	000	
717	" 11	21 51.0	22 3.9	0.1	2 0.0	
718	" 12	4 22.0	5 11.2	3.5	3 44.5	
719	" 12	8 25.9	8 39.3	0.1	1 17.9	
			9 14.0	"		
720	" 12	13 22.7	13 26.0	0.1	0 19.7	
721	" 13	9 25.0	9 36.0	0.3	0 44.2	
722	" 14	"	2 21.8	"	000	
723	" 14	2 41.5	2 49.0	0.1	0 32.2	
			2 58.5	"		
724	" 14	22 58.5	23 7.5	0.1	0 26.9	
725	" 15	"	12 40.4	"	0	
726	" 19	10 23.8	10 45.7	0.2	2 10.0	
727	" 19	20 45.0	21 27.7	0.2	2 10.7	
728	" 20	"	14 49.6	"	0	
729	" 21	"	12 4.1	"	0	
730	" 22	"	4 19.3	"	00	
731	" 23	6 14.2	6 21.1	0.1	0 36.8	
732	" 23	16 56.9	17 37.4	0.3	2 30.0	
733	" 24	"	2 7.0	"	000	
734	" 25	"	5 28.7	"	0	
735	" 25	"	5 55.9	"	00	
736	" 27	"	1 14.6	"	0	
737	" 27	12 10.6	12 37.0	0.1	1 5.3	
738	" 29	10 0.0	10 45.5	0.1	2 4.4	
739	" 29	"	19 27.1	"	00	
740	" 30	"	13 5.6	"	000	
741	" 30	"	15 8.3	"	00	
742	Aug. 2	1 23.2	1 38.3	0.1	0 26.8	
743	" 4	1 38.7	2 19.3	0.1	1 17	
744	" 6	"	15 14.0	"	0	
745	" 6	"	17 10.9	"	00	
746	" 7	"	9 16.4	"	00	
747	" 7	"	21 52.0	"	00	
748	" 8	"	14 53.7	"	00	
749	" 8	15 8.1	15 16.0	0.1	0 44.4	
750	" 8	"	18 55.5	"	00	
751	" 8	"	19 42.0	"	000	
752	" 10	"	1 32.3	"	000	
753	" 10	"	5 51.2	"	0	
754	" 10	"	19 24.8	"	0	
755	" 11	"	19 38.1	"	0	
756	" 12	"	17 58.0	"	000	
757	" 12	"	22 14.4	"	0	
758	" 14	"	19 34.0	"	00	
759	" 14	"	21 55.6	"	0	
760	" 16	22 53.6	23 50.7	10.4	5 2.4	
761	" 17	"	12 30.5	"	0	
762	" 18	3 39.3	4 11.2	0.1	0 56.3	
763	" 18	"	7 9.3	"	000	
764	" 21	16 49.2	"	"		Clock stopped 17h.35m.
765	" 21	"	23 42.6	"	000	
766	" 22	"	7 23.1	"	0	

Register from Royal Observatory, Edinburgh—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
767	Aug. 23	H. M. 16 20.6	H. M. 16 39.5	MM. 0.4	H. M. 1 36.9	
768	" 25	"	16 33.0	"	00	
769	" 26	"	11 26.7	"	000	
770	" 27	11 20.8	11 21.7	0.1	1 0.4	
			11 51.6	"		
			11 38.5	"		
771	" 27	"	6 46.0	0.2	0 28.1	
772	" 28	6 42.6	6 46.0	0.2	0 42.2	
773	" 29	4 13.1	4 30.3	0.1	1 21.8	
774	" 29	6 58.4	7 42.7	0.4	0 27.3	
775	" 29	14 58.8	15 4.8	0.1	0 27.3	
776	" 29	"	21 17.6	"	000	
777	" 30	14 29.7	14 40.6	0.1	0 46.9	
778	" 30	"	19 15.1	"	0	
779	" 31	"	12 56.4	"	0	
	Sept.	"	1 7.0	"	000	
780	" 1	"	16 19.5	"	000	
781	" 3	"	6 29.5	"	00	
782	" 4	"	3 11.6	"	00	
783	" 5	"	1 25.7	"	00	
784	" 6	1 14.5	1 15.2	0.2	1 13.5	
			1 25.7	"		
785	" 7	"	21 25.0	"	000	
786	" 8	"	12 26.7	"	0	
787	" 8	23 4.8	23 33.1	0.2	1 26.7	
788	" 10	"	1 29.0	"	00	
789	" 11	"	2 3.7	"	00	
790	" 11	"	2 19.9	"	000	
791	" 12	13 32.9	13 55.4	0.1	1 34.9	
792	" 13	3 23.0	3 46.5	0.1	1 22.4	
793	" 13	"	22 40.2	"	0	
794	" 15	13 34.2	14 2.0	0.7	3 30.3	
795	" 16	"	5 30.3	"	0	
796	" 16	"	11 53.1	"	000	
797	" 16	"	15 43.6	"	000	
798	" 17	3 43.8	4 25.9	1.2	4 37.8	
799	" 18	"	0 32.6	"	000	
800	" 18	14 24.0	14 28.2	0.1	0 32.3	
801	" 19	"	19 31.3	"	0	
802	" 20	5 27.9	5 38.9	0.1	1 20.0	
803	" 21	6 16.6	6 19.0	0.1	0 14.1	
804	" 21	"	7 50.0	"	00	
805	" 21	8 12.5	8 27.6	0.1	1 1.1	
806	" 21	"	9 44.4	"	00	
807	" 22	5 16.6	5 38.5	0.4	3 3.7	
808	" 24	"	4 24.5	"	00	
809	" 24	"	5 7.2	"	0	
810	" 24	"	7 6.3	"	000	
811	" 25	"	8 42.8	"	000	
812	" 25	9 0.9	9 32.6	0.2	1 28.1	
813	" 26	"	4 42.1	"	00	
814	" 26	"	5 6.5	"	00	
815	" 26	14 21.9	14 56.5	0.1	1 13.2	
816	" 27	"	14 48.2	"	0	
817	" 28	"	0 2.5	"	000	
818	" 30	8 28.9	"	"	1 10.0	
819	" 30	"	10 30.8	"	00	
820	Oct. 5	"	15 38.3	"	0	Light out 4d.22h.-5d.11h.
821	" 6	10 26.7	11 1.5	1.0	2 54.5	
822	" 6	"	15 19.7	"	00	
823	" 6	"	16 31.9	"	00	
824	" 7	5 31.7	5 36.5	0.1	0 31.7	
825	" 8	"	2 45.2	"	0	
826	" 10	"	12 42.3	"	00	
827	" 10	13 34.3	13 56.0	0.5	2 37.9	
828	" 13	2 46.6	3 26.3	0.4	3 22.9	
829	" 13	"	10 18.7	"	0	
830	" 13	"	16 36.0	"	00	
831	" 14	"	5 51.9	"	0	
832	" 14	6 30.8	3 8	0.2	1 37.5	
833	" 14	12 38.5	13 20.2	0.4	3 2.5	
834	" 14	16 57.0	17 33.3	0.2	2 49.2	
835	" 14	23 34.0	24 7.0	0.6	1 46.4	
836	" 15	"	5 54.2	"	0	

Register from Royal Observatory, Edinburgh—continued.

No.	Date	Com- mence- ment		Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.				
837	Oct. 15	—	8 43.0	—	—	000	
838	" 15	—	8 36.0	—	—	000	
839	" 15	12 11.6	12 43.3	0.2	1 50.8	—	
840	" 15	23 58.4	24 28.3	0.1	1 26.3	—	
841	" 16	—	6 22.3	—	—	000	
842	" 16	—	13 55.4	—	—	00	
843	" 16	—	23 3.3	—	—	000	
844	" 17	3 38.1	3 40.9	0.1	0 20.5	—	
845	" 17	9 47.9	12 46.0	0.2	4 6.9	Com. to Max. 3hrs. ; Several small Eqks.	
846	" 18	—	0 26.1	—	—	000	
847	" 19	2 40.5	2 54.5	0.1	0 46.6	—	
848	" 19	9 21.0	9 35.6	0.1	0 37.9	—	
849	" 19	10 33.9	10 48.9	0.3	0 32.5	—	
850	" 20	18 5.8	19 13.2	0.1	2 13.5	—	
			19 19.6				
851	" 22	22 43.6	22 49.8	0.3	0 37.0	—	
852	" 24	0 43.0	1 19.7	0.1	2 0.6	—	
			1 28.8				
853	" 26	14 53.3	15 7.7	0.1	0 32.1	Duration uncertain. Ats.	
854	" 26	—	22 38.7	—	—	0	
855	" 28	—	7 12.0	—	—	0	
856	" 29	—	1 13.2	—	—	000	
857	" 29	18 26.3	19 0.6	0.2	2 26.4	—	
858	" 30	—	14 3.0	—	—	0	
859	Nov. 1	—	4 43.0	—	—	0	
860	" 1	9 41.5	10 16.4	0.7	2 47.2	Clock stopped 1d.22h.-2d.10h.	
861	" 2	—	13 13.1	—	—	0	
862	" 2	—	14 30.0	—	—	0	
863	" 5	—	29 1.8	—	—	0	
864	" 7	—	6 30.0	—	—	000	
865	" 8	14 34.9	15 5.5	0.5	1 50.3	—	
866	" 9	5 10.3	5 36.3	0.1	1 2.1	—	
867	" 9	—	10 48.8	—	—	00	
868	" 13	—	2 23.6	—	—	00	
869	" 13	16 33.6	17 10.0	0.6	2 54.4	—	
870	" 14	14 8.1	14 21.6	0.1	0 31.4	—	
871	" 14	—	19 22.8	—	—	0	
872	" 15	—	21 45.5	—	—	0	
873	" 16	12 52.2	13 9.8	0.1	0 58.3	—	
874	" 16	21 32.0	21 33.1	0.2	0 34.0	—	
875	" 18	7 45.5	8 25.7	0.4	2 20.5	—	
876	" 19	—	3 23.8	—	—	0	
877	" 19	15 16.0	15 22.4	0.1	0 17.1	—	
878	" 20	—	9 53.0	—	—	00	
879	" 20	—	10 25.7	—	—	0	
880	" 20	—	13 26.3	—	—	0	
881	" 20	—	13 48.5	—	—	000	
882	" 20	14 1.0	11 37.9	1.0	2 38.2	—	
883	" 21	—	19 21.5	—	—	0	
884	" 21	20 10.7	—	—	0 35.8	Max. lost; sheet changed.	
885	" 25	—	10 55.2	—	—	0	
886	" 22	23 28.9	23 31.7	0.1	2 1.7	—	
			21 41.4				
887	" 25	—	4 30.4	—	—	00	
888	" 25	20 8.3	20 21.0	0.1	0 35.4	—	
889	" 28	15 55.4	17 5.2	0.2	3 13.5	—	
890	" 29	—	5 8.2	—	—	000	
891	" 29	5 47.0	6 5.6	0.1	1 21.3	—	
892	" 30	—	11 4.0	—	—	0	
893	" 30	12 4.1	12 24.6	0.1	0 43.3	—	
894	Dec. 1	0 13.7	0 16.1	0.1	0 11.3	—	
895	" 2	—	4 37.2	—	—	0	
896	" 3	—	13 29.5	—	—	0	
897	" 4	14 48.0	14 53.8	0.3	1 29.2	—	
898	" 6	—	9 27.2	—	—	0	
899	" 6	23 23.9	23 37.1	0.2	2 34.6	—	
900	" 10	—	10 39.6	—	—	000	
901	" 11	11 27.9	12 17.2	0.6	2 51.7	—	
902	" 13	—	10 1.0	—	—	0	
903	" 13	23 30.7	23 50.0	0.1	1 23.7	—	
904	" 15	—	22 6.0	—	—	000	
905	" 16	19 26.8	20 9.9	4.4	4 16.7	—	
906	" 20	6 3.0	6 44.4	0.5	3 40.0	—	

Register from Royal Observatory, Edinburgh—continued.

No.	Date	Com- mence- ment		Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.				
907	Dec. 21	3 26.0	3 52.0	—	0 49.4	0	
908	" 22	13 7.0	13 53.3	—	1 55.5	—	
909	" 23	—	19 2.2	—	—	0	
910	" 23	—	20 33.3	—	—	0	
911	" 23	21 27.5	21 54.5	0.7	2 50.9	—	
912	" 25	8 25.6	8 35.7	0.1	0 19.6	—	
913	" 25	—	17 10.2	—	—	0	
914	" 26	—	12 56.4	—	—	00	
915	" 29	15 51.5	16 24.7	0.2	2 46.5	—	
916	" 30	10 1.9	10 31.0	0.1	0 39.9	—	
917	" 31	6 22.3	7 22.9	0.5	2 52.5	—	
918	" 31	—	15 14.0	—	—	000	

Period of Pendulum 16.8 secs. 1mm. = 0°52.
For records below 0.1mm. of amplitude the intensity is denoted by 0, 00, or 000,
in decreasing order of magnitude.

Register from Woodbridge Hill, Guildford, England. 51°15'N. 0°35'W.
Owner and Observer, F. EDWARD NORRIS. Assistant, E. SMART.

No.	Date	Com- mence- ment		Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.				
1911							
202	July 1	22 33.4	22 44	0.95	1 7	N.	P ₂ 22h.37.1m.
203	" 2	2 54	3 0.5	0.65	0 15	N.	
204	" 3	20 0	20 19.6	0.07	0 38	N.	P ₂ 20h.2.9m.
205	" 3	22 11	22 26	0.05	0 33	N.	P ₂ 22h.15.6m.
206	" 3	22 52.6	23 4.2	0.1	0 20	N.	P ₂ 22h.55.8m.
207	" 4	13 44	14 12.5	4.0	2 0	N.	P ₂ 13h.52.2m.
208	" 5	2 30.8	2 48.8	0.75	1 56	N.	P ₂ 2h.33.2m.
209	" 5	18 55.3	19 10.0	0.1	0 33	W.	P ₂ 18h.58.2m.
210	" 8	1 5.5	1 35.3	0.1	1 5	N.	P ₂ 1h.8.6m.
211	" 8	17 50	17 55.5	0.06	0 25	N.	
212	" 11	22 32.1	22 30.8	0.05	0 50	W.	P ₂ 22h.35.3m.
213	" 12	4 22.7	5 17.8	2.73	4 8	N.	P ₂ 4h.32.7m.
214	" 12	—	9 25	0.05	—	N.	
215	" 12	13 22.6	13 29.3	micro	0 20	W.	P ₂ 13h.27.3m.
216	" 13	9 21	9 37.8	0.2	0 38	N.	P ₂ 9h.30.7m.
217	" 14	2 35	3 57	0.25	0 50	W.	P ₂ 2h.43.2m.
218	" 15	—	23 10.5	—	—	—	
219	" 15	—	12 46.8	0.03	—	N.	
220	" 15	14 13.7	14 19.2	0.02	0 14	N.	
221	" 17	20 4.1	20 8.7	0.04	0 12	W.	
222	" 19	10 27.8	10 47.2	0.15	0 35	N.	P ₂ 10h.33.5m.
223	" 19	20 43.6	21 38.2	0.35	2 0	N.	P ₂ 20h.56m.
224	" 21	11 39	12 4	0.07	0 37	N.	
225	" 22	6 13	6 29.7	0.07	0 39	N.	
226	" 23	17 6	17 35	0.95	1 38	N.	P ₂ 17h.10.4m.
227	" 27	12 15	12 38	0.2	1 22	N.	P ₂ 12h.20.7m.
228	" 29	10 16.6	10 40.7	0.4	1 54	W.	P ₂ 10h.22.8m.
229	Aug. 4	2 2.1	2 30	0.67	0 44	N.	P ₂ 2h.10m.
230	" 6	—	14 2.7	0.05	—	N.	
231	" 21	—	17 15	0.05	—	N.	
232	" 6-7	23 57.5	0 1	0.67	0 6	W.	
233	" 12	—	22 13	0.05	—	N.	
234	" 14	19 35	19 44.3	0.66	0 22	W.	
235	" 14	—	22 2.3	0.1	—	W.	

Register from Frensham Hall, Haslemere, Surrey, England—continued.

No.	Date	Com-mence-ment			Max.	Max. Ampli-tude	Dura-tion	Remarks
		H. M.	H. M.	MM.				
505	Aug. 23	16 19.5	16 36.2	1.2	0 50			
506	Sept. 13	3 46.6	3 49	0.2	0 4			
	" 15	13 53.2	14 2.8	2.5	2 0	P ₂ 13h.52.4m.		
507	" 16	5 39.6	5 43.8	0.4	0 10			
	" 17	3 45.0	4 29.6	3.0	4 0	P ₂ 3h.48.4m.		
	" 18	14 32.2	14 34.6	0.2	0 4			
508	" 20	5 50.7	5 55.6	0.4	0 8			
	" 21	5 29.6	5 41.2	1.0	1 10			
	" 22	8 11.3	8 17.4	0.5	0 10			
	" 22	5 40.1	5 42.8	0.2	0 4			
509	" 25	8 40.2	8 42	0.2	0 6			
510	" 30	8 29.7	8 36.8	0.2	0 3	Strong Afs.		
	" 30	9 35.8	9 38.1	0.2	0 6			
	Oct. 1	4 19.6	4 21.9	0.4	0 7			
511	" 4	7 48.2	7 50.4	0.2	0 6			
	" 6	10 34.4	10 49.8	1.3	0 51			
512	" 6	16 20.3	16 27.2	0.3	0 8			
	" 7	5 30.5	5 35	0.7	5 5			
	" 8	7 38.2	7 41.6	0.2	0 6			
	" 10	13 42.1	13 51.5	2.0	1 0	P ₂ 13h.46.4m.		
513	" 13	3 2	3 22.4	2.5	1 18	P ₂ 3h.15.6m.		
	" 14	6 55.8	7 3.9	0.4	0 10			
	" 14	13 2.7	13 13.2	1.5	1 5			
514	" 14	17 3.2	17 23.8	0.6	1 15			
	" 14-15	23 41.9	0 1.4	1.8	57	P ₂ 23h.57m.		
	" 15	12 35.3	12 40.5	0.5	0 13			
	" 15	0 22.2	0 30	0.4	0 13			
	" 17	3 44	3 45.2	0.1	0 3			
	" 17	10 25.5	10 29.3	0.2	0 6			
	" 17	12 32.8	12 40.3	0.5	0 51			
515	" 19	9 25.2	9 31.3	0.3	0 8			
	" 19	10 34.3	10 42.6	1.0	0 25			
	" 20	18 20.2	18 25	0.3	0 7			
	" 20	19 18.1	19 20.1	0.4	0 5			
	" 22	22 40.3	22 45.8	1.2	0 15			
516	" 24	1 20.7	1 25	0.3	0 6	22nd to 27th a succession of strong Afs.		
	" 26	13 3.5	13 6.1	0.3	0 5			
517	" 29	1 10.7	1 20.2	0.4	0 20			
	" 29	18 48	19 1.8	1.6	0 24			
518	Nov. 31	12 1.1	12 3.2	0.2	0 5			
	" 2	2 23.2	2 28.4	0.4	0 15			
519	" 5	19 54	19 56.2	0.3	0 6			
	" 6	6 14.2	6 17.2	0.3	0 5			
	" 7	6 34.3	6 36.2	0.4	0 4			
	" 8	15 2.2	15 10.3	0.9	0 22			
520	" 9	5 28.3	5 33	0.3	0 9	Strong tremors on 10th.		
521	" 13	16 35.3	17 2.6	1.5	2 0			
	" 14	19 14.2	19 18.5	0.3	0 5			
522	" 16	21 29.4	21 30	2.0	0 9			
	" 18	8 19	8 21.7	0.8	0 35			
	" 19	3 21.6	3 25	0.3	0 7			
	" 19	15 22.2	15 24	0.4	0 10			
	" 20	14 28.4	14 34.9	1.2	0 45			
	" 21	19 20.3	19 22.7	0.2	0 5			
	" 22	23 50.7	23 54.6	0.1	0 1			
	" 23	0 42.2	0 44	0.2	0 6			
524	" 25	11 1.1	11 2.8	0.4	0 4			
525	" 28	16 55.3	17 4.1	0.6	0 14			
	" 30	12 3.2	12 6.6	0.4	0 18			
526	Dec. 3	13 25.8	13 28.8	0.2	0 5			
	" 4	14 51.6	14 58.2	0.3	0 5			
	" 6	9 15.2	9 19.5	0.4	0 4			
527	" 6	23 51.2	23 54.5	1.0	0 25			
	" 10	—	10 40	0.9	—			
528	" 11	11 55.8	12 20.6	0.5	0 7			
	" 13	9 10.7	9 12.8	0.4	0 8			
	" 13	23 48.4	23 49.7	0.3	0 6			
	" 14	9 34.2	9 35.7	0.2	0 4			
529	" 16	19 26.6	20 5.4	10.5	2 0	P ₂ 19h.37.4m.		
530	" 20	6 12	6 50.3	1.0	1 8			
	" 21	3 23.4	3 26.6	0.3	0 7			
	" 22	13 16	13 18.8	0.4	0 18			
	" 23	19 5.8	19 9.8	0.1	0 5			

Register from Haslemere Observatory—continued.

No.	Date	Com-mence-ment			Max.	Max. Ampli-tude	Dura-tion	Remarks
		H. M.	H. M.	MM.				
531	Dec. 23	21 33	21 51.3	1.0	0 51			
	" 24	14 26.1	14 27.1	0.1	0 4			
	" 25	7 54.2	7 56.6	0.1	0 5			
532	" 26	12 49.3	12 51.8	0.1	0 3			
	" 29	16 4.4	16 22.6	0.6	0 33			
	" 30	3 31.3	3 34.9	0.1	0 4			
	" 30	10 18.6	10 21.7	0.1	0 7			
	" 31	6 48.1	7 12.2	1.0	1 0			
	" 31	8 10.1	8 18.6	0.2	0 6			

Boom period=20 secs.
1° turn=5mm.

Register from Eskdalemuir Observatory. 55°19'N, 3°12'W.
Superintendent, GEORGE W. WALKER, M.A., A.R.C.Sc.
Professional Assistant, L. SOUTHERNS, B.A., B.Sc.

No.	Date	Com-mence-ment			Max.	Max. Ampli-tude	Dura-tion	Remarks
		H. M.	H. M.	MM.				
1911								
236	July 1	22 21	22 44.5	0.6	1 42	N.S.	Scale value in secs. 1 mm. = 0.41.	
	" 4	13 43	14 3	3.5	2 16	N.S.	0.38.	
237	" 5	2 29	2 49	0.4	1 0	N.S.	0.41.	
238	" 5	2 29	2 37.5	0.4	1 0	E.W.	0.38.	
239	" 5	18 59	19 12.5	0.1	1 21	N.S.	0.38.	
	" 8	18 59	19 12.5	0.2	1 24	E.W.	0.38.	
240	" 8	1 12	1 12.5	0.1	0 10	N.S.	0.41.	
	" 8	1 12	—	—	0 10	E.W.	0.38.	
	" 8	17 38.5	—	—	0 27	N.S.	0.41.	
	" 12	17 44	—	—	0 17	E.W.	0.38.	
242	" 12	13 20.5	13 27	0.05	0 29	N.S.	0.41.	
	" 13	9 23.5	9 37	0.2	0 33	N.S.	0.41.	
243	" 13	9 19.5	9 37	0.2	0 38	E.W.	0.36.	
244	" 14	2 37.5	?	?	0 37	N.S.	0.41.	
	" 14	2 41	?	?	0 29	E.W.	0.36.	
245	" 14	?	23 7	0.05	—	N.S.	0.41.	
	" 15	?	23 5	0.05	—	E.W.	0.36.	
246	" 15	—	12 30	—	—	N.S.	0.41.	
Record disturbed by tremors.								
247	" 19	10 22	10 56	0.1	—	E.W.	0.36.	
	" 19	10 13	10 51.5	0.1	—	N.S.	0.41.	
248	" 19	20 45	21 26	0.2	1 49	E.W.	0.36.	
	" 23	20 50	21 28	0.2	1 47	N.S.	0.41.	
249	" 23	16 37.5	17 28	0.4	2 37	E.W.	0.36.	
250	" 27	?	1 15	0.1	—	E.W.	0.41.	
	" 29	?	1 16	0.1	—	N.S.	0.36.	
251	" 29	?	10 40	0.1	—	E.W.	0.41.	
	" 29	?	10 38	0.1	—	N.S.	0.36.	
252	Aug. 2	1 31.5	1 40	0.1	0 14	E.W.	0.43.	
	" 6	1 30.3	1 40	0.1	0 14	N.S.	0.37.	
253	" 6	15 13	15 18	0.1	0 26	E.W.	0.43.	
	" 11	15 12	15 14	0.1	0 16	E.W.	0.37.	
	" 11	19 25	19 39	0.1	0 26	N.S.	0.42.	
254	" 11	19 24	19 38	0.1	0 24	E.W.	0.37.	

Times approxi-
mate owing to
failure of time
shutter.

Register from Eskdalemuir Observatory—continued.

No.	Date	Commen- cement			Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.				
255	Aug. 16	22 55.5	23 53	+13.0	5 17	N.S.	Scale value in secs. Imm. = 0.41.	
		22 55.5	23 51	11.1	4 51	E.W.	0.75.	
256	" 21	16 48	17 12	0.5	2 56	N.S.	0.43.	
		16 50	17 12	0.6	2 37	E.W.	0.36.	
257	" 22	7 22	7 29	0.1	0 13	N.S.	0.43.	
		7 20	7 25	0.1	0 11	E.W.	0.36.	
258	" 25	16 20	16 37	1.0	1 35	N.S.	0.43.	
		16 20	16 41	1.2	1 46	E.W.	0.36.	
259	" 27	?	11 33	0.1	?	N.S.	0.42. Start masked by tremors.	
		11 21	11 46	0.2	1 29	E.W.	0.35.	
260	" 28	6 38	6 46.5	0.2	0 31	N.S.	0.42.	
		6 42	6 42	0.3	0 24	E.W.	0.35.	
261	" 29	?	7 42.5	0.3	?	N.S.	0.42. Start masked by tremors.	
		?	7 39.5	0.4	?	E.W.	0.35.	
262	" 29	?	15 4.5	0.2	?	N.S.	0.42.	
		?	15 4.5	0.2	?	E.W.	0.35.	
263	" 30	14 11	14 49.5	0.2	1 14	N.S.	0.42.	
		14 17	14 50	0.1	0 56	E.W.	0.35.	
264	Sept. 4	?	6 27	0.1	?	N.S.	0.42.	
		?	6 28	0.1	?	E.W.	0.35.	
265	" 5	?	3 6.5	0.1	?	N.S.	0.42.	
		?	3 4.5	0.1	?	E.W.	0.35.	
266	" 6	1 5.5	1 20	0.2	1 12.5	N.S.	0.42.	
		1 5	1 25.5	0.3	1 13.5	E.W.	0.35.	
267	" 8	22 55.5	23 36	0.3	1 30.5	N.S.	0.42.	
		23 5	23 35.5	0.3	1 15	E.W.	0.35.	
268	" 12	13 26	14 29.5	0.1	1 39	N.S.	0.42.	
		13 30.5	13 58	0.1	1 28.5	E.W.	0.35.	
269	" 13	3 25	3 47.5	0.3	1 12	N.S.	0.42.	
		3 24	3 47.5	0.1	1 13.5	E.W.	0.35.	
270	" 13	?	22 39.5	0.1	?	N.S.	0.42.	
		?	22 39	0.1	?	E.W.	0.35.	
271	" 15	13 30	14 3	0.6	3 6.5	N.S.	0.42.	
		13 28.5	14 5	0.6	3 12.5	E.W.	0.35.	
272	" 16	?	5 40.5	0.1	?	N.S.	0.42.	
		?	5 38	0.1	?	E.W.	0.35.	
273	" 16	?	11 56.5	0.1	?	N.S.	0.42.	
		?	11 54.5	0.1	?	E.W.	0.35.	
274	" 16	?	15 43.5	0.1	?	N.S.	0.42.	
		?	15 42.5	0.1	?	E.W.	0.35.	
275	" 17	3 40.5	4 24	2.5	4 22	N.S.	0.42.	
		3 46.5	4 14	1.1	4 18.5	E.W.	0.35.	
276	" 18	?	0 43.5	0.1	?	N.S.	0.42.	
		?	0 48	0.1	?	E.W.	0.35.	
277	" 18	13 48	14 34	0.1	2 11	N.S.	0.42.	
		13 48.5	14 27	0.1	2 23.5	E.W.	0.35.	
278	" 20	4 55.5	5 53.5	0.2	1 55.5	N.S.	0.42.	
		4 55	5 55	0.2	1 46	E.W.	0.35.	
279	" 21	6 15.5	6 21	0.2	0 15.5	N.S.	0.42.	
		6 15	6 18.5	0.2	0 25.5	E.W.	0.35.	
280	" 21	7 53.5	8 22	0.1	1 18	N.S.	0.42.	
		7 49	8 20	0.1	1 18.5	E.W.	0.35.	
281	" 22	5 11	5 39	0.5	2 37.5	N.S.	0.42.	
		5 15.5	5 39	0.6	2 46	E.W.	0.35.	
282	" 24	3 44	4 59.5	0.1	3 21.5	N.S.	0.42.	
		4 21	5 5	0.2	2 1.5	E.W.	0.35.	
283	" 25	8 46.5	?	?	2 41	N.S.	0.43.	
		8 50.5	?	?	2 4.5	E.W.	0.35.	
284	" 26	14 39	14 59	0.2	1 18	N.S.	0.43.	
		14 44	14 53.5	0.2	1 15	E.W.	0.35.	
285	Oct. 2	13 45	14 18	0.1	0 45	N.S.	0.43.	
		13 51	14 21	0.1	0 30	E.W.	0.35.	
286	" 2	?	16 57.5	0.1	?	N.S.	0.43.	
		?	16 46.5	?	?	E.W.	0.35.	
287	" 5	15 36	15 39.5	0.1	0 16	N.S.	0.43.	
		15 35.5	15 37.5	0.1	0 11	E.W.	0.36.	
288	" 6	10 31.5	10 46	0.7	4 14	N.S.	0.43.	
		10 26.5	10 51	0.8	4 13.5	E.W.	0.36.	
289	" 6	?	15 26	0.1	?	N.S.	0.43.	
		?	15 17.5	0.1	?	E.W.	0.36.	

Register from Eskdalemuir Observatory—continued.

No.	Date	Commen- cement			Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.				
290	Oct. 6	?	16 32	0.1	?	N.S.	Scale value in secs. Imm. 0.43.	
		?	16 33.5	0.1	?	E.W.	0.36.	
291	" 7	5 23.5	5 39	0.1	0 39.5	N.S.	0.43.	
		5 25	5 34	0.1	0 35.5	E.W.	0.36.	
292	" 8	2 32.5	2 38	0.1	?	N.S.	0.43.	
		2 35.5	2 52.5	0.1	?	E.W.	0.36.	
293	" 10	12 29.5	12 42.5	0.1	0 21	N.S.	0.43.	
		12 29	12 43	0.1	0 27	E.W.	0.36.	
294	" 10	13 33.5	13 56.5	0.5	2 47.5	N.S.	0.43.	
		13 33.5	13 59.5	1.0	2 39.5	E.W.	0.36.	
295	" 13	2 44.5	3 26	1.2	3 22.5	N.S.	0.43.	
		2 44.5	3 35	1.0	3 17	E.W.	0.36.	
296	" 13	10 10.5	10 18.5	0.1	0 39.5	N.S.	0.43.	
		10 7.5	10 18.5	0.1	0 19.5	E.W.	0.36.	
297	" 13	16 23.5	16 35.5	0.1	0 32.5	N.S.	0.43.	
		16 15	16 27	0.1	0 35.5	E.W.	0.36.	
298	" 14	5 23	7 3	0.4	3 4	N.S.	0.43.	
		?	?	?	?	E.W.	0.36.	
299	" 14	12 38	13 19.5	0.9	3 16.5	N.S.	0.43.	
		12 38	13 21	0.7	3 10	E.W.	0.36.	
300	" 14	16 49.5	17 39	0.5	3 2	N.S.	0.43.	
		16 57	17 31.5	0.4	2 49	E.W.	0.36.	
301	" 14	23 33.5	0 2	0.9	1 52.5	N.S.	0.43.	
		23 34	0 4	1.4	1 55.5	E.W.	0.36.	
302	" 15	5 47	6 3	0.1	0 45.5	N.S.	0.43.	
		5 46	6 1	0.1	0 20.5	E.W.	0.36.	
303	" 15	12 11.5	12 42.5	0.3	1 54.5	N.S.	0.43.	
		12 11	12 35	0.1	1 44.5	E.W.	0.36.	
304	" 15	23 58	0 26	0.2	1 52	N.S.	0.43.	
		23 58.5	0 22	0.2	1 28	E.W.	0.36.	
305	" 17	?	3 42	0.1	?	N.S.	0.43.	
		?	3 40	0.1	?	E.W.	0.36.	
306	" 17	12 15.5	12 44.5	0.2	1 20	N.S.	0.43.	
		12 13	12 43.5	0.2	1 20	E.W.	0.36.	
307	" 19	?	2 58.5	0.1	?	N.S.	0.43.	
		?	2 50.5	0.1	?	E.W.	0.36.	
308	" 19	9 17	9 35	0.1	0 39.5	N.S.	0.43.	
		9 21.5	9 30.5	0.1	0 25	E.W.	0.36.	
309	" 19	10 30	10 51.5	0.3	1 19	N.S.	0.43.	
		10 34	10 47	0.4	1 20	E.W.	0.36.	
310	" 20	18 5.5	19 11	0.2	2 54.5	N.S.	0.43.	
		18 6	19 14.5	0.3	2 17	E.W.	0.36.	
311	" 22	22 43	22 50.5	0.4	0 40.5	N.S.	0.43.	
		22 43	22 50	0.4	0 42	E.W.	0.36.	
312	" 24	0 42.5	1 32.5	0.2	2 14	N.S.	0.43.	
		0 41	1 37.5	0.2	2 15	E.W.	0.36.	
313	" 29	?	19 7	0.3	?	N.S.	0.44.	
		?	19 3.5	0.5	?	E.W.	0.37.	
314	Nov. 1	?	10 21.5	0.3	?	N.S.	0.43.	
		?	10 22	0.5	?	E.W.	0.36.	
315	" 2	2 20.5	2 26	0.2	?	N.S.	0.43.	
		2 18	2 27	0.4	?	E.W.	0.36.	
316	" 8	14 22.5	15 7.5	1.0	2 10.5	N.S.	0.43.	
		14 23	15 7.5	0.5	2 22.5	E.W.	0.36.	
317	" 9	4 56.5	5 32	0.1	2 16.5	N.S.	0.43.	
		4 56	5 43.5	0.1	2 7.5	E.W.	0.36.	
318	" 13	16 24	17 9	0.8	3 41	N.S.	0.43.	
		16 21	17 10.5	0.5	3 56.5	E.W.	0.36.	
319	" 16	21 31.5	21 37	0.3	0 34.5	N.S.	0.43.	
		21 32	21 35	0.2	0 34	E.W.	0.36.	
320	" 18	?	8 29	0.3	?	N.S.	0.44.	
		?	8 24	0.5	?	E.W.	0.37.	
321	" 19	?	15 21.5	0.1	?	N.S.	0.44.	
		?	15 21.5	0.1	?	E.W.	0.37.	
322	" 20	14 1.5	14 41.5	0.5	2 18	N.S.	0.43.	
		14 0.5	14 37.5	1.5	2 27.5	E.W.	0.37.	
323	" 20	?	20 1.5	0.1	?	N.S.	0.43.	
		?	20 1	0.1	?	E.W.	0.37.	
324	" 21	?	20 23	0.1	?	N.S.	0.43.	
		?	20 22	0.2	?	E.W.	0.37.	
325	" 22	21 23	0 39	0.1	2 7.5	N.S.	0.43.	
		23 28	0 34	0.1	2 7.5	E.W.	0.37.	

Register from Eskdalemuir Observatory—continued.

No.	Date	Com-mencement		Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	Waves.	Scale value in secs. Imm. = 0.43.
326	Nov. 25	20 9.5	20 19	0.1	0 53.5	N.S.	0.37.
		20 12	20 19.5	0.1	0 39	E.W.	0.43.
327	" 28	16 6.5	17 5.5	0.3	2 58	N.S.	0.37.
		16 6	17 4	0.3	2 48.5	E.W.	0.43.
328	" 29	5 2.5	6 8.5	0.1	1 43.5	N.S.	0.37.
		5 17	6 4.5	0.1	1 36.5	E.W.	0.43.
329	" 30	11 41	12 16.5	0.2	1 1	N.S.	0.37.
		11 40	12 16	0.2	1 8	E.W.	0.43.
330	Dec. 1	0 11	0 18	0.1	0 17	N.S.	0.37.
		0 13	0 16	0.1	0 10	E.W.	0.43.
331	" 4	14 43	14 34	0.6	1 38	N.S.	0.36.
		14 42.5	14 32	0.4	1 43	E.W.	0.43.
332	" 6	23 27.5	23 54.5	0.5	1 4.5	N.S.	0.36.
		23 25.5	0 2	0.5	1 0.5	E.W.	0.43.
333	" 11	"	12 23	0.3	"	N.S.	0.37.
		"	12 32.5	0.3	"	E.W.	0.43.
334	" 13	23 17	23 53	0.1	1 37	N.S.	0.37.
		23 18	23 49.5	0.2	1 41	E.W.	0.43.
335	" 16	19 23.5	20 4	3.5	3 4.5	N.S.	0.37.
		19 23.5	20 4.5	6.1	3 9	E.W.	0.43.
336	" 20	6 2	6 38.5	0.6	3 12.5	N.S.	0.36.
		6 4.5	6 43.5	0.6	3 5.5	E.W.	0.43.
337	" 21	3 20	3 39	0.1	0 52	N.S.	0.36.
		3 15	3 22.5	0.1	0 42	E.W.	0.43.
338	" 22	13 7	13 48	0.1	1 32	N.S.	0.36.
		13 7	13 46.5	0.3	1 26	E.W.	0.43.
339	" 23	"	19 4	0.1	"	N.S.	0.36.
		"	19 9	0.1	"	E.W.	0.43.
340	" 23	21 20.5	22 1	0.2	1 17.5	N.S.	0.36.
		21 20.5	21 55	0.6	1 16.5	E.W.	0.43.
341	" 25	"	8 29.5	0.1	"	N.S.	0.36.
		"	8 29	0.1	"	E.W.	0.43.
342	" 25	"	17 1	0.1	"	N.S.	0.36.
		"	17 3	0.1	"	E.W.	0.43.
343	" 26	12 52	12 56	0.1	0 13	N.S.	0.36.
		12 52	12 54.5	0.1	0 10	E.W.	0.43.
344	" 29	15 42.5	16 25	0.3	1 47	N.S.	0.36.
		15 40	16 29.5	0.3	1 41.5	E.W.	0.43.
345	" 30	"	7 0	0.1	"	N.S.	0.36.
		"	7 1	0.1	"	E.W.	0.43.
346	" 31	6 17	7 28.5	1.0	3 17	N.S.	0.36.
		6 21	7 22	1.0	3 16.5	E.W.	0.43.
347	" 31	11 37	11 52	0.1	0 16	N.S.	0.36.
		11 37	11 52	0.1	0 23	E.W.	0.43.
348	" 31	15 5	15 20	0.1	0 29	N.S.	0.36.
		15 5	15 20	0.1	0 32	E.W.	0.43.

Register from the Coats Observatory, Paisley. 55°50'N. 4°26'W.
Convener of Committee, JOHN WOODROW, F.R.A.S.
Observer, DONALD MACLEAN.

No.	Date	Com-mencement	Max.	Max. Amplitude	Duration	Remarks
1912						
1114	July 4	13 38.0	14 9.5	5.7	3 33.0	—
1115	" 5	2 32.5	2 50.5	0.3	1 48.5	—
1116	" 5	19 1.0	19 11.0	0.2	1 39.0	—
1117	" 8	0 56.0	1 12.5	0.2	0 47.0	—
1118	" 8	—	17 53.0	0.1	—	—
1119	" 9	—	8 55.0	—	—	—
1120	" 10	—	17 22.0	0.1	—	—
1121	" 12	?	5 15.0	4.5	?	Commencement lost in Ats.

Register from the Coats Observatory, Paisley—continued.

No.	Date	Com-mencement	Max.	Max. Amplitude	Duration	Remarks
		H. M.	H. M.	MM.	H. M.	
1122	July 12	8 27.0	8 35.0	0.2	0 21.0	—
1123	" 12	9 2.0	9 15.0	0.2	0 38.0	—
1124	" 15	—	12 43.0	0.1	—	—
1125	" 18	—	7 41.5	0.1	—	—
1126	" 19	—	10 37.5	—	—	—
1127	" 19	10 37.0	10 37.5	0.2	1 13.0	Very faint.
1128	" 21	—	12 9.3	0.1	—	—
1129	" 23	18 34.0	18 53.0	0.5	0 50.0	—
1130	" 27	—	12 40.5	0.1	—	—
1131	" 29	—	10 39.0	0.2	—	—
1132	Aug. 4	—	2 27.5	0.1	—	—
1133	" 10	—	9 32.0	—	—	—
1134	" 10	—	6 2.0	—	—	—
1135	" 16	—	23 55.0	8.2	—	Commencement and end lost in a storm of Ats.
1136	" 17	—	12 28.5	0.1	—	—
1137	" 18	3 45.0	4 8.5	0.3	1 3.0	—
1138	" 20	—	2 31.0	—	—	—
1139	" 21	16 38.0	17 54.5	0.3	1 53.0	—
1140	" 23	16 18.0	16 38.5	0.4	1 29.0	—
1141	" 24	—	15 8.5	0.1	—	—
1142	" 26	—	11 26.7	—	—	—
1143	" 27	11 20.0	11 51.5	0.2	0 50.0	Slight thickening.
1144	" 28	6 43.0	6 46.0	0.4	0 55.0	—
1145	" 29	7 35.0	7 43.0	0.6	1 12.0	—
1146	" 29	15 1.5	15 5.0	0.3	0 33.5	—
1147	" 30	14 10.0	14 37.5	0.3	1 2.0	—
1148	" 31	—	12 49.5	0.1	—	—
1149	Sept. 6	1 14.8	1 15.5	0.4	1 4.0	—
1150	" 8	—	12 25.3	—	—	—
1151	" 8	?	23 41.0	0.5	?	Commencement and end lost in Ats.
1152	" 11	—	13 52.0	0.1	—	—
1153	" 11	—	13 17.0	—	—	—
1154	" 15	13 27.0	14 2.0	1.3	3 22.0	—
1155	" 17	3 49.0	4 23.5	1.1	3 51.0	—
1156	" 18	—	0 46.0	—	—	—
1157	" 20	5 20.0	5 56.0	0.2	1 5.0	—
1158	" 25	9 20.0	9 35.0	0.2	1 10.0	—
1159	" 26	—	15 3.0	0.2	3 44.0	—
1160	" 27	—	14 56.0	0.1	—	—
1161	Oct. 3	—	15 42.5	—	—	—
1162	" 6	10 23.0	10 59.5	1.0	2 10.0	—
1163	" 10	13 34.0	14 0.0	1.2	2 1.0	—
1164	" 13	—	3 30.0	0.7	?	Commencement and end lost in Ats.
1165	" 14	6 54.0	7 11.0	0.2	1 2.0	—
1166	" 14	12 31.0	13 22.5	0.4	2 4.0	—
1167	" 14	16 57.0	17 35.0	0.3	1 37.0	—
1168	" 15	—	5 53.0	0.2	—	—
1169	" 15	12 15.0	12 53.0	0.2	0 50.0	—
1170	" 16	0 8.5	0 23.0	0.1	0 49.5	—
1171	" 16	—	23 7.5	—	—	—
1172	" 17	—	3 42.7	0.1	—	—
1173	" 17	10 15.0	11 20.0	0.2	1 20.0	—
1174	" 17	12 23.0	12 46.0	0.3	1 13.0	—
1175	" 19	2 33.0	2 51.5	0.1	0 35.0	—
1176	" 19	9 17.0	9 33.0	0.2	0 42.0	—
1177	" 19	10 15.0	10 52.0	0.4	2 3.0	—
1178	" 20	18 6.0	19 18.5	0.2	2 44.0	—
1179	" 21	—	13 17.5	0.1	—	—
1180	" 24	0 41.0	1 37.0	0.1	2 1.0	—
1181	" 25	—	15 9.5	0.2	—	—
1182	" 30	—	14 5.0	0.1	—	—
1183	Nov. 1	9 38.0	10 16.5	1.1	3 12.0	—
1184	" 2	2 1.0	2 33.0	0.3	?	End lost in Ats.
1185	" 2	—	12 16.0	0.2	—	—
1186	" 8	15 1.0	15 7.0	0.5	1 19.0	—
1187	" 10	—	15 47.0	—	—	—
1188	" 12	16 31.0	17 0.0	0.6	3 1.0	—
1189	" 12	13 11.0	14 25.0	0.1	2 3.0	—
1190	" 14	—	19 18.0	0.1	—	—
1191	" 15	—	21 35.5	0.3	—	Commencement and end lost in Ats.
1192	" 17	—	12 27.0	—	—	—

Register from the Coats Observatory, Paisley—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1193	Nov. 18	H. M. 7 43.0	H. M. 8 30.0	MM. 0.4	H. M. ?	End lost in Ats.
1194	" 19	—	15 23.5	—	—	—
1195	" 20	—	11 5.0	0.1	—	—
1196	" 20	13 55.0	14 17.5	0.8	2 10.0	—
1197	" 22	—	10 48.0	—	—	—
1198	" 25	—	20 19.5	0.1	—	—
1199	" 27	—	2 13.0	—	—	—
1200	" 28	—	11 3.0	—	—	—
1201	" 28	16 47.0	17 2.0	0.3	1 23.0	—
1202	" 29	—	5 18.0	—	—	—
1203	" 29	—	6 2.5	0.1	—	—
1204	" 30	11 7.0	12 14.0	0.3	2 28.0	—
1205	" 30-31	23 45.0	0 21.0	0.1	0 51.0	—
1206	Dec. 3	—	13 32.0	0.1	—	—
1207	" 4	14 48.5	14 55.0	0.2	1 8.0	—
1208	" 6	23 11.0	23 33.5	0.7	2 0.0	—
1209	" 11	11 30.0	12 26.0	0.2	2 40.0	—
1210	" 12	—	15 23.5	—	—	—
1211	" 13	23 48.0	23 51.0	0.2	—	End lost in Ats.
1212	" 16	19 28.4	20 9.5	4.0	4 52.0	—
1213	" 20	6 3.0	6 46.0	0.6	2 17.0	—
1214	" 22	13 17.0	13 47.5	0.2	0 47.0	—
1215	" 23	21 27.0	21 54.5	0.8	1 28.0	—
1216	" 26	—	12 52.0	—	—	—
1217	" 29	15 57.0	16 26.0	0.2	1 33.0	—
1218	" 30	—	3 36.5	0.1	—	—
1219	" 30	—	10 25.0	—	—	—
1220	" 31	6 38.0	7 25.0	0.3	2 42.0	—
1221	" 31	—	15 15.0	—	—	—

Imm. of Amplitude = 0".46.
Period of Pendulum = 17 seconds.

Register from Hill Top, West Bromwich. 52°32'N. 2°W.
Owner and Observer, J. J. SHAW.

Instrument records on smoked paper.
Pendulum A records N.-S. motion. Imm. = 0".1 of arc tilt.
Pendulum B records E.-W. motion. Imm. = 0".15 of arc tilt.
Boom Period, 16secs. Weight, 240lbs.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1911						
295	July 1	H. M. 22 14 ?	H. M. 22 45.2	MM. 0.1	H. M. —	San Francisco.
296	" 3	—	22 18	0.1	—	—
297	" 3	—	22 57	0.1	—	—
298	" 4	13 42	13 54.5	7.5	—	A. Taskend (Booms 1st movement, N.E. by E.) P ₂ 13-49.4.
			13 56.7	6.0	—	
			14 2	11.0	—	
		13 42	13 50.3	6.7	1 18	B.
			13 54	7.0	—	
			14 10.8	20.0	—	
			14 13	20.0	—	
299	" 5	2 25.7	2 50	1.5	—	A. P ₂ 2-32.
		—	2 45.2	0.7	0.55	B.

Register from Hill Top, West Bromwich—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
300	July 5	H. M. 18 58.5	H. M. 19 11	MM. —	H. M. 1 12	B. P ₂ 18-29.5.
301	" 8	1 8	1 11.5	0.75	0 16	A. (E.W. Amp. = 0.4.) In Hungary
302	" 11	21 42	21 49	0.5	—	A.
303	" 12	4 21.7	5 7.7	2.5	—	A. P ₂ 4-32. ? Phil- ippines. First movement N.E.
		4 21.7	5 12.5	3.0	—	B.
			5 14.5	13.3	—	
			5 19	15.5	2 0	
304	" 12	8 17	9 13	0.1	1 40	B.
305	" 13	9 24	9 34	0.5	0 38	B. A. Max. 9.36, amp. 0.1.
306	" 14	2 36	2 52.3	0.1	0 27	B. only.
307	" 19	10 21.5	10 45	0.1	2 4	B.
308	" 19	20 39	21 29	0.2	1 50	B.
309	" 23	—	17 35	0.1	—	—
310	" 24	2 3	2 5	0.15	0 4	A. Period of Max., 7secs.
311	" 27	—	2 4	0.1	0 4	B. Pyrenees.
312	" 29	10 30.5	10 42.5	0.2	0 40	B.
313	Aug. 2	—	1 38.5	0.2	—	B.
314	" 4	2 14	2 23	0.1	0 10	B.
315	" 6	—	15 17	0.1	—	B.
316	" 6	—	17 6	0.1	—	B.
317	" 8	14 59	15 20	0.3	1 0	B.
318	" 11	—	19 35	0.1	—	B.
319	" 12	—	22 12	0.1	—	B. Hueiva; South Spain.
320	" 16	22 55.3	23 49	24.0	—	A. P ₂ indecipherable sudden increases at 23h., 23-6, and 23-10.
		22 55.3	23 54	44.0	—	
			23 56	30.0	4 0	B. L.W. Com. : 23-44; double quake Aleutian Islands and East Indies.
			0 1.5	35.0	—	2nd Max. on A.
321	" 18	3 19	3 59	0.1	1 14	B. P ₂ 3-46.
322	" 21	16 48.3	17 11	1.2	2 12	A. and B.
323	" 21	—	23 39	0.1	—	B.
324	" 22	—	6 29	0.1	—	B.
325	" 22	—	7 32	0.5	—	B.
326	" 23	16 19.5	16 39.5	4.0	1 40	B. P ₂ 16-22.
327	" 24	—	15 13	0.2	—	B.
328	" 28	6 36.5	6 43	1.0	0 30	A.B. ? Com. 6-29.
330	" 29	4 16.5	4 36	0.1	0 40	B.
331	" 29	—	7 34	0.3	—	B.
332	" 29	14 56	15 3	0.5	0 30	B. Com. may be earlier in Ats.
333	" 30	14 23	14 45	0.6	0 40	B.
334	Sept. 6	1 3	1 13	1.2	—	A. P ₂ much greater amplitude than Max. of P ₃ .
			1 20.5	0.3	—	A.
			1 39.5	0.3	—	A.
		1. 3	1 13	1.5	—	B.
			1 21	0.3	—	B.
			1 40	0.6	1 17	B.
335	" 8	23 1	23 34	0.2	1 21	B.
336	" 13	3 19	3 34	0.1	—	B.
			3 43	0.7	1 40	A.

Register from Hill Top, West Bromwich—continued.

No.	Date	Com-mence-ment		Max.	Max. Ampli-tude		Dura-tion	Remarks
		H. M.	H. M.		MM.	H. M.		
338	Sept. 15	13 24	14 7		1.0	3 0	B. P ₂ 13-34. Amp. 1.4.!!	
339	" 16	5 26	5 40.5	0.1		0 34	B.	
340	" 17	3 38.5	4 16.5	4.0		—	A. P ₂ 3-49.5.	
			4 22	12.0		—	B.	
			4 22	5.0		—	B.	
341	" 18	—	14 35	0.5		—	B.	
342	" 20	—	5 50	0.1		—	B.	
343	" 21	6 9	6 22	0.2		0 42	B.	
344	" 21	8 0	—	—		1 0	One long series of tremors.	
345	" 22	5 11.2	5 40.7	1.6		—	A. P ₂ 5-20.7.	
			5 40.7	0.2		1 40	B.	
347	" 26	14 6?	14 59.5	0.1		1 0	B.	
348	" 30	10 27	10 35	0.7		0 13	B. Malta.	
349	Oct. 6	10 23.2	10 46.2	5.2		—	A. 10-46 to 11-25. 15 uniform maxima.	
			10 46.2	2.3		—	B.	
			11 3	2.8		2 0	B.	
			15 26	0.1		—	B.	
350	" 6	—	16 33	0.1		—	B.	
351	" 6	—	16 33	0.1		—	B.	
352	" 7	5 17	5 38	0.2		—	A.	
			5 42	0.3		0 45	B.	
353	" 8	2 43	2 51.5	0.1		—	B.	
355	" 10	13 25.5	13 49	1.0		—	A. P ₂ 13-34. P ₃ 13-46.	
		13 25.5	13 59.5	2.5		1 50	B. P ₂ 13-47.	
357	" 13	2 45.5	3 28.5	5.5		2 35	B. P ₂ 2-55.2. P ₃ 3-19.5.	
358	" 14	6 32	7 4.5	1.0		0 38	A.	
359	" 14	12 37	13 21	5.5		2 20	A.B.	
360	" 14	16 54.5	17 34	1.0		—	A. 2nd Max. 17-37.5 (0.7)	
			17 29	0.2		—	B.	
361	" 14	23 43	0 0	4.5		—	A. P ₂ 23-54. ? Com. 23-35.3.	
		23 44	0 5	2.25		1 17	B.	
362	" 15	5 51	5 56	0.05		—	A.B.	
363	" 15	12 35	12 42	1.0		—	A.B.	
364	" 15	23 53	0 17	0.1		1 7	A. Max. for B. 0-26. a=0.1.	
365	" 17	—	3 39	0.1		—	A. Max. for B. 3-43.	
366	" 17	10 6	10 48	0.2		—	B. ? Com. 9-48.	
367	" 17	12 15.5	12 46.2	1.2		1 15	A.B.	
368	" 19	—	2 46	0.1		—	B.	
369	" 19	—	9 31	0.2		—	B.	
370	" 19	10 34	10 54	0.8		—	A. P ₂ 10-39.7.	
			10 52	1.5		0 50	B.	
			18 28	0.1		2 25	B.	
371	" 20	18 7	18 28	0.1		—	A.B. P ₂ 22-45.6.	
372	" 22	22 42.3	22 47.8	1.7		0 14	B.	
373	" 24	0 45	1 31	0.1		—	B.	
374	" 29	18 33	19 3.5	—		0 53	B.	
375	Nov. 1	9 58?	10 9	1.7		—	A.B. Microseisms very marked.	
376	" 2	2 20	—	—		0 11	A. Long tremor.	
377	" 8	15 2	15 10	1.5		0 40	—	
378	" 13	16 23.8?	17 12	3.0		—	A. P ₂ 16-34.4 Six isolated maxima between 17-1 and 17-28.	
			17 20	3.6		—	B.	
			17 21	2.5		2 0	B.	
379	" 14	—	14 22	0.2		—	—	

Register from Hill Top, West Bromwich—continued.

No.	Date	Com-mence-ment		Max.	Max. Ampli-tude		Dura-tion	Remarks
		H. M.	H. M.		MM.	H. M.		
380	Nov. 16	21 27.7	21 30.9	4.0		0 16	A. Central Germany.	
		21 28.9	21 31.1	3.0		—	B.	
381	" 18	7 45.5	8 23	0.6		—	A.B. P ₂ 7-57.	
			8 31.5	0.5		1 45	A.B.	
382	" 20	14 11.5	14 41.5	1.3		1 25	A.B. P ₂ 14-21.6.	
383	" 21	—	20 20.5	0.1		—	—	
384	" 22	—	20 23	0.2		—	—	
385	" 22	—	23 29	0.1		—	B.	
386	" 23	—	0 49	0.1		—	B.	
387	" 23	—	20 35	0.1		—	B.	
388	" 28	—	17 4	0.1		—	B.	
389	" 30	—	12 15	0.2		—	B.	
390	Dec. 4	14 28?	14 54	1.2		1 0	A.B. P ₂ 14-49.	
391	" 6	23 25?	23 55.7	0.5		0 35	B.	
392	" 11	12 4	—	—		0 30	Series of Max. Amp. 0.5.	
393	" 16	19 26.7	20 4	8.5		—	A. P ₂ 19-37. P ₃ 20-3. Mexico.	
			20 8	8.0		—	A.	
			20 6.5	19.0		3 10	B.	
			20 13	11.0		—	B.	
394	" 20	6 2	6 44	0.6		—	A.B. P ₂ 6-12.	
			6 50	1.5		—	A.B.	
395	" 22	13 17	13 49.7	0.7		—	B.	
396	" 23	21 27	21 55	0.9		2 33	B.	
			22 7	0.6		—	B.	
397	" 29	—	16 30	0.3		—	B.	
398	" 30	3 37	3 42	0.1		1 8	B.	
399	" 30	—	10 24	0.2		—	B.	
400	" 31	6 24	7 14	0.5		—	A. P ₂ 6-37.5. P ₃ 7-10.	
			7 24	1.0		—	B.	
			8 22	0.2		2 30	A.B.	

Register from Ponta Delgada, St. Miguel, Azores. 37°44'N. 25°41'W.
Director, Colonel F. A. CHAVES.

No.	Date	Com-mence-ment		Max.	Max. Ampli-tude		Dura-tion	Remarks
		H. M.	H. M.		MM.	H. M.		
1911								
446	July 1	22 45.0	—	—		0 6.1	I. of Mercalli's scale. Thickening of line	
447	" 4	13 45.2	13 56.9	1.4		1 1.0	I. ditto.	
447	" 9	8 40.9	8 40.9	1.4		0 4.4	IV. ditto.	
448	" 11	21 44.6	—	—		0 7.9	I. ditto. Thickening of line.	
448	" 12	4 28.9	4 44.1	1.5		1 16.0	I. ditto.	
449	" 19	10 25.0	—	—		0 25.2	I. ditto. Thickening of line.	
452	Aug. 11	19 23.2	19 24.6	1.2		0 7.8	I. ditto.	
453	" 16-17	23 1.5	23 5.2	1.8		1 33.8	I. ditto.	

Register from Ponta Delgada, St. Miguel, Azores—continued.

No.	Date	Com- mence- ment		Max.	Max. Ampli- tude	Dura- tion	Remarks
		H.	M.				
454	Aug. 23	16	19.8	16	20.9	1.6	0 50.6
455	" 30	14	30.9	—	—	—	0 7.3
456	Sept. 6	1	19.5	—	—	—	0 6.0
457	" 13	13	22.4	—	—	—	0 38.7
457	" 17	3	50.4	—	—	—	1 34.8
460	Oct. 6	10	26.6	10	39.5	2.4	0 57.4
461	" 10	13	29.4	13	45.9	1.6	0 37.2
461	" 14	23	47.0	—	—	—	0 3.3
461	" 15	5	43.7	5	44.7	1.4	0 5.0
462	" 19	9	20.6	—	—	—	0 10.6
462	" 19	10	36.8	—	—	—	0 8.6
462	" 20	18	5.8	—	—	—	0 34.7
466	Nov. 16	21	41.3	—	—	—	0 8.5
466	" 20	14	9.6	—	—	—	0 17.0
467	" 22	23	26.8	—	—	—	0 25.5
468	Dec. 4	15	7.4	—	—	—	0 40.1
470	" 16	19	25.8	19	40.3	3.2	1 27.2

Mean scale value, 1mm. = 0".48.

Register from the Observatorio de Marina de San Fernando.
36°27'N. 6°12'W.

Director, Rear-Admiral T. DE AZCARATE.

Pendulum A (new model) records N.-S. motion.
Pendulum B (old model) records E.-W. motion.

No.	Date	Com- mence- ment		Max.	Max. Ampli- tude	Dura- tion	Remarks
		H.	M.				
1911							
206	July 1	22	37.9	22	45.4	1.95	0 44
208	" 3	20	7.9	—	—	—	—
209	" 4	13	43.4	14	5.9	3.0	1 51
				14	11.4	2.5	—
				14	16.9	3.6	—
				14	6.9	2.4	1 38
210	" 5	2	30.9	2	45.4	0.7	2 47
214	" 8	1	11.6	—	—	—	—
216	" 9	8	11.9	—	—	—	—
219	" 11	21	46.8	—	—	—	—
220	" 12	—	—	5	19.8	5.2	—
				5	29.7	6.2	—
223	" 14	4	28.7	—	—	—	1 9
228	" 19	23	11	—	—	—	—

Register from the Observatorio de Marina de San Fernando, Spain—continued.

No.	Date	Com- mence- ment		Max.	Max. Ampli- tude	Dura- tion	Remarks
		H.	M.				
229	July 19	21	3.9	—	—	—	3 56
230	" 23	16	51.3	17	26.1	1.5	2 55
		17	1.1	17	24.6	0.7	0 53
234	" 27	12	28.3	—	—	—	0 49
236	" 29	10	28.1	10	37.3	0.5	0 29
246	Aug. 6	15	13.1	—	—	—	0 33
247	" 7	9	0.1	—	—	—	0 4
248	" 7	16	27.6	—	—	—	—
250	" 8	15	21.9	15	34.6	0.6	0 38
		15	22	15	25.1	0.7	0 24
255	" 11	19	31.6	—	—	—	0 9
256	" 12	22	2.4	22	3.6	1.0	0 15
261	" 16-17	23	2.2	23	57.7	11.5	—
				0	1.9	> 14.5	—
				0	6.2	> 14.5	—
		23	2.2	23	53.2	10.1	4 31
				23	59.3	9.7	—
				0	2.2	11.0	—
				0	5.7	11.0	—
262	" 17	12	22.7	—	—	—	0 32
263	" 18	4	5.7	—	—	—	0 23
265	" 21	16	46.5	17	31.6	1.1	2 54
		16	51.8	18	0.8	1.1	2 9
268	" 23	16	10.5	16	29.3	2.6	2 25
		16	14.6	16	29.8	2.4	1 14
272	" 26	11	8.8	—	—	—	—
273	" 28	6	34.6	6	41	1.3	0 20
274	" 29	7	24.7	—	—	—	0 30
275	" 29	15	5.8	—	—	—	0 38
276	" 29	21	0.8	—	—	—	—
277	" 30	14	21.3	14	37.8	0.9	1 24
		14	27.6	—	—	—	0 26
279	Sept. 6	1	6.5	1	51.9	0.6	—
		1	17.2	1	48.7	0.6	0 52
280	" 8	—	—	23	47	1.2	—
		23	33.2	23	39.2	0.8	0 34
284	" 12	13	27.8	—	—	—	1 39
		14	18.7	—	—	—	0 29
285	" 13	3	46	—	—	—	0 43
288	" 15	13	22.5	14	3.7	2.1	3 38
		13	22.5	14	3.3	1.5	3 1
290	" 17	3	47.5	4	22	2.6	4 37
				4	38	2.5	—
				5	12.5	2.3	—
				5	16.5	2.7	—
				4	29.5	3.5	3 8
				4	35	3.1	—
				4	38.3	2.5	—
				5	16.5	1.8	—
293	" 19	19	18.5	—	—	—	0 45
294	" 20	—	—	6	7.3	0.7	—
		5	51.8	—	—	—	0 43
295	" 21	8	18.3	—	—	—	0 32
300	" 24	5	6.5	—	—	—	0 5
301	" 25	9	26.5	9	32.9	1.0	0 45
							B. Max. for A. 19-32.4.
302	" 26	4	36.4	—	—	—	0 17
303	" 26	14	6	—	—	—	—
305	Oct. 1	4	44.7	—	—	—	1 58

Register from the Observatorio de Marina de San Fernando, Spain—continued.

No.	Date	Com-mence-ment		Max.	Max. Ampli-tude	Dura-tion	Remarks
		H. M.	H. M.				
309	Oct. 5	7	13.9	—	—	1 54	B.
310	" 6	10	34.4	10 43.2	2.0	3 39	A.
		10	34.4	10 44.4	2.2	2 51	B.
311	" 6	15	23.9	—	—	0 25	A. com. for B. 15-26.4
312	" 6	16	32.4	—	—	0 32	A. com. for B. 16-36.9
316	" 10	13	33.5	13 48	1.2	2 53	A.
		13	35	13 49.5	4.2	2 19	B.
320	" 13	2	57.5	3 39.2	2.7	5 34	A.
		2	57.5	3 39.7	3.5	2 37	B.
321	" 13	10	16.5	—	—	0 32	A.
322	" 14	5	55.9	7 16.2	0.9	1 56	B.
323	" 14	12	50.4	13 32.9	2.1	2 54	A.
		12	50.4	13 29.7	2.0	2 23	B.
324	" 14	16	57.9	17 39.7	1.0	2 44	A.
		17	0.7	17 41.7	1.2	2 10	B.
325	" 14	23	41.7	0 11.7	0.8	—	A.
		23	55.2	0 11.7	0.6	1 20	B.
326	" 15	12	14.2	12 55.7	1.0	2 20	A.
		12	33.2	12 54.2	0.8	0 47	B.
327	" 16	0	22.1	—	—	0 59	B. Small movement.
328	" 16	23	7.5	—	—	—	A.
329	" 17	9	47.7	12 55.7	1.1	4 58	A. Two earthquakes?
		10	19.2	12 58.7	1.1	3 34	B.
332	" 19	9	8.1	9 23.1	1.0	0 49	A.
		9	14.1	9 22.6	1.0	0 26	B.
333	" 19	10	25.6	10 38.1	2.5	1 45	A.
		10	29.6	10 37.6	2.5	0 36	B.
335	" 20	18	4.2	19 12.2	1.2	2 40	A.
		18	4.7	19 17.7	1.1	2 6	B.
337	" 22	22	43.3	—	—	0 31	A.
		22	40.2	—	—	0 12	B.
338	" 23	0	0	—	—	—	A.
339	" 24	0	34.7	—	—	2 8	A.
		1	27.2	—	—	1 2	B.
342	" 26	14	43.7	—	—	0 45	A.
345	" 29	18	33.4	19 2.4	1.6	2 26	A.
		18	33.7	18 59.7	1.1	2 9	B.
349	Nov. 1	9	48.6	10 10.9	3.1	4 38	A.
		9	49.1	10 13.1	2.0	2 13	B.
350	" 2	2	10.1	2 18.4	1.3	0 28	B. Max. for A. 2-17.1
351	" 2	12	27.7	—	—	1 5	A. com. for B. 12-34.9
358	" 8	14	48.5	15 20	1.5	2 11	A.
		15	2	15 20.5	1.0	0 54	B.
364	" 13	16	37	17 18.6	3.1	2 39	A.
		16	37	17 15	2.8	2 25	B.
366	" 15	21	37	—	—	—	A.
368	" 16	21	32.8	21 37.3	0.9	0 33	A.
		21	35	21 37.3	1.3	0 17	B.
369	" 18	7	46	8 23.2	1.1	2 37	A.
		7	56	8 28	1.0	1 20	B.
371	" 20	13	13.5	14 38	1.0	3 30	A. Max for B. 14-30.
375	" 22	23	42	—	—	—	B.
376	" 23	20	25.5	—	—	—	A. com. for B. 2-50.
378	" 25	20	6	—	—	—	A. com. for B. 20-13.
382	" 28	16	7.5	17 12.5	0.8	2 31	A.
		17	0	17 11	0.6	1 11	B.
383	" 29	5	33	—	—	3 55	B.
385	" 30	11	5	12 4	0.9	1 40	A.
		11	47	12 2.5	1.0	0 56	B.
386	Dec. 1	0	0	—	—	—	A.
389	" 3	13	6	—	—	0 49	A. com. for B. 13-16.
391	" 4	14	53	15 4.5	0.6	1 35	A.
		14	57.5	15 3	—	0 36	B.

Register from the Observatorio de Marina de San Fernando, Spain—continued.

No.	Date	Com-mence-ment		Max.	Max. Ampli-tude	Dura-tion	Remarks
		H. M.	H. M.				
394	Dec. 6	—	23 2	—	—	—	A.
		23 26	23 55.5	—	—	—	B.
398	" 11	11 29	13 7	—	—	2 45	A. Max. for B. 12-35.
400	" 12	15 55	—	—	—	—	A.
401	" 13	22 56	—	—	—	1 56	A. com. for B. 23-0.
404	" 16	19 26.5	20 4.4	—	—	—	A.
		19 27	20 2	—	—	—	B.
407	" 20	6 7.3	6 52.5	—	—	3 5	A.
		6 14.3	6 55	—	—	2 41	B.
408	" 21	3 20.3	—	—	—	0 35	A.
410	" 22	13 9	13 44.5	—	—	0 24	A. com. for B. 13-24.3.
412	" 23	21 27	21 48.3	—	—	—	A.
		21 26.3	21 44.5	—	—	1 4	B.
418	" 29	15 54.7	16 32	—	—	2 24	A.
		16 13	16 31.5	—	—	0 43	B.
420	" 31	7 3.7	7 34	—	—	3 42	A.
		—	7 25	—	—	1 8	B.
		Period A., 20secs.		1mm. = 0".25.			
		B., 18.5secs.		1mm. = 0".30.			

Register from Rio Tinto Mines, Huelva, Spain. 37°46'N. 6°38'W.
Observer, W. A. JENKIN.

No.	Date	Com-mence-ment		Max.	Max. Ampli-tude	Dura-tion	Remarks
		H. M.	H. M.				
1911							
211	July 4	13 44	13 52	—	—	1 10	—
			14 3	—	—	1 1	—
			14 10	—	—	1 0	—
			14 16	—	—	1 0	—
			14 20	—	—	1 2	—
218	" 12	4 29	5 22	—	—	2 59	—
226	" 19	10 21	10 44	—	—	0 58	—
		11 19	11 32	—	—	0 40	—
236	" 29	9 59	10 34	—	—	0 55	—
246	Aug. 8	14 35	15 27	—	—	0 5	—
254	" 16-17	23 1	0 2	—	—	14.8	—
261	" 23	16 11	16 25	—	—	0 7	—
290	Oct. 6	—	10 54	—	—	2.2	—
294	" 10	13 32	14 1	—	—	1 17	—
296	" 13	2 56	3 35	—	—	0 8	—
297	" 14	7 1	7 14	—	—	0 4	—
298	" 14	12 50	13 29	—	—	0 8	—
		14 58	17 36	—	—	0 5	—
304	" 20	18 3	19 16	—	—	0 6	—
313	" 29	18 30	18 57	—	—	0 5	—
316	Nov. 1	9 50	10 12	—	—	2.3	—
		2 7	2 16	—	—	0 9	—
324	" 10	15 9	15 22	—	—	0 9	—
Com. and end lost in Ats.							

Register from Rio Tinto Mines, Huelva, Spain—continued.

No.	Date	Com-mence-ment		Max.	Max. Ampli-tude	Dura-tion	Remarks
		H. M.	H. M.				
327	Nov. 13	16 34	17 13	6.0	2 20	—	—
332	" 18	8 8	8 24	0.7	0 56	—	—
334	" 20	13 59	14 38	1.5	1 15	—	—
336	" 23	0 17	0 41	0.2	0 49	—	—
339	" 25	20 10	20 16	0.4	0 10	—	—
348	Dec. 4	14 53	15 3	0.4	0 37	—	—
357	" 13-14	23 49	0 27	0.4	0 53	—	—
360	" 16	19 26	20 2	5.5	3 24	—	—
363	" 20	6 14	6 51	1.0	1 31	—	—
367	" 23	21 28	21 52	1.1	1 1	—	—
369	" 25	10 2	10 20	0.5	0 34	—	—
373	" 29	16 14	16 44	0.4	1 1	—	—
374	" 31	6 33	7 32	0.5	—	Light cut off at 7-50.	—

Period, 18secs.
1° turn = 4mm.
With an electric radiator in the room night tremors much reduced.

Register from the University, Valetta, Malta. 35°54'N. 14°31'E.
Observer, C. LEACH.

No.	Date	Com-mence-ment		Max.	Max. Ampli-tude	Dura-tion	Remarks
		H. M.	H. M.				
1911							
409	July 1	22 39.5	22 54.5	0.5	1 0	—	—
410	" 4	13 40	13 51.7	2.5	2 15	—	—
411	" 5	2 25.7	2 38.5	0.5	1 30	—	—
412	" 5	19 3	19 15	0.5	1 10	—	—
413	" 8	1 8.5	—	0.3	0 7	—	—
414	" 8	3 6.5	3 14	0.3	—	—	—
415	" 8	17 41	17 47	0.3	0 17	—	—
416	" 12	4 26	4 37	2.5	5 37	—	—
			5 19	2.0	—	—	—
			6 33	1.5	—	—	—
417	" 23	17 3	17 15.5	1.0	1 18	—	—
418	" 29	13 27.	13 43	1.0	1 3	—	—
419	Aug. 12	—	—	—	—	—	Quake cannot be timed, shutter not working.
420	" 16	22 59	23 56	3.0	—	—	—
421	" 23	16 18	16 35	2.5	—	—	—
422	" 30	14 32	14 41	0.5	0 55	—	—
423	Sept. 6	1 20.5	1 33.7	0.5	0 45	—	—
424	" 15	13 35.7	14 9	2.0	2 27	—	—
425	" 17	3 53.3	5 29	2.5	3 19	—	—
426	" 30	—	—	—	—	—	Quake felt in Malta and Gozo at 9-23.
427	Oct. 10	14 35.7	15 9.5	0.5	1 34	—	—
428	" 13	3 57	4 34	1.0	1 32	—	—
429	" 14	—	8 7	0.3	—	—	—
430	" 14	12 50.7	13 28	1.0	1 25	—	—
431	" 14	—	17 36	0.5	—	—	End at 18-38.
432	" 15	5 52.5	6 2.5	1.0	0 23	—	—

Register from the University, Valetta, Malta—continued.

No.	Date	Com-mence-ment		Max.	Max. Ampli-tude	Dura-tion	Remarks
		H. M.	H. M.				
433	Oct. 15	—	8 54	0.5	—	—	End at 8-54.5. Felt at Malta.
434	" 16	—	15 54.5	1.0	—	—	—
435	" 17	—	12 50.7	0.5	—	—	nd Max. 12-55.7.
436	" 19	8 56.2	9 39	0.5	—	—	—
437	" 19	10 32.7	10 42.7	0.5	0 39	—	—
438	" 20	18 3.7	18 28	0.5	2 7	—	—
439	" 22	22 36.5	22 38.4	0.5	0 14	—	Felt at Brera near Milan.
440	" 29	18 38	19 13.5	0.5	1 48	—	—
441	Nov. 1	6 17.2	7 3.3	0.5	1 30	—	—
442	" 1	9 52.3	10 20.5	0.5	—	—	—
443	" 13	16 37.5	17 12.3	1.5	1 32	—	—
444	" 15	21 31.7	21 32.2	5.0	0 47	—	Felt locally.
445	" 16	21 34	21 37	1.0	0 18	—	—
446	" 20	14 37.5	14 55.5	0.5	0 53	—	—
447	" 23	—	12 55.5	0.5	—	—	End at 14-0.
448	" 29	—	12 9.3	0.5	—	—	End at 14-5.
449	Dec. 4	9 20.5	—	—	0.3	—	—
450	" 4	14 55	—	0.5	0 29	—	—
451	" 6	23 25	0 4	1.0	1 32	—	—
452	" 16	19 29.3	20 16.5	2.5	2 41	—	Mexico.
453	" 20	6 15	6 56.3	1.0	—	—	—
454	" 31	6 37.5	—	0.5	2 18	—	—

Period, 19secs.

Register from Helwan Observatory, Cairo, Egypt. 29°51'N. 31°20'E.
Director, B. F. E. KEELING.

No.	Date	Com-mence-ment		Max.	Max. Ampli-tude	Dura-tion	Remarks
		H. M.	H. M.				
1911							
1239	July 1	22 22	23 9	0.2	2 52	—	A.
		22 36	23 29	0.1	2 2	—	B.
1240	" 2	14 54	15 4	0.1	0 29	—	A.
1241	" 2	22 10	22 14	0.1	0 12	—	A.
		22 11	22 12	0.1	0 5	—	B.
1243	" 3	20 8	20 48	0.2	1 17	—	A.
		20 22	20 53	0.1	1 7	—	B.
1244	" 3	22 1	22 16	0.1	1 6	—	A.
		22 12	22 19	0.1	0 59	—	B.
1245	" 4	1 10	1 30	0.1	0 51	—	A.
1246	" 4	13 40	13 53	2.0	4 1	—	A.
		13 39	13 51	3.5	3 53	—	B.
1246a	" 4	19 53	—	0.1	0 11	—	B. only.
1247	" 5	2 23	2 29	1.2	4 3	—	A.
		2 22	2 28	2.5	3 45	—	B.
1248	" 5	18 52	19 5	0.4	2 45	—	A.
		18 55	19 25	0.2	2 44	—	B.
1251	" 7	5 16	5 17	0.1	0 5	—	A.
1253	" 8	1 8	1 19	0.1	0 25	—	A.
		1 11	1 18	0.1	0 24	—	B.

Register from Helwan Observatory, Cairo, Egypt—continued.

No.	Date	Com- mence- ment		Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.				
1254	July 8	3 10	3 20	0.1	0 26	B.	Max. for A. 3-16.
1256	" 8	17 25	17 54	0.1	1 24	A.	
		17 37	17 57	0.1	0 55	B.	
1257	" 10	18 16	18 21	0.1	0 17	A.	
		18 13	18 19	0.1	0 11	B.	
1257a	" 11	1 41	—	0.1	0 5	A. only.	
1258	" 11	21 44	22 6	0.1	2 40	A.	
		21 43	22 8	0.1	2 16	B.	
1260	" 12	4 20	5 11	4.7	6 50	A.	
		4 20	5 13	2.9	5 17	B.	
1261	" 21	13 31	13 49	0.1	0 34	A.	
1262	" 13	9 8	9 33	0.1	1 13	A.	
		9 18	9 32	0.1	1 18	B.	
1263	" 14	1 58	2 51	0.1	2 32	A.	
		2 7	2 59	0.1	0 56	B.	
1264	" 14-15	23 24	0 24	0.1	1 29	A.	
		0 12	0 30	0.1	0 29	B.	
1264a	" 15	12 35	—	0.1	0 5	A. only.	
1266	" 19	10 20	10 36	0.3	2 49	A.	
		10 25	10 47	0.2	2 41	B.	
1268	" 19	20 33	21 23	0.5	2 45	A.	
		20 44	21 24	0.3	2 29	B.	
1269	" 21	11 22	12 0	0.1	0 56	A.	
1270	" 21	21 1	21 13	0.1	0 22	A.	
		21 7	21 8	0.1	0 11	B.	
1270a	" 22	3 59	4 14	0.1	0 27	A. only.	
1271	" 22	5 32	6 21	0.1	1 16	A.	
		5 40	6 23	0.1	0 51	B.	
1272	" 23	16 50	17 10	1.0	3 44	A.	
		16 43	17 17	1.2	3 35	B.	
1273	" 25	4 20	5 38	0.1	2 10	A.	
		4 38	6 0	0.1	1 44	B.	
1279	" 27	11 20	13 2	0.2	2 52	A.	
		11 30	13 5	0.1	2 51	B.	
1281	" 29	10 1	10 51	0.5	2 35	A.	
		10 6	10 54	0.4	2 9	B.	
1283	" 30	4 43	4 49	0.1	0 36	B.	
1284	" 30	12 49	12 59	0.1	0 21	A.	
1284a	Aug. 2	1 31	1 37	0.1	0 9	A. only.	
1287	" 4	1 36.6	—	0.2	1 5	A.	
		1 34	1 39	0.2	0 56	B.	
1288	" 4	3 49	—	0.1	0 24	A. only.	
1289	" 5	5 45	—	0.1	0 35	A.	
		5 55	—	0.1	0 14	B.	
1291	" 6	15 44	—	0.1	0 27	A.	
		15 19	—	0.2	0 6	B.	
1293	" 6	17 0	—	0.1	0 25	A.	d. for B. 23m.
1294	" 7	8 40	—	0.1	0 39	A.	
		8 38	—	0.1	0 4	B.	
1295	" 7	15 50	—	0.1	0 23	A.	
		16 11	—	0.1	0 7	B.	
1296	" 7	19 27	—	0.1	0 54	A. only.	
1297	" 7	21 35	—	0.1	0 20	A.	
		21 37	—	0.1	0 16	B.	
1298	" 8	14 37	—	0.1	1 28	A.	
		15 0	15 21	0.1	0 47	B.	
1299	" 8	18 37	19 20	0.4	2 41	A.	
		18 43	19 22	0.3	1 9	B.	
1302	" 10	20 10	—	0.1	0 20	A.	
		20 14	20 15	0.2	0 8	B.	
1304	" 11	19 35	19 43	0.5	0 37	A.	
		19 39	19 42	0.4	0 28	B.	
1306a	" 12	22 25	—	0.1	0 7	A. only.	

Register from Helwan Observatory, Cairo, Egypt—continued.

No.	Date	Com- mence- ment		Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.				
1307	Aug. 12	17 58	—	—	—	—	A. com. for B. 17-53.
1308	" 14	19 53	—	—	—	—	A. only.
1309	" 14	21 38	—	—	—	—	A. only.
1310a	" 16	15 16	—	—	—	—	A. only.
1311	" 16-17	22 49	23 15.2	1.1	—	—	A.
			23 58.3	2.1	—	—	
			1 12	2.3	—	—	
			23 51	2.3	4 38	—	B.
1312	" 17	12 30.6	12 32.5	0.3	0 21	—	A.
		12 29	12 32	0.2	0 10	—	B.
1315	" 18	3 15	3 58	0.2	1 14	—	A.
		3 33	—	0.1	0 41	—	B.
1315a	" 19	1 1	—	0.1	0 4	—	A. only.
1316	" 21	16 53	17 13.4	0.5	3 17	—	A.
		16 55	17 10.7	1.0	2 26	—	B.
1317	" 22	6 16	6 35.2	2.4	1 59	—	B. only.
1318	" 22	20 23	20 23.5	0.3	0 8.5	—	Felt at Cairo and [Helwan.
		20 21.2	20 21.5	0.6	0 10	—	B.
1319	" 23	16 16	16 36.5	3.0	1 42	—	A.
		16 16	16 35.2	2.2	2 7	—	B.
1320	" 25	4 22.5	4 25	0.2	0 25	—	A.
		4 22	4 26	0.2	0 19	—	B.
1321	" 25	16 10	—	0.1	0 39	—	A.
		16 7	—	0.4	0 15	—	B.
1321a	" 26	11 16	—	0.1	0 4	—	B. only.
1322	" 27	11 26	—	0.1	1 23	—	A.
		11 23	11 58	0.2	1 14	—	B.
1324	" 28	6 38	6 50	0.4	0 54	—	A.
		6 42	6 48.6	0.6	0 59	—	B.
1325	" 29	4 45	—	0.1	0 49	—	A.
		4 38	—	0.1	0 55	—	B.
1326	" 29	—	7 51.8	0.4	—	—	A.
		—	7 53	0.3	—	—	B.
1327	" 29	15 11	—	0.1	0 24	—	A. d. for B. 26m.
1328	" 29	20 53	—	0.1	0 37	—	A.
		20 53	20 56.5	0.3	0 33	—	B.
1329	" 30	14 25	14 45	0.4	0 53	—	A.
		14 34	14 43.5	0.4	0 49	—	B.
1330	" 30	19 10	—	0.1	0 20	—	A. only.
1331	" 31	12 26	12 36	0.2	0 29	—	A.
		12 30	12 34.6	0.3	0 38	—	B.
1333	Sept. 2	0 24	—	0.1	0 58	—	A.
		0 23	—	0.1	0 26	—	B.
1334	" 3	16 12	—	0.1	0 20	—	A.
		16 9	—	0.1	0 13	—	B.
1335	" 6	1 7	1 18.2	0.5	2 59	—	A.
		1 8	1 18	0.5	3 17	—	B.
1336	" 6	22 58	—	0.1	0 17	—	A.
		23 4	—	0.1	0 10	—	B.
1337a	" 8	12 22	—	0.1	0 7	—	A.
		12 36	—	0.1	0 4	—	B.
1338	" 8	23 7	—	0.3	2 9	—	A.
		23 7	—	0.2	1 20	—	B.
1338a	" 10	3 35	—	0.1	0 6	—	A. com for B. 1-25.
1338b	" 11	2 0	—	0.1	0 15	—	B. only.
1339	" 12	13 15	—	0.2	2 19	—	A.
		13 32	—	0.2	1 20	—	B.
1340	" 13	3 28	4 27	0.2	2 39	—	A.
		3 20	—	0.1	1 13	—	B.
1343	" 15	13 29.2	14 16.9	2.5	3 48	—	A.
		14 21.4	—	2.5	—	—	
		14 21.6	—	1.4	—	—	
1343a	" 17	0 21	—	0.1	0 13	—	A. com. for B. 0-19.

Register from Helwan Observatory, Cairo, Egypt—continued.

No.	Date	Com- mence- ment		Max.	Max. Ampli- tude		Dura- tion	Remarks
		H. M.	H. M.		MM.	H. M.		
1344	Sept. 17	3	45.9	4	33.5	1.1	>3 30	A. End lost chang- ing paper.
		3	45.9	5	30.2	3.5		
		4	32.5	5	30.2	1.4	>3 30	B.
1345	" 17	23	22	—	—	0.1	0 6	A. only.
1345a	" 18	13	58	14	24	0.1	0 36	B.
1346	" 19	13	58	14	27	0.1	0 47	A.
		19	22	—	—	0.1	0 49	A.
1347	" 20	19	32	—	—	0.1	0 26	B.
		5	25	6	6	0.2	0 52	A.
1348	" 21	5	24.7	6	5.4	0.4	2 45	B.
1349	" 21	5	26	—	—	0.1	0 5	A. only.
		6	11	—	—	0.1	0 15	A.
1350	" 21	6	10	—	—	0.2	0 31	B.
		7	41	—	—	0.1	1 10	A.
1352	" 22	7	51	—	—	0.1	1 27	B.
		5	25.5	—	—	0.2	2 35	A.
1353	" 24	5	25.3	—	—	0.3	2 2	B.
		4	17	5	1	0.2	1 20	A.
1354	" 25	4	19	—	—	0.1	0 51	B.
		8	44	—	—	0.1	>1 45	A. com. for B. 8-49.
1354a	" 26	4	43	4	45	0.2	0 27	A.
		4	42	4	44	0.4	0 15	B.
1355	" 26	14	32	14	49	0.3	1 22	A.
		14	32	14	49	0.2	0 56	B.
1356a	" 30	8	35	8	37	0.1	0 7	B. only.
1358	Oct. 4	7	49	—	—	0.1	0 7	A.B.
1359	" 6	10	29	11	23.9	0.9	3 49	A. P ₂ 10-40.
		10	40	11	7.6	0.5	3 24	B.
1360	" 6	15	16	—	—	0.1	0 13	A. d. for B. 9m.
1361	" 6	16	32	—	—	0.1	0 24	A. com. for B. 16-33.
1362	" 7	5	31	—	—	0.2	0 26	A.
		5	32	—	—	0.2	0 20	B.
1362a	" 8	2	51	—	—	0.1	0 8	A. com. for B. 2.48, d. 7m
1363	" 10	12	18	12	23.5	0.3	0 59	A.
		12	20	12	22	0.3	0 31	B.
1364	" 10	13	39	14	22.8	0.5	3 30	A. d. for B. 2h. 49m.
1365	" 13	2	46.7	3	36.7	0.6	3 39	A. P ₂ 2-57.5.
		2	46.8	3	38.4	0.6	3 50	B. P ₂ 2-57.3.
1365a	" 13	10	23	—	—	0.1	0 16	A.
		10	20	—	—	0.1	0 26	B.
1366	" 13	16	40	—	—	0.1	0 5	A.
		16	41	—	—	0.1	0 9	B.
1367	" 13	17	30	—	—	0.1	0 17	A.
		17	37	—	—	0.1	0 12	B.
1368	" 14	6	11	—	—	0.1	3 3	A. com. for B. 6-12.
1369	" 14	12	38.7	13	29.5	0.6	3 34	A.
		12	40	13	30.8	0.6	3 25	B. P ₂ 12-50.3.
1370	" 14	17	0	17	41	0.4	2 54	A.
		16	53	17	45	0.4	3 18	B.
1371	" 14	23	31.5	23	55.9	0.8	2 21	A. P ₂ 23-41.
		23	32.8	23	50	0.9	2 23	B. P ₂ 23-38.8.
1372	" 15	5	54	6	8.4	0.4	0 44	A.
		5	56	6	9	0.4	0 46	B.
1373	" 15	8	10	—	—	0.1	0 42	A.
		8	17	—	—	0.1	0 23	B.
1374	" 15	12	14	—	—	0.2	2 40	A.
		12	13	12	49	0.3	2 57	B.

Register from Helwan Observatory, Cairo, Egypt—continued.

No.	Date	Com- mence- ment		Max.	Max. Ampli- tude		Dura- tion	Remarks
		H. M.	H. M.		MM.	H. M.		
1375	Oct. 16	0	5	—	—	0.1	1 30	A. com. for B. 0.4.
1376a	" 16	6	23	—	—	0.1	0 11	A. d. for B. 9m.
1377	" 16	13	45	—	—	0.1	0 15	A.
		13	48	—	—	0.1	0 6	B.
1378	" 17	3	35	—	—	0.1	0 11	A.
		3	29	—	—	0.1	0 17	B.
1379	" 17	9	40	12	56	0.3	5 15	A. Two quakes ?
		9	47	12	53	0.3	5 7	B. " "
1381	" 18	22	57	—	—	0.1	0 5	A.
		22	55	—	—	0.1	0 9	B.
1382	" 19	2	44	3	1.9	0.3	1 2	A.
		2	44	2	57	0.3	1 6	B.
1383	" 19	9	16	—	—	0.2	0 50	A.
		9	17	—	—	0.2	0 52	B.
1384	" 19	10	22	10	45.5	0.5	1 34	A. P ₂ 10-33.4.
		10	28	10	50.2	0.6	1 26	B.
1385	" 20	18	5.8	—	—	0.4	10 49.2	A.
		18	5.8	—	—	0.3	2 36	B.
1388	" 22	22	37	22	44.4	0.4	0 33	A.
		22	37	22	48	0.3	0 35	B.
1389	" 24	0	37	—	—	0.2	2 32	A.
		0	45	—	—	0.2	2 13	B.
1390	" 26	12	49	—	—	0.1	0 15	A. d. for B. 10m.
1391	" 26	14	49	—	—	0.1	1 30	A.
		14	48	—	—	0.1	1 33	B.
1391a	" 26	22	21	—	—	0.1	0 17	A.
		22	26	—	—	0.1	0 12	B.
1392	" 29	18	38	20	3.9	0.3	2 38	A. Two quakes ?
		18	36	20	3.7	0.3	2 29	B. " "
1393	" 30	13	56	—	—	0.1	0 14	A.
		13	54	—	—	0.1	0 7	B.
1393a	Nov. 1	4	45	5	0	0.2	0 31	A.
		4	48	4	59	0.1	0 22	B.
1394	" 1	9	55	10	40	0.5	2 50	A.
		9	55	—	—	0.3	2 19	B.
1395	" 2	1	55	2	17	0.3	1 26	A.
		1	52	2	20	0.2	1 4	B.
1396	" 2	12	26	—	—	0.1	0 4	A.
		12	44	12	52	0.3	0 48	A.
1397	" 2	12	47	12	57	0.4	0 41	B.
		19	59	—	—	0.1	0 19	A.
1397a	" 5	19	56	—	—	0.1	0 14	B.
		14	24	15	11	0.4	3 1	A.
1400	" 8	14	25	—	—	0.3	2 55	B.
		2	28	—	—	0.1	0 39	A.
1401	" 9	4	41	—	—	0.1	2 53	A.
1402	" 9	3	55	—	—	0.1	3 37	B.
		2	2	—	—	0.1	0 13	A.B.
1407	" 13	2	2	—	—	1.9	3 32	A. P ₂ 16-40.
1408	" 13	16	30.5	17	18.7	1.1	3 24	B. P ₂ 16-41.
		16	30.5	17	22.7	0.3	0 46	A. P ₂ 14-2.5.
1409	" 14	14	9	14	3	0.4	0 40	B. P ₂ 14-2.6.
		14	1	18	51	18	58.8	0.4
1410	" 14	18	53	18	50	0.3	0 39	B.
		21	39	—	—	0.1	0 25	A.
1412	" 15	21	38	—	—	0.1	0 10	B.
		11	53	—	—	0.1	2 12	A. d. for B. 2h.9m.
1414	" 16	21	35	—	—	0.2	0 54	A.
		21	34	—	—	0.2	0 51	B.
1415	" 16	7	52	—	—	0.2	0 39	A.
		7	53	—	—	0.2	2 31	B.

Register from Helwan Observatory, Cairo, Egypt—continued.

No.	Date	Com-mence-ment		Max.	Max. Ampli-tude	Dura-tion	Remarks
		H. M.	MM.				
1417	Nov. 20	10 34	—	—	0.1	0 24	A.
1418	" 20	13 9	15 4.1	—	0.3	3 29	A. Two quakes?
		13 23	—	—	0.2	3 6	B. " "
1419	" 21	19 44	—	—	0.1	0 46	A.
		19 55	—	—	0.1	0 36	B.
1419a	" 22	20 5	20 10	—	0.1	0 13	B.
		20 10	—	—	0.1	0 11	A.
1421	" 22	23 26	—	—	0.2	2 57	A.
		23 28	—	—	0.2	2 23	B.
1424	" 28	16 4	—	—	0.2	2 43	A.
		16 26	—	—	0.2	2 32	B.
1425	" 29	5 32	—	—	0.1	2 26	A.
		5 52	—	—	0.1	1 54	B.
1429	" 30	10 51	—	—	0.3	2 41	A.
		11 1	12 2.6	—	0.3	2 22	B.
1430	" 30	23 54	23 59.5	—	0.6	0 22	B.
		23 53	—	—	0.2	0 26	A.
1432	Dec. 2	4 42	—	—	0.2	1 17	A. com. for B. 4.38.
1438	" 3	12 32	13 6	—	0.2	1 24	A.
		12 31	—	—	0.2	1 27	B.
1439	" 4	14 55	—	—	0.2	1 30	A. d. for B. 82m.
1441	" 6	8 54	—	—	0.1	0 7	A. d. for B. 5m.
1442	" 6-7	23 28	0 11.8	—	0.9	2 31	A.
		23 29	0 9.8	—	0.6	2 38	B.
1443	" 7	3 6	3 11	—	0.2	0 13	A.
		3 3	3 9	—	0.3	0 20	B.
1444	" 7	15 29	—	—	0.1	0 8	A.
		15 30	—	—	0.1	0 7	B.
1446	" 11	11 15	11 41.7	—	1.4	3 41	A.
		11 20.8	11 43.1	—	0.8	3 30	B.
			12 1	—	0.8		
1448	" 13	9 13	9 34	—	0.5	1 20	A.
		9 13	9 33	—	0.4	1 27	B.
1449	" 13	22 56	—	—	0.2	2 29	A.
		23 8	—	—	0.2	1 53	B.
1450	" 14	21 42	—	—	0.1	0 12	A. only.
1453a	" 15	21 58	—	—	0.1	0 9	A. only.
1454	" 16	19 29.6	19 44.4	—	1.5	4 26	A. P ₂ 19-34.4.
			20 29.0	—	1.4		
			20 52.6	—	1.1		
		19 30	19 45	—	0.7	4 12	B. P ₂ 19-35.
			20 24.4	—	0.8		
			20 47.2	—	0.7		
1457	" 20	6 7.2	6 58.1	—	0.6	3 24	A. P ₂ 6-14.
		6 2	6 58.1	—	0.5	3 25	B. P ₂ 6-7.2; P ₃ 6-13.8.
1461	" 21	13 13	—	—	0.2	0 41	A.
		13 9	—	—	0.2	0 53	B.
1462	" 21	3 27	—	—	0.1	0 46	A.
		3 29	—	—	0.1	0 38	B.
1465	" 22	13 15	14 13.8	—	0.3	2 20	A.
		13 22	—	—	0.2	2 7	B.
1466	" 23	18 37	—	—	0.1	0 55	A.
		18 26	—	—	0.1	0 53	B.
1467	" 23	21 35	—	—	0.3	2 49	A.
		21 34	—	—	0.3	2 52	B.
1469	" 25	8 45	—	—	0.1	2 49	A.
		8 48	—	—	0.1	2 37	B.
1470	" 25	17 18	—	—	0.1	0 52	A.
		17 32	—	—	0.1	0 39	B.
1472	" 26	12 37	—	—	0.2	0 20	A. only.
1478	" 29	15 52	16 35.5	—	0.4	3 12	A.
		15 47	16 37.6	—	0.3	3 3	B.

Register from Helwan Observatory, Cairo, Egypt—continued.

No.	Date	Com-mence-ment		Max.	Max. Ampli-tude	Dura-tion	Rem rks
		H. M.	MM.				
1480	Dec. 30	5 58	—	—	0.1	1 30	B.
1482	" 30	15 48	—	—	0.1	0 5	A. d. for B. 7m.
1483	" 31	6 6	—	—	0.3	3 30	A.
		6 16	—	—	0.3	3 47	B.
1485	" 31	14 47	—	—	0.1	0 5	B.
1486	" 31	15 25	—	—	0.1	0 25	A.
		15 27	—	—	0.1	0 13	B.

Register from Royal Observatory, Cape of Good Hope. 33°56'S. 18°28'E.
Director, S. S. HOUGH, M.A., F.R.S.

No.	Date	Com-mence-ment		Max.	Max. Ampli-tude	Dura-tion	Remarks
		H. M.	MM.				
1911							
771	July 1	23 20.0	H. M. 23 28.5	—	M.M. 0.2	H. M. 0 18	—
772	" 2	—	15 6.0	—	0.1	0 2	—
773	" 4	13 45.7	14 21.9	—	0.8	1 10	—
774	" 5	2 54.6	3 1.6	—	0.3	0 24	—
775	" 5	—	19 5.6	—	0.2	0 3	—
776	" 8	—	17 21.8	—	0.3	0 3	—
777	" 11	—	22 38.0	—	0.2	0 5	—
778	" 12	4 26.4	5 7.4	—	3.0	2 40	—
779	" 19	—	11 1.4	—	0.3	0 35	—
780	" 23	16 34.4	16 38.8	—	3.4	0 44	—
781	" 29	—	10 14.1	—	0.3	0 3	—
782	Aug. 16-17	22 59.5	23 57.5	—	0.9	3 6	—
			0 25.7	—	1.0		
			0 44.5	—	1.1		
			0 49.7	—	1.1		
783	" 21	16 56.1	17 5.1	—	0.5	1 33	—
784	" 23	16 17.7	16 26.9	—	0.6	1 0	—
785	" 29	7 10.0	7 13.0	—	0.4	0 10	—
786	Sept. 9	—	0 9.3	—	0.2	0 18	—
787	" 15	13 20.5	13 52.5	—	1.4	2 51	—
788	" 17	4 2.3	5 5.8	—	1.9	2 47	—
789	" 22	6 16.1	6 26.1	—	0.3	0 37	—
790	Oct. 6	10 48.2	11 6.2	—	0.6	0 53	—
791	" 10	13 49.8	14 10.3	—	0.5	0 42	—
792	" 13	3 45.6	3 59.8	—	0.5	1 1	—
793	" 13	—	9 58.6	—	0.2	0 18	—
794	" 14	—	7 37.5	—	0.2	0 3	—
795	" 14	13 46.5	13 52.5	—	0.5	0 39	—
796	" 14	17 58.5	18 12.5	—	0.2	0 31	—
797	" 15	0 4.4	0 11.4	—	0.5	0 29	—
798	" 17	10 21.2	10 26.2	—	0.2	0 25	—
799	" 17	—	13 18.2	—	0.2	0 14	—
800	" 19	—	2 12.1	—	0.1	0 3	—
801	" 19	—	9 24.1	—	0.2	0 4	—
802	" 19	—	10 39.1	—	0.2	0 5	—
803	" 29	19 10.0	19 22.0	—	0.2	0 34	—
804	Nov. 1	10 22.4	10 34.0	—	0.4	0 20	—
805	" 2	—	12 12.2	—	0.4	0 2	—
806	" 13	17 36.3	17 50.8	—	0.5	0 36	—

Register from Royal Observatory, Cape of Good Hope—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
807	Nov. 14	H. M.	H. M.	MM.	H. M.	—
808	" 28	16 44.2	16 48.7	0.3	0 19	—
809	Dec. 2	—	4 57.0	0.3	0 3	—
810	" 6	23 31.5	23 50.3	0.5	1 6	—
811	" 11	11 42.6	12 7.9	0.5	1 46	—
812	" 13	23 36.4	23 42.0	0.3	0 9	—
813	" 16	19 35.2	20 24.7	0.9	2 29	—
814	" 20	6 38.4	7 36.6	0.6	1 22	—
815	" 23	22 2.6	22 11.4	1.0	0 25	—
816	" 31	7 9.0	7 12.0	0.2	0 13	Approximate times, watch stopped.
Imm. Boom Motion = 0°.18. Boom period, 20secs.						

Register from Ascension Island. 7°57'S. 14°21'W.
F. MARX, Supt. Eastern Telegraph Co.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1911						
35	July 6	H. M.	H. M.	MM.	H. M.	—
36	" 6	18 37	18 42	1.0	0 16	—
37	" 8	23 7	23 8	0.5	0 11	—
38	" 12	17 8	17 16	0.5	1 34	—
		4 20	4 51	1.5	2 30	—
			5 34	1.5	—	—
39	" 23	16 49	—	—	0 43	—
40	" 30	8 53	—	—	3 27	—
41	Aug. 16	23 1	23 32.5	1.2	—	—
42	" 17	—	0 50.5	3.5	—	—
43	" 19	3 17	—	—	0 25	—
44	" 20	9 5	—	—	0 30	—
45	" 20	10 17	—	—	3 43	—
46	" 23	16 4.5	16 11	5.5	2 1	—
47	" 24	18 44	—	—	1 20	—
48	" 30	14 12	—	—	2 0	—
49	Sept. 6	12 25	—	—	0 17	—
50	" 15	13 19.5	13 47.5	4.0	1 27	P ₂ 13-28.5.
51	" 17	*4 33	*4 59	5.0	1 24	P ₂ *4-42. * ? 3h.
52	" 25	8 57	—	—	0 14	—
53	" 27	14 2	—	—	0 12	—
54	Oct. 2	16 57	—	—	0 5	—
55	" 10	13 50	—	—	0 21	—
56	" 13	16 30	—	—	0 12	—
57	" 16	6 49	—	—	0 3	—
58	" 19	9 2	9 2.5	4.0	0 28	—
59	" 19	10 19	10 20	5.0	1 17	—
60	Nov. 20	12 56	12 57	4.5	0 34	—
61	Dec. 16	13 22	13 23	1.0	0 14	—
Period: July, 17.5secs. Imm. = 0°.28. Aug., 18.8secs. Imm. = 0°.28. S ^e pt., 18.7secs. Imm. = 0°.38. Nov., 19secs. Imm. = 0°.28.						

Register from Fernando Noronha. 3°50'S. 32°25'W.
Superintendent, C. E. HOLMES.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1911						
24	July 3	H. M.	H. M.	MM.	H. M.	—
25	" 3	—	20 1.0	0.2	—	—
26	" 4	13 42	13 57.2	0.6	—	—
			14 38.2	1.2	4 30	—
27	" 11	22 3	22 32.2	0.2	2 0	—
28	" 12	4 52	5 4.2	1.0	—	—
			5 19.5	1.5	—	—
			6 3.7	1.5	—	—
			6 17.0	2.2	—	—
			6 26.5	2.2	—	—
			8 21.0	0.5	—	—
29	" 23	16 35.5	17 4.7	1.0	3 30	End at 9h.30m.
30	" 29	9 53	10 7.5	1.5	—	—
			10 15.0	1.0	3 0	Slight. Ats. whole day and night.
31	" 29	—	15 0.0	0.1	—	—
32	" 29	—	15 42.0	0.1	—	—
33	" 29	—	16 55.0	0.1	—	—
34	" 29	—	18 47.0	0.2	—	—
35	Aug. 16-17	23 7.2	23 14.0	1.0	—	—
			23 39.0	1.5	—	—
			23 51.0	1.5	—	—
			0 34.0	5.0	5 0	Another max. 0h. 46m., a.=5mm.
36	" 17	12 23	12 44.5	0.1	1 3	—
37	" 23	16 19.5	16 23.5	1.5	2 33	—
38	" 29	6 41.5	7 3.5	2.6	1 45	P ₂ 6-48.5.
39	Sept. 15	13 16.5	13 18.7	2.5	—	—
			13 34.5	11.0	3 45	—
40	Oct. 6	10 10	10 52.0	1.5	4 0	Slight Ats. whole day and night.
41	" 10	—	8 15.0	0.1	—	—
42	" 10	—	9 18.0	0.1	—	—
43	" 10	—	12 31.5	0.1	—	—
44	" 10	—	13 11.5	0.1	—	—
45	" 10	13 28	13 52.5	4.0	3 10	P ₂ 13h.33.5m.
46	" 29	—	1 6.0	0.1	—	—
47	" 29	18 20.5	18 53.5	1.3	2 55	P ₂ 18h.30.5m.
48	Dec. 6-7	23 10.5	23 31.5	7.5	>3 0	P ₂ 23h.18m. End in Ats.
49	" 16	19 23.7	19 51.5	1.6	—	P ₂ 19h.32m. End lost by changing paper.
			19 58	2.0	—	—
			20 1.5	2.2	—	—
Pendulum period, 16secs.						

Register from Make, Seychelles, Indian Ocean. 4°5'S. 55°5'E.
Superintendent, A. J. BESLY. Assistant, G. E. ATKINSON.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1911						
12	July 4	H. M. 13 48	H. M. 13 52	MM. 1.5	H. M. 0 24	—
14	" 7	—	5 36	0.5	—	—
16	" 12	4 20	4 53	4.5	1 20	End uncertain.
17	" 16	6 28	—	1.0	0 10	—
20	" 23	16 45	—	0.5	0 15	—
28	Aug. 16-17	22 53	23 44	1.5	3 7	—
29	" 18	7 36	—	0.8	0 12	—
30	" 23	16 42	—	1.0	0 18	—
33	Sept. 15	13 41	14 29	1.0	—	End lost in Afs.
34	Oct. 6	11 24	11 40	1.0	0 26	—
35	" 7	16 31	—	0.5	0 13	—
38	Nov. 13	17 0	17 23	1.0	0 38	—
40	Dec. 2	4 30	—	1.0	0 7	—
41	" 7	0 19	—	—	0 15	—
42	" 11	11 21	11 25	1.2	1 6	—
44	" 16	19 37	21 0	2.0	2 8	? Two quakes.
45	" 30	4 24	—	—	0 10	—
46	" 31	6 34	—	0.5	1 0	—
Period, 17secs. 1° turn of calibrating screw = 5mm.						

Register from Toronto, Ont. 43°39'N. 79°23'W.
Director, R. F. STUPART, F.R.S.C.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1911						
1020	July 1	H. M. 22 17.1	H. M. 22 22.5	MM. 3.0	H. M. 1 0.5	California. V ₂ 22-20.
1021	" 4	13 57.3	14 13.4	0.4	1 10.8	L.W. at 13-58.5. In- crease of movement at 14-46.3.
1022	" 11	22 44.1	—	0.05	0 1.4	—
1023	" 11	22 48.6	—	0.05	0 2.8	—
1024	" 12	4 28.8	4 42.2	0.3	2 29.1	—
1025	" 13	21 51.8	21 54.2	0.05	0 3.0	—
1026	" 19	10 26.0	10 31.6	0.2	0 41.6	—
1027	Aug. 10	5 24.6	5 26.3	0.15	0 4.7	Swelling.
1028	" 16	23 1.6	—	—	—	—
		or	—	—	—	—
		23 5.5	23 42.7	2.0	3 1.8	—
1029	" 21	16 53.1	16 54.7	0.3	0 45.5	—
1030	" 27	11 12.4	11 14.9	0.8	0 22.7	Began suddenly.
1031	" 29	3 58.6	4 2.2	1.0	0 20.0	Small.
1032	Sept. 6	1 3.2	—	—	—	Slight thickenings.
		or	—	—	—	Afs. before begin- ning.
		1 16.4	1 19.4	0.15	0 40.6	—

Register from Toronto, Ont.—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1033	Sept. 13	H. M. 3 23.5	H. M.	MM.	H. M.	—
		or	—	—	—	—
1034	" 15	3 28.5	3 34.0	0.5	0 52.2	Vibrations increased quickly at 13h.
		13 17.0	—	—	—	29.8m.
		or	—	—	—	—
1035	" 17	13 20.6	13 30.8	0.8	1 36.8	—
1036	" 20	3 38.7	4 12.0	4.9	2 53.3	—
		5 38.0	—	—	—	—
		or	—	—	—	—
1037	" 22	5 40.0	5 43.0	0.2	0 55.0	—
1038	" 22	5 16.0	5 27.8	0.7	1 4.3	Alaska.
1039	Oct. 6	6 31.8	—	0.1	0 2.2	—
		10 21.8	10 35.2	5.5	3 28.8	L.W. 10h. 26.4m. Moderate. Port Au Prince, Hayti. L.W. 13h. 27.3m. V ₃ 13h. 29.7m. Sudden decrease in ampli- tude after L.W.; cigar shaped max.
1040	" 10	13 24.7	13 31.8	7.7	1 24.0	Tidal wave and earth- quake reported from Gulf of California, east side.
1041	" 13	3 3.5	3 32.3	0.5	1 49.2	—
1042	" 14	12 57.8	13 15.5	0.4	1 2.6	—
1043	" 14	16 56.0	17 15.5	1.5	1 43.5	Small.
1044	" 15	0 26.8	0 28.6	0.1	0 19.0	—
1046	" 15	23 50.7	—	0.05	0 10.7	Not well defined.
1047	" 16	0 10.0	0 14.0	0.2	0 40.6	—
1048	" 17	10 17.6	10 59.2	0.2	1 01.1	Extended thickenings.
1049	" 20	18 13.0	18 44.0	0.15	1 22.0	No decided max.
1050	" 26	14 29.8	14 35.2	2.0	0 36.7	L.W. at 14h. 34.2m.; cigar shaped.
1051	" 29	18 10.3	18 39.5	0.5	1 36.7	Prolonged L.W.
1052	Nov. 1	9 41.3	9 46.2	0.4	0 44.7	Earthquake reported from Nicaragua 3h. 40m.
1053	" 7	6 12.8	—	0.05	0 1	—
1053	" 13	—	17 0.1	1.1	—	Beginning and end lost in air tremors.
1054	" 18	7 46.4	7 58.0	1.0	1 29.1	—
1055	" 19	15 4.0	—	0.1	—	—
1056	" 20	13 36.0	—	—	0 3.0	—
1057	" 20	—	14 10.4	1.7	0 52.8	Earthquake reported from St. Thomas, West Indies, 10-4 G.M.T.
1058	" 21	18 52.4	18 52.9	0.3	0 8.2	—
1059	" 22	10 26.7	—	0.2	0 6.5	—
1060	" 25	19 33.3	19 49.0	—	—	—
		or	—	—	—	—
		19 39.5	19 50.8	0.5	1 0.6	P.T.'s continued for a long time.
1062	Dec. 2	4 3.3	4 5.3	0.1	0 44	—
1063	" 4	15 4.1	15 8.1	0.3	0 22	—
		15 12.6	—	—	—	—
1064	" 6	23 20.9	23 36.8	0.3	1 07.6	With Afs.
1065	" 16	19 21.1	19 41.0	10.1	3 15.0	Mexican earthquake. First shock reported in Mexico City at 12-40. V ₂ 19-25.5. V ₃ 19-28.8.

Register from Toronto, Ont.—continued.

No.	Date	Com-mence-ment		Max.		Max. Ampli-tude	Dura-tion	Remarks
		H. M.	H. M.	H. M.	H. M.			
1066	Dec. 20	6 2.8	6 39.3	0.8	1 59.8	L.W. 6h.9.9m. Conspicuous for long duration of L.W. Increase of movement at 6h.58.7m. Another earthquake		
1067	" 22	13 7.0	13 17.8	0.8	1 9	No well defined max.		
1068	" 23	20 3.4	20 3.7	0.2	0 5	Began suddenly.		
1069	" 23	21 19.4	21 25.9	0.7	1 19	Earthquake reported from Nicaragua.		
1070	" 29	15 49.8 or 15 57.4	16 21.4 or 16 24.0	0.2	1 54	Beginning doubtful.		
1071	" 31	6 55.8	7 14.0	0.05	0 18.2	Very slight thickening.		
Period, July-August, 14.8secs. Sept.-Dec., 14.7secs. 1mm.=0°.64.								

Register from Victoria, B.C. 48°23'N. 123°19'W.
 Superintendent, E. BAYNES REID.

No.	Date	Com-mence-ment		Max.		Max. Ampli-tude	Dura-tion	Remarks
		H. M.	H. M.	H. M.	H. M.			
1911								
1039	July 1	22 5.2	22 8.2	3.0	1 5.4	California.		
1040	" 4	13 58.2	14 5.4	0.2	0 50.8	P.T.'s marred by local tremors.		
1041	" 12	4 20.8	4 33.8	1.1	2 16.9	V ₂ 4-24.1.		
1042	" 19	10 23.6	4 53.4	0.2	0 12.6	—		
1043	Aug. 16	22 53.7	23 30.5	1.2	1 52.2	V ₂ 22-58.6.		
1044	" 21	16 42.4	16 43.3	0.1	0 4.2	—		
1045	" 21	16 50.7	16 50.7	1.0	1 9.3	Began suddenly; marked cessation of L.W. at 16-56.7.		
1046	" 27	11 22.6	11 26.4	0.3	0 10.2	—		
1047	Sept. 6	1 13.0	1 20.6	0.2	0 26.1	—		
1048	" 13	3 7.0	3 18.4	0.5	0 26.3	—		
1049	" 15	—	13 26.6	—	—	—		
1050	" 17	3 31.3 or 3 35.3	3 55.5	4.9	2 26.7	L.W. at 3-40.9 and 3-43.3.		
1051	" 20	5 24.6	5 30.5	0.3	0 32.1	Thickening increased at 5h. 36.2m.		
1052	" 22	5 5.9	5 11.7	0.9	0 59.1	Alaska.		
1053	" 22	6 23.3	—	0.05	0 1.2	—		

Register from Victoria, B.C.—continued.

No.	Date	Com-mence-ment		Max.		Max. Ampli-tude	Dura-tion	Remarks
		H. M.	H. M.	H. M.	H. M.			
1054	Sept. 29	2 44.6	2 44.8	0.5	0 3.7	Felt in Victoria.		
1055	Oct. 6	10 35.6	—	—	—	—		
1056	" 10	10 36.4	10 53.1	1.4	1 17.6	Port-au-Prince, Hayti		
1057	" 13	13 29.6	13 54.7	1.1	1 23.7	—		
	" 13	2 48.6	3 7.1	0.5	1 24.9	Tidal wave and earthquake east side of Gulf of California.		
1058	" 14	12 41.8	—	—	—	Increase of thickening at 13-12.3.		
	" 14	12 51.3	13 14.0	0.4	1 23.4	—		
1059	" 14	16 44.3	17 5.7	1.0	1 30.8	—		
1060	" 15	0 27.1	0 31.7	0.1	0 9.0	—		
1061	" 15	23 47.9	—	0.2	0 10.8	—		
1062	" 16	0 7.8	—	0.1	0 5.4	—		
1063	" 17	10 5.1	—	0.05	0 34.5	—		
1064	" 20	18 5.4	18 12.9	0.3	0 49.6	—		
1065	" 29	18 23.2	18 35.7	1.2	0 20.2	—		
1066	Nov. 1	9 46.9	10 9.0	0.4	0 47.9	Earthquake reported from Nicaragua.		
1067	" 13	16 25.7	16 48.9	0.8	1 51.4	—		
1068	" 18	7 39.8	7 55.9	1.3	1 7.7	—		
1069	" 19	14 45.0	14 46.0	1.3	0 10.4	—		
1070	" 20	13 44.3	—	0.05	0 2.2	—		
1071	" 20	14 4.1	14 22.5	0.8	1 22.2	Two small shocks felt in St. Thomas and adjacent islands.		
1072	" 21	18 48.9	—	0.05	0 4.7	—		
1073	" 25	19 44.6	19 46.0	0.3	0 5.7	—		
1074	Dec. 2	4 1.0	4 2.5	1.2	0 13.2	—		
1075	" 4	15 3.9	15 6.6	0.4	0 18.4	—		
1076	" 6	23 24.0	—	0.1	0 11.0	—		
1077	" 6	23 45.5	23 54.2	0.4	0 46.4	—		
1078	" 16	19 21.7	19 36.1	>25.0	2 37.4	V ₂ 19-25.8. Mexican earthquake. V ₃ 19-27.9.		
1079	" 17	3 15.5	3 19.7	0.2	0 6.2	—		
1081	" 20	5 58.3	6 4.3	0.3	—	Apparently several earthquakes.		
1082	" 20	—	6 20.5	0.5	1 48.2	V ₃ 6-13.5.		
1083	" 22	13 7.6	13 18.3	1.2	0 57.0	L.W.'s came in abruptly.		
1084	" 23	20 1.0	—	0.1	0 6.0	—		
1085	" 23	21 20.8	21 48.2	0.3	1 29.5	Felt at Nicaragua: V ₃ 21-29.8.		
1086	" 29	15 43.3	15 59.6	0.2	1 04.6	Marked thickenings.		
Period, 15secs.						1mm.=0°.76.		

Register from Alipore Observatory, Calcutta. 22°32'N. 88°20'E.
Director, J. H. FIELD, M.A.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1911						
780	July 4	H. M. —	H: M. 13 42.0	MM. 11.5†	H. M. 1 39.6	P ₃ 13h.37.9m. † Measured from base line.
781	" 5	†	2 28.7	2.7	1 3.5	P ₃ 2h.27.1m. † Begins with morning Ats.
782	" 5	18 46.6	19 5.9	1.0	1 2.0	P ₃ 18h. 54.2m.
783	" 10	17 49.0	—	0 7.1	0 7.1	Thickening of line.
784	" 12	3 31.8	4 32.7	16.5†	5 33.8	P ₃ 4h.17.1m. † Measured from base line.
785	" 19	20 29.9	20 53.8	0.7	1 24.4	P ₃ 20h. 37.5m.
786	" 29	10 21.2	—	—	1 3.1	Thickening of line.
787	Aug. 8	14 43.1	14 56.8	0.5	0 36.1	P ₃ 14h.54.8m.
788	" 8	18 33.7	18 57.7	0.5	0 44.3	—
789	" 16	—	23 10.0	7.0†	46.0	P ₃ 22h.49.6m. † Measured from base line.
790	" 21	16 52.7	17 4.4	0.5	0 58.5	—
791	" 23	16 55.1	17 12.9	0.7	0 35.6	P ₃ 16h.57.2m.
792	" 25	3 47.6	3 58.2	0.7	0 22.8	P ₃ 3h.56.7m.
793	Sept. 6	0 20.1	1 57.5	1.0	1 43.1	P ₃ 1h.15.0m.
794	" 8	23 2.0	23 23.3	0.5	0 45.1	—
795	" 13	3 49.9	3 55.0	0.5	0 23.4	—
796	" 15	13 24.0	14 44.3	1.5	2 4.5	P ₃ 14h.38.7m.
797	" 17	3 47.9	4 17.9	3.0	2 55.4	P ₃ 4h.6.2m.
798	" 18	13 48.5	13 53.6	0.5	0 23.9	—
799	" 20	5 20.9	—	—	0 46.3	Thickening of line.
800	" 21	7 31.6	7 54.9	0.5	0 40.7	—
801	" 22	5 24.5	6 0.6	1.2	1 3.6	P ₃ 5h.47.9m.
802	" 26	14 13.0	14 18.1	2.0	0 38.7	—
804	Oct. 5	5 43.1	6 28.0	1.5	1 8.3	—
805	" 6	11 30.3	11 44.6	0.7	0 59.0	—
806	" 10	14 29.8	—	—	0 48.8	Thickening of line.
807	" 13	2 40.9	3 10.4	1.5	0 41.7	P ₃ 3h.6.3m.
808	" 14	6 41.5	6 47.6	0.5	0 24.9	—
809	" 14	12 44.0	13 8.0	1.7	1 19.9	P ₃ 12h.59.8m.
810	" 14	16 42.9	17 17.5	0.7	1 19.3	P ₃ 17h.13.9m.
811	" 14	23 28.2	23 32.2	16.5†	?	† Measured from base line. * Ends in morning Ats.
812	" 15	12 19.3	—	—	1 31.5	Thickening of line.
813	" 17	12 22.0	12 30.6	0.7	0 37.1	—
814	" 29	19 31.3	—	—	0 50.2	Thickening of line.
815	" 30	13 25.0	13 27.0	1.0	0 11.2	—
816	Nov. 1	10 19.4	11 8.7	0.5	1 14.7	—
817	" 8	14 30.4	14 44.1	1.7	1 2.0	P ₃ 14h. 39.1m.
818	" 9	4 42.8	—	—	0 32.0	Thickening of line.
819	" 13	16 28.4	16 55.3	5.5†	1 41.6	P ₃ 16h. 36.0m. † Measured from base line.
820	" 20	15 15.5	—	—	0 43.3	Thickening of line.
821	" 21	19 36.4	19 43.0	0.5	0 21.3	—
822	" 22	19 46.7	—	—	0 5.5	Thickening of line.
823	" 23	23 25.9	23 28.5	0.7	0 10.7	22nd ?
824	Dec. 2	4 10.6	4 43.6	0.7	0 43.2	P ₃ 4h. 41.1m.
825	" 4	15 16.4	15 22.0	0.7	0 19.3	P ₃ 15h. 18.4m.
826	" 7	14 57.0	14 57.0	4.0†	0 10.2	† Measured from base line.
827	" 11	11 7.3	11 15.5	7.0†	2 18.3	P ₃ 11h. 10.9m. † Measured from base line.
828	" 13	8 56.1	9 8.8	1.7	0 51.9	P ₃ 9h. 6.8m.

Register from Alipore Observatory, Calcutta—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
829	Dec. 16	H. M. 19 37.0	H. M. 20 46.7	MM. 4.5*	H. M. ?†	P ₃ 20h. 29.4m.* Measured from base line. † End in morning Ats.
830	" 20	6 0.9	6 41.6	1.7	1 22.9	P ₃ 6h. 32.4m.
831	" 29	15 45.0	—	—	1 4.1	Thickening line
832	" 31	6 23.4	6 47.3	0.7	1 12.7	—
Period of double swing of the pendulum is 18 seconds. Sensibility 1mm. = 0°.38 of tilt.						

Register from Government Observatory, Bombay. 18°53'N. 72°48'E.
Director, N. A. F. MOOS.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1911						
309	June 30	H. M. 23 20	H. M. —	MM. —	H. M. 1 20	Thickening of line.
319	July 4	1 25	—	—	0 25	" "
321	" 4	13 37.3	13 41.4	4.4	1 48	" "
322	" 5	2 20.1	2 24.1	1.2	0 17	—
325	" 5	18 50	18 56.4	0.4	0 40	—
339	" 10	18 10	—	—	1 0	Thickening of line.
342	" 12	4 16.5	4 42.9	6.5	2 36	—
344	" 14	2 20.5	—	—	—	Thickening of line.
347	" 19	20 39.8	20 57.5	0.5	0 28	—
349	" 22	4 40	—	—	1 30	Thickening of line.
355	" 30	4 55	—	—	—	" "
361	Aug. 3	14 40	—	—	0 40	" "
362	" 4	3 10	—	—	1 0	" "
363	" 4	4 30	—	—	—	" "
372	" 6	14 57	—	—	—	" "
387	" 16	22 52.3	23 25.6	2.7	—	End lost in next quake.
388	" 17	—	1 30.2	1.0	—	Beginning lost in previous quake.
393	" 18	3 29.2	3 30.2	0.3	0 9	—
398	" 21	16 55.8	17 9.3	0.2	1 8	—
399	" 22	6 10.8	—	—	—	Thickening of line.
400	" 23	14 40	—	—	0 45	" "
401	" 23	16 55.5	16 56.5	0.3	0 19	" "
407	" 29	4 20	—	—	1 30	Thickening of line.
408	" 29	7 25	—	—	0 45	" "
416	Sept. 1	23 0	—	—	0 50	" "
426	" 6	1 13.2	1 17.3	0.2	0 24	—
428	" 8	23 23.3	23 30.4	0.4	0 1	—
430	" 8	4 0	—	—	0 5	Thickening of line.
432	" 13	13 39.8	14 35.3	1.0	1 48	—
433	" 16	10 47.2	—	—	—	Thickening of line.

Register from Government Observatory, Bombay—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
434	Sept. 17	H. M. 3 44.9	H. M. 4 16.4	MM. 3.6	H. M. 2 54	—
439	" 20	5 52.9	—	—	—	Thickening of line.
440	" 21	5 52	—	—	—	" "
442	" 22	5 53.6	5 54.8	0.4	0 27	" "
444	" 26	14 16.6	14 23.7	0.4	0 23	" "
447	Oct. 6	11 28.8	11 41.2	0.4	0 48	" "
449	" 13	3 10.6	3 19.1	0.3	0 26	" "
450	" 14	6 48.7	6 55.7	0.6	0 15	" "
451	" 14	13 3.7	13 11.4	1.1	0 21	" "
452	" 14	23 29.1	23 31.2	14.8	0 37	" "
453	" 15	12 28.5	12 36	0.6	0 24	" "
454	" 16	6 12.5	—	—	—	Thickening of line.
457	" 17	10 20.3	—	—	—	" "
459	" 17	12 8.1	12 38.7	0.9	1 24	" "
462	" 20	23 57.8	—	—	—	Thickening of line.
465	" 23	1 10	—	—	—	" "
468	Nov. 1	10 52.1	—	—	0 33	" "
473	" 8	14 3.6	—	—	—	" "
474	" 9	5 8	—	—	—	" "
476	" 13	16 36.1	17 0.8	5.7	1 6	" "
480	" 22	23 40	—	—	—	" "
481	" 30	23 44.3	23 45	0.4	0 5	" "
485	Dec. 11	11 11.6	11 18	1.4	1 5	" "
488	" 13	9 3.3	9 9.8	0.5	0 13	" "
492	" 16	19 35.9	20 43.4	3.3	2 18	" "
497	" 20	6 19.2	6 46.4	1.4	0 53	" "
504	" 29	16 18.2	16 23.3	0.3	0 15	" "
507	" 31	6 28.4	6 53.2	0.4	0 44	" "

Period of Pendulum, 19secs.
July 1-18, 1mm.=0°.41.
July 19-Dec. 31, 1mm.=0°.40.

Register from the Solar Physics Observatory, Kodaikanal, Madras.
10°14'N, 77°27'E.
Director, J. EVERSLED.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1911						
43	July 4	H. M. 13 39	H. M. 13 48.5	MM. 5.0=1.9	H. M. 1 35	P ₃ 13-43.3
44	" 5	2 17.2	2 31.8	0.7=0.3	1 7	P ₃ 2-29
45	" 5	18 51	—	—	0 51	Widening of line.
46	" 8	2 32	—	—	0 43	" "
47	" 12	4 17.2	4 42.8	12.0=4.9	5 10	" "
47	" 10	10 29	—	—	1 12	P ₃ 10-29.7
48	" 8	14 58.6	—	—	0 18	Widening of line.
49	" 8	18 38.1	—	—	0 23	" "
50	" 16-17	22 52.4	23 20.3	6.8=2.6	3 51	P ₃ 22-59.5

Register from the Solar Physics Observatory, Kodaikanal, Madras—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
52	Aug. 18	H. M. 3 10.7	H. M. —	MM. —	H. M. 0 28	Widening of line.
53	" 21	16 47.3	—	—	1 27	" "
54	" 23	16 45.8	—	—	0 37	" "
55	Sept. 15	13 40.6	14 46.3	0.5=0.2	1 48	P ₃ 13-53.1
56	" 17	3 52.2	4 25.9	1.0=0.6	2 50	P ₃ 4-19.1
57	" 20	5 49.8	—	—	0 23	Widening of line.
58	" 22	5 34.1	5 58.5	0.8=0.3	1 1	P ₃ 5-55.9
59	" 26	14 21.6	—	—	0 22	Widening of line.
60	Oct. 6	9 25.9	9 43.3	0.6=0.2	1 1	P ₃ 9-39.2
61	" 10	14 41	—	—	0 50	Widening of line.
62	" 13	2 56.1	3 25.4	1.0=0.4	1 19	P ₃ 3-22.8
63	" 14	6 42.2	—	—	0 37	Widening of line.
64	" 14	12 48	13 18	0.7=0.2	1 34	P ₃ 13-17.5
65	" 14	16 59	17 31	0.5=0.2	1 3	P ₃ 17-30.
66	" 14-15	23 32.8	23 35.9	>17.0	1 8	P ₃ 23-34.6
67	" 16	0 34.1	—	—	0 21	Widening of line.
68	" 17	12 14.9	—	—	0 50	" "
69	" 21	0 7.4	—	—	0 56	" "
70	" 24	0 45.3	—	—	0 26	" "
71	" 29	19 33.6	—	—	0 35	" "
72	Nov. 1	10 52	—	—	0 37	" "
73	" 10	—	4 50.3	0.5=0.2	—	End at 5h.5m.
74	" 11	3 16.2	4 52.1	0.6=0.2	0 11	P ₃ 3-18.3
75	" 11	3 43.0	3 18.8	0.5=0.2	0 10	P ₃ 3-44.8
76	" 13	16 36.1	17 7.8	1.8=0.7	1 26	P ₃ 17-2.3.
77	" 18	8 54	—	—	0 47	Widening of line.
78	" 20	15 16	15 28.7	0.5=0.2	0 30	—
79	" 21	19 41.6	—	—	0 18	Widening of line.
80	" 22-23	23 18.3	—	—	1 3	" "
81	" 28	16 4.9	—	—	0 48	" "
82	" 30	11 7.8	—	—	0 45	" "
83	" 30	—	23 49.4	0.4=0.2	—	End at 24h. P ₃ 23-48.4.
84	Dec. 2	?	4 32	0.6=0.2	—	P ₃ 4-31.3. End at 4-42.
85	" 7	0 22.8	0 25.9	0.4=0.2	0 52	—
86	" 7	15 5.2	—	—	0 11	Widening of line.
87	" 11	11 6.2	11 13.2	2.2=0.8	2 17	P ₃ 11-10.1.
88	" 13	9 3.2	—	—	0 27	Widening of line.
89	" 13	23 8.3	—	—	0 36	" "
90	" 16	19 38.2	20 42.6	2.9=1.0	2 33	P ₃ 20-41.8.
91	" 20	6 14.2	6 52.7	1.0=0.4	2 15	P ₃ 6-47.5.
92	" 22	14 20.8	—	—	0 25	Widening of line.
93	" 23	22 33	—	—	0 49	" "
94	" 29	16 22.9	—	—	0 33	" "
95	" 31	6 19	6 33.6	0.6=0.2	1 15	P ₃ 6-32.8.

July 20 and 21, driving clock stopped.
Nov. 3-4, clock not driving.

Register from Colombo Observatory. 6°56'N. 79°50'E.
Acting Superintendent, A. J. BAMFORD.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1911						
164	July 4	H. M. 13 39.6	H. M. 13 51.6	MM. 3.9	H. M. 1 24	—
165	" 5	2 29.2	2 36.5	0.5	0 43	—
165a	" 10	17 48.1	—	—	0 4	—
166	" 11	21 44.5	21 54.0	0.2	0 26	—
167	" 12	4 15.9	4 43.8	5.0	4 21	—
167a	" 13	9 7	—	—	3	—
168	" 14	2 13.5	2 19.0	0.2	0 14	—
169	" 19	10 18.5	10 33.4	0.5	0 52	—
170	" 19	20 33.0	20 53.0	0.2	0 29	—
171	" 23	16 45.5	17 1.8	0.2	0 31	—
172	Aug. 4	1 26.6	1 27.4	0.2	0 24	—
174	" 16	22 52.8	23 22.0	2.8	3 30	—
175	" 21	16 53.4	17 10.8	0.2	0 50	—
176	" 23	16 55.6	16 59.2	0.5	0 27	—
177	" 25	3 53.7	3 55.9	0.5	0 6	—
178	Sept. 15	13 30.5	14 41.0	0.8	0 56	—
179	" 17	4 45.8	5 27.0	1.3	1 45	—
			6 4.8			
180	Oct. 14	23 32.0	23 36.7	9.6	0 40	Position of steady trace shifted 1mm.
181	" 20	18 7.4	18 14.5	0.5	—	Followed by continual small oscillations
182	Nov. 1	10 58.7	11 10.7	0.3	0 23	—
183	" 8	14 53.0	14 57.4	0.3	0 7	—
184	" 13	16 37.1	17 8.1	1.8	1 15	—
186	Dec. 2	4 30.1	4 31.9	0.6	0 5	—
187	" 11	11 8.5	11 11.3	2.7	—	—
188	" 13	9 2.0	9 4.4	1.6	0 25	—
189	" 16	19 35.3	20 53.1	2.5	2 22	—
190	" 20	6 14.2	6 53.4	0.7	0 40	—
192	" 23	22 42.4	22 53.5	0.3	0 27	—
193	" 31	6 24.6	6 32.6	0.6	0 44	Also pronounced Ats.

Period, 17-18secs.
Sensitivity: July-Oct., 1mm.=0°.50.
Nov.-Dec., 1mm.=0°.55.

Register from Cocos, Keeling Islands. 12°12'S. 96°54'E.
Superintendent, C. W. BERNARD; Observer, A. R. VON DER PFORDTEN.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1911						
21	July 12	H. M. 4 18	H. M. 4 32	MM. 12.5	H. M. 1 25	Times unreliable.
22	" 23	—	16 47	0.5	—	Time unreliable.
23	Aug. 16	22 55	23 11.5	3.0	1 30	—
24	" 17	1 21	1 27	1.5	0 26	—
25	" 18	3 13	3 15	1.0	0 23	—

Register from Cocos, Keeling Islands—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
27	Sept. 25	H. M. 8 46	H. M. 8 53	MM. 1.0	H. M. 0 20	—
28	Oct. 6	11 51	11 54	0.8	0 26	—
29	" 17	9 35	9 58	1.5	0 30	—
30	" 20	18 19.5	18 20	2.0	0 45	—
			18 32	1.0		
			18 42	1.7		
			18 47	—		
31	Nov. 13	17 5	17 15	0.6	0 22	—
32	" 16	12 6	12 12	1.5	0 15	—
33	" 20	15 15	15 28	0.8	0 23	—
34	" 22	23 20	23 43	1.0	0 38	—
35	" 28	15 54	16 14	2.0	0 30	—
36	" 30	10 40	10 58	1.0	0 21	—
37	Dec. 11	11 5.5	11 8	3.5	1 21	P ₂ 11-7.5.
			11 22	8.0		
38	" 13	8 59	10 1	1.8	0 12	—
39	" 13	22 58	23 0	1.0	0 15	—
40	" 16	19 36.5	20 5	1.5	—	—
			20 47	—		
			20 54	4.5		
			21 7	1.6		
			21 19	1.6		
41	" 23	22 35.5	22 43	1.5	0 20	—
42	" 31	6 14.5	6 35.5	2.0	0 47	—

Period, 18secs. 1°=8mm.

Register from Perth Observatory, Western Australia. 31°57'S. 115°50'E.
Director, W. E. COOKE, M.A., F.R.A.S.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1911						
15	July 4	H. M. —	H. M. 14 13.4	MM. 1.0	H. M. —	—
16	" 5	2 45.0	—	—	0 50.0	Small tremor.
17	" 5	14 45.2	14 56.0	2.75	1 21.8	—
18	" 19	10 9.8	—	—	3 35.2	Small tremors.
19	" 19	20 35.0	—	—	1 35.7	" "
20	" 23	16 43.7	16 55.0	1.25	1 44.7	" "
21	" 25	4 23.0	—	—	4 15.0	Small tremors.
22	Aug. 16	22 48.0	23 18.0	—	—	Against stops too large to measure.
23	" 21	16 38.9	17 7.5	1.75	1 11.6	—
24	Sept. 12	13 9.0	—	—	0 56.0	Small tremors.
25	" 17	3 53.0	—	—	3 8.5	" "
26	" 24	4 8.0	—	—	0 26.5	" "
27	" 30	23 53.2	—	—	—	Small tremors.
28	Oct. 15	7 40.0	—	—	0 33.0	" "
29	" 17	9 27.3	9 44.7	2.75	1 39.2	" "
30	" 20	17 54.2	18 17.6	3.5	1 25.8	—

Register from Perth Observatory, Western Australia—continued.

No.	Date	Com-mence-ment		Max.		Max. Ampli-tude		Dura-tion		Remarks
		H.	M.	H.	M.	MM.	H.	M.		
31	Nov. 9	4	50.0	—	—	—	0	59.0		Small tremors.
32	" 16	11	49.5	—	—	—	0	57.5		—
33	" 22	23	14.0	23	34.0	1.25	1	16.0		—
34	" 28	15	58.0	16	10.0	2.5	1	2.0		—
35	" 30	10	41.2	10	53.0	2.25	—	—		End undefined owing to visitors.
36	Dec. 11	11	15.0	11	50.5	2.2	2	12.1		—
				12	8.3	2.2				—
37	" 14	22	44.5	22	56.2	2.2	1	16.7		—
38	" 16	19	33.4	20	41.0	3.25	2	40.2		—
39	" 20	6	10.0	7	10.0	1.0	2	27.0		—
40	" 30	9	20.8	9	28.6	1.0	0	31.0		—
41	" 31	6	16.2	6	28.0	5.25	1	8.8		—
		6	32.3			6.0				—

30th Dec., Imm. = 0°.59.

Register from Adelaide Observatory, South Australia. 34°57'S. 138°38'E.
Director, G. F. DODWELL, B.A., F.R.A.S.

No.	Date	Com-mence-ment		Max.		Max. Ampli-tude		Dura-tion		Remarks
		H.	M.	H.	M.	MM.	H.	M.		
1911										
1	July 3	—	—	21	59.8	0.9	—	—		—
2	" 4	9	53.2	—	—	—	—	—		P ₂ 13h.57.0m.
3	" 4	—	—	14	5.2	1.0	—	—		—
4	" 5	2	40.0	2	50.8	2.2	3	0		P ₂ 2h.45.8m.
5	" 5	18	46.2	19	6.4	0.8	1	38		—
6	" 8	1	40.0	1	56.4	0.9	1	44		—
7	" 11	21	23.8	21	39.9	1.3	1	40		P ₂ 21h.33.7m.
8	" 12	4	16.2	4	35.6	9.4	2	45		P ₂ 4h.21.9m.
9	" 19	9	57.1	10	21.6	2.9	2	6		P ₂ 10h.7.8m.
10	" 19	20	31.1	20	48.9	0.55	1	54		P ₂ 20h.35.6m.
11	" 20	—	—	14	44.8	0.5	—	—		—
12	" 23	—	—	17	17.6	0.85	—	—		—
13	" 25	4	7.2	4	23.6	1.0	1	14		—
14	" 27	11	17.0	11	30.8	0.7	1	13		—
15	" 30	14	1.0	14	7.8	0.6	0	42		—
16	Aug. 8	14	52.2	—	—	—	—	—		—
17	" 8	—	—	18	43.2	0.9	—	—		P ₂ 18h.30.7m. Beginning uncertain; mixed with previous tremors.
18	" 16	22	49.8	23	9.2	14.6	4	12.2		P ₂ 22h.51.7m.
19	" 21	?	?	16	54.4	2.7	?	?		P ₂ 16h.36.7m. Beginning mixed with previous tremors.
20	Sept. 5	9	35.2	9	44.4	0.5	0	24		—
21	" 6	0	44.2	1	18.6	0.5	2	17		—
22	" 12	12	46.2	13	8.4	0.75	1	46		P ₂ 13h.0.3m.
23	" 15	—	—	14	12.0	0.6	?	?		—
24	" 17	3	52.4	4	15.0	0.75	3	36		P ₂ 3h.54.6m.

Register from Adelaide Observatory, South Australia—continued.

No.	Date	Com-mence-ment		Max.		Max. Ampli-tude		Dura-tion		Remarks
		H.	M.	H.	M.	MM.	H.	M.		
25	Sept. 24	4	0.6	4	18.0	0.5	1	16		—
26	" 25	—	—	8	31.0	1.0	—	—		—
27	Oct. 13	1	50.2	2	57.0	0.55	3	52		—
28	" 17	9	27.4	9	41.3	1.75	—	—		P ₂ 9h.31.9m.
29	" 20	—	—	18	5.8	2.0	4	2?		P ₂ 17h.56m. Beginning lost in other small tremors.
30	" 24	0	21.2	0	29.7	2.8	1	20		P ₂ 0h.24.5m.
				0	36.8	3.05				—
31	" 27	22	48.4	22	52.8	0.85	0	38		P ₂ 22h.56.5m.
32	Nov. 1	20	54.4	21	1.4	0.5	1	21		—
33	" 9	4	35.8	4	51.7	0.5	0	57		—
34	" 9	9	27.6	9	38.2	0.75	0	41		P ₂ 9h.33.4m.
35	" 11	—	—	17	32.5	0.5	—	—		—
36	" 13	16	36.5	16	57.4	0.75	—	—		—
37	" 16	—	—	11	57.4	0.9	—	—		—
38	" 18	3	3.4	3	28.8	0.5	1	13		—
39	" 19	1	50.7	2	31.5	0.5	—	—		—
				2	45.5					—
40	" 22	23	11.5	23	24.4	2.5	2	31		P ₂ 23h.16.5m.
41	" 28	15	50.7	16	2.0	3.3	5	24		P ₂ 15h.55.4m.
42	" 29	5	55.2	6	1.8	1.0	1	16		P ₂ 6h.0.8m.
43	" 30	10	32.2	10	41.7	9.5	2	20		P ₂ 10h.36.6m.
44	Dec. 3	11	51.4	12	0.8	3.0	1	31		P ₂ 11h.55.4m.
45	" 10	3	22.0	3	31.7	0.5	0	30		—
46	" 11	10	24.0	11	59.3	2.1	3	28		P ₂ 11h.32.0m.
47	" 13	—	—	22	51.4	1.5	2	2?		P ₂ 22h.43.2m.
48	" 16	—	—	20	22.7	1.2	—	—		—
49	" 20	6	8.5	6	42.7	0.7	1	9		P ₂ 6h.14.7m.
50	" 20	14	34.7	14	42.4	0.6	0	34		—
51	" 23	18	44.3	—	—	—	—	—		—
52	" 23	—	—	22	22.5	0.5	—	—		—
53	" 25	—	—	1	36.6	0.5	—	—		—
54	" 30	9	15.5	9	24.5	3.6	1	18		P ₂ 9h.18.8m.
55	" 31	—	—	5	26.8	1.3	—	—		—
56	" 31	—	—	6	26.1	15.4	2	20?		P ₂ 6h.20.3m. Beginning lost in previous tremor.

From July 1st to September 6th—Period = 16secs.; Imm. = 0°.48.
From September 6th to December 31st—Period = 14secs.; Imm. = 0°.63.

Register from Sydney Observatory, New South Wales. 33°51'S. 151°1'E.
Acting Director, W. E. RAYMOND; Observer, W. C. GRAHAM.

No.	Date	Com-mence-ment		Max.		Max. Ampli-tude		Dura-tion		Remarks
		H.	M.	H.	M.	MM.	H.	M.		
1911										
628	July 3	18	55.5	19	2.0	0.5	0	53.6		P ₂ 19-0.5.
629	" 4	13	50.7	14	34.7	0.7	1	19.0		—
630	" 5	2	45.4	2	52.9	1.5	0	41.2		P ₃ 2-51.6.
631	" 5	18	47.9	18	53.5	0.9	0	42.3		P ₃ 18-53.4.
632	" 8	1	39.2	1	50.7	0.7	0	21.6		P ₂ 1-45.9. P ₃ 1-49.2.
633	" 11	21	27.3	21	33.6	2.0	0	55.1		P ₂ 21-31.8.

Register from Sydney Astronomical Observatory, New South Wales—continued.

No.	Date	Commencement		Max.	Max. Amplitude		Duration	Remarks
		H.	M.		H.	M.		
634	July 12	4	15.8	4	41.0	11.5	4	50.0 P ₂ 4-23.5. P ₃ 4-30.3.
635	" 13	9	12.0	9	17.5	0.15	0	12.0 P ₃ 9-16.2.
636	" 14	2	2.1	2	15.6	0.15	0	29.6 —
637	" 17	3	34.0	3	38.5	0.3	0	7.3 P ₃ 3-37.7.
638	" 19	9	45.5	10	16.7	1.8	1	39.6 P ₂ 10-5.5. P ₃ 10-11.0
639	" 19	20	37.2	20	54.5	0.45	0	27.5 —
640	" 21	11	58.7	12	2.0	0.25	0	8.3 —
641	" 23	16	51.4	17	11.2	1.1	1	9.1 P ₃ 17-7.7.
642	" 27	11	11.7	11	23.0	0.6	0	26.0 P ₃ 11-19.8.
643	" 29	9	55.4	10	9.7	1.0	0	37.2 P ₃ 10-8.4.
644	" 30	14	2.4	14	9.0	0.4	0	17.2 P ₂ 14-4.6. P ₃ 14-7.6.
645	Aug. 4	1	28.1	1	33.1	0.5	0	44.6 —
646	" 8	14	55.7	15	5.2	0.2	0	21.7 —
647	" 8	18	31.6	18	43.1	0.5	0	50.8 P ₃ 18-42.4.
648	" 16	5	10.8	5	15.4	0.3	0	15.5 —
649	" 16-17	22	44.7	23	6.7	>17.0	4	28.3 P ₂ 22-56.3. P ₃ 22-59.4.
650	" 18	3	10.0	3	21.8	0.4	0	54.0 P ₃ 3-19.3.
651	" 19	1	8.4	1	11.4	0.3	0	13.3 —
652	" 21	16	34.9	16	44.4	2.5	1	19.3 P ₃ 16-42.5.
653	" 25	15	46.2	15	53.2	0.4	0	14.2 —
654	" 29	7	20.4	7	24.0	0.3	0	12.8 —
655	Sept. 4	1	8.1	1	11.6	0.2	0	12.7 —
656	" 5	9	40.7	9	44.7	0.3	0	13.0 P ₃ 9-44.3.
657	" 6	1	14.4	1	29.5	0.5	0	40.5 P ₃ 1-28.4.
658	" 12	12	57.5	13	6.6	1.5	0	46.2 P ₃ 13-3.5.
659	" 13	3	57.4	4	1.9	0.15	0	7.3 —
660	" 15	13	32.3	14	7.3	2.2	3	34.3 P ₃ 14-3.6.
661	" 17	3	47.6	4	20.8	1.4	3	18.1 P ₃ 4-15.3. Chilian Earthquake.
662	" 19	5	13.3	5	15.8	0.3	0	7.8 —
663	" 19	18	1.3	18	4.0	0.3	0	24.2 —
664	" 22	5	56.7	6	11.2	0.3	0	26.8 —
665	" 24	4	2.6	4	20.8	0.6	0	46.0 P ₃ 4-17.2.
666	" 25	8	10.3	8	16.0	1.7	1	15.7 P ₃ 8-14.8.
667	" 25	11	9.7	11	11.2	0.15	0	3.0 —
668	" 26	3	20.7	3	24.2	0.35	0	9.7 P ₃ 3-22.7.
669	" 27	21	30.7	21	33.2	0.2	0	4.8 —
670	Oct. 3	9	13.8	9	18.8	0.4	0	13.2 —
671	" 5	7	43.5	7	49.1	0.4	0	13.3 —
672	" 6	11	20.5	11	29.0	0.4	1	12.5 P ₃ 11-27.5.
673	" 10	14	7.3	14	14.3	0.3	1	39.0 P ₃ 14-11.8.
674	" 13	2	45.0	3	31.0	0.55	1	40.8 —
675	" 14	12	49.1	13	23.6	0.5	1	28.0 —
676	" 14	16	57.9	17	25.1	0.3	1	4.0 P ₃ 17-21.9.
677	" 14-15	23	47.1	0	22.4	0.7	1	5.6 P ₃ 0-20.6.
678	" 15	7	42.8	7	50.3	1.0	0	28.3 P ₃ 7-48.8.
679	" 15	12	33.2	12	41.2	0.15	0	25.5 —
680	" 17	9	29.6	9	35.6	1.5	1	3.6 P ₃ 9-33.6.
681	" 17	12	34.1	12	45.1	0.3	0	28.3 —
682	" 19	1	51.6	1	58.6	0.45	0	18.5 P ₂ 1-56.8.
683	" 20	17	47.9	17	58.2	1.6	1	23.2 P ₂ 17-53.6.
684	" 24	0	20.5	0	34.7	5.6	1	32.0 P ₂ 0-26.2. P ₃ 0-34.0.
685	" 25	17	17.1	17	36.1	0.35	1	6.0 P ₃ 17-30.1.
686	" 27	22	41.2	22	52.4	1.0	—	22-50.4. End lost when changing sheet.
687	Nov. 1	8	16.3	10	31.3	0.5	4	34.0 —
688	" 2	0	45.8	0	59.6	0.5	0	26.4 P ₂ 0-57.8.
689	" 8	14	39.2	14	53.4	0.15	0	35.8 —
690	" 9	4	36.6	4	45.3	0.8	0	45.0 P ₃ 4-43.6.
691	" 9	9	26.1	9	30.3	0.25	0	10.3 —
692	" 12	1	6.5	1	13.5	0.15	0	14.2 —
693	" 13	16	35.9	17	7.6	0.9	2	31.6 P ₂ 16-48.6. P ₃ 17-4.7.
694	" 16	11	33.3	11	44.6	1.5	0	47.4 P ₂ 11-39.8. P ₃ 11-41.4.

Register from Sydney Astronomical Observatory, New South Wales—continued.

No.	Date	Commencement		Max.	Max. Amplitude		Duration	Remarks
		H.	M.		H.	M.		
695	Nov. 18	3	16.4	3	21.1	0.35	0	44.0 —
696	" 18	8	24.2	8	30.2	0.35	0	17.3 —
697	" 20	14	44.9	14	51.7	0.2	0	26.6 —
698	" 21	19	52.6	19	58.3	0.15	0	20.0 —
699	" 22-23	23	41.5	23	15.1	2.0	1	4.2 P ₃ 23-13.8.
700	" 27	11	15.8	11	18.6	0.15	0	5.0 —
701	" 27	16	38.1	16	40.1	0.15	0	5.0 —
702	" 28	15	53.4	16	0.1	2.4	0	56.1 P ₂ 15-56.6 P ₃ 15-58.6.
703	" 29	4	54.4	5	0.0	1.0	0	34.6 P ₂ 4-59.2.
704	" 30	10	33.7	10	39.9	3.0	1	1.3 P ₂ 10-36.2.
705	Dec. 3	11	52.2	11	53.7	0.2	0	29.1 P ₂ 11-53.2.

Mean Boom period = 20secs.
Displacement value = 1mm., equivalent to 0".25.

NOTE.—No record kept from Dec. 4th to 31st owing to repairs to Seismograph Room and the installation of the improved Recorder.

Register from the Honolulu Observatory. 21°19'N. 158°3'W.
Observer, O. H. GAARDEN.

No.	Date	First P.T.	Large waves begin	Max.	End	Amplitude	Remarks			
								1911		
		H.	M.	H.	M.	H.	M.	MM.		
900	July 1	22	14.0	22	14.4	22	15.4	23 25	0.8	—
901	" 3	—	—	19	03.0	19	10.0	19 15.0	0.1	Tremor.
902	" 3	—	—	22	24.0	22	27.5	22 48.0	0.2	—
903	" 4	13	53.0	14	07.7	14	40.1	15 36.0	0.7	Second P.T. at 13h.58.8m.
904	" 5	2	56.0	3	13.0	3	13.4	3 44	0.2	Series of small tremors.
905	" 5	18	50.1	19	04.8	19	05.8	19 14	0.2	Tremor.
906	" 11	21	51.0	21	42.7	21	43.7	22 30	0.6	Second P.T. at 21h.37.8m.
907	" 12	4	20.4	4	41.0	4	45.2	9 40	8.5	Second P.T. at 4h.28.8m.
908	" 13	9	13.0	9	15.0	9	22.6	9 27.8	0.3	Tremor.
909	" 14	—	—	2	03.0	2	31.4	2 45	0.1	Series of small tremors.
910	" 14	—	—	22	05.5	22	06.4	22 51	6.2	Local shock.
911	" 19	—	—	10	18.0	10	25.1	11 14	0.4	—
912	" 19	20	31.6	—	—	20	59.0	22 22	0.2	—
913	" 23	17	13.0	17	41.8	17	54.6	18 33	0.5	—
914	" 25	4	02.8	4	26.9	4	30.0	4 38	0.5	Second P.T. at 4h.19.0m.
915	" 29	9	55.0	10	13.2	10	15.2	10 36	0.1	—
916	" 30	—	—	14	21.5	14	24.0	14 29	0.1	Slight broadening of line.
917	Aug. 6	—	—	1	40.0	1	44.0	1 49	0.1	—
918	" 8	—	—	14	53.0	14	59.0	15 23	0.1	—
919	" 9	—	—	6	14.1	6	18.0	6 25	0.3	—
920	" 19	0	31.0	0	44.0	0	47.0	0 55	0.3	Tremor.
921	" 14	—	—	19	14.3	19	17.5	19 22	0.2	Tremor.
922	" 14	—	—	5	32.4	5	32.0	5 36	0.2	—
923	" 16	22	52.9	23	10.2	23	16.5	26 39	25.4	Second P.T. at 23h.01.6m.
924	" 18	2	23.8	—	—	3	31.8	3 33	0.2	Series of small tremors.
925	" 21	16	37.8	16	44.0	16	49.0	17 33	4.0	—
926	" 27	—	—	11	17.4	11	18.4	11 41	0.2	Tremor.
927	" 29	—	—	7	21.0	7	23.0	7 32	0.1	Broadening of line.
928	Sept. 6	1	04.0	—	—	1	10.1	1 32	0.5	—
929	" 6	—	—	23	01.3	23	15.0	23 30	0.4	Broadening of line.
930	" 12	13	08.8	13	19.0	13	22.5	13 50	0.5	Second P.T. at 13h.14.0m.
931	" 13	3	16.5	3	18.7	3	20.0	3 30	0.4	Tremor.
932	" 15	13	33.5	3	56.0	3	59.0	15 48	1.1	—

Register from Honolulu Observatory—continued.

No.	Date	First P.T.	Large waves begin		Max.	End	Amplitude	Remarks
			H. M.	H. M.				
933	Sept. 17	3 37-0	3 42-5	3 46-2	7 30	3-5	Second P.T. at 3h.40-8m.	
934	" 20	4 31-5	5 16-2	5 21-0	6 03-0	0-3	Tremor.	
935	" 21	7 31-0	7 40-5	7 42-3	8 23	0-3	"	
936	" 22	5 14-0	5 17-3	5 19-6	6 30	0-6	"	
937	" 24	—	4 30-9	4 37-2	4 52	0-1	Series of small tremors.	
938	" 25	8 18-6	8 34-0	8 35-0	9 01	0-3	"	
939	Oct. 6	—	16 02-0	16 05-5	16 15	0-2	Broadening of line.	
940	" 10	13 33-9	13 46-9	13 50-2	15 00	0-9	Second P.T. 13h.38-8m.	
941	" 13	2 42-0	2 55-8	3 01-5	3 08	4-5	Second P.T. 2h.48-5m.	
942	" 13	—	9 49-5	9 54-0	9 57	0-1	Broadening of line.	
943	" 12	—	15 57-5	16 11-0	16 15	0-1	"	
944	" 14	—	5 18-1	5 21-5	5 30	0-1	"	
945	" 14	6 25-6	6 32-2	6 37-2	7 21	0-9	"	
946	" 14	12 36-0	12 47-9	12 53-0	14 10	3-2	Second P.T. 12h.40-8m.	
947	" 14	16 48-0	16 49-7	16 51-4	17 0	1-0	"	
948	" 14	—	23 52-0	24 29-0	25 15	0-3	"	
949	" 15	12 04-7	12 11-0	12 17-5	12 45	0-9	"	
950	" 15	—	23 51-2	23 57-0	24 05	0-4	"	
951	" 17	9 29-0	9 45-2	9 51-8	10 48	2-5	Second P.T. 9h.37-2m.	
952	" 17	12 03-0	12 15-1	12 20-0	13 17	1-0	"	
953	" 20	—	18 01-0	18 14-6	—	1-2	"	
954	" 24	0 31-8	0 47-0	0 57-7	1 28	0-3	"	
955	" 26	14 35-8	14 51-0	14 57-0	15 06	0-2	Tremor.	
956	" 27	23 05-0	23 15-0	23 14-0	23 20	0-1	End obscured by air tremor.	
957	" 29	18 27-9	18 33-5	18 37-2	1 4	1-0	"	
958	Nov. 1	—	4 14-0	4 16-0	4 19	0-2	"	
959	" 1	9 46-6	9 57-9	10 02-0	11 05	0-4	"	
960	" 8	14 29-8	14 44-0	15 01-0	15 30	0-1	Series of small tremors.	
961	" 9	4 32-0	4 50-7	4 54-2	5 35	1-0	"	
962	" 9	9 54-9	9 39-5	9 44-5	9 57	0-2	Broadening of trace.	
963	" 13	16 20-0	16 28-5	17 05-0	18 00	1-1	"	
964	" 16	11 48-2	11 57-0	12 00-7	12 31	1-0	"	
965	" 18	—	3 35-0	3 39-0	4 02	0-3	Tremor.	
966	" 18	7 50-6	7 59-3	8 02-0	8 43	0-8	"	
967	" 19	—	13 42-7	13 46-0	13 51	0-2	Tremor.	
968	" 20	14 03-3	14 20-0	14 27-0	14 55	0-2	Series of small tremors.	
969	" 22	23 14-4	23 20-9	23 25-9	24 30	1-0	"	
970	" 25	—	19 52-0	19 55-0	19 59	0-1	Broadening of line.	
971	" 26	—	16 13-4	16 19-2	—	2-3	End obscured by At.	
972	" 29	16 01-8	5 11-7	5 18-5	5 37	0-6	"	
973	Dec. 6	23 25-5	23 43-6	23 48-5	25 15	0-5	"	
974	" 10	—	3 46-8	3 49-5	4 04	0-1	Broadening of line.	
975	" 11	11 34-7	11 54-5	12 04-2	12 53	0-6	Second P.T. 11h.46-9m.	
976	" 13	22 50-5	23 02-2	23 07-3	24 10	0-9	"	
977	" 16	19 23-8	19 39-5	19 42-1	23 22	11-7	Second P.T. 19h.31-7m.	
978	" 20	5 48-4	6 04-9	6 10-3	7 47	5-0	Second P.T. 5h.58-0m.	
979	" 20	—	14 50-0	14 55-0	15 03	0-2	Tremor.	
980	" 23	—	21 37-4	21 41-0	22 30	0-9	Beginning obscured by At.	
981	" 25	7 22-3	7 25-5	7 26-3	7 50	0-2	"	
982	" 25	—	15 55-0	16 00-0	16 24	0-1	Broadening of line.	
983	" 29	15 42-5	15 46-5	15 51-0	16 50	1-5	Second P.T. 15h.45-5m.	
984	" 30	9 27-0	9 40-0	9 47-8	10 11	0-4	Tremor.	
985	" 31	6 28-0	6 39-0	6 49-7	9 10	1-6	"	
986	" 31	14 35-6	14 39-0	14 41-0	14 48	0-2	Tremor.	

REMARKS.

Date.	Sensitiveness.	Period of Pendulum.
June 17	0° 39	19-7 secs.
August 16	0° 47	19-5 secs.
October 16	0° 38	19-3 secs.
December 16	0° 31	19-2 secs.

No. 910.—Recorded by the magnetograph from 22h.09m. to 22h.11m.

No. 947.—Ended during daily attention to instrument.

No. 953.—Beginning and end obscured by air tremors.