

EARTHQUAKE REPORTS.

SYMBOLS, NOTATION, ETC.

1. Character of the earthquake :—

- d* Local shock perceptible at station, its intensity being expressed on the Rossi-Forel scale thus : RF 1, &c.
v Near shock (origin less than 9°, or 1,000 kilometres, distant).
r Distant shock (origin from 9° to 45°, or 1,000 to 5,000 kilometres, distant).
u Very distant shock or teleseism (origin more than 45°, or 5,000 kilometres, distant).

2. Phases of the seismogram [each of the following symbols may denote—(a) the phase itself ; or (b) the time of arrival of the first waves of that phase at the station ; or (c) the time of transit of those waves from the origin in seconds : there will be no ambiguity] :—

- P Longitudinal waves, direct (first phase or first preliminary tremors).
 PR (or PR₁), PR₂ PR_n .. Longitudinal waves, reflected once, twice, *n* times, at the earth's surface.
 S Transverse waves, direct (second phase or second preliminary tremors).
 SR (or SR₁), SR₂ SR_n .. Transverse waves, reflected once, twice, *n* times, at the earth's surface.
 S—P Interval (in seconds) between the arrival of the P waves and the S waves.
 PS Waves changed from longitudinal to transverse oscillation, or *vice versa*, through reflection at the earth's surface.
 L Long waves (chief phase or principal part ; regular waves).
 L₁, L₂, L_n .. Successive series of L waves.
 L_j Long waves passing along the major arc of the great circle through the epicentrum and the observatory.

(Repeats of L or L_j after a circuit or circuits of the earth are noted in the "Remarks.")

- M Greatest motion in the chief phase.
 M_j Maximum of the L_j waves.
 C Tail or end portion.
 F End of discernible movement.

3. Nature of the motion :—

- s* sudden } { Beginning of the motion, used either alone or with one of the symbols in
 or } { 2 denoting phase.
e gradual }
 T (period) Time of one complete oscillation (to and fro).
 A Amplitude of the motion, measured from the median line, in millimetres (mm., as shown on the seismogram), or in mikrons (μ , actual movement of the ground) : ($\mu = 1/1000$ mm.).
 A_e E-W component of A.
 A_n N-S component of A.
 A_v Vertical component of A.

4. General :—

- Time G.C.M.T., Greenwich civil mean time, 0 h. or 24 h. = midnight.
 E (epicentrum) Position of epicentre.
 O (origin) Time of shock at origin.
 ϕ Latitude.
 λ Longitude from Greenwich.
 Δ Distance from epicentre in degrees (°) or in kilometres (kms.).

5. The Observatory :—

- (a.) Its position : Lat. 43° 31' 48" S., long. 172° 37' 13" E.
 Its height above mean sea-level : 8 metres (25 ft.).
 (b.) The kind of seismograph : Milne No. 16 (ordinary boom).
 How installed : Boom N.—S.
 Natural period : 16 seconds.
 Magnification : 8.
 Damping : Nil.

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Time is Greenwich civil mean time ; it is given in hours, minutes, and seconds. 0h. or 24h. = midnight.

No.	Date.	Character.	Phase.	Time. G.C.M.T.	Boom Period.	Amplitude.	Remarks.
						Ae.	
1	1920. Jan., 1	..	P	H. M. S. 3 10 48	S. ..	MM. ..	Slight microseisms in evidence.
			M	3 14 18	16	0.2	
2	,, 1	..	P	12 21 18	..	..	
				12 21 36	..	..	
				12 23 12	..	..	
			L	12 24 12	..	..	
			M	12 25 06	..	4.0	
3	,, 11	..	M	12 41 12	16	2.4	
			P	3 02 54	..	..	
4	,, 22	..	M	3 04 54	16	0.4	? Microseism. ? S. ? SR ₁ .
			P	21 30 24	..	..	
5	,, 29	..		21 32 48	..	..	
				21 35 18	..	..	
			L	21 36 00	..	..	
			M	21 40 30	13	2.0	
			? SR	21 50 24	..	..	
6	,, 29	..	L	21 54 18	..	..	Slight microseisms evident.
			M	21 58 24	13	1.4	
			S	19 46 24	..	..	
			SR ₂	19 48 24	..	..	
			L	19 50 12	..	..	
7	Feb., 3	..	M	19 53 00	13	1.0	
			PR ₁ ?	03 36 00	..	..	
			S	03 43 42	..	..	
			L	04 13 48	..	..	
8	,, 3	..	M	04 17 30	..	0.2	Slight microseisms evident.
			L	12 32 00	..	..	
			M	12 37 30	..	1.5	