

12. Direction of Earthquake Motion.

The following table gives, for Hitotsubashi and Hongo, the 2a and direction of the maximum horizontal motion in the 15 earthquakes, in which these two elements of motion were distinctly measured; the distance and direction of the seismic origins from Tokyo being also given for the sake of reference.

Place of observation.	Group. No.	Max. 2a (mm.)	Direction of max. motion.	Distance and direction of earthquake origin from Tokyo.
Hitotsubashi	II 50	0.25	N—S	60 km N 54° E.
Hongo	„ 28	2.4	N 15° W	60 S 21° W.
„	„ 65	1.4	NEN.	69 N 15° E.
„	„ 123	0.54	SW	62 N 22° W.
Hitotsubashi	III 142	0.38	E	29 N 18° W.
Hongo	IV 154	7.2	S 48° E.	29 S 15° E.
Hitotsubashi	V 19	1.7	S 70° W	125 N 77° E.
„	„ 23	0.64	SE	160 N 78° E.
„	„ 42	0.38	E—W	90 S 62° E.
Hongo	„ 13	15.0	N 84° E	125 S 85° E.
„	„ 23	0.6	S	160 N 78° E.
„	„ 43	2.0	W 20° N	107 N 65° E.
„	„ 122	0.6	S	150 N 61° E.

From the above table it seems that in the majority of cases, in which the 2a is large, the direction of motion points more or less approximately towards, or from, the origin of disturbance.

13. On the Amplitude of Vibration and the Duration of Earthquake Motion.

AMPLITUDE.

To find the relation, if any, respecting the maximum range of motion in the different earthquakes observed at a given station, let us assume the equation,