From January 5 to April 4 ,19 30.

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

| | $T_0$ | $\varepsilon$ | $\frac{r}{T_0^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 30 | - | 0.003 | 20 |
| $A_N$: | 30 | - | 0.003 | 20 |
| $A_Z$: | 15 | - | 0.004 | 20 |

Wiechert Seismograph (Horizontal & Vertical)

| | $T_0$ | $\varepsilon$ | $\frac{r}{T_0^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 4 | 3.7 | 0.023 | 80 |
| $A_N$: | 4 | 3.7 | 0.023 | 80 |
| $A_Z$: | 4 | 3.5 | 0.014 | 80 |

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| I | Jan. 5 | P | I 23 57.8 | | | | | 2428 | |
| | | L | 27 57.0 | | | | | | |
| | | ME | 28 05.1 | 6.4 | -50 | | | | |
| | | MN | 28 26.5 | 4.0 | | ±37 | | | |
| | | MZ | 28 06.2 | 4.0 | | | -25 | | |
| | | FE | 43 01.5 | | | | | | |
| | | FN | 42 46.5 | | | | | | |
| | | FZ | 38 11.3 | | | | | | |
| 2 | Jan. 10 | P | I8 I5 40.1 | | | | | 514 | |
| | | L | I6 49.3 | | | | | | |
| | | ME | I7 43.7 | 2.2 | ±24 | | | | |
| | | MN | I7 31.5 | 2.7 | | +16 | | | |
| | | FE | 23 26.5 | | | | | | |
| | | FN | 23 20.2 | | | | | | |
| 3 | Jan. II | P | 2I 22 24.0 | | | | | 601 | |
| | | L | 23 45.0 | | | | | | |
| | | ME | 23 55.0 | 3.0 | -17 | | | | |
| | | MN | 24 35.2 | 5.9 | | -23 | | | |
| | | MZ | 24 05.4 | 2.2 | | | -7 | | |
| | | FE | 27 11.6 | | | | | | |
| | | FN | 31 32.6 | | | | | | |
| | | FZ | 30 03.3 | | | | | | |
| 4 | Jan. 13 | P | 20 43 53.8 | | | | | 57 | |
| | | L | 44 01.5 | | | | | | |
| | | ME | 44 04.2 | 0.7 | +6 | | | | |
| | | MN | 44 09.2 | 0.7 | | -5 | | | |
| | | MZ | 44 09.3 | 0.3 | | | -1 | | |
| | | FE | 45 26.2 | | | | | | |
| | | FN | 45 36,0 | | | | | | |
| | | FZ | 44 53.0 | | | | | | |
| 5 | Jan. 25 | P | II 43 12.5 | | | | | 528 | |
| | | L | 44 23.7 | | | | | | |
| | | ME | 45 149 | 2.6 | ±6 | | | | |
| | | MN | 44 56.4 | 3.1 | | +12 | | | |
| | | FE | 47 17.1 | | | | | | |
| | | FN | 47 448 | | | | | | |
| 6 | Feb. 1 | P | 23 8 45.0 | | | | | 558 | |
| | | L | 10 00.2 | | | | | | |
| | | ME | 10 29.1 | 2.1 | -12 | | | | |
| | | MN | 10 38.3 | 2.1 | | -13 | | | |
| | | MZ | 10 48.9 | 1.5 | | | +4 | | |
| | | FE | 13 02.2 | | | | | | |
| | | FN | 13 21.4 | | | | | | |
| | | FZ | 13 23.5 | | | | | | |
| 7 | Feb. 2 | P | 15 03 01.7 | | | | | 2007 | |
| | | L | 06 25.4 | | | | | | |
| | | ME | 09 00.4 | 6.0 | +11 | | | | |
| | | MN | 09 33.3 | 4.4 | | +6 | | | |
| | | FE | 49 32.2 | | | | | | |
| | | FN | 49 00.8 | | | | | | |

From ..... to ..... 19.....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
## of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 8 | Feb. 2 | P | 21 02 55.9 | | | | | 505 | |
| | | L | 04 04.0 | | | | | | |
| | | ME | 04 30.2 | 2.6 | +9 | | | | |
| | | MN | 04.31.2 | 2.6 | | +6 | | | |
| | | FE | 06 04.7 | | | | | | |
| | | FN | 06 01.1 | | | | | | |
| 9 | Feb. 5 | P | 13 30 01.4 | | | | | 459 | |
| | | L | 31 03.3 | | | | | | |
| | | ME | 32 16.1 | 3.4 | -20 | | | | |
| | | MN | 32 16.3 | 3.2 | | -14 | | | |
| | | FE | 35 44.4 | | | | | | |
| | | FN | 35 53.5 | | | | | | |
| 10 | Feb. 7 | P | 2 40 53.4 | | | | | 47 | |
| | | L | 40 59.7 | | | | | | |
| | | ME | 41 00.4 | 0.3 | -8 | | | | |
| | | MN | 40 59.9 | 0.5 | | -26 | | | |
| | | MZ | 40 59.9 | 0.3 | | | +4 | | |
| | | FE | 44 11.4 | | | | | | |
| | | FN | 44 07.4 | | | | | | |
| | | FZ | 42 53.0 | | | | | | |
| 11 | Feb. 7 | P | 3 34 21.7 | | | | | 44 | |
| | | L | 34 27.6 | | | | | | |
| | | ME | 34 27.5 | 0.4 | -8 | | | | |
| | | MN | 34 27.5 | 0.4 | | +13 | | | |
| | | MZ | 34 27.5 | 0.3 | | | +4 | | |
| | | FE | 47 53.3 | | | | | | |
| | | FN | 47 33.7 | | | | | | |
| | | FZ | 42 53.0 | | | | | | |
| 12 | Feb. 7 | P | 3 43 49.9 | | | | | 564 | |
| | | L | 45 05.9 | | | | | | |
| | | ME | 46 22.6 | 2.4 | -13 | | | | |
| | | MN | 46 00.2 | 2.4 | | -13 | | | |
| | | MZ | 46 01.7 | 2.0 | | | -9 | | |
| | | FE | 52 52.6 | | | | | | |
| | | FN | 53 16.3 | | | | | | |
| | | FZ | 51 58.6 | | | | | | |
| 13 | Feb.7 | P | 20 11 39.9 | | | | | 39 | |
| | | L | 11 45.1 | | | | | | |
| | | ME | 11 45.4 | 0.4 | +2 | | | | |
| | | MN | 11 45.4 | 0.4 | | -9 | | | |
| | | FE | 13 37.7 | | | | | | |
| | | FN | 13 40.7 | | | | | | |
| 14 | Feb. 11 | P | 0 12 12.7 | | | | | 75 | |
| | | L | 12 22.8 | | | | | | |
| | | ME | 12 48.0 | 1.3 | +475 | | | | |
| | | MN | 12 40.1 | 1.1 | | -519 | | | |
| | | MZ | 12 43.9 | 1.0 | | | -135 | | |
| | | FE | 29 29.7 | | | | | | |
| | | FN | 29 38.0 | | | | | | |
| | | FZ | 25 01.7 | | | | | | |
| 15 | Feb. 14 | P | 18 50 43.8 | | | | | 232 | |
| | | L | 51 15.1 | | | | | | |
| | | ME | 52 12.9 | 2.4 | +6 | | | | |
| | | MN | 51 45.7 | 2.0 | | +6 | | | |
| | | MZ | 51 49.1 | 2.0 | | | -4 | | |
| | | FE | 54 46.6 | | | | | | |
| | | FN | 54 35.9 | | | | | | |
| | | FZ | 54 46.7 | | | | | | |

No. 3.

From ..... to ..... 19 .....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN

### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| I6 | Feb. I8 | P | 08 36 45.0 | | | | | 69 | |
| | | L | 36 54.3 | | | | | | |
| | | ME | 37 I5.3 | 0.8 | +4 | | | | |
| | | MN | 37 02.4 | 0.6 | | +4 | | | |
| | | FE | 38 05.0 | | | | | | |
| | | FN | 38 24.7 | | | | | | |
| | | FZ | 38 00.0 | | | | | | |
| I7 | Feb. 20 | P | 23 37 40.9 | | | | | 375 | |
| | | L | 38 3I.4 | | | | | | |
| | | ME | 38 25.0 | 2.0 | -26 | | | | |
| | | MN | 39 05.0 | 2.2 | | +30 | | | |
| | | MZ | 38 57.6 | 2.3 | | | -~~I~~24 | | |
| | | FE | 47 25.9 | | | | | | |
| | | FN | 48 I5.2 | | | | | | |
| | | FZ | 46 5I.7 | | | | | | |
| I8 | Feb. 22 | P | 05 49 I2.I | | | | | 305 | |
| | | L | 49 53.2 | | | | | | |
| | | ME | 50 02.I | 2.0 | +6 | | | | |
| | | MN | 50 I2.7 | 2.2 | | +3 | | | |
| | | FE | 52 26.0 | | | | | | |
| | | FN | 52 30.I | | | | | | |
| | | FZ | 52 I6.2 | | | | | | |
| I9 | Feb. 22 | P | II 22 45.7 | | | | | 330 | |
| | | L | 23 30.I | | | | | | |
| | | ME | 24 0I.3 | 2.0 | -I4 | | | | |
| | | MN | 24 0I.I | 2.2 | | +3I | | | |
| | | MZ | 24 29.2 | 2.0 | | | -II | | |
| | | FE | 30 4I.5 | | | | | | |
| | | FN | 30 52.I | | | | | | |
| | | FZ | 28 30.0 | | | | | | |
| 20 | Feb. 22 | P | I8 20 I3.I | | | | | 94 | |
| | | L | 20 30.8 | | | | | | |
| | | ME | 20 3I.0 | 0.9 | -5 | | | | |
| | | MN | 20 33.4 | 0.9 | | -5 | | | |
| | | FE | 2I 20.4 | | | | | | |
| | | FN | 2I 25.3 | | | | | | |
| 2I | Feb. 24 | P | 20 57 49.7 | | | | | 200 | |
| | | L | 58 I6.6 | | | | | | |
| | | MN | 58 37.3 | 3.9 | | -I4 | | | |
| | | MZ | 58 30.0 | 2.0 | | | +3 | | |
| | | FN | 2I 04 55.0 | | | | | | |
| | | FZ | 20 59 25.0 | | | | | | |
| 22 | Feb. 28 | P | 09 3I 50.6 | | | | | 324 | |
| | | L | 32 34.3 | | | | | | |
| | | ME | 32 58.8 | 2.2 | ±28 | | | | |
| | | MN | 32 57.9 | 2.6 | | -33 | | | |
| | | MZ | 32 55.7 | 2.2 | | | ±I0 | | |
| | | FE | 37 28.6 | | | | | | |
| | | FN | 38 II.2 | | | | | | |
| | | FZ | 35 44.2 | | | | | | |
| 23 | March I | P | I7 43 48.3 | | | | | 369 | |
| | | L | 44 ~~48~~/37.9 | | | | | | |
| | | ME | 44 58.4 | 2.5 | +6 | | | | |
| | | MN | 44 52.7 | 2.7 | | +8 | | | |
| | | MZ | 44 42.5 | I.5 | | | +3 | | |
| | | FE | 48 0I.8 | | | | | | |
| | | FN | 47 49.6 | | | | | | |
| | | FZ | 47 09.3 | | | | | | |

From ..... to ..... 19 .....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 24 | March 3 | P | I2 I5 I5.8 | | | | | 3I7 | |
| | | L | I5 58.5 | | | | | | |
| | | ME | I6 I8.2 | 2.0 | ±II | | | | |
| | | MN | I6 25.4 | 2.0 | | -I0 | | | |
| | | FE | I8 07.5 | | | | | | |
| | | FN | I8 09.5 | | | | | | |
| 25 | " 3 | P | I3 56 0I.3 | | | | | 299 | |
| | | L | 56 4I.5 | | | | | | |
| | | ME | 57 03.5 | 3.0 | +7 | | | | |
| | | MN | 57 II.I | 2.6 | | +6 | | | |
| | | FE | 59 I3.I | | | | | | |
| | | FN | 59 22.3 | | | | | | |
| 26 | " 3 | P | I8 5I 28.4 | | | | | 297 | |
| | | L | 52 08.4 | | | | | | |
| | | ME | 52 33.9 | 3.2 | +24 | | | | |
| | | MN | 52 39.3 | 2.6 | | +26 | | | |
| | | MZ | 52 30.9 | 2.6 | | | -I4 | | |
| | | FE | 55 07.9 | | | | | | |
| | | FN | 55 II.2 | | | | | | |
| | | FZ | 54 46.5 | | | | | | |
| 27 | " 3 | P | 20 II 49.6 | | | | | 352 | |
| | | L | I2 37.0 | | | | | | |
| | | ME | I2 56.I | 2.I | +36 | | | | |
| | | MN | I3 05.8 | 2.6 | | +54 | | | |
| | | MZ | I2 58.6 | 2.5 | | | +3I | | |
| | | FE | I7 2I.6 | | | | | | |
| | | FN | I8 0I.3 | | | | | | |
| | | FZ | I6 47.6 | | | | | | |
| 28 | " 5 | P | I0 36 25.3 | | | | | 44 | |
| | | L | 36 3I.2 | | | | | | |
| | | ME | 36 3I.6 | 0.8 | -I0 | | | | |
| | | MN | 36 32.0 | I.0 | | +7 | | | |
| | | FE | 37 5I.6 | | | | | | |
| | | FN | 38 08.4 | | | | | | |
| 29 | " 5 | P | I3 3I 20.7 | | | | | 37 | |
| | | L | 3I 25.7 | | | | | | |
| | | ME | 3I 27.3 | 0.8 | +8 | | | | |
| | | MN | 3I 26.9 | 0.6 | | +8 | | | |
| | | FE | 33 3I.3 | | | | | | |
| | | FN | 33 23.3 | | | | | | |
| 30 | " 6 | P | 3 33 34.I | | | | | 690 | |
| | | L | 35 07.I | | | | | | |
| | | $ME_1$ | 35 28.2 | 3.8 | +63 | | | | |
| | | $MN_1$ | 35 I6.2 | 3.2 | | -50 | | | |
| | | $MZ_1$ | 35 2I.4 | 3.6 | | | +36 | | |
| | | $ME_2$ | 35 37.8 | 4.0 | -63 | | | | |
| | | $MN_2$ | 35 45.8 | 3.6 | | -50 | | | |
| | | $MZ_2$ | 35 4I.8 | 2.6 | | | -26 | | |
| | | FE | 4I 53.8 | | | | | | |
| | | FN | 4I 32.I | | | | | | |
| | | FZ | 40 00.5 | | | | | | |
| 3I | " 7 | P | I0 54 03.8 | | | | | I6I6 | |
| | | L | 56 5I.6 | | | | | | |
| | | ME | 58 29.6 | 3,8 | -I3 | | | | |
| | | MN | 58 0I0. | 36 | | +9 | | | |
| | | MZ | 57 03.7 | 3.8 | | | +6 | | |
| | | FE | II 0I 26.4 | | | | | | |
| | | FN | 0I 48.3 | | | | | | |
| | | FZ | 00 20.0 | | | | | | |

From ..... to ..... 19 .....

# OSAKA JAPAN

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### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 32 | March 8 | P | I9 40 24.I | | | | | 307 | |
| | | L | 4I 05.5 | | | | | | |
| | | ME | 4I 43.4 | 2.4 | -2I | | | | |
| | | MN | 4I 42.I | 2.4 | | +33 | | | |
| | | MZ | 4I 33.8 | 2.0 | | | -I4 | | |
| | | FE | 44 43.3 | | | | | | |
| | | FN | 44 47.5 | | | | | | |
| | | FZ | 43 42.5 | | | | | | |
| 33 | " 9 | P | 9 42 43.4 | | | | | 73I | |
| | | L | 44 28.7 | | | | | | |
| | | MN | 46 03.5 | 4.4 | | +I3 | | | |
| | | FN | 52 I4.0 | | | | | | |
| 34 | " 9 | P | I0 55 I9.6 | | | | | 245 | |
| | | L | 55 52.5 | | | | | | |
| | | $ME_1$ | 56 27.2 | 3.0 | -63 | | | | |
| | | $MN_1$ | 56 37.5 | 3.0 | | +89 | | | |
| | | $MZ_1$ | 56 28.7 | 3.0 | | | -47 | | |
| | | $ME_2$ | 57 22.9 | 3.2 | -58 | | | | |
| | | $MN_2$ | 57 37.7 | 3.0 | | -50 | | | |
| | | $MZ_2$ | 57 05.7 | 3.I | | | -33 | | |
| | | FE | II 08 27.4 | | | | | | |
| | | FN | 08 20.9 | | | | | | |
| | | FZ | 04 56.4 | | | | | | |
| 35 | " 9 | P | 20 23 58.3 | | | | | 288 | |
| | | L | 24 37.I | | | | | | |
| | | ME | 24 50.3 | 2.3 | -6 | | | | |
| | | MN | 25 03.5 | 3.0 | | +6 | | | |
| | | FE | 27 I8.I | | | | | | |
| | | FN | 27 02.6 | | | | | | |
| 36 | " I0 | P | I6 3I 04.9 | | | | | I695 | |
| | | L | 34 00.5 | | | | | | |
| | | ME | 34 23.4 | 2.3 | +44 | | | | |
| | | MN | 34 30.5 | 2.3 | | +50 | | | |
| | | MZ | 34 38.7 | 2.0 | | | ±25 | | |
| | | FE | 4I 2I.7 | | | | | | |
| | | FN | 4I 22.2 | | | | | | |
| | | FZ | 39 39.0 | | | | | | |
| 37 | " II | e.P | I8 4I 39.0 | | | | | 527 | |
| | | e.L | 42 50.0 | | | | | | |
| | | FE | 49 I6.9 | | | | | | |
| | | FN | 49 I3.6 | | | | | | |
| | | FZ | 49 I4.6 | | | | | | |
| 38 | " I2 | P | 3 47 02.4 | | | | | 404 | |
| | | L | 47 56.8 | | | | | | |
| | | ME | 48 22.8 | 2.4 | +9 | | | | |
| | | MN | 48 26.2 | 2.4 | | +I3 | | | |
| | | MZ | 48 20.5 | 2.0 | | | ±6 | | |
| | | FE | 5I 37.4 | | | | | | |
| | | FN | 5I 26.8 | | | | | | |
| | | FZ | 50 26.8 | | | | | | |
| 39 | " I2 | P | I9 30 2I.8 | | | | | 3I4 | |
| | | L | 3I 04.0 | | | | | | |
| | | ME | 3I 28.5 | 3.3 | +3I | | | | |
| | | MN | 3I 29.7 | 2.7 | | -35 | | | |
| | | MZ | 3I 33.4 | 2.2 | | | -I9 | | |
| | | FE | 36 55.2 | | | | | | |
| | | FN | 36 39.1 | | | | | | |
| | | FZ | 35 55.2 | | | | | | |

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN

### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 40 | March I4 | P | 5 20 I8.7 | | | | | 3II | |
| | | L | 2I 00.6 | | | | | | |
| | | ME | 2I 24.4 | 2.3 | ±8 | | | | |
| | | MN | 2I 27.6 | 2.5 | | ±I9 | | | |
| | | MZ | 2I I9.I | I.8 | | | -6 | | |
| | | FE | 27 28.2 | | | | | | |
| | | FN | 27 5I.7 | | | | | | |
| | | FZ | 25 47.I | | | | | | |
| 4I | " | I5 | P 9 34 4I.5 | | | | | 295 | |
| | | L | 35 2I.3 | | | | | | |
| | | ME | 35 52.6 | 2.I | -24 | | | | |
| | | MN | 35 42.5 | 2.I | | +30 | | | |
| | | MZ | 35 44.6 | I.7 | | | +II | | |
| | | FE | 4I 32.0 | | | | | | |
| | | FN | 4I I8.7 | | | | | | |
| | | FZ | 40 23.0 | | | | | | |
| 42 | " | I7 | P I0 II 04.2 | | | | | 52 | |
| | | L | II II.2 | | | | | | |
| | | ME | II 36.4 | 0.6 | +8 | | | | |
| | | MN | II 25.2 | 0.6 | | +8 | | | |
| | | MZ | II LL.2 | 0.2 | | | -3 | | |
| | | FE | I3 53.I | | | | | | |
| | | FN | I3 54.7 | | | | | | |
| | | FZ | I3 0I.2 | | | | | | |
| 43 | " | I9 | P I I7 34.3 | | | | | 34I | |
| | | L | I8 20.3 | | | | | | |
| | | ME | I8 37.6 | 2.I | -I3 | | | | |
| | | MN | I8 45.4 | 2.5 | | -2I | | | |
| | | MZ | I8 40.I | I.8 | | | +I2 | | |
| | | FE | 22 33.7 | | | | | | |
| | | FN | 22 29.4 | | | | | | |
| | | FZ | 22 05.3 | | | | | | |
| 44 | " | I9 | P I5 3I 35.0 | | | | | 297 | |
| | | L | 32 I5.0 | | | | | | |
| | | ME | 33 06.5 | 2.I | -4 | | | | |
| | | MN | 32 20.4 | I.9 | | +4 | | | |
| | | FE | 36 34.I | | | | | | |
| | | FN | 36 3I,8 | | | | | | |
| 45 | " | 20 | P 23 39 53.4 | | | | | 34I | |
| | | L | 40 39.4 | | | | | | |
| | | ME | 4I I0.5 | 2.5 | +7 | | | | |
| | | MN | 4I 06.9 | 2.3 | | +8 | | | |
| | | FE | 43 3I.3 | | | | | | |
| | | FN | 43 05.2 | | | | | | |
| 46 | " | 2I | P I4 24 59.6 | | | | | 325 | |
| | | L | 25 43.4 | | | | | | |
| | | ME | 26 58.I | 2.8 | -25 | | | | |
| | | MN | 26 42.4 | 2.8 | | +33 | | | |
| | | MZ | 26 04.2 | 2.0 | | | -20 | | |
| | | FE | 32 I6.8 | | | | | | |
| | | FN | 32 33.8 | | | | | | |
| | | FZ | 30 39.9 | | | | | | |
| 47 | " | 22 | P 8 03 49.0 | | | | | 474 | |
| | | L | 04 52.9 | | | | | | |
| | | ME | 05 I9.0 | 2.I | +7 | | | | |
| | | MN | 05 2I.5 | 2.I | | +6 | | | |
| | | MZ | 05 I5.2 | I.7 | | | +5 | | |
| | | FE | 08 05.3 | | | | | | |

From ..... to ..... 19 .....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 47 | March 22 | FN | 8 08 23.I | | | | | | |
| | | FZ | 07 36.I | | | | | | |
| 48 | " 22 | P | 8 5I 22.I | | | | | 355 | |
| | | L | 52 I0.0 | | | | | | |
| | | ME | 52 25.I | 3.0 | -I88 | | | | |
| | | MN | 52 36.9 | 2.8 | | -408 | | | |
| | | MZ | 53 I2.0 | 2.I | | | -I56 | | |
| | | FE | 9 08 32.0 | | | | | | |
| | | FN | 08 I7.0 | | | | | | |
| | | FZ | 07 49.I | | | | | | |
| 49 | " 22 | P | I2 05 50.4 | | | | | 88 | |
| | | L | 06 02.3 | | | | | | |
| | | ME | 06 06.5 | I.2 | -6 | | | | |
| | | MN | 06 03.5 | I.2 | | ±5 | | | |
| | | MZ | 06 48.I | I.0 | | | -3 | | |
| | | FE | 07 56.73 | | | | | | |
| | | FN | 07 28.5 | | | | | | |
| | | FZ | 07 39.5 | | | | | | |
| 50 | " 25 | P | II 29 06.4 | | | | | 9I2 | |
| | | L | 3I 09.3 | | | | | | |
| | | ME | 3I 08.8 | 2.7 | ±II | | | | |
| | | MN | 3I 33.5 | 2.7 | | -I9 | | | |
| | | MZ | 3I 20.4 | 2.I | | | -8 | | |
| | | FE | 36 48.3 | | | | | | |
| | | FN | 36 39.5 | | | | | | |
| | | FZ | 35 28.9 | | | | | | |
| 5I | " 26 | P | 5 23 27.0 | | | | | 302 | |
| | | L | 24 07.7 | | | | | | |
| | | ME | 24 43.9 | 2.4 | +5I | | | | |
| | | MN | 24 46.9 | 2.6 | | +75 | | | |
| | | MZ | 24 48.7 | 2.0 | | | -39 | | |
| | | FE | 44 22.7 | | | | | | |
| | | FN | 44 37.7 | | | | | | |
| | | FZ | 37 28.7 | | | | | | |
| 52 | " 26 | P | 7 I9 05.8 | | | | | 2426 | |
| | | S | 23 04.9 | | | | | | |
| | | L | 26 35.4 | | | | | | |
| | | ME | 28 35.4 | 6.4 | +I9 | | | | |
| | | MN | 27 56.6 | 4.7 | | ±I9 | | | |
| | | FE | 8 00 22.5 | | | | | | |
| | | FN | 00 26.9 | | | | | | |
| 53 | " 2[illegible]6 | P | II 40 00.8 | | | | | I856 | |
| | | S | 43 II.6 | | | | | | |
| | | L | 46 58.4 | | | | | | |
| | | ME | 47 02.7 | .7 | ±6 | | | | |
| | | MN | 46 58.C | [illegible] | | +6 | | | |
| | | FE | 54 0[illegible] | | | | | | |
| | | FN | 53 I0.2 | | | | | | |
| 54 | " 26 | P | I6 42 I8.9 | | | | | 364 | |
| | | L | 43 07.9 | | | | | | |
| | | ME | 43 26.9 | 2.4 | +62 | | | | |
| | | MN | 43 08.3 | 2.7 | | | | | |
| | | MZ | 43 27.8 | 2.I | | +88 | | | |
| | | FE | 58 38.3 | | | | -44 | | |
| | | FN | 58 35.I | | | | | | |
| | | FZ | 49 29.5 | | | | | | |

From ..... to ..... 19 .....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN

### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 55 | March 26 | P | I9 I3 05.I | | | | | 278 | |
| | | L | I3 42.6 | | | | | | |
| | | MZ | I4 2I.2 | 2.0 | | | -3 | | |
| | | FE | I6 38.I | | | | | | |
| | | FN | I6 04.I | | | | | | |
| | | FZ | I5 55.6 | | | | | | |
| 56 | " 27 | P | 2 44 II.7 | | | | | 789 | |
| | | L | 45 59.4 | | | | | | |
| | | ME | 47 54.8 | 4.7 | +3 | | | | |
| | | MN | 48 I4.6 | 3.9 | | +3 | | | |
| | | FE | 52 46.I | | | | | | |
| | | FN | 52 37.4 | | | | | | |
| 57 | " 28 | P | I5 59 58.0 | | | | | 53 | |
| | | L | I6 00 05.I | | | | | | |
| | | FE | 0I 50.4 | | | | | | |
| | | FN | 0I 54.3 | | | | | | |
| 58 | " 28 | P | I8 22 3I.I | | | | | 262 | |
| | | L | 23 06.4 | | | | | | |
| | | ME | 23 25.9 | 2.0 | +8 | | | | |
| | | MN | 23 36.0 | 2.0 | | -6 | | | |
| | | FE | 27 I7.8 | | | | | | |
| | | FN | 27 29.8 | | | | | | |
| 59 | " 29 | P | 0 56 05.I | | | | | 422 | |
| | | L | 57 02.0 | | | | | | |
| | | ME | 57 23.3 | 4.4 | -28 | | | | |
| | | MN | 57 24.4 | 2.4 | | +39 | | | |
| | | MZ | 57 3I.3 | 2.4 | | | -3 | | |
| | | FE | I 02 45.I | | | | | | |
| | | FN | 02 24.6 | | | | | | |
| | | FZ | 02 I5.I | | | | | | |
| 60 | " 29 | P | I5 07 20.6 | | | | | 352 | |
| | | L | 08 08.I | | | | | | |
| | | ME | 08 20.3 | 2.6 | ±I4 | | | | |
| | | MN | 07 56.8 | 2.7 | | +22 | | | |
| | | MZ | 08 I7.6 | 2.2 | | | -I3 | | |
| | | FE | I5 07.I | | | | | | |
| | | FN | I4 5I.9 | | | | | | |
| | | FZ | I3 ∅43.2 | | | | | | |
| 6I | " 29 | P | 20 4I 0I.6 | | | | | 3I2 | |
| | | L | 4I 43.6 | | | | | | |
| | | ME | 42 0I.9 | 2.3 | +6 | | | | |
| | | MN | 4I 58.I | 2.2 | | -6 | | | |
| | | MZ | 42 37.7 | 2.0 | | | -3 | | |
| | | FE | 44 32.8 | | | | | | |
| | | FN | 44 33.0 | | | | | | |
| | | FZ | 45 09.9 | | | | | | |
| 62 | " 30 | P | 0 3I 46.4 | | | | | 24I2 | |
| | | L | 35 44.7 | | | | | | |
| | | ME | 37 I0.0 | 6.0 | -I6 | | | | |
| | | MN | 37 24.3 | 4.6 | | +I0 | | | |
| | | FE | 42 24.9 | | | | | | |
| | | FN | 42 3I.3 | | | | | | |
| 63 | " 30 | P | 5 08 I3.2 | | | | | 284 | |
| | | L | 08 5I.4 | | | | | | |
| | | ME | 09 I4.8 | 2.3 | +9 | | | | |
| | | MN | 08 46.I | 3.0 | | -I3 | | | |
| | | MZ | 09 45.I | 2.0 | | | +6 | | |

No. 9. From ..... to ..... 19.....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN

### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 63 | March 30 | FE | 5 II 31.3 | | | | | | |
| | | FN | II 05.0 | | | | | | |
| | | FZ | II II.5 | | | | | | |
| 64 | " 30 | P | I5 27 39.I | | | | | 78I | |
| | | L | 29 24.3 | | | | | | |
| | | MZ | 29 57.8 | 4.0 | | | +5 | | |
| | | FZ | 33 24.3 | | | | | | |
| 65 | " 30 | P | 20 I0 08.3 | | | | | 30I | |
| | | L | I0 48.8 | | | | | | |
| | | ME | II 36.5 | 2.3 | -6 | | | | |
| | | MN | II 46.6 | 2.3 | | -8 | | | |
| | | FE | I3 09.6 | | | | | | |
| | | FN | I3 36.8 | | | | | | |
| 66 | " 3I | P | I 00 49.5 | | | | | 284 | |
| | | L | 0I 27.8 | | | | | | |
| | | ME | 0I 45.7 | 3.0 | +5 | | | | |
| | | MN | 0I 50.7 | 2.6 | | +6 | | | |
| | | FE | 04 06.3 | | | | | | |
| | | FN | 04 06.3 | | | | | | |
| 67 | Apil I | P | I4 05 I9.3 | | | | | 324 | |
| | | L | 06 03.0 | | | | | | |
| | | ME | 07 06.5 | 2.7 | -25 | | | | |
| | | MN | 06 32.6 | 3.I | | +38 | | | |
| | | MZ | 06 24.2 | 2.2 | | | -I9 | | |
| | | FE | II 56.8 | | | | | | |
| | | FN | II 58.8 | | | | | | |
| | | FZ | II 34.8 | | | | | | |
| 68 | " 4 | P | 5 09 52.6 | | | | | 3I4 | |
| | | L | I0 34.9 | | | | | | |
| | | ME | I0 58.0 | 2.7 | +6 | | | | |
| | | MN | I0 49.2 | 2.I | | -4 | | | |
| | | MZ | II I6.8 | 2.0 | | | ±3 | | |
| | | FE | I3 45.3 | | | | | | |
| | | FN | I3 02.3 | | | | | | |
| | | FZ | I2 30.7 | | | | | | |

No. 10 From April 1 to April 28, 1930

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
## of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

| | $T_0$ | $\varepsilon$ | $\frac{r}{T_0^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 30 | - | 0.003 | 20 |
| $A_N$: | 30 | - | 0.003 | 20 |
| $A_Z$: | 15 | - | 0.004 | 20 |

Wiechert Seismograph (Horizontal & Vertical)

| | $T_0$ | $\varepsilon$ | $\frac{r}{T_0^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 4 | 3.7 | 0.023 | 80 |
| $A_N$: | 4 | 3.7 | 0.023 | 80 |
| $A_Z$: | 4 | 3.5 | 0.014 | 80 |

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 67 | April 1 | P | 14 05 19.3 | | | | | 324 | |
| | | L | 06 03.0 | | | | | | |
| | | ME | 07 06.5 | 2.7 | -25 | | | | |
| | | MN | 06 32.6 | 3.1 | | +38 | | | |
| | | MZ | 06 24.2 | 2.2 | | | -19 | | |
| | | FE | 11 56.8 | | | | | | |
| | | FN | 11 58.8 | | | | | | |
| | | FZ | 11 34.8 | | | | | | |
| 68 | " 4 | P | 5 09 52.6 | | | | | 3114 | |
| | | L | 10 34.9 | | | | | | |
| | | ME | 10 58.0 | 2.7 | +6 | | | | |
| | | MN | 10 49.2 | 2.1 | | -4 | | | |
| | | MZ | 11 16.8 | 2.0 | | | ±3 | | |
| | | FE | 13 45.3 | | | | | | |
| | | FN | 13 02.3 | | | | | | |
| | | FZ | 12 30.7 | | | | | | |
| 69 | " 4 | P | 9 33 52.5 | | | | | 1626 | |
| | | S | 36 41.1 | | | | | | |
| | | L | 41 05.7 | | | | | | |
| | | ME | 42 01.1 | 4.2 | ±4 | | | | |
| | | MN | 41 52.2 | 3.8 | | ±3 | | | |
| | | FE | 49 40.3 | | | | | | |
| | | FN | 49 33.6 | | | | | | |
| 70 | " 6 | eP | 6 10 32 45.4 | | | | | - | |
| | | L | - | | | | | | |
| | | FE | 16 34 36.6 | | | | | | |
| | | FN | 34 43.8 | | | | | | |
| 71 | " 9 | P | 4 19 38.4 | | | | | 139 | |
| | | L | 19 57.1 | | | | | | |
| | | ME | 20 17.5 | 3.3 | +6 | | | | |
| | | MN | 20 09.4 | 2.3 | | ±6 | | | |
| | | MZ | 20 02.0 | 2.0 | | | ±3 | | |
| | | FE | 21 30.2 | | | | | | |
| | | FN | 21 20.0 | | | | | | |
| | | FZ | 21 18.8 | | | | | | |
| 72 | " 9 | P | 23 47 52.3 | | | | | 487 | |
| | | L | 48 58.0 | | | | | | |
| | | ME | 49 21.3 | 2.7 | -14 | | | | |
| | | MN | 49 25.4 | 2.3 | | +13 | | | |
| | | MZ | 49 18.5 | 2.0 | | | +9 | | |
| | | FE | 53 11.3 | | | | | | |
| | | FN | 52 49.2 | | | | | | |
| | | FZ | 52 43.2 | | | | | | |
| 73 | " 21 | P | 10 23 04.7 | | | | | 2493 | |
| | | L | 27 09.2 | | | | | | |
| | | ME | 29 12.5 | 4.3 | +9 | | | | |
| | | MN | 28 18.0 | 3.1 | | +6 | | | |
| | | MZ | 28 23.4 | 3.0 | | | +5 | | |

From ..... to ..... 19 .....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 73 | April 21 | FE | 10 35 07.7 | | | | | | |
| | | FN | 35 11.4 | | | | | | |
| | | FZ | 33 02.0 | | | | | | |
| 74 | " 23 | P | 21 52 40.1 | | | | | 1610 | |
| | | L | 55 27.2 | | | | | | |
| | | ME | 57 37.6 | 3.8 | +24 | | | | |
| | | MN | 56 52.9 | 5.6 | | +28 | | | |
| | | FE | 22 10 18.8 | | | | | | |
| | | FN | 10 09.4 | | | | | | |
| 75 | " 2~~3~~4 | P | 0 27 42.5 | | | | | 584 | |
| | | L | 29 01.1 | | | | | | |
| | | MN | 29 03.4 | 3.2 | | -6 | | | |
| | | FE | 38 04.1 | | | | | | |
| 76 | " 25 | P | 12 32 49.1 | | | | | 352 | |
| | | L | 33 36.5 | | | | | | |
| | | ME | 34 00.9 | 1.7 | -4 | | | | |
| | | MN | 33 55.9 | 1.4 | | +6 | | | |
| | | FE | 37 13.8 | | | | | | |
| | | FN | 37 14.4 | | | | | | |
| 77 | " 26 | P | 16 25 15.8 | | | | | 3900 | |
| | | L | 30 57.1 | | | | | | |
| | | ME | 37 09.6 | 14.3 | +5/8 | | | | |
| | | MN | 37 02.0 | 18.2 | | ±53 | | | |
| | | FE | 17 01 03.7 | | | | | | |
| | | FN | 02 20.3 | | | | | | |
| 78 | " 28 | P | 19 48 09.6 | | | | | 2460 | |
| | | L | 52 11.4 | | | | | | |
| | | ME | 55 01.9 | 12.7 | +83 | | | | |
| | | MN | 53 41.6 | 20.0 | | +118 | | | |
| | | FE | 20 09 09.5 | | | | | | |
| | | FN | 10 14.3 | | | | | | |

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph
(Horizontal & Vertical)

| | $T_o$ | $\varepsilon$ | $\frac{r}{T_o^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 30 | - | 0.003 | 20 |
| $A_N$: | 30 | - | 0.003 | 20 |
| $A_z$: | 15 | - | 0.004 | 20 |

Wiechert Seismograph
(Horizontal & Vertical)

| | $T_o$ | $\varepsilon$ | $\frac{r}{T_o^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 4 | 3.2 | 0.03 | 80 |
| $A_N$: | 4 | 3.2 | 0.03 | 80 |
| $A_z$: | 6 | 2.0 | 0.05 | 80 |

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | 1930 | | | | | | | | |
| 79 | May 1 | P | 0 59 03.9 | | | | | 513 | |
| | | L | 1 00 13.0 | | | | | | |
| | | ME | 00 51.0 | 3.3 | -459 | | | | |
| | | MN | 00 54.6 | 3.2 | | +475 | | | |
| | | MZ | 00 42.0 | 2.3 | | | -369 | | |
| | | FE | 27 25.6 | | | | | | |
| | | FN | 27 19.7 | | | | | | |
| | | FZ | 23 20.0 | | | | | | |
| 80 | " 1 | P | 1 17 07.9 | | | | | 522 | |
| | | L | 18 18.2 | | | | | | |
| | | ME | 18 42.0 | 2.4 | +8 | | | | |
| | | MN | 18 28.2 | 2.4 | | +18 | | | |
| | | MZ | 18 42.6 | | | | +7 | | |
| | | FE | 20 45.7 | | | | | | |
| | | FN | 20 53.4 | | | | | | |
| | | FZ | 20 15.3 | | | | | | |
| 81 | " 1 | P | 4 21 35.3 | | | | | 502 | |
| | | L | 22 42.9 | | | | | | |
| | | ME | 23 34.1 | 3.9 | +106 | | | | |
| | | MN | 23 10.2 | 3.5 | | +139 | | | |
| | | MZ | 23 30.7 | 3.0 | | | -75 | | |
| | | FE | 34 25.2 | | | | | | |
| | | FN | 34 04.6 | | | | | | |
| | | FZ | 31 23.8 | | | | | | |
| 82 | " 2 | P | 20 52 55.5 | | | | | 68 | |
| | | L | 53 04.6 | | | | | | |
| | | ME | 53 37.2 | 1.6 | +6 | | | | |
| | | MN | 53 32.4 | 1.6 | | -3 | | | |
| | | FE | 54 47.2 | | | | | | |
| | | FN | 54 51.2 | | | | | | |
| 83 | " 5 | P | 13 52 48.6 | | | | | 4830 | |
| | | S | 59 21.6 | | | | | | |
| | | L | 14 06 03.2 | | | | | | |
| | | ME | 10 03.0 | 10.3 | +106 | | | | |
| | | MN | 07 02.3 | 10.5 | | -63 | | | |
| | | MZ | 10 06.2 | 7.7 | | | +52 | | |
| | | FE | 54 13.1 | | | | | | |
| | | FN | 53 42.9 | | | | | | |
| | | FZ | 50 55.3 | | | | | | |
| 84 | " 6 | P | 22 46 53.2 | | | | | 7232 | |
| | | S | 55 34.4 | | | | | | |
| | | L | 23 10 14.3 | | | | | | |
| | | ME | 21 25.1 | 16.1 | ±13 | | | | |
| | | MN | 20 01.0 | 15.8 | | -8 | | | |
| | | FE | 32 27.1 | | | | | | |
| | | FN | 32 21.3 | | | | | | |
| 85 | " 7 | P | 20 29 00.3 | | | | | 343 | |
| | | L | 29 46.5 | | | | | | |

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 85 | May 7 | ME | 20 30 09.7 | 2.1 | +4 | | | | |
| | | MN | 30 12.7 | 2.1 | | +4 | | | |
| | | FE | 32 36.1 | | | | | | |
| | | FN | 32 01.7 | | | | | | |
| 86 | " 7 | P | 20 41 58.6 | | | | | 369 | |
| | | L | 42 49.3 | | | | | | |
| | | ME | 43 02.3 | 2.0 | ±5 | | | | |
| | | MN | 43 15.4 | 2.9 | | +8 | | | |
| | | FE | 47 04.6 | | | | | | |
| | | FN | 47 14.0 | | | | | | |
| 87 | " 7 | P | 22 43 39.6 | | | | | 306 | |
| | | L | 44 20.8 | | | | | | |
| | | ME | 44 36.8 | 1.5 | -5 | | | | |
| | | MN | 44 42.8 | 1.9 | | +5 | | | |
| | | FE | 46 55.5 | | | | | | |
| | | FN | 46 25.5 | | | | | | |
| 88 | " 8 | P | 4 25 57.1 | | | | | 311 | |
| | | L | 26 39.0 | | | | | | |
| | | ME | 27 15.3 | 2.1 | ±5 | | | | |
| | | MN | 27 05.6 | 3.0 | | +9 | | | |
| | | FE | 29 53.1 | | | | | | |
| | | FN | 29 55.1 | | | | | | |
| 89 | " 8 | P | 12 55 46.4 | | | | | 5241 | |
| | | S | 13 02 42.2 | | | | | | |
| | | ME | 02 56.3 | 5.7 | ±6 | | | | |
| | | MN | 02 58.2 | 4.2 | | ±4 | | | |
| | | FE | 08 21.7 | | | | | | |
| | | FN | 08 59.2 | | | | | | |
| 90 | " 8 | P | 15 51 04.7 | | | | | 334 | |
| | | L | 51 49.7 | | | | | | |
| | | ME | 52 14.0 | 2.3 | +6 | | | | |
| | | MN | 52 11.0 | 1.9 | | +5 | | | |
| | | FE | 54 04.5 | | | | | | |
| | | FN | 53 55.3 | | | | | | |
| 91 | " 8 | P | 16 05 06.5 | | | | | 321 | |
| | | L | 05 49.8 | | | | | | |
| | | ME | 06 12.5 | 1.9 | ±6 | | | | |
| | | MN | 06 17.8 | 2.3 | | ±7 | | | |
| | | FE | 08 15.9 | | | | | | |
| | | FN | 08 24.2 | | | | | | |
| 92 | " 8 | P | 16 14 07.7 | | | | | 50 | |
| | | L | 14 14.4 | | | | | | |
| | | FE | 15 43.1 | | | | | | |
| | | FN | 15 44.4 | | | | | | |
| 93 | " 8 | P | 19 49 31.0 | | | | | 366 | |
| | | L | 50 20.2 | | | | | | |
| | | ME | 50 32.5 | 1.0 | +2 | | | | |
| | | MN | 50 48.8 | 2.1 | | -2 | | | |
| | | FE | 52 22.9 | | | | | | |
| | | FN | 52 21.8 | | | | | | |
| 94 | " 8 | P | 19 53 09.4 | | | | | 309 | |
| | | L | 53 51.0 | | | | | | |
| | | ME | 53 49.7 | 2.1 | ±3 | | | | |
| | | MN | 54 07.5 | 1.9 | | ±3 | | | |
| | | FE | 55 53.8 | | | | | | |
| | | FN | 56 00.4 | | | | | | |

From ..... to ..... 19 .....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 95 | May 8 | P | 2I IO 39.3 | | | | | 336 | |
| | | L | II 24.6 | | | | | | |
| | | ME | II 33.0 | 2.8 | ±6 | | | | |
| | | MN | II 37.7 | 2.8 | | ±5 | | | |
| | | FE | I3 41.8 | | | | | | |
| | | FN | I3 34.) | | | | | | |
| 96 | " 9 | P | 2 53 2[illegible].5 | | | | | 366 | |
| | | L | 54 09.7 | | | | | | |
| | | ME | 54 35.3 | 2.9 | +I9 | | | | |
| | | MN | 54 39.1 | 3.4 | | ±37 | | | |
| | | FE | 3 02 05.3 | | | | | | |
| | | FN | 01 59.4 | | | | | | |
| 97 | " 9 | P | 8 37 06.2 | | | | | 394 | |
| | | L | 37 59.3 | | | | | | |
| | | ME | 38 53.4 | 3.6 | ±6 | | | | |
| | | MN | 38 18.1 | 3.4 | | -I3 | | | |
| | | FE | 43 01.1 | | | | | | |
| | | FN | 42 35.6 | | | | | | |
| 98 | " 9 | P | I8 33 48.2 | | | | | 334 | |
| | | L | 34 33.2 | | | | | | |
| | | ME | 34 56.1 | 3.4 | ±9 | | | | |
| | | MN | 34 51.8 | 3.4 | | -II | | | |
| | | FE | 38 07.0 | | | | | | |
| | | FN | 38 28.0 | | | | | | |
| 99 | " 9 | P | 19 51 46.2 | | | | | 351 | |
| | | L | 52 33.4 | | | | | | |
| | | ME | 52 44.7 | 1.9 | +7 | | | | |
| | | MN | 52 41.7 | 2.3 | | +8 | | | |
| | | FE | 56 34.9 | | | | | | |
| | | FN | 56 42.4 | | | | | | |
| I00 | " I0 | P | II 30 32.6 | | | | | 392 | |
| | | L | 31 12.0 | | | | | | |
| | | ME | 3I 21.4 | 1.9 | ±4 | | | | |
| | | MN | 31 27.2 | 1.9 | | ±5 | | | |
| | | FE | 34 43.9 | | | | | | |
| | | FN | 34 40.1 | | | | | | |
| 101 | " 10 | P | 12 04 19.4 | | | | | 1913 | |
| | | L | 07 34.8 | | | | | | |
| | | ME | 08 25.2 | 3.8 | -16 | | | | |
| | | MN | 07 38.1 | 3.4 | | +13 | | | |
| | | FE | 13 41.9 | | | | | | |
| | | fn | 14 10.0 | | | | | | |
| 102 | " 10 | P | 15 02 09.3 | | | | | 306 | |
| | | L | 02 50.5 | | | | | | |
| | | ME | 03 15.3 | 1.9 | +5 | | | | |
| | | MN | 03 22.7 | 1.9 | | -6 | | | |
| | | FE | 05 09.6 | | | | | | |
| | | FN | 04 47.4 | | | | | | |
| 103 | " 10 | P | 17 21 34.5 | | | | | 161 | |
| | | L | 21 56.1 | | | | | | |
| | | ME | 21 56.5 | 1.9 | +5 | | | | |
| | | MN | 22 06.2 | 2.3 | | -6 | | | |
| | | FE | 23 533 | | | | | | |
| | | FN | 24 06.7 | | | | | | |
| 104 | " 12 | P | 12 27 30.8 | | | | | 393 | |
| | | L | 28 23.7 | | | | | | |
| | | ME | 28 47.9 | 2.4 | -125 | | | | |
| | | MN | 29 00.2 | 2.4 | | +107 | | | |

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### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 104 | May 12 | MZ | 12 28 42.5 | 2.0 | | | | | |
| | | FE | 33 46.4 | | | | | | |
| | | FN | 34 06.9 | | | | | | |
| | | FZ | 32 29.1 | | | | | | |
| 105 | " 13 | P | 0 03 34.1 | | | | | 369 | |
| | | L | 04 23.8 | | | | | | |
| | | ME | 05 11.6 | 3.6 | ±3 | | | | |
| | | MN | 04 48.2 | 3.1 | | -4 | | | |
| | | FE | 08 08.9 | | | | | | |
| | | FN | 07 46.7 | | | | | | |
| 106 | " 13 | P | 19 52 14.3 | | | | | 282 | |
| | | L | 52 52.2 | | | | | | |
| | | ME | 53 44.1 | 2.3 | +4 | | | | |
| | | MN | 53 49.5 | 2.8 | | +4 | | | |
| | | FE | 54 35.0 | | | | | | |
| | | FN | 55 28.9 | | | | | | |
| 107 | " 13 | P | 23 47 03.9 | | | | | 3455 | |
| | | L | 47 51.7 | | | | | | |
| | | ME | 47 31.7 | 2.1 | -4 | | | | |
| | | MN | 48 06.7 | 1.9 | | +5 | | | |
| | | FE | 50 33.9 | | | | | | |
| | | FN | 50 43.3 | | | | | | |
| 108 | " 13 | P | 23 57 186 | | | | | 336 | |
| | | L | 58 03.9 | | | | | | |
| | | ME | 58 27.3 | 2.4 | +19 | | | | |
| | | MN | 58 33.9 | 2.3 | | -31 | | | |
| | | FE | 0 08 02.1 | | | | | | |
| | | FN | 08 28.3 | | | | | | |
| 109 | " 14 | P | 8 35 47.0 | | | | | 297 | |
| | | L | 36 27.0 | | | | | | |
| | | ME | 36 51.6 | 2.1 | +37 | | | | |
| | | MN | 36 44.6 | 2.3 | | -25 | | | |
| | | FE | 42 43.0 | | | | | | |
| | | FN | 42 32.7 | | | | | | |
| 110 | " 14 | P | 16 34 31.6 | | | | | 833 | |
| | | L | 36 23.8 | | | | | | |
| | | ME | 36 27.9 | 3.0 | +14 | | | | |
| | | MN | 36 50.4 | 2.3 | | -19 | | | |
| | | FE | 42 41.0 | | | | | | |
| | | FN | 42 29.8 | | | | | | |
| 111 | " 15 | P | 6 42 54.3 | | | | | 25 | |
| | | L | 42 57.7 | | | | | | |
| | | ME | 43 10.8 | 0.4 | +16 | | | | |
| | | MN | 43 12.7 | 0.4 | | +11 | | | |
| | | FE | 44 46.8 | | | | | | |
| | | FN | 44 39.3 | | | | | | |
| 112 | " 15 | P | 6 58 51.4 | | | | | 366 | |
| | | L | 59 40.7 | | | | | | |
| | | ME | 7 00 54.2 | 3.0 | -11 | | | | |
| | | MN | 01 09.2 | 2.4 | | +14 | | | |
| | | FE | 07 12.0 | | | | | | |
| | | FN | 07 10.2 | | | | | | |
| 113 | " 15 | P | 7 44 14.0 | | | | | 357 | |
| | | L | 45 02.1 | | | | | | |
| | | ML | 45 13.3 | 2.0 | +5 | | | | |
| | | MN | 45 29.7 | 2.2 | | +7 | | | |
| | | FE | 48 09.1 | | | | | | |
| | | FN | 46 21.1 | | | | | | |

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## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 114 | May 15 | P | 10 13 55.4 | | | | | 361 | |
| | | L | 14 44.0 | | | | | | |
| | | ME | 16 58.3 | 4.3 | +5 | | | | |
| | | MN | 17 47.4 | 4.4 | | ±4 | | | |
| | | FE | 22 23.8 | | | | | | |
| | | FN | 23 01.7 | | | | | | |
| 115 | " 15 | P | 10 26 41.4 | | | | | 347 | |
| | | L | 27 28.2 | | | | | | |
| | | MN | 27 47.2 | 3.8 | | -8 | | | |
| | | FN | 30 17.0 | | | | | | |
| 116 | " 15 | P | 12 50 06.7 | | | | | 379 | |
| | | L | 50 57.8 | | | | | | |
| | | ME | 51 57.2 | 2.5 | ±6 | | | | |
| | | MN | 51 21.9 | 2.3 | | +8 | | | |
| | | FE | 54 23.4 | | | | | | |
| | | FN | 53 51.5 | | | | | | |
| 117 | " 15 | P | 19 40 34.2 | | | | | 504 | |
| | | L | 41 42.1 | | | | | | |
| | | ME | 42 36.4 | 4.0 | +7 | | | | |
| | | MN | 42 35.6 | 2.8 | | +13 | | | |
| | | FE | 46 37.4 | | | | | | |
| | | FN | 46 48.8 | | | | | | |
| 118 | " 16 | P | 13 35 34.6 | | | | | 266 | |
| | | L | 36 10.4 | | | | | | |
| | | ME | 36 32.9 | 2.1 | -9 | | | | |
| | | MN | 36 34.8 | 2.3 | | +8 | | | |
| | | FE | 39 49.8 | | | | | | |
| | | FN | 40 03.1 | | | | | | |
| 119 | " 16 | P | 20 14 55.7 | | | | | 375 | |
| | | L | 15 46.2 | | | | | | |
| | | ME | 16 08.4 | 3.4 | +181 | | | | |
| | | MN | 16 21.9 | 4.0 | | -275 | | | |
| | | MZ | 16 07.1 | 3.0 | | | -150 | | |
| | | FE | 39 19.1 | | | | | | |
| | | FN | 39 49.0 | | | | | | |
| | | FZ | 28 10.5 | | | | | | |
| 120 | " 18 | P | 0 10 27.3 | | | | | 895 | |
| | | S | 12 27.9 | | | | | | |
| | | L | 16 09.4 | | | | | | |
| | | ME | 17 36.9 | 4.3 | -7 | | | | |
| | | MN | 17 01.9 | 3.8 | | +5 | | | |
| | | FE | 27 39.5 | | | | | | |
| | | FN | 27 30.0 | | | | | | |
| 121 | " 18 | P | 6 27 03.6 | | | | | 323 | |
| | | L | 27 47.1 | | | | | | |
| | | ME | 29 01.6 | 3.0 | -8 | | | | |
| | | MN | 28 22.5 | 2.6 | | +8 | | | |
| | | MZ | 28 40.9 | 2.0 | | | ±3 | | |
| | | FE | 34 32.4 | | | | | | |
| | | FN | 34 30.7 | | | | | | |
| | | FZ | 32 19.9 | | | | | | |
| 122 | " 19 | P | 3 58 03.9 | | | | | 875 | |
| | | L | 4 00 01.8 | | | | | | |
| | | ME | 01 20.1 | 4.0 | +6 | | | | |
| | | MN | 01 07.7 | 3.9 | | +7 | | | |
| | | MZ | 01 43.4 | 3.5 | | | +3 | | |
| | | FE | 05 28.2 | | | | | | |
| | | FN | 05 56.4 | | | | | | |
| | | FZ | 04 23.2 | | | | | | |

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### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 123 | May 19 | eP | 10 34 31.9 | | | | | 274 | |
| | | L | 35 08.8 | | | | | | |
| | | ME | 35 32.0 | 2.0 | -4 | | | | |
| | | MN | 35 25.7 | 2.3 | | ±8 | | | |
| | | MZ | 35 27.6 | 1.8 | | | +3 | | |
| | | FE | 37 36.6 | | | | | | |
| | | FN | 37 25.0 | | | | | | |
| | | FZ | 37 23.4 | | | | | | |
| 124 | " 19 | P | 15 07 58.8 | | | | | 2124 | |
| | | L | 11 33.3 | | | | | | |
| | | ME | 12 06.7 | 4.8 | +93 | | | | |
| | | MN | 11 58.3 | 4.7 | | -56 | | | |
| | | MZ | 12 10.7 | 4.0 | | | +38 | | |
| | | FE | 24 05.0 | | | | | | |
| | | FN | 24 18.5 | | | | | | |
| | | FZ | 21 51.6 | | | | | | |
| 125 | " 20 | P | 7 50 23.8 | | | | | 1335 | |
| | | L | 52 23.8 | | | | | | |
| | | ME | 53 21.7 | 3.6 | +6 | | | | |
| | | MN | 53 00.5 | 4.1 | | +8 | | | |
| | | MZ | 53 00.1 | 3.6 | | | +6 | | |
| | | FE | 8 04 47.9 | | | | | | |
| | | FN | 04 51.9 | | | | | | |
| | | FZ | 03 18.1 | | | | | | |
| 126 | " 20 | P | 11 21 48.7 | | | | | 1717 | |
| | | S | 24 46.6 | | | | | | |
| | | L | 27 32.7 | | | | | | |
| | | ME | 28 11.2 | 4.1 | +5 | | | | |
| | | MN | 27 45.1 | | | ±3 | | | |
| | | FE | 40 57.4 | | | | | | |
| | | FN | 40 26.2 | | | | | | |
| 127 | " 20 | P | 22 12 35.3 | | | | | 367 | |
| | | L | 13 24.7 | | | | | | |
| | | ME | 14 21.8 | 2.4 | +9 | | | | |
| | | MN | 13 58.8 | 2.3 | | +13 | | | |
| | | MZ | 14 20.9 | 2.0 | | | +5 | | |
| | | FE | 17 44.3 | | | | | | |
| | | FN | 17 46.2 | | | | | | |
| | | FZ | 16 34.4 | | | | | | |
| 128 | " 21 | P | 17 38 05.5 | | | | | 312 | |
| | | L | 38 47.5 | | | | | | |
| | | ME | 39 23.4 | 2.9 | +8 | | | | |
| | | MN | 39 16.2 | 3.1 | | -19 | | | |
| | | MZ | 39 08.8 | 2.2 | | | +7 | | |
| | | FE | 43 19.1 | | | | | | |
| | | FN | 44 18.2 | | | | | | |
| | | FZ | 42 01.7 | | | | | | |
| 129 | " 23 | P | 16 39 04.4 | | | | | 302 | |
| | | L | 39 45.1 | | | | | | |
| | | ME | 40 55.0 | 2.3 | +444 | | | | |
| | | MN | 40 53.1 | 2.3 | | +408 | | | |
| | | FE | 17 07 25.0 | | | | | | |
| | | FN | 07 10.0 | | | | | | |
| 130 | " 23 | P | 21 35 30.5 | | | | | 564 | |
| | | L | 36 46.5 | | | | | | |
| | | FMN | 41 02.9 | | | | | | |

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From ..... to ..... 19 30

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 131 | May 26 | P | 9 08 58.9 | | | | | 927 | |
| | | L | 11 03.8 | | | | | | |
| | | ME | 11 25.2 | 3.8 | +9 | | | | |
| | | MN | 11 56.8 | 4.2 | | +8 | | | |
| | | FE | 18 08.2 | | | | | | |
| | | FN | 18 36.0 | | | | | | |
| 132 | " 28 | P | 19 33 13.5 | | | | | 459 | |
| | | L | 34 15.3 | | | | | | |
| | | ME | 34 41.3 | 2.4 | ±5 | | | | |
| | | MN | 34 50.9 | 2.2 | | ±8 | | | |
| | | FE | 38 16.9 | | | | | | |
| | | FN | 38 26.5 | | | | | | |

**No. 19.** From May 31st, to June 29th, 1930.

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

| | $T_0$ | $\varepsilon$ | $\frac{r}{T_0^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 30 | - | 0.003 | 20 |
| $A_N$: | 30 | - | 0.003 | 20 |
| $A_Z$: | 15 | - | 0.004 | 20 |

Wiechert Seismograph (Horizontal & Vertical)

| | $T_0$ | $\varepsilon$ | $\frac{r}{T_0^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 4 | 3.2 | 0.003 | 80 |
| $A_N$: | 4 | 3.2 | 0.003 | 80 |
| $A_Z$: | 6 | 2.0 | 0.005 | 80 |

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | 1930 | | | | | | | | |
| 133 | May 31 | P | 17 59 32.1 | | | | | 498 | |
| | | L | 18 00 39.2 | | | | | | |
| | | ME | 01 21.5 | 1.9 | +563 | | | | |
| | | MN | 01 19.3 | 1.7 | | +788 | | | |
| | | FE | 19 50.6 | | | | | | |
| | | FN | 20 05.5 | | | | | | |
| 134 | June 3 | P | 18 14 21.5 | | | | | 417 | |
| | | L | 15 17.6 | | | | | | |
| | | ME | 15 58.0 | 2.9 | -4 | | | | |
| | | MN | 16 14.1 | 3.7 | | -4 | | | |
| | | MZ | 16 14.1 | 2.5 | | | ±3 | | |
| | | FE | 24 44.1 | | | | | | |
| | | FM | 24 33.2 | | | | | | |
| | | FZ | 19 44.0 | | | | | | |
| 135 | " 3 | P | 19 57 32.1 | | | | | 674 | |
| | | L | 59 02.9 | | | | | | |
| | | ME | 59 30.5 | 4.4 | +11 | | | | |
| | | MN | 59 52.7 | 3.9 | | ±11 | | | |
| | | MZ | 59 28.7 | 2.5 | | | ±6 | | |
| | | FE | 20 07 13.9 | | | | | | |
| | | FN | 06 43.3 | | | | | | |
| | | FZ | 03 23.9 | | | | | | |
| 136 | " 4 | P | 9 57 39.4 | | | | | 3197 | |
| | | L | 10 02 35.7 | | | | | | |
| | | ME | 07 35.1 | 4.7 | +9 | | | | |
| | | MN | 07 31.3 | 4.4 | | -14 | | | |
| | | FE | 16 11.4 | | | | | | |
| | | FN | 16 05.0 | | | | | | |
| 137 | " 8 | P | 15 48 11.5 | | | | | 344 | |
| | | L | 48 57.9 | | | | | | |
| | | ME | 49 50.5 | 2.6 | +5 | | | | |
| | | MN | 49 45.9 | 3.6 | | ±7 | | | |
| | | MZ | 49 30.1 | 2.4 | | | ±3 | | |
| | | FE | 53 41.5 | | | | | | |
| | | FN | 54 04.2 | | | | | | |
| | | FZ | 51 27.5 | | | | | | |
| 138 | " 11 | P | 0 57 31.7 | | | | | 5002 | |
| | | L | 1 04 14.6 | | | | | | |
| | | ME | 08 14.2 | 5.3 | +13 | | | | |
| | | MN | 07 50.9 | 5.7 | | -12 | | | |
| | | MZ | 07 54.3 | 4.8 | | | +6 | | |
| | | FE | 34 28.6 | | | | | | |
| | | FN | 34 16.6 | | | | | | |
| | | FZ | 33 24.6 | | | | | | |
| 139 | " 13 | P | 1 01 49.7 | | | | | 4632 | |
| | | L | 08 12.0 | | | | | | |
| | | ME | 09 17.4 | 5.0 | +3 | | | | |
| | | MN | 08 58.0 | 3.6 | | -6 | | | |

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From ..... to ..... 19 .....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 139 | 1930 June 13 | MZ | 1 08 29.6 | 5.0 | | | -3 | | |
| | | FE | 15 51.0 | | | | | | |
| | | FN | 16 17.9 | | | | | | |
| | | FZ | 14 44.0 | | | | | | |
| 140 | " 17 | P | 3 01 14.6 | | | | | 217 | |
| | | L | 01 43.8 | | | | | | |
| | | ME | 02 40.1 | 2.8 | +13 | | | | |
| | | MN | 02 29.7 | 2.3 | | -14 | | | |
| | | FE | 07 58.8 | | | | | | |
| | | FN | 07 55.1 | | | | | | |
| 141 | " 18 | P | 12 13 26.8 | | | | | 528 | |
| | | L | 14 38.0 | | | | | | |
| | | ME | 15 24.4 | 2.5 | +18 | | | | |
| | | MN | 15 19.2 | 2.5 | | +30. | | | |
| | | MZ | 15 19.5 | 2.0 | | | +8 | | |
| | | FE | 22 21.5 | | | | | | |
| | | FN | 22 04.3 | | | | | | |
| | | FZ | 21 47.9 | | | | | | |
| 142 | " 18 | P | 20 46 49.2 | | | | | 1894 | |
| | | L | 50 02.6 | | | | | | |
| | | ME | 50 23.9 | 2.6 | ±4 | | | | |
| | | MN | 50 23.9 | 2.6 | | -6 | | | |
| | | FE | 54 29.3 | | | | | | |
| | | FN | 54 23.5 | | | | | | |
| | | FZ | 51 31.8 | | | | | | |
| 143 | " 21 | P | 9 48 43.3 | | | | | 1565 | |
| | | L | 51 26.8 | | | | | | |
| | | FE | 10 00 08.3 | | | | | | |
| | | FN | 00 12.3 | | | | | | |
| | | FZ | 9 57 10.0 | | | | | | |
| 4 | " 29 | P | 6 15 07.1 | | | | | 460 | |
| | | L | 16 09.1 | | | | | | |
| | | ME | 16 26.2 | 2.4 | +7 | | | | |
| | | MN | 16 43.1 | 2.3 | | -8 | | | |
| | | MZ | 16 41.4 | 2.1 | | | +5 | | |
| | | FE | 19 37.6 | | | | | | |
| | | FN | 19 54.3 | | | | | | |
| | | FZ | 18 37.1 | | | | | | |
| 145 | " 29 | P | 0 26 12.5 | | | | | 458 | |
| | | L | 27 14.2 | | | | | | |
| | | ME | 27 32.5 | 2.1 | +6 | | | | |
| | | MN | 27 36.1 | 2.5 | | +14 | | | |
| | | MZ | 28 15.4 | 2.0 | | | +3 | | |
| | | FE | 30 19.9 | | | | | | |
| | | FN | 30 29.8 | | | | | | |
| | | FZ | 30 11.9 | | | | | | |

No. 21. From July 2nd to July 30 19

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

| | $T_0$ | $\varepsilon$ | $\frac{r}{T_0^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 30 | - | 0.003 | 20 |
| $A_N$: | 30 | - | 0.003 | 20 |
| $A_Z$: | 15 | - | 0.004 | 20 |

Wiechert Seismograph (Horizontal & Vertical)

| | $T_0$ | $\varepsilon$ | $\frac{r}{T_0^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 4 | 3.2 | 0.003 | 80 |
| $A_N$: | 4 | 3.2 | 0.003 | 80 |
| $A_Z$: | 6 | 2.0 | 0.005 | 80 |

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | 1930 | | | | | | | | |
| 146 | July 2 | P | 8 18 52.9 | | | | | 125 | |
| | | L | 19 09.7 | | | | | | |
| | | ME | 19 11.3 | 0.3 | ±23 | | | | |
| | | MN | 19 11.9 | 0.3 | | -13 | | | |
| | | MZ | 19 24.3 | 0.3 | | | ±5 | | |
| | | FE | 21 51.5 | | | | | | |
| | | FN | 21 45.7 | | | | | | |
| | | FZ | 21 14.1 | | | | | | |
| 147 | " 2 | P | 21 11 15.4 | | | | | 3878 | |
| | | S | 16 55,8 | | | | | | |
| | | L | ~~30~~25 29.5 | | | | | | |
| | | ME | 30 42.6 | 11.9 | -37 | | | | |
| | | MN | 26 02.5 | 7.1 | | -20 | | | |
| | | MZ | 30 45.1 | 5.7 | | | -15 | | |
| | | FE | 22 00 26.0 | | | | | | |
| | | FN | 00 21.7 | | | | | | |
| | | FZ | 21 55 32.0 | | | | | | |
| 148 | " 4 | P | 13 38 40.7 | | | | | 45 | |
| | | L | 38 46.8 | | | | | | |
| | | ME | 38 46.9 | 0.4 | +8 | | | | |
| | | MN | 38 52.0 | 0.4 | | +3 | | | |
| | | MZ | 38 46.8 | 0.4 | | | +1 | | |
| | | FE | 41 13.1 | | | | | | |
| | | FN | 41 02.6 | | | | | | |
| | | FZ | 39 58.5 | | | | | | |
| 149 | " 4 | P | 16 35 32.2 | | | | | 284 | |
| | | L | 36 10.5 | | | | | | |
| | | ME | 36 38.4 | 2.4 | +8 | | | | |
| | | MN | 36 25.2 | 2.8 | | +13 | | | |
| | | MZ | 36 20.2 | 2.0 | | | +5 | | |
| | | FE | 39 44.4 | | | | | | |
| | | FN | 39 43.2 | | | | | | |
| | | FZ | 37 30.7 | | | | | | |
| 150 | " 5 | P | 8 58 59.1 | | | | | 302 | |
| | | L | 59 39.7 | | | | | | |
| | | ME | 9 00 12.8 | 2.4 | +7 | | | | |
| | | MN | 00 14.5 | 2.4 | | +10 | | | |
| | | MZ | 00 10.8 | 2.2 | | | -4 | | |
| | | FE | 03 57.3 | | | | | | |
| | | FN | 04 33.6 | | | | | | |
| | | FZ | 02 02.1 | | | | | | |
| 151 | " 5 | P | 18 04 24.3 | | | | | 5404 | |
| | | L | 11 28.8 | | | | | | |
| | | ME | 12 01.9 | 4.4 | ±6 | | | | |
| | | MN | 11 58.3 | 4.0 | | +10 | | | |
| | | MZ | 11 47.1 | 4.4 | | | +4 | | |
| | | FE | 21 09.4 | | | | | | |
| | | FN | 21 07.3 | | | | | | |
| | | FZ | 16 28.3 | | | | | | |

No. 22.

From ..... to ..... 19 .....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 152 | 1930 July 10 | P | 11 30 21.1 | | | | | 297 | |
| | | L | 39 01.1 | | | | | | |
| | | ME | 39 34.9 | 2.2 | -6 | | | | |
| | | MN | 39 24.0 | 2.6 | | +22 | | | |
| | | MZ | 39 25.1 | 2.0 | | | -6 | | |
| | | FE | 44 57.5 | | | | | | |
| | | FN | 44 55.1 | | | | | | |
| | | FZ | 43 06.8 | | | | | | |
| 153 | " 10 | P | 12 34 53.7 | | | | | 2394 | |
| | | L | 38 50.2 | | | | | | |
| | | ME | 39 50.6 | 3.8 | -14 | | | | |
| | | MN | 39 46.0 | 3.8 | | +20 | | | |
| | | MZ | 39 45.3 | 3.2 | | | +6 | | |
| | | FE | 46 24.9 | | | | | | |
| | | FN | 45 56.5 | | | | | | |
| | | FZ | 44 30.7 | | | | | | |
| 154 | " 13 | P | 19 33 34.4 | | | | | 3247 | |
| | | S | 38 35.3 | | | | | | |
| | | L | 44 15.5 | | | | | | |
| | | MN | 45 12.8 | 10.6 | | +8 | | | |
| | | FE | 20 14 09.5 | | | | | | |
| 155 | " 14 | P | 10 26 10.2 | | | | | 330 | |
| | | L | 26 54.6 | | | | | | |
| | | ME | 27 34.6 | 3.2 | +8 | | | | |
| | | MN | 27 10.6 | 3.6 | | -11 | | | |
| | | MZ | 27 34.8 | 2.6 | | | -5 | | |
| | | FE | 31 01.2 | | | | | | |
| | | FN | 30 53.6 | | | | | | |
| | | FZ | 30 27.9 | | | | | | |
| 156 | " 16 | P | 16 28 04.3 | | | | | 55 | |
| | | L | 28 11.6 | | | | | | |
| | | ME | 28 11.6 | 0.4 | +19 | | | | |
| | | MN | 28 13.1 | 0.4 | | -14 | | | |
| | | MZ | 28 11.6 | 0.3 | | | -5 | | |
| | | FE | 30 34.3 | | | | | | |
| | | FN | 30 35.3 | | | | | | |
| | | FZ | 30 24.8 | | | | | | |
| 157 | " 22 | P | 19 28 56.5 | | | | | 1704 | |
| | | L | 31 53.0 | | | | | | |
| | | ME | 32 22.2 | 2.4 | +45 | | | | |
| | | MN | 32 26.8 | 2.2 | | +74 | | | |
| | | MZ | 32 32.2 | 2.0 | | | -33 | | |
| | | FE | 53 59.0 | | | | | | |
| | | FN | 53 01.3 | | | | | | |
| | | FZ | 42 37.6 | | | | | | |
| 158 | " 23 | P | 0 31 32.6 | | | | | 9112 | |
| | | S | 41 48.9 | | | | | | |
| | | L | 55 40.4 | | | | | | |
| | | MN | 1 00 44.0 | 17.1 | | +9 | | | |
| | | FN | 34 35.6 | | | | | | |
| 159 | " 23 | P | - 2 | | | | | - | |
| | | S | 18 58 34.6 | | | | | | |
| | | L | 19 05 49.5 | | | | | | |
| | | MN | 09 07.3 | 9.6 | | +2 | | | |
| | | FN | 23 32.0 | | | | | | |
| 160 | " 30 | P | 6 42 08.4 | | | | | 338 | |
| | | L | 42 53.9 | | | | | | |
| | | ME | 43 15.9 | 2.1 | +10 | | | | |
| | | MN | 43 06.1 | 2.1 | | +13 | | | |
| | | FE | 46 05.6 | | | | | | |
| | | FN | 46 01.4 | | | | | | |

No. 23. From Aug. 4th to Aug. 30th, 19

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

| | $T_o$ | $\epsilon$ | $\frac{r}{T_o^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 30 | - | 0,003 | 20 |
| $A_N$: | 30 | - | 0.003 | 20 |
| $A_Z$: | 15 | - | 0.004 | 20 |

Wiechert Seismograph (Horizontal & Vertical)

| | $T_o$ | $\epsilon$ | $\frac{r}{T_o^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 4 | 3.2 | 0.003 | 80 |
| $A_N$: | 4 | 3.2 | 0.003 | 20 |
| $A_Z$: | 6 | 2.0 | 0.005 | 80 |

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | 1930 | | | | | | | | |
| 161 | Aug. 4 | e.P | 5 22 58.5 | | | | | 5960 | |
| | | S | 30 32.5 | | | | | | |
| | | FE | 42 31.8 | | | | | | |
| | | FN | 42 48.2 | | | | | | |
| | | FZ | 40 56.8 | | | | | | |
| 162 | " 6 | P | 21 34 20.6 | | | | | 874 | |
| | | L | 34 31.9 | | | | | | |
| | | ME | 34 32.1 | 0.4 | +10 | | | | |
| | | MN | 34 31.9 | 0.3 | | -16 | | | |
| | | MZ | 34 31.9 | 0.2 | | | +5 | | |
| | | FE | 36 53.6 | | | | | | |
| | | FN | 36 48.6 | | | | | | |
| | | FZ | 36 08.6 | | | | | | |
| 163 | " 10 | P | 13 11 38.9 | | | | | 269 | |
| | | L | 12 15.1 | | | | | | |
| | | ME | 13 0.04 | 3.0 | -11 | | | | |
| | | MN | 13 07.7 | 3/.0 | | +13 | | | |
| | | MZ | 12 48.3 | 2.4 | | | -6 | | |
| | | FE | 16 26.4 | | | | | | |
| | | FN | 16 24.5 | | | | | | |
| | | FZ | 16 23.4 | | | | | | |
| 164 | " 14 | P | 19 17 30.7 | | | | | 55 | |
| | | L | 17 38.0 | | | | | | |
| | | ME | 17 38.0 | 0.4 | +6 | | | | |
| | | MN | 17 38.0 | 0.4 | | -8 | | | |
| | | FE | 18 52.2 | | | | | | |
| | | FN | 18 50.2 | | | | | | |
| | | FZ | 18 37.7 | | | | | | |
| 165 | " 15 | P | 2 44 06.7 | | | | | 338 | |
| | | L | 44 52.2 | | | | | | |
| | | ME | 45 11.7 | 2.2 | +10 | | | | |
| | | MN | 45 11.2 | 2.3 | | +16 | | | |
| | | MZ | 45 41.1 | 2.0 | | | +6 | | |
| | | FE | 49 08.1 | | | | | | |
| | | FN | 49 08.5 | | | | | | |
| | | FZ | 48 26.5 | | | | | | |
| 166 | " 15 | P | 5 59 38.0 | | | | | 148 | |
| | | L | 59 57.9 | | | | | | |
| | | FE | 6 02 30.7 | | | | | | |
| | | Fn | 02 06.7 | | | | | | |
| 167 | " 17 | P | 9 29 39.1 | | | | | 390 | |
| | | L | 30 21.6 | | | | | | |
| | | $ME_1$ | 31 13.2 | 2.3 | +186 | | | | |
| | | $MN_1$ | 30 58.2 | 2.2 | | +225 | | | |
| | | $MZ_1$ | 30 55.2 | 2.6 | | | +100 | | |
| | | $Me_2$ | 31 38.6 | 3.2 | -188 | | | | |
| | | $MN_2$ | 31 39.7 | 2.3 | | +218 | | | |
| | | $MZ_2$ | 31 24.3 | 2.3 | | | +88 | | |

No. 24.

From ..... to ..... 19 .....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| L67 | Aug. 17 | FE | 9 48 37.8 | | | | | | |
| | | FN | 48 02.1 | | | | | | |
| | | FZ | 42.52.6 | | | | | | |
| 168 | " 18 | P | 10 12 44.4 | | | | | | |
| | | S | 17 40.4 | | | | | 3195 | |
| | | L | 24 41.3 | | | | | | |
| | | ME | 25 54.5 | 5.6 | +8 | | | | |
| | | MN | 25 30.1 | 3.9 | | +6 | | | |
| | | FE | 32 05.7 | | | | | | |
| | | FN | 32 54.7 | | | | | | |
| 169 | " 18 | P | 19 43 35.4 | | | | | | |
| | | L | 44 44.9 | | | | | 517 | |
| | | ME | 45 36.0 | 2.6 | -19 | | | | |
| | | MN | 45 26.2 | 3.6 | | +30 | | | |
| | | FE | 50 23.1 | | | | | | |
| | | FN | 50 44.0 | | | | | | |
| 170 | " 19 | P | 12 41 19.8 | | | | | | |
| | | L | 41 59.8 | | | | | 297 | |
| | | ME | 43 08.4 | 2.1 | +14 | | | | |
| | | MN | 42 23.5 | 2.0 | | ±20 | | | |
| | | MZ | 42 28.0 | 1.9 | | | -8 | | |
| | | FE | 47 28.8 | | | | | | |
| | | FN | 47 25.1 | | | | | | |
| | | FZ | 46 04.6 | | | | | | |
| 171 | " 19 | P | 17 42 56.1 | | | | | | |
| | | L | 44 02.8 | | | | | 495 | |
| | | ME | 44 36.3 | 1.9 | -39 | | | | |
| | | MN | 44 37.7 | 2.2 | | +58 | | | |
| | | MZ | 44 27.6 | 2.3 | | | -26 | | |
| | | FE | 55 13.3 | | | | | | |
| | | FN | 55 36.0 | | | | | | |
| | | FZ | 49 19.1 | | | | | | |
| 172 | " 20 | P | 20 57 23.3 | | | | | | |
| | | S | 21 01 28.2 | | | | | 2500 | |
| | | L | 03 31.9 | | | | | | |
| | | ME | 06 40.2 | 5.3 | +18 | | | | |
| | | MN | 04 59.2 | 5.8 | | -19 | | | |
| | | FE | 40 47.0 | | | | | | |
| | | FN | 40 24.6 | | | | | | |
| | | FZ | 39 57.0 | | | | | | |
| 173 | " 21 | P | 10 46 24.4 | | | | | | |
| | | L | 49 16.1 | | | | | 1660 | |
| | | ME | 49 48.2 | 3.2 | +11 | | | | |
| | | MN | 49 27.7 | 2.1 | | +11 | | | |
| | | MZ | 49 56.6 | 2.5 | | | ±4 | | |
| | | FE | 55 34.9 | | | | | | |
| | | FN | 55 30.7 | | | | | | |
| | | FZ | 55 03.0 | | | | | | |
| 174 | " 24 | e.P | 2 44 16.5 | | | | | | |
| | | L | 45 08.5 | | | | | - | |
| | | ME | 45 34.1 | 2.2 | ±2 | | | | |
| | | MN | 45 32.1 | 2.6 | | ±7 | | | |
| | | MZ | 46 00.7 | 2.9 | | | ±2 | | |
| | | FE | 49 56.9 | | | | | | |
| | | FN | 50 25.0 | | | | | | |
| | | FZ | 48 30.7 | | | | | | |
| 175 | " 26 | P | 12 41 50.5 | | | | | | |
| | | L | 44 00.1 | | | | | 962 | |

From ..... to ..... 19.....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 175 | Aug. 26 | ME | 12 44 58.4 | 2.2 | ±3 | | | | |
| | | MN | 44 53.7 | 3.0 | | ±3 | | | |
| | | MZ | 44 57.8 | 2.6 | | | ±2 | | |
| | | FE | 54 18.3 | | | | | | |
| | | FN | 54 07.0 | | | | | | |
| | | FZ | 53 07.0 | | | | | | |
| 176 | " 29 | P | 20 05 31.2 | | | | | | |
| | | L | 08 40.5 | | | | | 1840 | |
| | | ME | 09 04.3 | 2.9 | ±5 | | | | |
| | | MN | 09 23.8 | 2.1 | | ±5 | | | |
| | | MZ | 09 24.7 | 2.7 | | | ±4 | | |
| | | FE | 18 55.3 | | | | | | |
| | | FN | 19 29.0 | | | | | | |
| | | FZ | 17 35,2 | | | | | | |
| 177 | " 30 | P | 14 45 15.3 | | | | | | |
| | | L | 45 17.9 | | | | | 19 | |
| | | ME | 45 18.0 | 0.2 | +5 | | | | |
| | | MN | 45 18.5 | 0.2 | | +4 | | | |
| | | FE | 45 58.2 | | | | | | |
| | | FN | 45 51.3 | | | | | | |

From Sept. 4th to Sept. 30th 19

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
## of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph
(Horizontal & Vertical)

| | $T_0$ | $\varepsilon$ | $\frac{r}{T_0^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 30 | - | 0.003 | 20 |
| $A_N$: | 30 | - | 0.003 | 20 |
| $A_Z$: | 15 | - | 0.004 | 20 |

Wiechert Seismograph
(Horizontal & Vertical)

| | $T_0$ | $\varepsilon$ | $\frac{r}{T_0^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 4 | 3.2 | 0.003 | 80 |
| $A_N$: | 4 | 3.2 | 0.005 | 80 |
| $A_Z$: | 6 | 2.0 | 0.005 | 8.0 |

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | 1030 | | | | | | | | |
| 178 | Sept.4 | P | 4 19 44.0 | | | | | | |
| | | L | 20 52.7 | | | | | 510 | |
| | | ME | 22 01.2 | 2.4 | -9 | | | | |
| | | MN | 22 01.2 | 2.4 | | -13 | | | |
| | | MZ | 21 30.6 | 2.4 | | | -4 | | |
| | | FE | 25 56.5 | | | | | | |
| | | FN | 25 53.7 | | | | | | |
| | | FZ | 25 18.4 | | | | | | |
| 179 | " 5 | e.P | 20 02 03.3 | | | | | | |
| | | e.L | 02 06.9 | | | | | 27 | |
| | | ME | 02 06.9 | 0.8 | ±6 | | | | |
| | | MN | 02 06.9 | 0.8 | | ±1 | | | |
| | | FE | 03 35.4 | | | | | | |
| | | FN | 03 39.2 | | | | | | |
| 180 | " 10 | P | 22 25 15.8 | | | | | | |
| | | L | 26 12.7 | | | | | 422 | |
| | | ME | 28 36.2 | 3.5 | ±6 | | | | |
| | | MN | 28 36.2 | 3.7 | | ±8 | | | |
| | | MZ | 27 20.2 | 2.4 | | | ±3 | | |
| | | FE | 40 34.2 | | | | | | |
| | | FN | 39 14.1 | | | | | | |
| | | FZ | 34 06.2 | | | | | | |
| 181 | " 11 | P | 4 22 27.1 | | | | | | |
| | | L | 22 51.9 | | | | | 1084 | |
| | | ML | 22 58.7 | 1.3 | -4 | | | | |
| | | MN | 23 01.4 | 1.3 | | +3 | | | |
| | | FE | 24 18.3 | | | | | | |
| | | FN | 24 29.4 | | | | | | |
| 182 | " 11 | P | 11 34 44.4 | | | | | | |
| | | L | 37 57.1 | | | | | 94 | |
| | | ME | 35 12.5 | 1.1 | -5 | | | | |
| | | MN | 35 07.4 | 1.1 | | -6 | | | |
| | | MZ | 35 36.8 | 1.1 | | | ±5 | | |
| | | FE | 36 81.9 | | | | | | |
| | | FN | 36 50.0 | | | | | | |
| | | FZ | 36 28.6 | | | | | | |
| 183 | " 11 | P | 16 48 30.3 | | | | | | |
| | | L | 49 11.8 | | | | | 308 | |
| | | ME | 49 10.7 | 1.4 | +3 | | | | |
| | | MN | 49 12.7 | 1.3 | | -4 | | | |
| | | FE | 51 52.8 | | | | | | |
| | | FN | 51 28.2 | | | | | | |
| | | FZ | 51 16.7 | | | | | | |
| 184 | " 17 | P | 10 56 20.5 | | | | | | |
| | | L | 57 30.5 | | | | | 519 | |
| | | ML | 58 09.6 | 2.3 | +6 | | | | |
| | | MN | 58 08.3 | 2.3 | | -9 | | | |
| | | MZ | 57 58.4 | 2.4 | | | ±3 | | |

No. 27. From ..... to ..... 19.....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 184 | Sept. 17 | FE | 10 02 20.0 | | | | | | |
| | | FN | 02 23.5 | | | | | | |
| | | FZ | 00 53.5 | | | | | | |
| 185 | " 19 | P | 8 00 32.1 | | | | | 69 | |
| | | L | 00 41.4 | | | | | | |
| | | ME | 01 04.7 | 1.9 | ±11 | | | | |
| | | MN | 00 58.7 | 1.8 | | +13 | | | |
| | | MZ | 01 09.2 | 2.0 | | | -8 | | |
| | | FE | 03 40.3 | | | | | | |
| | | FN | 03 41.7 | | | | | | |
| | | FZ | 03 11.8 | | | | | | |
| 186 | " 21 | P | 23 10 33.7 | | | | | 4575 | |
| | | S | 16 52.5 | | | | | | |
| | | L | 21 51.9 | | | | | | |
| | | ML | 25 27.3 | 11.0 | +16 | | | | |
| | | MN | 23 19.8 | 12.7 | | ±11 | | | |
| | | MZ | 25 29.5 | 10.6 | | | +12 | | |
| | | FE | 46 30.5 | | | | | | |
| | | FN | 46 14.7 | | | | | | |
| | | FZ | 44 48.9 | | | | | | |
| 187 | " 22 | P | 14 26 33.5 | | | | | 1890 | |
| | | S | 29 46.8 | | | | | | |
| | | L | 34 45.1 | 4.1 | +6 | | | | |
| | | ME | 32 22.6 | | | | | | |
| | | MN | 33 44.7 | 3.9 | | +6 | | | |
| | | FE | 51 09.5 | | | | | | |
| | | FN | 50 43.2 | | | | | | |
| 188 | " 24 | P | 12 12 25.0 | | | | | 6440 | |
| | | S | 24.7 | | | | | | |
| | | FE | 41 50.1 | | | | | | |
| | | FN | 42 04.9 | | | | | | |
| 189 | " 26 | P | 19 56 31.0 | | | | | 562 | |
| | | L | 57 40.6 | | | | | | |
| | | ME | 58 34.0 | 3.0 | +42 | | | | |
| | | MN | 58 08.3 | 3.0 | | -57 | | | |
| | | MZ | 58 17.4 | 2.3 | | | -13 | | |
| | | FE | 20 06 24.4 | | | | | | |
| | | FN | 06 31.0 | | | | | | |
| | | FZ | 02 43.2 | | | | | | |
| 190 | " 28 | P | 9 52 44.0 | | | | | 271 | |
| | | L | 53 21.1 | | | | | | |
| | | ME | 53 46.2 | 1.5 | +8 | | | | |
| | | MN | 53 59.0 | 2.7 | | +6 | | | |
| | | MZ | 53 46.4 | 1.8 | | | -6 | | |
| | | FE | 57 35.5 | | | | | | |
| | | FZ | 57 42.1 | | | | | | |
| 191 | " 29 | P | 4 53 44.9 | | | | | 645 | |
| | | L | 55 11.8 | | | | | | |
| | | ME | 56 06.5 | 2.4 | +13 | | | | |
| | | MN | 55 35.6 | 2.4 | | +14 | | | |
| | | MZ | 55 48.6 | 2.4 | | | +6 | | |
| | | FE | 58 53.4 | | | | | | |
| | | FN | 59 24.3 | | | | | | |
| | | FZ | 58 49.3 | | | | | | |
| 192 | " 29 | P | 14 38 27.2 | | | | | 15 | Slight. |
| | | L | 38 29.4 | | | | | | |
| | | ME | 38 29.2 | 0.3 | -6 | | | | |
| | | MN | 38 29.4 | 0.3 | | ±12 | | | |
| | | MZ | 38 29.4 | 0.3 | | | -3 | | |

No. 28. From ..... to ..... 19 ....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 192 | Sept.29 | FE | 14 39 58.2 | | | | | | |
| | | FN | 39 54.6 | | | | | | |
| | | FZ | 39 57.5 | | | | | | |
| 193 | " 30 | P | 4 56 33.3 | | | | | 510 | |
| | | L | 57 41.9 | | | | | | |
| | | ME | 58 08.8 | 3.0 | +6 | | | | |
| | | MN | 57 50.8 | 2.7 | | +11 | | | |
| | | MZ | 57 52.4 | 2.4 | | | ±3 | | |
| | | FE | 59 33.0 | | | | | | |
| | | FN | 59 27.7 | | | | | | |
| | | FZ | 59 25.6 | | | | | | |

No. 29. From Sept. 30th to Oct. 29th, 1930.

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

| | $T_0$ | $\varepsilon$ | $\frac{r}{T_0^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 30 | - | 0.003 | 20 |
| $A_N$: | 30 | - | 0.003 | 20 |
| $A_Z$: | 15 | - | 0.004 | 20 |

Wiechert Seismograph (Horizontal & Vertical)

| | $T_0$ | $\varepsilon$ | $\frac{r}{T_0^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 4 | 3.2 | 0.003 | 80 |
| $A_N$: | 4 | 3.2 | 0.003 | 80 |
| $A_Z$: | 6 | 2.0 | 0.005 | 80 |

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | 1930 | | | | | | | | |
| 194 | Sept.30 | P | 21 28 39.1 | | | | | 3871 | |
| | | L | 34 18.9 | | | | | | |
| | | ME | 37 26.0 | 5.6 | +11 | | | | |
| | | MN | 37 27.8 | 5.1 | | +11 | | | |
| | | FE | 40 26.0 | | | | | | |
| | | FN | 49 26.5 | | | | | | |
| 195 | Oct. 1 | P | 2 57 59.2 | | | | | 2577 | |
| | | L | 3 02 10.3 | | | | | | |
| | | ME | 02 51.7 | 4.6 | +6 | | | | |
| | | MN | 03 2.3 | 3.8 | | +6 | | | |
| | | MZ | 02 26.0 | 3.9 | | | +5 | | |
| | | FE | 02 54.4 | | | | | | |
| | | FN | 03 25.4 | | | | | | |
| | | FZ | 02 25.4 | | | | | | |
| 196 | " 2 | P | 10 03 38.5 | | | | | 1398 | |
| | | L | 06 15.3 | | | | | | |
| | | ME | 06 43.2 | 3.7 | -13 | | | | |
| | | MN | 07 43.7 | 3.3 | | +13 | | | |
| | | MZ | 06 46.7 | 2.6 | | | +6 | | |
| | | FE | 14 43.1 | | | | | | |
| | | FN | 14 44.0 | | | | | | |
| | | FZ | 11 22.7 | | | | | | |
| 197 | " 6 | P | 20 52 39.4 | | | | | 212 | |
| | | L | 53 07.9 | | | | | | |
| | | ME | 53 21.5 | 0.9 | -3 | | | | |
| | | MN | 53 26.1 | 0.9 | | +1 | | | |
| | | FE | 55 02.3 | | | | | | |
| | | FN | 54 26.5 | | | | | | |
| 198 | " 7 | P | 1 29 29.0 | | | | | 27 | |
| | | L | 29 33.2 | | | | | | |
| | | ME | 29 33.2 | 0.23 | +4 | | | | |
| | | MN | 29 33.2 | 0.3 | | +3 | | | |
| | | FE | 31 30.9 | | | | | | |
| | | FN | 31 55.7 | | | | | | |
| | | FZ | 31 24.3 | | | | | | |
| 199 | " 8 | P | 10 29 04.9 | | | | | 6844 | |
| | | L | 37 20.1 | | | | | | |
| | | ME | 39 23.7 | 5.6 | +6 | | | | |
| | | MN | 39 12.5 | 5.2 | | +5 | | | |
| | | FE | 11 01 23.1 | | | | | | |
| | | FN | 00 29.1 | | | | | | |
| 200 | " 10 | P | 0 51 19.6 | | | | | 2396 | |
| | | L | 55 16.2 | | | | | | |
| | | ME | 56 23.6 | 4.6 | +5 | | | | |
| | | FE | 1 05 36.6 | | | | | | |
| | | FN | 03 29.2 | | | | | | |

From ..... to ..... 19 .....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN

### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 201 | Oct. 13 | P | 8 59 20.2 | | | | | 419 | |
| | | L | 9 00 16.6 | | | | | | |
| | | ME | 00 54.0 | 2.2 | -9 | | | | |
| | | MN | 00 35.5 | 2.6 | | +16 | | | |
| | | MZ | 00 44.4 | 2.0 | | | -5 | | |
| | | FE | 04 01.8 | | | | | | |
| | | FN | 03 59.9 | | | | | | |
| | | FZ | 03 31.8 | | | | | | |
| 202 | " 15 | P | 21 20 36.9 | | | | | 150 | |
| | | L | 20 57.1 | | | | | | |
| | | ME | 21 02.0 | 1.6 | ±3 | | | | |
| | | MN | 21 09.8 | 2.4 | | +5 | | | |
| | | MZ | 20 59.1 | 1.9 | | | +1 | | |
| | | FE | 23 21.2 | | | | | | |
| | | FN | 23 28.5 | | | | | | |
| | | FZ | 23 16.2 | | | | | | |
| 203 | " 16 | P | 21 32 53.8 | | | | | 188 | Felt slightly at Osaka. |
| | | L | 33 18.5 | | | | | | |
| | | ME | 34 21.0 | 2.3 | -137 | | | | |
| | | MN | 34 04.9 | 2.6 | | -144 | | | |
| | | MZ | 33 59.2 | 2.1 | | | +50 5 | | |
| 204 | " 16 | P | 21 36 30.4 | | | | | 188 | Felt slightly at Osaka. |
| | | L | 36 55.7 | | | | | | |
| | | ME | 36 55.9 | 2.3 | +530 | | | | |
| | | MN | 36 57.9 | 2.3 | | +530 | | | |
| | | MZ | 37 07.8 | 2.2 | | | -400 | | |
| | | FE | 59 11.0 | | | | | | |
| | | FN | 59.23.8 | | | | | | |
| | | FZ | 54 15.3 | | | | | | |
| 205 | " 18 | P | 4 23 34.4 | | | | | 171 | |
| | | L | 23 57.4 | | | | | | |
| | | ME | 24 27.7 | 1.9 | +19 | | | | |
| | | MN | 24 25.1 | 1.9 | | -19 | | | |
| | | MZ | 24 38.4 | 1.8 | | | +6 | | |
| | | FE | 29 59.1 | | | | | | |
| | | FN | 29 36.5 | | | | | | |
| | | FZ | 27 13.8 | | | | | | |
| 206 | " 20 | P | 2 08 51.6 | | | | | 2099 | |
| | | L | 08 59.7 | | | | | | |
| | | FE | 12 26.7 | | | | | | |
| | | FN | 12 09.7 | | | | | | |
| | | FZ | 11 226.7 | | | | | | |
| 207 | " 21 | P | 5 26 09.2 | | | | | 332 | |
| | | L | 26 53.9 | | | | | | |
| | | ML | 27 31.1 | 2.3 | +19 | | | | |
| | | MN | 27 23.3 | 2.9 | | -25 | | | |
| | | MZ | 27 54.3 | 2.1 | | | +6 | | |
| | | FE | 30 26.4 | | | | | | |
| | | FN | 30 51.6 | | | | | | |
| | | FZ | 29 33.2 | | | | | | |
| 208 | " 24 | P | 20 19 11.1 | | | | | 2324 | |
| | | L | 23 01.5 | | | | | | |
| | | ME | 23 21.4 | 5.0 | +275 | | | | |
| | | MN | 23 23.4 | 4.9 | | +275 | | | |
| | | MZ | 23 23.0 | 4.9 | | | -239 | | |
| | | FE | 21 58 05.4 | | | | | | |
| | | FN | 58 14.5 | | | | | | |
| | | FZ | 49 35.4 | | | | | | |

From ..... to ..... 19 .....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN

### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 209 | Oct. 24 | P | 22 22 43.2 | | | | | 448 | |
| | | L | 23 48.6 | | | | | | |
| | | ME | 24 10.4 | 2.4 | +13 | | | | |
| | | MN | 24 15.6 | 2.3 | | +25 | | | |
| | | MZ | 24 13.2 | 2.1 | | | +6 | | |
| | | FE | 27 50.4 | | | | | | |
| | | FN | 27 34.9 | | | | | | |
| | | FZ | 26 39.2 | | | | | | |
| 210 | " 26 | P | 13 45 16.7 | | | | | 61 | |
| | | L | 45 24.9 | | | | | | |
| | | ME | 45 51.5 | 1.9 | +25 | | | | |
| | | MN | 45 52.7 | 2.0 | | +44 | | | |
| | | MZ | 46 08.7 | 1.3 | | | +13 | | |
| | | FE | 48 27.6 | | | | | | |
| | | FN | 47 59.2 | | | | | | |
| | | FZ | 47 37.3 | | | | | | |
| 211 | " 28 | P | 21 14 39.7 | | | | | 2000 | |
| | | L | 18 02.3 | | | | | | |
| | | ME | 19 56.4 | 4.1 | +38 | | | | |
| | | MN | 20 03.5 | 3.8 | | -25 | | | |
| | | MZ | 19 56.4 | 4.5 | | | -16 | | |
| | | FE | 44 00.3 | | | | | | |
| | | FN | 42 37.6 | | | | | | |
| | | FZ | 39 35.6 | | | | | | |
| 212 | " 29 | P | 14 27 28.0 | | | | | 56 | |
| | | L | 27 35.6 | | | | | | |
| | | ME | 28 05.0 | 1.9 | -13 | | | | |
| | | MN | 28 09.8 | 1.4 | | -13 | | | |
| | | MZ | 28 07.2 | 1.1 | | | +6 | | |
| | | FE | 30 29.9 | | | | | | |
| | | FN | 30 37.4 | | | | | | |
| | | FZ | 30 28.5 | | | | | | |

No 32 From Nov, 8th to Nov. 26th, 1930.

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

| | $T_0$ | $\varepsilon$ | $\frac{r}{T_0^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 30 | - | 0.003 | 20 |
| $A_N$: | 30 | - | 0.003 | 20 |
| $A_Z$: | 15 | - | 0.004 | 20 |

Wiechert Seismograph (Horizontal & Vertical)

| | $T_0$ | $\varepsilon$ | $\frac{r}{T_0^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 4 | 3.2 | 0.003 | 80 |
| $A_N$: | 4 | 3.2 | 0.003 | 80 |
| $A_Z$: | 6 | 2.0 | 0.005 | 80 |

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 213 | Nov. 8 | P | 3 28 13.8 | | | | | 3163 | |
| | | S | 33 08.3 | | | | | | |
| | | L | 37 42.0 | | | | | | |
| | | ME | 37 44.0 | 4,3 | -13 | | | | |
| | | MN | 38 03.6 | 3.6 | | ±14 | | | |
| | | MZ | 37 48.1 | 4.3 | | | -6 | | |
| | | FE | 48 02.7 | | | | | | |
| | | FN | 47 59.8 | | | | | | |
| | | FZ | 47 00.8 | | | | | | |
| 214 | " 8 | P | 4 02 09.4 | | | | | 72 | |
| | | L | 02 19.1 | | | | | | |
| | | ME | 02 44.4 | 1.2 | +15 | | | | |
| | | MN | 02 47.3 | 1.2 | | -18 | | | |
| | | FN | 06 07.3 | | | | | | |
| | | FE | 05 45.9 | | | | | | |
| 215 | " 9 | P | 19 15 39.2 | | | | | 2868 | |
| | | S | 20 12.7 | | | | | | |
| | | L | 23 34.2 | | | | | | |
| | | ME | 23 36.6 | 5.7 | ±14 | | | | |
| | | FE | 20 00 59.1 | | | | | | |
| | | FN | 01 03.8 | | | | | | |
| 216 | " 10 | P | 13 37 14.4 | | | | | 350 | |
| | | L | 38 01.3 | | | | | | |
| | | ME | 38 31.8 | 2.3 | +9 | | | | |
| | | MN | 38 24.3 | 2.3 | | +13 | | | |
| | | MZ | 38 48.5 | 2.1 | | | -5 | | |
| | | FE | 40 39.7 | | | | | | |
| | | FN | 40 37.7 | | | | | | |
| | | FZ | 40 30.3 | | | | | | |
| 217 | " 10 | P | 13 48 44.7 | | | | | 7021 | |
| | | S | 57 15.1 | | | | | | |
| | | L | 14 01 57.7 | | | | | | |
| | | MN | 09 42.8 | 19.4 | | +73 | | | |
| | | FN | 33 29.1 | | | | | | |
| 218 | " 11 | P | 8 33 36.8 | | | | | 1800 | Formosa |
| | | L | 36 41.8 | | | | | | |
| | | ME | 37 52.0 | 5.3 | -17 | | | | |
| | | MN | 37 22.0 | 4.2 | | +18 | | | |
| | | FE | 50 40.8 | | | | | | |
| | | FN | 50 02.9 | | | | | | |
| 219 | " 17 | P | 15 16 25.2 | | | | | 228 | |
| | | L | 16 55.8 | | | | | | |
| | | ME | 17 34.2 | 2.6 | +25 | | | | |
| | | MN | 16 55.8 | 2.1 | | -44 | | | |
| | | MZ | 17 15.8 | 2.4 | | | -8 | | |
| | | FE | 19 40.4 | | | | | | |
| | | FN | 19 37.6 | | | | | | |
| | | FZ | 19 21.1 | | | | | | |
| 220 | " 19 | P | 1 11 37.1 | | | | | 317 | |
| | | L | 12 19.7 | | | | | | |
| | | ME | 12 31.4 | 2.8 | +11 | | | | |
| | | MN | 12 36.9 | 3.3 | | +20 | | | |

From ..... to ..... 19.....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN

### of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 220 | Nov. 19 | FE | 1 15 22.2 | | | | | | |
| | | FN | 15 38.4 | | | | | | |
| | | FZ | 14 51.2 | | | | | | |
| 221 | " 20 | P | 11 54 33.6 | | | | | 222 | |
| | | L | 55 03.5 | | | | | | |
| | | ME | 55 10.7 | 1.8 | -8 | | | | |
| | | MN | 55 17.0 | 1.8 | | +8 | | | |
| | | MZ | 55 48.1 | 2.1 | | | -5 | | |
| | | FE | 56 ⁄58.8 | | | | | | |
| | | FN | 57 28.1 | | | | | | |
| | | FZ | 56 58.8 | | | | | | |
| | " 21 | P | 9 50 29.8 | | | | | 314 | |
| | | L | 51 12.0 | | | | | | |
| | | ME | 51 46.8 | 2.2 | +11 | | | | |
| | | MN | 51 39.7 | 2.3 | | +20 | | | |
| | | MZ | 51 58.1 | 2.1 | | | -7 | | |
| | | FE | 53 56.7 | | | | | | |
| | | FN | 53 55.1 | | | | | | |
| | | FZ | 53 51.3 | | | | | | |
| 223 | " 21 | P | 10 17 38.8 | | | | | 288 | |
| | | L | 18 17.6 | | | | | | |
| | | ME | 18 42.3 | 2.3 | +8 | | | | |
| | | MN | 18 44.1 | 3.2 | | ±30 | | | |
| | | MZ | 18 16.9 | 2.4 | | | -8 | | |
| | | FE | 21 31.9 | | | | | | |
| | | FN | 21 30.2 | | | | | | |
| | | FZ | 20 25.9 | | | | | | |
| 224 | " 21 | P | 12 18 18.6 | | | | | 266 | |
| | | L | 18 54.5 | | | | | | |
| | | ME | 19 12.1 | 2.0 | +19 | | | | |
| | | MN | 19 16.0 | 2.3 | | -28 | | | |
| | | MZ | 19 22.9 | 1.8 | | | +6 | | |
| | | FE | 22 08.5 | | | | | | |
| | | FN | 22 00.1 | | | | | | |
| | | FZ | 21 09.5 | | | | | | |
| 225 | " 21 | P | 12 56 28.3 | | | | | 265 | |
| | | L | 57 03.9 | | | | | | |
| | | ME | 57 27.9 | 1.8 | -7 | | | | |
| | | MN | 57 31.4 | 1.9 | | +13 | | | |
| | | FE | 59 59.6 | | | | | | |
| | | FN | 59 50.8 | | | | | | |
| 226 | " 24 | P | 6 45 53.6 | | | | | 63 Lower Valley of Arida. (Wakayama) | |
| | | L | 46 02.1 | | | | | | |
| | | ME | 46 25.3 | 1.4 | +13 | | | | |
| | | MN | 46 28.8 | 1.4 | | -19 | | | |
| | | MZ | 46 08.1 | D.⁄6 | | | +4 | | |
| | | FE | 48 10.8 | | | | | | |
| | | FN | 48 13.0 | | | | | | |
| | | FZ | 47 25.5 | | | | | | |
| 227 | " 25 | P | 6 27 13.2 | | | | | 314 | |
| | | L | 27 55.5 | | | | | | |
| | | ME | 28 12.8 | 1.4 | +13 | | | | |
| | | MN | 28 24.5 | 2.1 | | +20 | | | |
| | | FE | 30 19.0 | | | | | | |
| | | FN | 30 23.2 | | | | | | |
| 228 | " 25 | P | 7 06 37.7 | | | | | 319 | |
| | | L | 07 20.7 | | | | | | |
| | | ME | 07 49.0 | 1.9 | +31 | | | | |
| | | MN | 07 52.1 | 1.8 | | +81 | | | |
| | | FE | 12 24.6 | | | | | | |
| | | FN | 12 40.0 | | | | | | |
| 229 | " 25 | P | 7 51 02.2 | | | | | 309 | |
| | | L | 51 43.8 | | | | | | |

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
## of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 229 | Nov. 25 | ME | 7 51 51.8 | 1.4 | +14 | | | | |
| | | MN | 51 56.1 | 1.9 | | +27 | | | |
| | | FE | 54 19.1 | | | | | | |
| | | FN | 54 24.9 | | | | | | |
| 230 | " 25 | eP | 9 35 1o.6 | | | | | - | |
| | | L | 35 48.5 | | | | | | |
| | | ME | 36 00.5 | 1.8 | +6 | | | | |
| | | MN | 36 04.3 | 1.8 | | ±8 | | | |
| | | FE | 37 37.9 | | | | | | |
| | | FN | 37 39.7 | | | | | | |
| 231 | " 25 | P | 12 14 16.2 | | | | | 317 | |
| | | L | 14 58.9 | | | | | | |
| | | ME | 15 07.7 | 1.1 | -5 | | | | |
| | | MN | 15 41.6 | 2.3 | | +6 | | | |
| | | FE | 16 23.5 | | | | | | |
| | | FN | 16 20.3 | | | | | | |
| 232 | " 25 | P | 14 23 58.8 | | | | | 325 | |
| | | L | 24 42.6 | | | | | | |
| | | ME | 24 50.3 | 2.1 | +11 | | | | |
| | | MN | 25 11.2 | 1.9 | | +21 | | | |
| | | FE | 27 12.0 | | | | | | |
| | | FN | 27 09.1 | | | | | | |
| 233 | " 25 | P | 19 03 33.7 | | | | | 346 | |
| | | PP | 03 43.6 | | | | | | The disastrous earth- |
| | | PPP | 04 04.2 | | | | | | quake at northernpart of |
| | | L | 04 20.3 | | | | | | Lzu. Felt slightly at |
| | | ME | 06 02.0 | 6.1 | +13550 | | | | Osaka, first motion N to |
| | | MN | 04 48.6 | 7.6 | | +30380 | | | S 1.3 E to W 4.5 D to U |
| | | MZ | 05 37.5 | 2.7 | | +9250 | | | 5.0 . |
| | | FE | 20 14 05.5 | | | | | | |
| | | FN | 14 02.3 | | | | | | |
| | | FZ | 10 32.2 | | | | | | |
| 234 | " 25 | eP | 19 29 51.8 | | | | | - | After shock |
| | | L | 30 29.0 | | | | | | |
| | | ME | 31 02.4 | 2.3 | -19 | | | | |
| | | MN | 31 03.5 | 2.4 | | -27 | | | |
| 235 | " 25 | P | 19 47 04.8 | | | | | 306 | ditto |
| | | L | 47 46.0 | | | | | | |
| | | ME | 48 52.3 | 2.3 | ±8 | | | | |
| | | MN | 48 25.8 | 2.7 | | -13 | | | |
| | | FE | 50 59.4 | | | | | | |
| | | FN | 50 46.9 | | | | | | |
| 236 | " 26 | P | 1 07 20.1 | | | | | 314 | ditto |
| | | L | 08 02.3 | | | | | | |
| | | ME | 08 29.3 | 2.5 | +14 | | | | |
| | | MN | 08 48.6 | 2.9 | | -20 | | | |
| | | MZ | 08 22.4 | 2.1 | | | +4 | | |
| | | FE | 13 20.2 | | | | | | |
| | | Fn | 13 25.3 | | | | | | |
| | | FZ | 12 06.1 | | | | | | |
| 237 | " 26 | P | 4 52 59.9 | | | | | 314 | ditto |
| | | L | 53 42.2 | | | | | | |
| | | ME | 54 17.8 | 2.8 | +13 | | | | |
| | | MN | 53 59.2 | 3.1 | | -19 | | | |
| | | MZ | 54 01.3 | 2.0 | | | -4 | | |
| | | FE | 59 28.2 | | | | | | |
| | | FN | 59 26.4 | | | | | | |
| | | FZ | 58 37.6 | | | | | | |
| 238 | " 26 | P | 8 43 19.0 | | | | | 325 | ditto |
| | | L | 44 02.8 | | | | | | |
| | | ME | 44 47.1 | 3.4 | -11 | | | | |
| | | MN | 44 26.1 | 3.0 | | -35 | | | |
| | | MZ | 44 25.1 | 1.7 | | | +2 | | |

 From ..... to ..... 19.....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
## of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 238 | " 26 | FE | 48 57.9 | | | | | | |
| | | FN | 48 38.3 | | | | | | |
| | | FZ | 47 29.7 | | | | | | |
| 239 | " 26 | eP | 12 42 35.7 | | | | | - | ditto |
| | | L | 43 10.3 | | | | | | |
| | | ME | 43 34.7 | 1.8 | ±3 | | | | |
| | | MN | 43 43.0 | 2.5 | | ±6 | | | |
| | | FE | 45 53.1 | | | | | | |
| | | FN | 45 22.0 | | | | | | |
| | | FZ | 45 05.9 | | | | | | |

No. 36. From Dec. 2nd, to Dec. 31st 1930

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
### of the Osaka Meteorological Observatory

$\varphi = 34^\circ\ 39'$ N. $\lambda = 135^\circ\ 32'$ E. Gr. h = 3.4m Sub-Soil: Sandy Loam (Oldquaternary)

Instrument: Omori's Seismograph (Horizontal & Vertical)

| | $T_0$ | $\varepsilon$ | $\frac{r}{T_0^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 30 | - | 0.003 | 20 |
| $A_N$: | 30 | - | 0.003 | 20 |
| $A_Z$: | 15 | - | 0.004 | 20 |

Wiechert Seismograph (Horizontal & Vertical)

| | $T_0$ | $\varepsilon$ | $\frac{r}{T_0^2}$ | V |
|---|---|---|---|---|
| $A_E$: | 4 | 3.2 | 0.003 | 80 |
| $A_N$: | 4 | 3.2 | 0.003 | 80 |
| $A_Z$: | 6 | 2.0 | 0.005 | 80 |

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 240 | Dec. 2 | e.p | 7 14 21.6 | | | | | - | |
| | | L | 18 36.5 | | | | | | |
| | | MN | 20 35.8 | 17.5 | | +75 | | | |
| | | MZ | 21 58.0 | 6.9 | | | -8 | | |
| | | FN | 42 25.5 | | | | | | |
| | | FZ | 27 16.2 | | | | | | |
| 241 | " 3 | P | 18 59 19.0 | | | | | 4157 | Burma |
| | | S | 19 05 15.1 | | | | | | |
| | | L | 09 54.0 | | | | | | |
| | | ME | 14 45.0 | 12.4 | +88 | | | | |
| | | MN | 13 35.9 | 10.6 | | +81 | | | |
| | | MZ | 16 37.8 | 9.6 | | | +28 | | |
| | | FE | 45 59.2 | | | | | | |
| | | FN | 46 11.5 | | | | | | |
| | | FZ | 40 41.5 | | | | | | |
| 242 | " 4 | P | 4 16 55.1 | | | | | 39 | Near Kameoka, Kyoto prefecture. Felt slightly. |
| | | L | 17 00.4 | | | | | | |
| | | ME | 17 00.4 | 0.3 | -25 | | | | |
| | | MN | 17 00.5 | 0.3 | | -26 | | | |
| | | MZ | 17 00.4 | 0.3 | | | -6 | | |
| | | FE | 19 09.2 | | | | | | |
| | | FN | 19 19.5 | | | | | | |
| | | FZ | 18 06.9 | | | | | | |
| 243 | " 5 | P | 20 31 57.6 | | | | | 71 | Eastern part of Harimanada, felt slightly. E to W 3.9, N to S 2.6, U to D 17.5. |
| | | L | 32 07.1 | | | | | | |
| | | ME | 32 46.7 | 2.1 | +175 | | | | |
| | | MN | 32 21.6 | 2.3 | | -301 | | | |
| | | MZ | 33 11.1 | 2.2 | | | ±188 | | |
| | | FE | 41 23.1 | | | | | | |
| | | FN | 41 34.3 | | | | | | |
| | | FZ | 41 19.5 | | | | | | |
| 244 | " 7 | e.p | 4 02 49.3 | | | | | - | |
| | | L | 03 22.2 | | | | | | |
| | | ME | 03 44.5 | 2.3 | -6 | | | | |
| | | MN | 03 50.2 | 2.3 | | +12 | | | |
| | | MZ | 03 49.9 | 1.3 | | | +3 | | |
| | | FE | 06 03.9 | | | | | | |
| | | FN | 06 08.9 | | | | | | |
| | | FZ | 05 23.0 | | | | | | |
| 245 | " 7 | e.p | 5 51 10.1 | | | | | - | |
| | | L | 51 47.4 | | | | | | |
| | | ME | 52 13.9 | 3.0 | -13 | | | | |
| | | MN | 52 16.7 | 2.4 | | +26 | | | |
| | | MZ | 52 32.8 | 2.0 | | | -7 | | |
| | | FE | 59 12.2 | | | | | | |
| | | FN | 58 29.2 | | | | | | |
| | | FZ | 56 53.4 | | | | | | |
| 246 | " 7 | P | 6 07 32.9 | | | | | 349 | |
| | | L | 08 19.9 | | | | | | |
| | | ME | 08 58.1 | 2.4 | +8 | | | | |
| | | MN | 08 51.4 | 2.9 | | +11 | | | |
| | | MZ | 09 21.1 | 2.0 | | | -6 | | |

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
## of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 246 | Dec. 7 | FE | 6 11 39.7 | | | | | | |
| | | FN | 11 34.7 | | | | | | |
| | | FZ | 11 27.0 | | | | | | |
| 247 | " 7 | P | 7 13 29.4 | | | | | 313 | |
| | | L | 14 11.5 | | | | | | |
| | | ME | 14 24.4 | 2.7 | ±4 | | | | |
| | | MN | 14 25.9 | 2.7 | | ±8 | | | |
| | | ⌐E | 16 29.0 | | | | | | |
| | | FN | 16 39.6 | | | | | | |
| 248 | " 7 | P | 13 36 08.7 | | | | | 335 | |
| | | L | 36 53.8 | | | | | | |
| | | ME | 37 34.9 | 2.1 | ±4 | | | | |
| | | MN | 37 00.1 | 1.8 | | -6 | | | |
| | | FE | 39 36.6 | | | | | | |
| | | FN | 39 38.4 | | | | | | |
| 249 | " 7 | P | 15 35 10.4 | | | | | 340 | |
| | | L | 35 56.2 | | | | | | |
| | | ME | 36 04.0 | 2.4 | -8 | | | | |
| | | MN | 36 13.2 | 2.4 | | +11 | | | |
| | | MZ | 36 33.3 | 2.5 | | | ±5 | | |
| | | FE | 39 13.4 | | | | | | |
| | | FN | 39 10.0 | | | | | | |
| | | FZ | 38 22.7 | | | | | | |
| 250 | " 8 | P | 6 24 28.4 | | | | | 1869 | Southern part of Formosa. |
| | | L | 27 40.0 | | | | | | |
| | | ME | 31 02.0 | 3.7 | +5 | | | | |
| | | MN | 31 26.0 | 3.5 | | +5 | | | |
| | | MZ | - - | | | | | | |
| | | FE | 44 28.7 | | | | | | |
| | | FN | 44 43.5 | | | | | | |
| | | FZ | 38 12.0 | | | | | | |
| 251 | " 8 | P | 8 05 37.5 | | | | | 1831 | ditto |
| | | L | 08 45.6 | | | | | | |
| | | ME | 13 15.3 | 5.6 | +13 | | | | |
| | | MN | 13 03.1 | 4.6 | | -14 | | | |
| | | MZ | 14 22.9 | 11.3 | | | ±11 | | |
| | | FE | 28 42.5 | | | | | | |
| | | FN | 28 43.3 | | | | | | |
| | | FZ | 25 09.8 | | | | | | |
| 252 | " 8 | P | 23 40 18.4 | | | | | 336 | |
| | | L | 41 03.7 | | | | | | |
| | | ME | 41 27.0 | 2.2 | +5 | | | | |
| | | MN | 41 41.2 | 2.4 | | +6 | | | |
| | | MZ | 41 34.4 | 2.4 | | | +6 | | |
| | | FE | 44 48.6 | | | | | | |
| | | FN | 44 45.1 | | | | | | |
| | | FZ | 44 18.5 | | | | | | |
| 253 | " 10 | P | 13 25 36.4 | | | | | 135 | |
| | | L | 25 54.5 | | | | | | |
| | | ME | 26 03.4 | 0.7 | +5 | | | | |
| | | MN | 26 07.7 | 0.7 | | +4 | | | |
| | | MZ | 25 54.5 | 0.6 | | | -4 | | |
| | | FE | 27 50.5 | | | | | | |
| | | FN | 27 35.2 | | | | | | |
| | | FZ | 27 18.0 | | | | | | |
| 254 | " 13 | P | 14 25 03.6 | | | | | 804 | |
| | | L | 26 52.0 | | | | | | |
| | | ME | 29 47.7 | 3.4 | +38 | | | | |
| | | MN | 29 24.7 | 3.2 | | -50 | | | |
| | | MZ | 29 12.2 | 4.1 | | | +29 | | |
| | | FE | 42 46.7 | | | | | | |
| | | FN | 42 53.9 | | | | | | |
| | | FZ | 39 17.1 | | | | | | |

No. 38. From ..... to ..... 19 .....

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
## of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 255 | Dec. 16 | P | 19 50 41.4 | | | | | 308 | |
| | | L | 51 22.9 | | | | | | |
| | | ME | 51 48.9 | 3.3 | -31 | | | | |
| | | MN | 51 47.9 | 3.2 | | -44 | | | |
| | | MZ | 52 29.0 | 2.3 | | | +13 | | |
| | | FE | 56 16.6 | | | | | | |
| | | FN | 56 28.5 | | | | | | |
| | | FZ | 55 25.5 | | | | | | |
| 256 | " 18 | P | 10 44 31.6 | | | | | 247 | |
| | | L | 45 04.9 | | | | | | |
| | | ME | 46 08.9 | 2.1 | -6 | | | | |
| | | MN | 46 01.7 | 2.2 | | +6 | | | |
| | | MZ | 45 51.1 | 2.2 | | | ±5 | | |
| | | FE | 51 38.9 | | | | | | |
| | | FN | 51 38.9 | | | | | | |
| | | FZ | 49 27.2 | | | | | | |
| 257 | " 18 | P | 14 22 27.2 | | | | | 301 | |
| | | L | 23 07.7 | | | | | | |
| | | ME | 23 19.2 | 1.3 | +4 | | | | |
| | | MN | 23 12.1 | 1.9 | | +5 | | | |
| | | MZ | 23 34.8 | 1.3 | | | ±3 | | |
| | | FE | 25 55.4 | | | | | | |
| | | FN | 25 06.8 | | | | | | |
| | | FZ | 25 06.8 | | | | | | |
| 258 | " 20 | P | 2 45 51.9 | | | | | 79 | |
| | | L | 46 02.5 | | | | | | |
| | | ME | 46 02.7 | 0.5 | +6 | | | | |
| | | MN | 46 02.9 | 0.4 | | +9 | | | |
| | | MZ | 46 02.5 | 0.4 | | | -2 | | |
| | | FE | 47 48.4 | | | | | | |
| | | FN | 47 50.2 | | | | | | |
| | | FZ | 47 45.3 | | | | | | |
| 259 | " 20 | P | 14 03 03.1 | | | | | 240 | Northern part of Hiroshima prefecture, felt slightly S to N 5.6, E to W 3.1 . |
| | | L | 03 35.4 | | | | | | |
| | | ME | 04 26.9 | 1.8 | -475 | | | | |
| | | MN | 04 05.7 | 1.8 | | +525 | | | |
| | | MZ | - -- | - | | | ±200 | | |
| | | FE | 21 05.7 | | | | | | |
| | | FN | 20 48.1 | | | | | | |
| | | FZ | 19 31.7 | | | | | | |
| 260 | " 20 | P | 14 43 41.5 | | | | | 229 | |
| | | L | 44 12.3 | | | | | | |
| | | ME | 44 14.6 | 1.8 | -43 | | | | |
| | | MN | 44 15.0 | 1.8 | | -43 | | | |
| | | MZ | 45 21.1 | 2.1 | | | +14 | | |
| | | FE | 50 53.6 | | | | | | |
| | | FN | 50 35.6 | | | | | | |
| | | FZ | 49 00.0 | | | | | | |
| 261 | " 20 | P | 23 27 21.0 | | | | | 221 | ditto |
| | | L | 27 50.8 | | | | | | |
| | | ME | 27 54.0 | 2.1 | +43 | | | | |
| | | MN | 27 53.9 | 2.8 | | +68 | | | |
| | | MZ | 28 20.0 | 2.1 | | | +19 | | |
| | | FE | 38 21.3 | | | | | | |
| | | FN | 38 34.4 | | | | | | |
| | | FZ | 35 49.4 | | | | | | |
| 262 | " 21 | P | 12 15 02.9 | | | | | 232 | ditto felt slightly E to W 2, S N - U to D 4 . |
| | | L | 15 34.2 | | | | | | |
| | | ME | 16 06.3 | 1.9 | +331 | | | | |
| | | MN | 15 40.7 | 1.8 | | -517 | | | |
| | | MZ | 15 56.1 | 2.0 | | | -181 | | |
| | | FE | 29 43.0 | | | | | | |
| | | FN | 29 26.5 | | | | | | |

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN
## of the Osaka Meteorological Observatory

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 263 | Dec. 21 | e.p | 13 09 59.4 | | | | | - | ditto |
| | | L | 10 28.4 | | | | | | |
| | | FE | 12 44.7 | | | | | | |
| | | FN | 12 33.8 | | | | | | |
| 264 | " 21 | P | 13 17 33.5 | | | | | 226 | ditto |
| | | L | 18 03.9 | | | | | | |
| | | ME | 18 08.9 | 0.5 | -3 | | | | |
| | | MN | 18 27.8 | 0.9 | | ±3 | | | |
| | | FE | 19 29.6 | | | | | | |
| | | FN | 19 27.5 | | | | | | |
| 265 | " 21 | P | 14 55 34.9 | | | | | 171 | Off cape |
| | | L | 55 57.9 | | | | Muroto Eto W | 11.9, N | |
| | | $ME_1$ | 56 01.3 | 2.9 | -169 | | to S | 10.6, U | to D 38.7 |
| | | $MN_1$ | 56 30.3 | 2.5 | | +183 | | | |
| | | $MZ_1$ | 56 25.1 | 4.6 | | | -93 | | |
| | | ME2 | 59 33.2 | 4.6 | -103 | | | | |
| | | MN2 | 59 31.1 | 4.3 | | +88 | | | |
| | | MZ2 | 59 31.2 | 5.2 | | | +50 | | |
| | | FE | 15 13 22.7 | | | | | | |
| | | FN | 12 52.4 | | | | | | |
| | | FZ | 11 31.6 | | | | | | |
| 266 | " 21 | P | 16 31 04.2 | | | | | 227 | Northern |
| | | L | 31 34.7 | | | | part of Hiroshima pre- | | |
| | | ME | 31 38.3 | 0.7 | -11 | | fecture. | | |
| | | MN | 31 40.9 | 1.8 | | +13 | | | |
| | | FE | 34 15.9 | | | | | | |
| | | FN | 34 20.8 | | | | | | |
| 267 | " 21 | e.p | 17 38 53.3 | | | | | - | ditto |
| | | L | 39 20.4 | | | | | | |
| | | ME | 39 45.7 | 1.7 | +6 | | | | |
| | | MN | 39 42.9 | 1.7 | | +6 | | | |
| | | FE | 40 52.4 | | | | | | |
| | | FN | 41 18.9 | | | | | | |
| 268 | " 21 | e.p | 20 48 37.8 | | | | | - | ditto |
| | | L | 49 06.0 | | | | | | |
| | | ME | 49 34.4 | 1.1 | -6 | | | | |
| | | MN | 49 09.1 | 1.1 | | -11 | | | |
| | | FE | 51 00.7 | | | | | | |
| | | FN | 50 53.3 | | | | | | |
| 269 | " 21 | e.p | 23 54 12.5 | | | | | - | Southern |
| | | L | - - - | | | | part of Formosa. | | |
| | | ME | 0 09 21.3 | 6.9 | +20 | | | | |
| | | MN | 04 10.4 | 8.4 | | ±10 | | | |
| | | F | - - - | | | | | | |
| 270 | " 22 | e.p | 0 12 08.4 | | | | | - | ditto |
| | | L | - - | | | | | | |
| | | ME | 22 09.7 | 10.0 | -25 | | | | |
| | | MN | 19 52.6 | 12.4 | | +28 | | | |
| | | FE | 52 19.7 | | | | | | |
| | | FN | 53 10.7 | | | | | | |
| 271 | " 22 | P | 3 24 04.6 | | | | | 217 | |
| | | L | 24 33.8 | | | | | | |
| | | ME | 24 37.0 | 1.7 | +10 | | | | |
| | | MN | 24 37.0 | 2.1 | | -13 | | | |
| | | MZ | - - | | | | | | |
| | | FE | 27 58.4 | | | | | | |
| | | FN | 27 44.7 | | | | | | |
| | | FZ | 27 44.8 | | | | | | |
| 272 | " 23 | P | 10 47 19.3 | | | | | 220 | |
| | | L | 47 48.9 | | | | | | |
| | | ME | 47 52.4 | 1.2 | +8 | | | | |
| | | MN | 47 52.6 | 1.2 | | -8 | | | |
| | | FE | 49 43.3 | | | | | | |

| No. | Date | Phase | G.M.T. h. m. s. | Period s | Amplitude $A_E$ μ | Amplitude $A_N$ μ | Amplitude $A_Z$ μ | △ k.m. | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 273 | Dec. 23 | P | 23 57 57.5 | | | | | 831 | |
| | | L | 59 49.4 | | | | | | |
| | | ME | 0 01 21.2 | 2.1 | -20 | | | | |
| | | MN | 01 06.5 | 3.2 | | ±25 | | | |
| | | MZ | 01 00.7 | 2.5 | | | ±12 | | |
| | | FE | 08 22.4 | | | | | | |
| | | FN | 07 30.4 | | | | | | |
| | | FZ | 04 15.0 | | | | | | |
| 274 | " 31 | P | - - | | | | | 3/2 | |
| | | L | 11 18 12.5 | | | | | | |
| | | FE | 23 04.7 | | | | | | |
| | | FN | 22 50.6 | | | | | | |
| | | | | | THE END. | | | | |