

# KÔBE JAPAN.

## SEISMOLOGICAL BULLETIN

of the Imperial Marine Observatory and the Kobe Meteorological Observatory of Japan.  
 $\varphi=34^{\circ} 41' 18''$   $\lambda=135^{\circ} 10' 51''$   $h=58.3$  m Underground: Diluvial Series.  
 Instrument: Omori's Seismograph (Horizontal Pendulum.)  
 Wiechert Seismograph (Horizontal & Vertical)

|     | $T_0$ | $\xi$ | $\frac{r}{T_0^2}$ | V    | $T_0$ | $\xi$     | $\frac{r}{T_0^2}$ | V  |
|-----|-------|-------|-------------------|------|-------|-----------|-------------------|----|
| AN: | 20    | 1.15  |                   | 20.0 | AN:   | Aperiodic |                   | 80 |
| AE: | 20    | 1.20  |                   | 20.0 | AE:   | "         |                   | 80 |
| AE: | 25    | 2.70  |                   | 42.7 | AZ:   | "         |                   | 80 |

1924

| No. | Date    | Phase            | Time |          | Period | Amplitude |           |           | J   | Remarks  |          |
|-----|---------|------------------|------|----------|--------|-----------|-----------|-----------|-----|--|----------|
|     |         |                  | G.   | M. T.    |        | AE        | AN        | AZ        |     |  |          |
| 1   | Jan. 10 | ME               | h    | m s      | 5.3    | $\mu$     | $\mu$     | $\mu$     | km. | A distant earthquake.                              |          |
|     |         | MN               | 23   | 50 32    |        | $\pm 20$  | $\pm 25$  |           |     |  |          |
|     |         | FE               | 0    | 06 $\pm$ |        |           |           |           |     |  |          |
|     |         | FN               | 0    | 04 $\pm$ |        |           |           |           |     |  |          |
| 2   | Jan. 14 | P                | 20   | 51 13    |        |           |           |           | 390 | In the province of Sagami.                         |          |
|     |         | L                | 20   | 52 06    |        |           |           |           |     |  |          |
| 3   | Jan. 14 | P                | 21   | 06 48    |        |           |           |           | 387 | An after-shock of the great Sagami sea earthquake. |          |
|     |         | L                | 21   | 07 40    |        |           |           |           |     |  |          |
|     |         | M <sub>1</sub> E | 21   | 07 48    |        | 2.9       | $\pm 69$  |           |     |  |          |
|     |         | M <sub>1</sub> N | 21   | 08 26    |        | 2.9       |           | $\pm 100$ |     |  |          |
|     |         | M <sub>1</sub> Z | 21   | 08 04    |        | 2.4       |           |           |     |  | $\pm 36$ |
|     |         | M <sub>2</sub> E | 21   | 09 22    |        | 3.4       | $\pm 100$ |           |     |  |          |
| 4   | Jan. 14 | ME               | 21   | 15 24    |        |           |           |           |     | Ditto.   |          |
|     |         | MN               | 21   | 15 24    |        |           |           |           |     |  |          |
|     |         | FE               | 21   | 26 $\pm$ |        |           |           |           |     |  |          |
|     |         | FN               | 21   | 26 $\pm$ |        |           |           |           |     |  |          |
| 5   | Jan. 14 | P                | 23   | 08 36    |        |           |           |           | 402 | Ditto.   |          |
|     |         | L                | 23   | 09 30    |        |           |           |           |     |  |          |
|     |         | ME               | 23   | 09 31    |        | 1.9       | $\pm 66$  |           |     |  |          |

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| No. | Date    | Phase | Time |          | Period | Amplitude |          |          | J   | Remarks                                    |          |
|-----|---------|-------|------|----------|--------|-----------|----------|----------|-----|--|----------|
|     |         |       | G.   | M. T.    |        | AE        | AN       | AZ       |     |  |          |
| 6   | Jan. 15 | MN    | h    | m s      | 1.9    | $\mu$     | $\mu$    | $\mu$    | km. | In the province of Iwaki.                  |          |
|     |         | MZ    | 23   | 09 36    |        | $\pm 30$  |          |          |     |  |          |
|     |         | FE    | 23   | 16 $\pm$ |        |           |          | $\pm 39$ |     |  |          |
|     |         | FN    | 23   | 17 $\pm$ |        |           |          |          |     |  |          |
|     |         | FZ    | 23   | 17 $\pm$ |        |           |          |          |     |  |          |
|     |         | P     | 19   | 25 19    |        |           |          |          |     |  | 448      |
|     |         | L     | 19   | 26 19    |        |           |          |          |     |  |          |
|     |         | ME    | 19   | 26 37    |        | 1.9       | $\pm 25$ |          |     |  |          |
|     |         | MN    | 19   | 26 31    |        | 2.8       |          | $\pm 13$ |     |  |          |
|     |         | MZ    | 19   | 26 27    |        | 2.1       |          |          |     |  | $\pm 13$ |
| 7   | Jan. 16 | eP    | 21   | 48 52    | 5.4    |           |          |          | 20  | A distant earthquake.                      |          |
|     |         | eL    | 21   | 58 11    |        |           |          |          |     |  |          |
|     |         | ME    | 21   | 58 18    |        | $\pm 25$  |          |          |     |  |          |
|     |         | FE    | 22   | 17 $\pm$ |        |           |          |          |     |  |          |
|     |         | P     | 18   | 49 54    |        |           |          |          |     |  | 20       |
|     |         | L     | 18   | 49 56    |        |           |          |          |     |  |          |
|     |         | ME    | 18   | 49 56    |        |           | $\pm 48$ |          |     |  |          |
|     |         | MN    | 18   | 49 57    |        |           |          | $\pm 56$ |     |  |          |
|     |         | MZ    | 18   | 49 57    |        |           |          |          |     |  | $\pm 21$ |
|     |         | FE    | 18   | 50 47    |        |           |          |          |     |  |          |
| 9   | Jan. 19 | P     | 6    | 47 31    | 2.4    |           |          |          | 322 | At the NE foot of Mt. Fuji. Felt at Tokyo. |          |
|     |         | S     | 6    | 47 58    |        |           |          |          |     |  |          |
|     |         | L     | 6    | 48 14    |        |           |          |          |     |  |          |
|     |         | ME    | 6    | 48 15    |        | $\pm 6$   |          |          |     |  |          |
|     |         | MN    | 6    | 48 15    |        |           | $\pm 10$ |          |     |  |          |
|     |         | MZ    | 6    | 48 15    |        | 1.9       |          | $\pm 6$  |     |  |          |
|     |         | FE    | 6    | 52 $\pm$ |        |           |          |          |     |  |          |

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| No. | Date    | Phase | Time<br>G. M. T. | Period<br>s | Amplitude   |             |             | $\Delta$<br>km. | Remarks   |
|-----|---------|-------|------------------|-------------|-------------|-------------|-------------|-----------------|---|
|     |         |       |                  |             | AE<br>$\mu$ | AN<br>$\mu$ | AZ<br>$\mu$ |                 |   |
| 10  | Jan. 19 | FN    | 6 52 ±           |             |             |             |             | 417             | An after-shock of the great Sagami sea earthquake, Felt at Tokyo. |
|     |         | FZ    | 6 53 ±           |             |             |             |             |                 |   |
|     |         | P     | 12 47 27         |             |             |             |             |                 |   |
|     |         | L     | 12 48 20         |             |             |             |             |                 |   |
| 11  | Jan. 20 | FZ    | 12 50 ±          |             |             |             |             | 342             | Do. Felt at Kōfu and Tokyo.                                       |
|     |         | P     | 15 34 46         |             |             |             |             |                 |   |
|     |         | L     | 15 35 32         |             |             |             |             |                 |   |
|     |         | ME    | 15 35 33         | ±15         |             |             |             |                 |   |
|     |         | MN    | 15 35 37         |             | ±20         |             |             |                 |   |
|     |         | MZ    | 15 35 33         |             |             | ±6          |             |                 |   |
|     |         | FE    | 15 39 ±          |             |             |             |             |                 |   |
|     |         | FN    | 15 39 ±          |             |             |             |             |                 |   |
| 12  | Jan. 21 | FZ    | 15 39 ±          |             |             |             |             | 3020            | A distant earthquake.   |
|     |         | P     | 1 57 56          |             |             |             |             |                 |   |
|     |         | eS    | 2 01 05          |             |             |             |             |                 |   |
|     |         | eL    | 2 03 48          |             |             |             |             |                 |   |
|     |         | ME    | 2 05 00          | ±55         |             |             |             |                 |   |
|     |         | MN    | 2 03 52          |             | ±30         |             |             |                 |   |
|     |         | FE    | 2 22 ±           |             |             |             |             |                 |   |
| 13  | Jan. 22 | FN    | 2 27 ±           |             |             |             |             | 5.5<br>11.3     | A distant earthquake. Far off the E coast of Mutsu.               |
|     |         | ME    | 10 43 06         | ±43         |             |             |             |                 |   |
|     |         | MN    | 10 44 17         |             | ±20         |             |             |                 |   |
|     |         | FE    | 10 52 ±          |             |             |             |             |                 |   |
| 14  | Jan. 24 | FN    | 10 53 ±          |             |             |             |             | ±4              | A local shock.  |
|     |         | ME    | 16 46 24         | ±4          |             |             |             |                 |   |
|     |         | MN    | 16 46 24         |             | ±6          |             |             |                 |   |
|     |         | FE    | 16 47 14         |             |             |             |             |                 |   |
| 15  | Jan. 25 | FN    | 16 47 25         |             |             |             |             | ±7              | Do.   |
|     |         | ME    | 17 17 14         | ±7          |             |             |             |                 |   |
|     |         | MN    | 17 17 14         |             |             |             |             | ±9              |   |

| No. | Date    | Phase | Time<br>G. M. T. | Period<br>s | Amplitude   |             |             | $\Delta$<br>km. | Remarks  |
|-----|---------|-------|------------------|-------------|-------------|-------------|-------------|-----------------|--|
|     |         |       |                  |             | AE<br>$\mu$ | AN<br>$\mu$ | AZ<br>$\mu$ |                 |  |
| 16  | Jan. 27 | FE    | 17 17 ±          |             |             |             |             | 401             | An after-shock of the great Sagami sea earthquake. |
|     |         | FN    | 17 17 ±          |             |             |             |             |                 |  |
| 17  | Jan. 30 | eP    | 4 26 50          |             |             |             |             | 527             | Do.  |
|     |         | FN    | 4 41 ±           |             |             |             |             |                 |  |
| 18  | Jan. 30 | P     | 4 52 55          |             |             |             |             | 3.5<br>3.7      | ±13<br>±13   |
|     |         | S     | 4 53 25          |             |             |             |             |                 |  |
|     |         | L     | 4 54 02          |             |             |             |             |                 |  |
|     |         | ME    | 4 54 36          | ±13         |             |             |             |                 |  |
|     |         | MN    | 4 54 58          |             | ±13         |             |             |                 |  |
|     |         | FE    | 5 12 ±           |             |             |             |             |                 |  |
|     |         | FN    | 5 08 ±           |             |             |             |             |                 |  |
| 19  | Jan. 30 | P     | 13 07 43         |             |             |             |             | 1.0             | ±8<br>±8   |
|     |         | L     | 13 08 33         |             |             |             |             |                 |  |
|     |         | ME    | 13 08 34         | ±8          |             |             |             |                 |  |
|     |         | MN    | 13 08 38         |             | ±8          |             |             |                 |  |
|     |         | MZ    | 13 08 35         |             |             | ±3          |             |                 |  |
|     |         | FE    | 13 12 ±          |             |             |             |             |                 |  |
| 20  | Feb. 1  | FN    | 13 13 ±          |             |             |             |             | ±3              | Felt at Numazu.                                    |
|     |         | eP    | 7 24 25          |             |             |             |             |                 |  |
|     |         | L     | 7 26 02          |             |             |             |             |                 |  |
|     |         | FE    | 7 28 ±           |             |             |             |             |                 |  |
| 21  | Feb. 2  | FN    | 7 23 ±           |             |             |             |             | ±4              | Near Amakusa IIs.                                  |
|     |         | eP    | 17 31 14         |             |             |             |             |                 |  |
|     |         | eL    | 17 32 10         |             |             |             |             |                 |  |
|     |         | ME    | 17 32 12         |             |             |             |             |                 |  |
| 22  | Feb. 2  | MN    | 17 32 14         |             |             |             |             | ±4              | In Kashima sea.                                    |
|     |         | FE    | 17 37 ±          |             |             |             |             |                 |  |
|     |         | FN    | 17 37 ±          |             |             |             |             |                 |  |
|     |         | P     | 22 26 28         |             |             |             |             |                 |  |
| 23  | Feb. 2  | L     | 22 27 38         |             |             |             |             | 548             |  |
|     |         |       |                  |             |             |             |             |                 |  |



| No. | Date    | Phase | Time |    |    | Period | Amplitude |      |     | J                                  | Remarks |
|-----|---------|-------|------|----|----|--------|-----------|------|-----|------------------------------------|---------|
|     |         |       | G.   | M. | T. |        | AE        | AN   | AZ  |                                    |         |
|     |         |       | h    | m  | s  | s      | μ         | μ    | μ   | km.                                |         |
| 22  | Feb. 4  | ME    | 22   | 28 | 20 | 4.7    | ±138      |      |     | A local shock.                     |         |
|     |         | MN    | 22   | 27 | 56 | 4.0    |           | ±225 |     |                                    |         |
|     |         | FE    | 22   | 40 | ±  |        |           |      |     |                                    |         |
|     |         | FN    | 22   | 39 | ±  |        |           |      |     |                                    |         |
| 22  | Feb. 4  | ME    | 10   | 16 | 34 |        | ±4        |      |     | A local shock.                     |         |
|     |         | MN    | 10   | 16 | 35 |        |           | ±6   |     |                                    |         |
|     |         | MZ    | 10   | 16 | 37 |        |           |      | ±8  |                                    |         |
|     |         | FE    | 10   | 16 | 44 |        |           |      |     |                                    |         |
|     |         | FN    | 10   | 16 | 46 |        |           |      |     |                                    |         |
|     |         | FZ    | 10   | 16 | 48 |        |           |      |     |                                    |         |
|     |         |       |      |    |    |        |           |      |     |                                    |         |
| 23  | Feb. 5  | P     | 23   | 28 | 38 |        |           |      | 117 | In Wakayama province.              |         |
|     |         | L     | 23   | 28 | 49 |        |           |      |     |                                    |         |
|     |         | ME    | 23   | 28 | 51 |        | ±63       |      |     |                                    |         |
|     |         | MN    | 23   | 28 | 51 |        |           | ±75  |     |                                    |         |
|     |         | MZ    | 23   | 28 | 49 |        |           |      | ±23 |                                    |         |
|     |         | FE    | 23   | 33 | ±  |        |           |      |     |                                    |         |
|     |         | FN    | 23   | 33 | ±  |        |           |      |     |                                    |         |
|     |         | FZ    | 23   | 24 | ±  |        |           |      |     |                                    |         |
| 24  | Feb. 10 | P     | 9    | 25 | 34 |        |           |      | 76  | In Kii channel.                    |         |
|     |         | L     | 9    | 25 | 44 |        |           |      |     |                                    |         |
|     |         | ME    | 9    | 25 | 45 |        | ±50       |      |     |                                    |         |
|     |         | MN    | 9    | 25 | 45 |        |           | ±130 |     |                                    |         |
|     |         | MZ    | 9    | 25 | 45 |        |           |      | ±25 |                                    |         |
|     |         | FE    | 9    | 29 | ±  |        |           |      |     |                                    |         |
|     |         | FN    | 9    | 29 | ±  |        |           |      |     |                                    |         |
|     |         | FZ    | 9    | 29 | ±  |        |           |      |     |                                    |         |
| 25  | Feb. 10 | eP    | 12   | 23 | 45 |        |           |      |     | The trace of a distant earthquake. |         |
|     |         | FE    | 12   | 38 | ±  |        |           |      |     |                                    |         |
| 26  | Feb. 10 | P     | 12   | 01 | 30 |        |           |      | 179 | A local shock.                     |         |
|     |         | L     | 12   | 01 | 54 |        |           |      |     |                                    |         |
|     |         | ME    | 12   | 01 | 54 |        | ±4        |      |     |                                    |         |

| No. | Date    | Phase | Time |    |    | Period | Amplitude |     |     | J   | Remarks  |
|-----|---------|-------|------|----|----|--------|-----------|-----|-----|-----|--|
|     |         |       | G.   | M. | T. |        | AE        | AN  | AZ  |     |  |
|     |         |       | h    | m  | s  | s      | μ         | μ   | μ   | km. |  |
| 27  | Feb. 11 | MN    | 12   | 01 | 54 | 1.4    |           |     |     | 278 | Near the Tama river in Tokyo province.   |
|     |         | FE    | 12   | 02 | ±  |        |           | ±4  |     |     |  |
|     |         | FN    | 12   | 02 | ±  |        |           |     |     |     |  |
| 27  | Feb. 11 | P     | 17   | 50 | 24 |        |           |     |     | 278 | Near the Tama river in Tokyo province.   |
|     |         | L     | 17   | 51 | 03 |        |           |     |     |     |  |
|     |         | ME    | 17   | 51 | 04 |        | ±8        |     |     |     |  |
|     |         | MN    | 17   | 51 | 13 |        |           | ±8  |     |     |  |
|     |         | FE    | 17   | 53 | ±  |        |           |     |     |     |  |
|     |         | FN    | 17   | 52 | ±  |        |           |     |     |     |  |
| 28  | Feb. 14 | MN    | 20   | 14 | 08 |        |           |     |     | 278 | The trace of a distant earthquake.   |
|     |         | FN    | 20   | 21 | ±  |        |           |     |     |     |  |
| 29  | Feb. 16 | eP    | 6    | 57 | 12 |        |           |     |     | 278 | Near Tokyo.  |
|     |         | eL    | 6    | 57 | 55 |        |           |     |     |     |  |
|     |         | MN    | 6    | 58 | 15 | 4.7    |           | ±15 |     |     |  |
|     |         | FN    | 7    | 05 | ±  |        |           |     |     |     |  |
| 30  | Feb. 16 | ME    | 15   | 47 | 45 |        | ±9        |     |     | 278 | A local shock.   |
|     |         | MN    | 15   | 47 | 45 |        |           | ±9  |     |     |  |
|     |         | FE    | 15   | 49 | ±  |        |           |     |     |     |  |
|     |         | FN    | 15   | 49 | ±  |        |           |     |     |     |  |
| 31  | Feb. 19 | ME    | 12   | 29 | 48 | 4.2    | ±3        |     |     | 278 | The trace of a distant earthquake.   |
|     |         | MN    | 12   | 32 | 10 | 4.2    |           | ±4  |     |     |  |
|     |         | FE    | 12   | 35 | ±  |        |           |     |     |     |  |
|     |         | FN    | 12   | 36 | ±  |        |           |     |     |     |  |
| 32  | Feb. 20 | P     | 11   | 00 | 47 |        |           |     |     | 48  | Near the Arita river in Wakayama province; at Wakayama, the shock was felt weakly. |
|     |         | L     | 11   | 00 | 54 |        |           |     |     |     |  |
|     |         | ME    | 11   | 00 | 55 |        | ±61       |     |     |     |  |
|     |         | MN    | 11   | 00 | 55 |        |           | ±66 |     |     |  |
|     |         | MZ    | 11   | 00 | 55 |        |           |     | ±16 |     |  |
|     |         | FE    | 11   | 05 | ±  |        |           |     |     |     |  |
| FN  | 11      | 05    | ±    |    |    |        |           |     |     |     |  |



| No. | Date    | Phase | Time<br>G. M. T. | Period<br>s | Amplitude |         |         | Δ<br>km. | Remarks  |
|-----|---------|-------|------------------|-------------|-----------|---------|---------|----------|--|
|     |         |       |                  |             | AE<br>μ   | AN<br>μ | AZ<br>μ |          |  |
| 33  | Feb. 21 | FZ    | 11 05 ±          |             |           |         |         | 48       | A local shock.                                   |
|     |         | P     | 22 43 41         |             |           |         |         |          |  |
|     |         | L     | 22 43 48         |             |           |         |         |          |  |
|     |         | ME    | 22 43 50         | 2.0         | ±38       |         |         |          |  |
|     |         | MN    | 22 43 50         |             |           | ±25     |         |          |  |
|     |         | MZ    | 22 43 50         | 2.0         |           |         | ±40     |          |  |
|     |         | FE    | 22 50 ±          |             |           |         |         |          |  |
|     |         | FN    | 22 51 ±          |             |           |         |         |          |  |
| 34  | Feb. 24 | P     | 16 48 14         |             |           |         |         |          |  |
|     |         | FE    | 16 56 ±          |             |           |         |         |          |  |
|     |         | FN    | 16 55 ±          |             |           |         |         |          |  |
|     |         | FZ    | 16 55 ±          |             |           |         |         |          |  |
| 35  | Feb. 26 | P     | 22 17 01         |             |           |         |         | 25       | Near Akasi channel. The shock was felt slightly. |
|     |         | L     | 22 17 05         |             |           |         |         |          |  |
|     |         | ME    | 22 17 05         |             | ±156      |         |         |          |  |
|     |         | MN    | 22 17 05         |             |           | ±111    |         |          |  |
|     |         | MZ    | 22 17 05         |             |           |         | ±25     |          |  |
|     |         | FE    | 22 17 49         |             |           |         |         |          |  |
|     |         | FN    | 22 17 49         |             |           |         |         |          |  |
|     |         | FZ    | ?                |             |           |         |         |          |  |
| 36  | Feb. 28 | P     | 0 49 14          |             |           |         |         | 102      | A local shock.                                   |
|     |         | L     | 0 49 27          |             |           |         |         |          |  |
|     |         | ME    | 0 49 28          |             | ±69       |         |         |          |  |
|     |         | MN    | 0 49 27          |             |           | ±70     |         |          |  |
|     |         | MZ    | 0 49 27          |             |           |         |         |          |  |
|     |         | FE    | 0 54 ±           |             |           |         | ±13     |          |  |
|     |         | FN    | 0 54 ±           |             |           |         |         |          |  |
|     |         | FZ    | 0 54 ±           |             |           |         |         |          |  |
| 37  | Mar. 2  | P     | 9 23 19          |             |           |         |         | 74       | Felt at Tatsuno and Aboshi.                      |
|     |         | L     | 9 23 29          |             |           |         |         |          |  |

| No. | Date    | Phase            | Time<br>G. M. T. | Period<br>s | Amplitude |         |         | Δ<br>km. | Remarks   |
|-----|---------|------------------|------------------|-------------|-----------|---------|---------|----------|---|
|     |         |                  |                  |             | AE<br>μ   | AN<br>μ | AZ<br>μ |          |   |
|     |         | ME               | 9 23 33          |             | ±18       |         |         |          |   |
|     |         | MN               | 9 23 33          |             |           | ±14     |         |          |   |
|     |         | MZ               | 9 23 33          |             |           |         | ±8      |          |   |
|     |         | FE               | 18 24 ±          |             |           |         |         |          |   |
|     |         | FN               | 18 24 ±          |             |           |         |         |          |   |
|     |         | FZ               | 18 24 ±          |             |           |         |         |          |   |
| 38  | Mar. 4  | eP               | 6 22 51          |             |           |         |         |          |   |
|     |         | ME               | 6 24 56          |             |           |         |         |          |   |
|     |         | FE               | 6 27 ±           |             |           |         |         |          |   |
| 39  | Mar. 4  | eMN              | 10 37 24         |             |           |         |         |          |   |
|     |         | FN               | 10 43 ±          |             |           |         |         |          |   |
| 40  | Mar. 5  | P                | 3 08 49          |             |           |         |         | 282      |   |
|     |         | L                | 3 09 23          |             |           |         |         |          |   |
|     |         | ME               | 3 09 27          | 1.4         | ±10       |         |         |          |   |
|     |         | MN               | 3 09 25          | 1.4         |           | ±10     |         |          |   |
|     |         | MZ               | 3 09 28          |             |           |         | ±4      |          |   |
|     |         | FE               | 3 12 ±           |             |           |         |         |          |   |
|     |         | FN               | 3 12 ±           |             |           |         |         |          |   |
|     |         | FZ               | 3 12 ±           |             |           |         |         |          |   |
| 41  | Mar. 12 | P                | 23 05 22         |             |           |         |         | 502      |   |
|     |         | L                | 23 06 26         |             |           |         |         |          |   |
|     |         | ME               | 23 06 41         | 2.5         | ±9        |         |         |          |   |
|     |         | MN               | 23 06 41         | 2.9         |           | ±9      |         |          |   |
|     |         | FE               | 23 12 ±          |             |           |         |         |          |   |
|     |         | FN               | 23 12 ±          |             |           |         |         |          |   |
| 42  | Mar. 15 | P                | 10 35 00         |             |           |         |         | 2450     | By Omori's Tromometer. The Karahuto earthquake. |
|     |         | S                | 10 38 39         |             |           |         |         |          |   |
|     |         | L                | 10 39 29         |             |           |         |         |          |   |
|     |         | ME               | 10 40 26         | 16.8        | ±1075     |         |         |          |   |
|     |         | M <sub>1</sub> N | 10 40 57         | 16.8        |           | ±1750   |         |          |   |
|     |         | M <sub>2</sub> N | 10 43 16         | 19.2        |           | ±1100   |         |          |   |



| No. | Date    | Phase | Time<br>G. M. T. | Period<br>s | Amplitude |         |         | J<br>km.                           | Remarks |
|-----|---------|-------|------------------|-------------|-----------|---------|---------|------------------------------------|---------|
|     |         |       |                  |             | AE<br>μ   | AN<br>μ | AZ<br>μ |                                    |         |
| 43  | Mar. 15 | FE    | 11 04 ±          |             |           |         |         |                                    |         |
|     |         | FN    | 11 41 ±          |             |           |         |         |                                    |         |
|     |         | ME    | 18 03 04         |             |           |         |         |                                    |         |
|     |         | MN    | 18 03 04         |             |           |         |         |                                    |         |
|     |         | FE    | 18 04 ±          |             |           |         |         |                                    |         |
|     |         | FN    | 18 04 ±          |             |           |         |         |                                    |         |
| 44  | Mar. 15 | eMN   | 23 40 27         |             |           |         |         |                                    |         |
|     |         | FE    | 23 51 ±          |             |           |         |         |                                    |         |
| 45  | Mar. 22 | P     | 8 24 03          |             |           |         | 17      | A sensible earthquake.             |         |
|     |         | L     | 8 24 06          |             |           |         |         |                                    |         |
|     |         | ME    | 8 24 08          | ±71         |           |         |         |                                    |         |
|     |         | MN    | 8 24 07          |             | ±75       |         |         |                                    |         |
|     |         | MZ    | 8 24 07          |             |           | ±29     |         |                                    |         |
|     |         | FE    | 8 24 51          |             |           |         |         |                                    |         |
|     |         | FN    | 8 24 52          |             |           |         |         |                                    |         |
|     |         | FZ    | 8 24 58          |             |           |         |         |                                    |         |
| 46  | Mar. 22 | P     | 13 47 42         |             |           |         |         |                                    |         |
|     |         | L     | 13 48 35         |             |           |         |         |                                    |         |
|     |         | ME    | 13 48 46         | 4.8         | ±13       |         |         |                                    |         |
|     |         | MN    | 13 48 50         |             |           | ±15     |         |                                    |         |
|     |         | FE    | 13 52 ±          |             |           |         |         |                                    |         |
|     |         | FN    | 13 52 ±          |             |           |         |         |                                    |         |
| 47  | Mar. 24 | P     | 0 52 36          |             |           |         | 287     | In the Iyonada. Felt at Hiroshima. |         |
|     |         | L     | 0 53 10          |             |           |         |         |                                    |         |
|     |         | ME    | 0 53 12          | 1.2         | ±31       |         |         |                                    |         |
|     |         | MN    | 0 53 13          | 1.0         |           | ±25     |         |                                    |         |
|     |         | MZ    | 0 53 12          |             |           |         | ±8      |                                    |         |
|     |         | FE    | 0 56 47          |             |           |         |         |                                    |         |
|     |         | FN    | 0 56 48          |             |           |         |         |                                    |         |
|     |         | FZ    | 0 55 30          |             |           |         |         |                                    |         |

| No. | Date    | Phase | Time<br>G. M. T. | Period<br>s | Amplitude |         |         | J<br>km.                                       | Remarks |
|-----|---------|-------|------------------|-------------|-----------|---------|---------|--|---------|
|     |         |       |                  |             | AE<br>μ   | AN<br>μ | AZ<br>μ |  |         |
| 48  | Mar. 28 | P     | 13 55 56         |             |           |         |         | 299  |         |
|     |         | L     | 13 56 32         |             |           |         |         |  |         |
|     |         | ME    | 13 56 56         | 2.8         | ±25       |         |         |  |         |
|     |         | MN    | 13 56 41         | 9.0         |           | ±40     |         |  |         |
|     |         | FE    | 14 02 ±          |             |           |         |         |  |         |
|     |         | FN    | 14 02 ±          |             |           |         |         |  |         |
| 49  | Mar. 29 | ME    | 4 31 00          |             |           |         |         |  |         |
|     |         | MN    | 4 30 55          |             |           | ±5      |         |  |         |
|     |         | FE    | 4 32 ±           |             |           |         |         |  |         |
|     |         | FN    | 4 32 ±           |             |           |         |         |  |         |
| 50  | Mar. 31 | P     | 16 08 43         |             |           |         | 51      | Epicenter along the course of the River Arita. |         |
|     |         | L     | 16 08 49         |             |           |         |         |  |         |
|     |         | ME    | 16 08 50         |             | ±25       |         |         |  |         |
|     |         | MN    | 16 08 51         |             |           | ±33     |         |  |         |
|     |         | FE    | 16 12 ±          |             |           |         |         |  |         |
|     |         | FN    | 16 10 ±          |             |           |         |         |  |         |
| 51  | Apr. 1  | P     | 7 05 21          |             |           |         | 431     | In S. part of the sea of Hyuga.                |         |
|     |         | L     | 7 06 15          |             |           |         |         |  |         |
|     |         | ME    | 7 06 28          |             | ±9        |         |         |  |         |
|     |         | MN    | 7 06 18          |             |           | ±3      |         |  |         |
|     |         | FE    | 7 09 ±           |             |           |         |         |  |         |
|     |         | FN    | 7 09 ±           |             |           |         |         |  |         |
| 52  | Apr. 3  | P     | 2 31 41          |             |           |         | 429     | W. off Hatijo IIs.                             |         |
|     |         | L     | 2 32 34          |             |           |         |         |  |         |
|     |         | ME    | 2 32 36          | 2.8         | ±154      |         |         |  |         |
|     |         | MN    | 2 32 36          | 2.8         |           | ±135    |         |  |         |
|     |         | MZ    | 2 32 37          | 1.4         |           |         | ±18     |  |         |
|     |         | FE    | 2 41 ±           |             |           |         |         |  |         |
|     |         | FN    | 2 41 ±           |             |           |         |         |  |         |
|     |         | FZ    | 2 36 ±           |             |           |         |         |  |         |
| 53  | Apr. 3  | ME    | 21 26 39         |             |           |         |         | Faint record.                                  |         |



| No. | Date    | Phase | Time |    |    | Period | Amplitude |     |     | J   | Remarks                                     |  |
|-----|---------|-------|------|----|----|--------|-----------|-----|-----|-----|---|--|
|     |         |       | G.   | M. | T. |        | AE        | AN  | AZ  |     |   |  |
|     |         |       | h    | m  | s  | s      | μ         | μ   | μ   | km. |   |  |
| 54  | Apl. 6  | MN    | 21   | 26 | 40 |        |           |     |     |     | A local shock.                              |  |
|     |         | FE    | 21   | 27 | ±  |        |           |     |     |     |   |  |
|     |         | FN    | 21   | 27 | ±  |        |           |     |     |     |   |  |
|     |         | ME    | 17   | 18 | 38 |        | ±5        |     |     |     |   |  |
| 55  | Apl. 8  | MN    | 17   | 18 | 36 |        |           | ±6  |     |     | Do.   |  |
|     |         | FE    | 17   | 19 | ±  |        |           |     |     |     |   |  |
|     |         | FN    | 17   | 19 | ±  |        |           |     |     |     |   |  |
|     |         | P     | 14   | 18 | 48 |        |           |     |     |     |   |  |
| 56  | Apl. 10 | L     | 14   | 18 | 52 |        |           |     |     | 34  | Do.   |  |
|     |         | ME    | 14   | 18 | 55 |        | ±7        |     |     |     |   |  |
|     |         | MN    | 14   | 18 | 54 |        |           | ±8  |     |     |   |  |
|     |         | FE    | 14   | 19 | ±  |        |           |     |     |     |   |  |
|     |         | FN    | 14   | 19 | ±  |        |           |     |     |     |   |  |
|     |         | P     | 14   | 58 | 51 |        |           |     |     |     |   |  |
| 57  | Apl. 12 | S     | 14   | 59 | 29 |        |           |     |     | 756 | By Omori's tromometer.<br>E. part of Iwaki. |  |
|     |         | L     | 15   | 00 | 26 |        |           |     |     |     |   |  |
|     |         | ME    | 15   | 01 | 03 | 3.1    | ±16       |     |     |     |   |  |
|     |         | FE    | 15   | 05 | ±  |        |           |     |     |     |   |  |
|     |         | P     | 13   | 01 | 20 |        |           |     |     |     |   |  |
| 58  | Apl. 12 | L     | 13   | 01 | 31 |        |           |     |     | 76  | Near Wakayama.                              |  |
|     |         | ME    | 13   | 01 | 32 |        | ±8        |     |     |     |   |  |
|     |         | MN    | 13   | 01 | 31 |        |           | ±8  |     |     |   |  |
|     |         | MZ    | 13   | 01 | 34 |        |           |     | ±3  |     |   |  |
|     |         | FE    | 13   | 03 | ±  |        |           |     |     |     |   |  |
|     |         | FN    | 13   | 03 | ±  |        |           |     |     |     |   |  |
|     |         | FZ    | 13   | 02 | ±  |        |           |     |     |     |   |  |
| 58  | Apl. 12 | P     | 19   | 11 | 00 |        |           |     |     | 310 | S. off Tōtōmi.                              |  |
|     |         | L     | 19   | 11 | 37 |        |           |     |     |     |   |  |
|     |         | ME    | 19   | 11 | 38 | 2.3    | ±66       |     |     |     |   |  |
|     |         | MN    | 19   | 11 | 39 | 2.4    |           | ±90 |     |     |   |  |
|     |         | MZ    | 19   | 11 | 38 |        |           |     | ±10 |     |   |  |

| No. | Date    | Phase            | Time    |    |    | Period | Amplitude |    |      | J    | Remarks       |  |
|-----|---------|------------------|---------|----|----|--------|-----------|----|------|------|---------------|--|
|     |         |                  | G.      | M. | T. |        | AE        | AN | AZ   |      |               |  |
|     |         |                  | h       | m  | s  | s      | μ         | μ  | μ    | km.  |               |  |
| 59  | Apl. 13 | FE               | 19      | 15 | ±  |        |           |    |      |      | Faint record. |  |
|     |         | FN               | 19      | 15 | ±  |        |           |    |      |      |               |  |
|     |         | FZ               | 19      | 14 | ±  |        |           |    |      |      |               |  |
|     |         | P                | 13      | 55 | 18 |        |           |    |      |      |               |  |
| 60  | Apl. 14 | L                | 13      | 56 | 44 |        |           |    |      | 3.4  | ±4            |  |
|     |         | ME               | ?       |    |    |        |           |    |      |      |               |  |
|     |         | MN               | 13      | 56 | 48 |        |           |    |      |      |               |  |
|     |         | FE               | 14      | 00 | ±  |        |           |    |      |      |               |  |
|     |         | FN               | 14      | 00 | ±  |        |           |    |      |      |               |  |
|     |         | P                | 16      | 26 | 36 |        |           |    |      |      |               |  |
| 61  | Apl. 18 | S                | 16      | 30 | 31 |        |           |    |      | 19.2 | ±169          |  |
|     |         | L                | 16      | 34 | 43 |        |           |    |      |      |               |  |
|     |         | M <sub>1</sub> E | 16      | 35 | 36 |        |           |    |      |      |               |  |
|     |         | M <sub>1</sub> N | 16      | 35 | 55 |        |           |    | ±125 |      |               |  |
|     |         | M <sub>2</sub> E | 16      | 36 | 55 |        |           |    | ±106 |      |               |  |
|     |         | M <sub>2</sub> N | 16      | 36 | 42 |        |           |    | ±100 |      |               |  |
|     |         | M <sub>3</sub> E | 16      | 37 | 29 |        |           |    | ±125 |      |               |  |
|     |         | FE               | 17      | 48 | ±  |        |           |    |      |      |               |  |
|     |         | FN               | 17      | 48 | ±  |        |           |    |      |      |               |  |
|     |         | 62               | Apl. 20 | P  | 0  | 01     | 05        |    |      |      |               |  |
| L   | 0       |                  |         | 01 | 10 |        |           |    |      |      |               |  |
| ME  | 0       |                  |         | 01 | 10 |        | ±9        |    |      |      |               |  |
| MN  | 0       |                  |         | 01 | 10 |        |           |    | ±12  |      |               |  |
| FE  | 0       |                  |         | 02 | ±  |        |           |    |      |      |               |  |
| FN  | 0       |                  |         | 02 | ±  |        |           |    |      |      |               |  |
| 62  | Apl. 20 | P                | 12      | 57 | 10 |        |           |    |      | 24   | Do.           |  |
|     |         | L                | 12      | 57 | 13 |        |           |    |      |      |               |  |
|     |         | ME               | 12      | 57 | 13 |        | ±10       |    |      |      |               |  |
|     |         | MN               | 12      | 57 | 13 |        |           |    | ±9   |      |               |  |
|     |         | FE               | 12      | 58 | ±  |        |           |    |      |      |               |  |
|     |         | FN               | 12      | 58 | ±  |        |           |    |      |      |               |  |



| No. | Date    | Phase | Time |    |       | Period | Amplitude |           |         | J    | Remarks  |
|-----|---------|-------|------|----|-------|--------|-----------|-----------|---------|------|--|
|     |         |       | G.   | M. | T.    |        | AE        | AN        | AZ      |      |  |
|     |         |       | h    | m  | s     | s      | $\mu$     | $\mu$     | $\mu$   | km.  |  |
| 63  | Apl. 22 | L     | 0    | 22 | 32    |        |           |           |         |      | Do.  |
|     |         | ME    | 0    | 22 | 37    |        | $\pm 5$   |           |         |      |  |
|     |         | MN    | 0    | 22 | 36    |        |           | $\pm 8$   |         |      |  |
|     |         | MZ    | 0    | 22 | 37    |        |           |           | $\pm 3$ |      |  |
|     |         | FE    | ?    |    |       |        |           |           |         |      |  |
|     |         | FN    | 0    | 24 | $\pm$ |        |           |           |         |      |  |
|     |         | FZ    | ?    |    |       |        |           |           |         |      |  |
| 64  | Apl. 23 | ME    | 7    | 04 | 18    |        | $\pm 8$   |           |         |      | Do.  |
|     |         | MN    | 7    | 04 | 18    |        |           | $\pm 8$   |         |      |  |
|     |         | FE    | 7    | 05 | $\pm$ |        |           |           |         |      |  |
|     |         | FN    | 7    | 05 | $\pm$ |        |           |           |         |      |  |
| 65  | Apl. 24 | ME    | 17   | 21 | 02    |        | $\pm 5$   |           |         |      | Do.  |
|     |         | MN    | 17   | 21 | 02    |        |           | $\pm 5$   |         |      |  |
|     |         | FE    | 17   | 21 | $\pm$ |        |           |           |         |      |  |
|     |         | FN    | 17   | 21 | $\pm$ |        |           |           |         |      |  |
| 66  | Apl. 25 | ME    | 18   | 10 | 00    | 11.5   | $\pm 40$  |           |         |      | SE. far off Hatijo IIs.<br>By Omori's Tromometer.      |
|     |         | MN    | 18   | 12 | 07    | 14.1   |           | $\pm 175$ |         |      |  |
|     |         | FE    | 18   | 18 | $\pm$ |        |           |           |         |      |  |
|     |         | FN    | 18   | 40 | $\pm$ |        |           |           |         |      |  |
| 67  | Apl. 29 | MN    | 21   | 08 | 44    | 8.7    |           | $\pm 25$  |         |      | By Omori's seis. E-W<br>component did not app-<br>ear. |
|     |         | FN    | 21   | 33 | $\pm$ |        |           |           |         |      |  |
| 68  | May. 4  | P     | 17   | 02 | 14    |        |           |           |         | 4070 | The trace of a distant<br>earthquake.                  |
|     |         | eS    | 17   | 06 | 46    |        |           |           |         |      |  |
|     |         | L     | 17   | 10 | 47    | 5.5    | $\pm 5$   |           |         |      |  |
|     |         | ME    | 17   | 10 | 54    | 5.5    |           | $\pm 9$   |         |      |  |
|     |         | MN    | 17   | 11 | 35    |        |           |           |         |      |  |
|     |         | FE    | 17   | 18 | $\pm$ |        |           |           |         |      |  |
| 69  | May. 6  | P     | 16   | 11 | 43    |        |           |           |         | 2440 | Near the Philippine IIs.                               |
|     |         | S     | 16   | 16 | 22    |        |           |           |         |      |  |

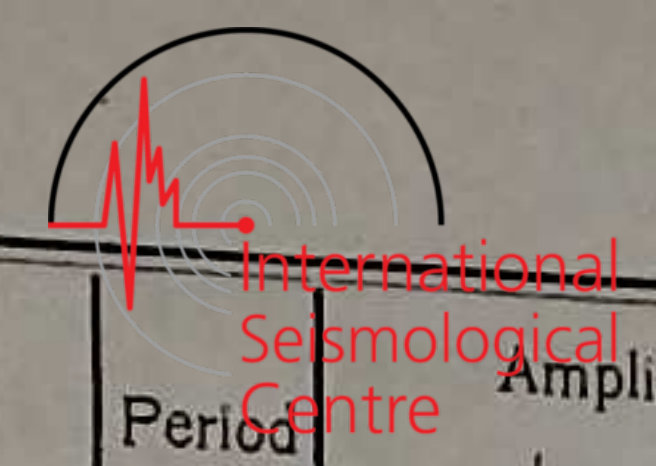
| No. | Date    | Phase            | Time |    |       | Period | Amplitude |          |       | J   | Remarks   |
|-----|---------|------------------|------|----|-------|--------|-----------|----------|-------|-----|---|
|     |         |                  | G.   | M. | T.    |        | AE        | AN       | AZ    |     |   |
|     |         |                  | h    | m  | s     | s      | $\mu$     | $\mu$    | $\mu$ | km. |   |
|     |         | L                | 16   | 19 | 04    |        |           |          |       |     |   |
|     |         | ME               | 16   | 19 | 36    | 11.6   | $\pm 10$  |          |       |     |   |
|     |         | MN               | 16   | 19 | 36    | 6.0    |           | $\pm 21$ |       |     |   |
|     |         | FE               | 16   | 49 | $\pm$ |        |           |          |       |     |   |
|     |         | FN               | 16   | 49 | $\pm$ |        |           |          |       |     |   |
|     |         |                  |      |    |       |        |           |          |       |     |   |
| 70  | May. 7  | P                | 2    | 44 | 14    |        |           |          |       | 28  | A local shock.                                  |
|     |         | L                | 2    | 44 | 18    |        |           |          |       |     |   |
|     |         | MN               | 2    | 44 | 19    |        |           |          |       |     |   |
| 71  | May. 7  | FE               | 2    | 45 | $\pm$ |        |           |          |       |     | Ditto.  |
|     |         | FN               | 2    | 45 | $\pm$ |        |           |          |       |     |   |
|     |         | P                | 10   | 19 | 13    |        |           |          |       | 48  |   |
|     |         | L                | 10   | 19 | 20    |        |           |          |       |     |   |
| 72  | May. 7  | ME               | 10   | 19 | 22    |        | $\pm 3$   |          |       |     | Ditto.  |
|     |         | MN               | 10   | 19 | 21    |        |           | $\pm 4$  |       |     |   |
|     |         | FE               | 10   | 20 | $\pm$ |        |           |          |       |     |   |
|     |         | FN               | 10   | 20 | $\pm$ |        |           |          |       |     |   |
|     |         | P                | 10   | 38 | 23    |        |           |          |       | 31  |   |
| 73  | May. 10 | L                | 10   | 38 | 27    |        |           |          |       |     | By Omori's seismometer.<br>Near Taskalora deep. |
|     |         | ME               | 10   | 38 | 28    |        | $\pm 4$   |          |       |     |   |
|     |         | MN               | 10   | 38 | 31    |        |           | $\pm 6$  |       |     |   |
|     |         | FE               | 10   | 40 | $\pm$ |        |           |          |       |     |   |
|     |         | FN               | 10   | 39 | $\pm$ |        |           |          |       |     |   |
|     |         | ME               | 3    | 28 | 34    | 3.9    | $\pm 20$  |          |       |     |   |
| 74  | May. 11 | M <sub>1</sub> N | 3    | 22 | 15    | 13.8   |           | $\pm 50$ |       |     | Faint record.                                   |
|     |         | M <sub>2</sub> N | 2    | 28 | 59    | 13.1   |           | $\pm 50$ |       |     |   |
|     |         | FE               | 3    | 35 | $\pm$ |        |           |          |       |     |   |
|     |         | FN               | 3    | 41 | $\pm$ |        |           |          |       |     |   |
|     |         | P                | 15   | 54 | 26    |        |           |          |       | 940 |   |
| 74  | May. 11 | S                | 15   | 55 | 24    |        |           |          |       |     | Faint record.                                   |
|     |         | L                | 15   | 56 | 33    |        |           |          |       |     |   |
|     |         | ME               | 15   | 56 | 39    |        | $\pm 3$   |          |       |     |   |
|     |         | MN               | 15   | 56 | 35    | 9.7    |           | $\pm 6$  |       |     |   |



| No. | Date    | Phase            | Time |    |    | Period | Amplitude |       |       | $\Delta$ | Remarks                          |        |
|-----|---------|------------------|------|----|----|--------|-----------|-------|-------|----------|----------------------------------|--------|
|     |         |                  | G.   | M. | T. |        | AE        | AN    | AZ    |          |                                  |        |
|     |         |                  | h    | m  | s  | s      | $\mu$     | $\mu$ | $\mu$ | km.      |                                  |        |
| 75  | May. 19 | FE               | 16   | 04 | ±  |        |           |       |       |          |                                  |        |
|     |         | FN               | 16   | 04 | ±  |        |           |       |       |          |                                  |        |
|     |         | MN               | 22   | 04 | 02 |        |           | ±6    |       |          |                                  | Ditto. |
|     |         | FN               | 22   | 05 | ±  |        |           |       |       |          |                                  |        |
| 76  | May. 21 | P                | 3    | 51 | 12 |        |           |       |       | 58       | A local shock.                   |        |
|     |         | L                | 3    | 51 | 20 |        |           |       |       |          |                                  |        |
|     |         | ME               | 3    | 51 | 23 |        | ±10       |       |       |          |                                  |        |
|     |         | MN               | 3    | 51 | 23 |        |           | ±10   |       |          |                                  |        |
|     |         | FE               | 3    | 51 | 58 |        |           |       |       |          |                                  |        |
|     |         | FN               | 3    | 51 | 58 |        |           |       |       |          |                                  |        |
|     |         |                  |      |    |    |        |           |       |       |          |                                  |        |
| 77  | May 22  | ME               | 18   | 13 | 33 | 3.3    | ±15       |       |       |          | P and L phases are not distinct, |        |
|     |         | MN               | 18   | 14 | 05 |        |           | ±30   |       |          |                                  |        |
|     |         | FE               | 18   | 18 | ±  |        |           |       |       |          |                                  |        |
|     |         | FN               | 18   | 19 | ±  |        |           |       |       |          |                                  |        |
| 78  | May. 23 | ME               | 18   | 29 | ±  |        | ±9        |       |       |          | Ditto.                           |        |
|     |         | MN               | 18   | 29 | ±  |        |           | ±8    |       |          |                                  |        |
|     |         | FE               | 18   | 30 | ±  |        |           |       |       |          |                                  |        |
|     |         | FN               | 18   | 30 | ±  |        |           |       |       |          |                                  |        |
| 79  | May. 25 | P                | 3    | 10 | 43 |        |           |       |       | 382      | S. part of Yamanashi province,   |        |
|     |         | L                | 3    | 11 | 30 |        |           |       |       |          |                                  |        |
|     |         | M <sub>1</sub> E | 3    | 11 | 31 |        | ±16       |       |       |          |                                  |        |
|     |         | MN               | 3    | 11 | 41 | 1.4    |           | ±4    |       |          |                                  |        |
|     |         | M <sub>2</sub> E | 3    | 11 | 43 |        | ±15       |       |       |          |                                  |        |
|     |         | FE               | 3    | 16 | ±  |        |           |       |       |          |                                  |        |
|     |         | FN               | 3    | 12 | ±  |        |           |       |       |          |                                  |        |
| 80  | May. 28 | P                | 9    | 55 | 24 |        |           |       |       | 1798     | SE. off Hokkaido.                |        |
|     |         | S                | 9    | 56 | 39 |        |           |       |       |          |                                  |        |
|     |         | L                | 9    | 58 | 00 |        |           |       |       |          |                                  |        |
|     |         | M <sub>1</sub> E | 9    | 58 | 13 | 4.8    | ±100      |       |       |          |                                  |        |
|     |         | M <sub>2</sub> E | 9    | 59 | 34 | 2.9    | ±85       |       |       |          |                                  |        |
|     |         |                  |      |    |    |        |           |       |       |          |                                  |        |

| No. | Date    | Phase            | Time |    |    | Period | Amplitude |       |       | $\Delta$ | Remarks                     |
|-----|---------|------------------|------|----|----|--------|-----------|-------|-------|----------|-----------------------------|
|     |         |                  | G.   | M. | T. |        | AE        | AN    | AZ    |          |                             |
|     |         |                  | h    | m  | s  | s      | $\mu$     | $\mu$ | $\mu$ | km.      |                             |
| 81  | May. 28 | M <sub>3</sub> E | 10   | 00 | 12 | 3.9    | ±68       |       |       |          |                             |
|     |         | FE               | 10   | 09 | ±  |        |           |       |       |          |                             |
|     |         | FN               | 10   | 00 | ±  |        |           |       |       |          |                             |
|     |         |                  |      |    |    |        |           |       |       |          |                             |
| 82  | May. 30 | ME               | 10   | 39 | 58 |        | ±15       |       |       |          | Faint record.               |
|     |         | MN               | 10   | 39 | 58 |        |           | ±13   |       |          |                             |
|     |         | FE               | 10   | 40 | ±  |        |           |       |       |          |                             |
|     |         | FN               | 10   | 40 | ±  |        |           |       |       |          |                             |
| 83  | May. 30 | ME               | 0    | 48 | 14 | 2.3    | ±25       |       |       |          | Do. By Omori's seismometer. |
|     |         | MN               | 0    | 47 | 00 | 4.9    |           | ±25   |       |          |                             |
|     |         | FE               | 0    | 54 | ±  |        |           |       |       |          |                             |
|     |         | FN               | 0    | 59 | ±  |        |           |       |       |          |                             |
| 84  | May. 31 | P                | 12   | 03 | 50 |        |           |       |       | 664      | In Kashima sea.             |
|     |         | L                | 12   | 05 | 16 |        |           |       |       |          |                             |
|     |         | eME              | 12   | 05 | 42 |        | ±38       |       |       |          |                             |
|     |         | MN               | 12   | 05 | 34 |        |           | ±78   |       |          |                             |
| 85  | May. 31 | L                | 12   | 06 | 39 |        |           |       |       |          | Ditto.                      |
|     |         | ME               | 12   | 06 | 58 |        | ±146      |       |       |          |                             |
|     |         | MN               | 12   | 07 | 00 | 3.0    |           | ±354  |       |          |                             |
|     |         | FE               | 12   | 16 | ±  | 4.4    |           |       |       |          |                             |
| 86  | Jnue. 3 | FE               | 12   | 16 | ±  |        |           |       |       |          |                             |
|     |         | FN               | 12   | 16 | ±  |        |           |       |       |          |                             |
|     |         | P                | 12   | 28 | 59 |        |           |       |       | 669      | Ditto.                      |
|     |         | L                | 12   | 30 | 26 |        |           |       |       |          |                             |
|     |         | eME              | 12   | 30 | 50 |        | ±59       |       |       |          |                             |
|     |         | MN               | 12   | 30 | 45 | 5.2    |           | ±85   |       |          |                             |
| 88  | Jnue. 3 | FE               | 12   | 41 | ±  |        |           |       |       |          |                             |
|     |         | FN               | 12   | 41 | ±  |        |           |       |       |          |                             |
|     |         | P                | 2    | 42 | 44 |        |           |       |       | 324      | S. off Lu Peninsula.        |
|     |         | L                | 2    | 43 | 23 |        |           |       |       |          |                             |
| 89  | Jnue. 3 | ME               | 2    | 43 | 26 | 1.4    | ±83       |       |       |          |                             |
|     |         | MN               | 2    | 43 | 25 | 2.4    |           | ±86   |       |          |                             |





| No. | Date     | Phase | Time     | Period | Amplitude |     |    | Δ   | Remarks                                     |
|-----|----------|-------|----------|--------|-----------|-----|----|-----|---|
|     |          |       |          |        | AE        | AN  | AZ |     |   |
|     |          |       | G. M. T. |        | μ         | μ   | μ  | km. |   |
|     |          |       | h m s    | s      |           |     |    |     |   |
| 87  | June. 5  | FE    | 2 50 ±   |        |           |     |    | 56  | Near Wakayama.                              |
|     |          | FN    | 2 50 ±   |        |           |     |    |     |   |
|     |          | P     | 5 08 42  |        |           |     |    |     |   |
|     |          | L     | 5 08 49  |        |           |     |    |     |   |
|     |          | ME    | 5 08 50  |        |           |     |    |     |   |
|     |          | MN    | 5 08 50  |        |           |     |    |     |   |
|     |          | FE    | 5 10 ±   |        |           |     |    |     |   |
| 88  | June. 5  | FN    | 5 10 ±   |        |           |     |    | 56  | Near Wakayama.                              |
|     |          | MN    | 20 01 07 |        |           |     |    |     |   |
| 89  | June. 6  | FN    | 20 01 ±  |        |           |     |    | 56  | Near Wakayama.                              |
|     |          | ME    | 16 52 14 | 2.2    | ±10       |     |    |     |   |
|     |          | MN    | 16 51 36 | 4.2    |           | ±20 |    |     |   |
|     |          | FE    | 17 08 ±  |        |           |     |    |     |   |
| 90  | June. 6  | FN    | 17 05 ±  |        |           |     |    | 56  | Near Wakayama.                              |
|     |          | ME    | 21 28 06 |        |           |     |    |     |   |
|     |          | MN    | 21 26 06 |        |           |     |    |     |   |
|     |          | FE    | 21 26 ±  |        |           |     |    |     |   |
| 91  | June. 7  | FN    | 21 26 ±  |        |           |     |    | 120 | A local shock.                              |
|     |          | P     | 3 19 43  |        |           |     |    |     |   |
|     |          | L     | 3 19 54  |        |           |     |    |     |   |
|     |          | ME    | 3 19 55  |        | ±8        |     |    |     |   |
|     |          | MN    | 3 19 55  |        |           | ±23 |    |     |   |
|     |          | FE    | 3 20 ±   |        |           |     |    |     |   |
| 92  | June. 10 | FN    | 3 20 ±   |        |           |     |    | 36  | A slight shock was felt. In Tamba province. |
|     |          | P     | 18 21 46 |        |           |     |    |     |   |
|     |          | L     | 18 21 50 |        |           |     |    |     |   |
|     |          | ME    | 18 21 51 |        |           |     |    |     |   |
|     |          | MN    | 18 21 52 |        |           | ±50 |    |     |   |
|     |          | FE    | 18 23 ±  |        |           |     |    |     |   |

| No. | Date     | Phase | Time     | Period | Amplitude |      |    | Δ    | Remarks   |
|-----|----------|-------|----------|--------|-----------|------|----|------|---|
|     |          |       |          |        | AE        | AN   | AZ |      |   |
|     |          |       | G. M. T. |        | μ         | μ    | μ  | km.  |   |
|     |          |       | h m s    | s      |           |      |    |      |   |
| 93  | June. 10 | P     | 18 25 03 |        |           |      |    | 47   | Ditto.  |
|     |          | L     | 18 25 10 |        |           |      |    |      |   |
|     |          | F     | 18 26 ±  |        |           |      |    |      |   |
| 94  | June. 12 | eE    | 17 01 15 |        |           |      |    | 47   | Faint record.   |
|     |          | eN    | 17 01 14 |        |           |      |    |      |   |
| 95  | June. 22 | ME    | 13 29 21 | 6.4    | ±20       |      |    | 47   | By Omori's seismometer.   |
|     |          | MN    | 13 30 06 | 8.4    |           | ±50  |    |      |   |
|     |          | FE    | 13 37 ±  |        |           |      |    |      |   |
|     |          | FN    | 13 43 ±  |        |           |      |    |      |   |
| 96  | June. 25 | eP    | 19 16 14 |        |           |      |    | 47   | In Aki sea.   |
|     |          | L     | 19 16 31 |        |           |      |    |      |   |
|     |          | ME    | 19 16 35 |        |           |      |    |      |   |
|     |          | MN    | 19 16 35 |        |           |      |    |      |   |
|     |          | FE    | 19 17 ±  |        |           |      |    |      |   |
| 97  | June. 26 | FN    | 19 17 ±  |        |           |      |    | 47   | In Aki sea.   |
|     |          | ME    | 2 08 31  | 19.5   | ±9        |      |    |      |   |
|     |          | MN    | 2 08 29  | 21.4   |           | ±13  |    |      |   |
| 98  | June. 26 | F     | 2 52 ±   |        |           |      |    | 476  | Near Kasumigaura in Ibaragi province.                               |
|     |          | P     | 3 29 11  |        |           |      |    |      |   |
|     |          | L     | 3 30 12  |        |           |      |    |      |   |
| 99  | June. 30 | ME    | 3 30 17  | 0.9    | ±13       |      |    | 1784 | SE off Hokkaido. A strong shock was felt at the epicentral regions. |
|     |          | MN    | 3 30 24  | 0.9    |           | ±13  |    |      |   |
|     |          | F     | 3 33 ±   |        |           |      |    |      |   |
| 100 | June. 30 | e     | 10 50 48 |        |           |      |    |      |   |
| 101 | June. 30 | e     | 11 54 55 |        |           |      |    |      |   |
| 101 | June. 30 | P     | 15 47 34 |        |           |      |    | 1784 | SE off Hokkaido. A strong shock was felt at the epicentral regions. |
|     |          | L     | 15 50 17 |        |           |      |    |      |   |
|     |          | ME    | 15 50 28 |        |           | ±226 |    |      |   |



| No. | Date    | Phase | Time |    |    | Period | Amplitude |      |    | Δ    | Remarks  |
|-----|---------|-------|------|----|----|--------|-----------|------|----|------|--|
|     |         |       | G.   | M. | T. |        | AE        | AN   | AZ |      |  |
|     |         |       | h    | m  | s  | s      | μ         | μ    | μ  | km.  |  |
|     |         | MN    | 15   | 50 | 21 | 3.4    |           | ±155 |    |      |  |
|     |         | FE    | 16   | 20 | ±  |        |           |      |    |      |  |
|     |         | FN    | 16   | 17 | ±  |        |           |      |    |      |  |
| 102 | July. 2 | e     | 12   | 33 | 55 |        |           |      |    |      | Faint record.  |
|     |         | F     | 12   | 35 | ±  |        |           |      |    |      |  |
| 103 | July. 3 | P     | 4    | 47 | 59 |        |           |      |    | 6600 | Trace of a distant earthquake.                             |
|     |         | S     | 4    | 54 | 09 |        |           |      |    |      |  |
|     |         | L     | 5    | 02 | 59 |        |           |      |    |      |  |
|     |         | ME    | 5    | 06 | 53 | 12.6   | ±50       |      |    |      |  |
|     |         | MN    | 5    | 03 | 53 | 15.4   |           | ±76  |    |      |  |
|     |         | F     | 5    | 30 | ±  |        |           |      |    |      |  |
| 104 | July. 3 | P     | 21   | 32 | 43 |        |           |      |    | 401  | In Sagami province.  |
|     |         | L     | 21   | 33 | 33 |        |           |      |    |      |  |
|     |         | ME    | 21   | 33 | 35 | 1.3    | ±8        |      |    |      |  |
|     |         | MN    | 21   | 33 | 37 |        |           | ±3   |    |      |  |
|     |         | F     | 21   | 34 | ±  |        |           |      |    |      |  |
| 105 | July. 4 | P     | 11   | 23 | 39 |        |           |      |    | 64   | A local shock. In Wakayama province.                       |
|     |         | L     | 11   | 23 | 49 |        |           |      |    |      |  |
|     |         | F     | 11   | 24 | ±  |        |           |      |    |      |  |
| 106 | July. 5 | P     | 10   | 30 | 02 |        |           |      |    | 70   | Ditto.   |
|     |         | L     | 10   | 30 | 12 |        |           |      |    |      |  |
|     |         | F     | 10   | 31 | ±  |        |           |      |    |      |  |
| 107 | July. 5 | P     | 18   | 31 | 16 |        |           |      |    | 89   | Ditto.   |
|     |         | L     | 18   | 31 | 28 |        |           |      |    |      |  |
|     |         | F     | 18   | 33 | ±  |        |           |      |    |      |  |
| 108 | July. 6 | MN    | 10   | 02 | 07 |        |           |      |    |      | The trace of a distant earthquake. By Omori's seismometer. |
|     |         | FN    | 10   | 19 | ±  |        |           |      |    |      |  |
| 109 | July. 9 | e     | 6    | 23 | 13 |        |           |      |    |      | The time keeping was                                       |

| No. | Date     | Phase | Time |    |    | Period | Amplitude |     |     | Δ    | Remarks   |
|-----|----------|-------|------|----|----|--------|-----------|-----|-----|------|---|
|     |          |       | G.   | M. | T. |        | AE        | AN  | AZ  |      |   |
|     |          |       | h    | m  | s  | s      | μ         | μ   | μ   | km.  |   |
|     |          | F     | 6    | 24 | ±  |        |           |     |     |      | not correct.  |
| 110 | July. 11 | P     | 19   | 52 | 25 |        |           |     |     | 6300 | A distant earthquake.                                   |
|     |          | S     | 19   | 57 | 44 |        |           |     |     |      |   |
|     |          | L     | 20   | 07 | 09 |        |           |     |     |      |   |
|     |          | ME    | 20   | 12 | 26 | 9.8    | ±13       |     |     |      |   |
|     |          | MN    | 20   | 08 | 42 | 14.3   |           | ±39 |     |      |   |
|     |          | MZ    | 20   | 11 | 10 | 16.0   |           |     | ±11 |      |   |
|     |          | FE    | 20   | 56 | ±  |        |           |     |     |      |   |
|     |          | FN    | 20   | 56 | ±  |        |           |     |     |      |   |
|     |          | FZ    | 20   | 28 | ±  |        |           |     |     |      |   |
| 111 | July. 11 | e     | 9    | 51 | 50 |        |           |     |     |      | Faint record.   |
|     |          | F     | 9    | 52 | ±  |        |           |     |     |      |   |
| 112 | July. 12 | MN    | 15   | 34 | 39 | 12.3   |           | ±70 |     |      | By Omori's seismometer, E-W component was not recorded. |
|     |          | FN    | 16   | 09 | ±  |        |           |     |     |      |   |
| 113 | July. 13 | P     | 17   | 20 | 42 |        |           |     |     | 526  | Near Kasumigaura.                                       |
|     |          | L     | 17   | 21 | 49 |        |           |     |     |      |   |
|     |          | ME    | 17   | 21 | 53 |        | ±6        |     |     |      |   |
|     |          | MN    | 17   | 21 | 53 |        |           | ±9  |     |      |   |
|     |          | F     | 17   | 26 | ±  |        |           |     |     |      |   |
| 114 | July. 13 | P     | 19   | 33 | 43 |        |           |     |     | 153  | In Mie province.  |
|     |          | L     | 19   | 34 | 04 |        |           |     |     |      |   |
|     |          | F     | 19   | 35 | ±  |        |           |     |     |      |   |
| 115 | July. 22 | e     | 11   | 51 | 54 |        |           |     |     |      | A local shock. Faint record.                            |
|     |          | F     | 11   | 52 | ±  |        |           |     |     |      |   |
| 116 | July. 22 | ME    | 14   | 35 | 21 | 7.2    | ±4        |     |     |      | SE off Kwarenko, Formosa.                               |
|     |          | MN    | 14   | 33 | 31 | 7.2    |           | ±4  |     |      |   |
|     |          | F     | 14   | 42 | ±  |        |           |     |     |      |   |
| 117 | July. 23 | P     | 10   | 57 | 25 |        |           |     |     | 28   | A local shock.  |



| No. | Date     | Phase | Time  |    |    | Period | Amplitude |      |    | Δ                     | Remarks  |
|-----|----------|-------|-------|----|----|--------|-----------|------|----|-----------------------|--|
|     |          |       | G.    | M. | T. |        | AE        | AN   | AZ |                       |  |
|     |          |       | h     | m  | s  | s      | μ         | μ    | μ  | km.                   |  |
| 118 | July. 23 | L     | 10    | 57 | 29 |        |           |      |    | 25                    | Ditto.   |
|     |          | M     | 10    | 57 | 29 |        |           |      |    |                       |  |
|     |          | F     | 10    | 58 | ±  |        |           |      |    |                       |  |
|     |          | P     | 10    | 58 | 00 |        |           |      |    |                       |  |
|     |          | L     | 10    | 58 | 03 |        |           |      |    |                       |  |
| 119 | July. 24 | ME    | ----- |    |    |        |           |      |    | 16.5                  | The trace of a distant earthquake.                         |
|     |          | MN    | 6     | 14 | 49 |        | ±40       |      |    |                       |  |
| 120 | July. 26 | e     | 3     | 27 | 29 |        |           |      |    |                       | A local ahook.   |
|     |          | F     | 3     | 28 | ±  |        |           |      |    |                       |  |
| 121 | July. 27 | M     | 9     | 17 | 45 |        |           |      |    |                       | Faint record.  |
|     |          | F     | 9     | 18 | ±  |        |           |      |    |                       |  |
| 122 | Aug. 6   | P     | 14    | 23 | 44 |        |           |      |    | 492                   | Near Chyoshi, a weak shock was felt at epicentral regions. |
|     |          | L     | 14    | 24 | 47 |        |           |      |    |                       |  |
|     |          | ME    | 14    | 26 | 04 | 2.4    | ±135      |      |    |                       |  |
|     |          | MN    | 14    | 25 | 01 |        |           | ±203 |    |                       |  |
|     |          | F     | 14    | 35 | ±  |        |           |      |    |                       |  |
| 123 | Aug. 6   | P     | 17    | 46 | 48 |        |           |      |    | 93                    | In Kii channel. The reading of time is approximate.        |
|     |          | L     | 17    | 47 | 01 |        |           |      |    |                       |  |
|     |          | F     | 17    | 48 | ±  |        |           |      |    |                       |  |
| 124 | Aug. 8   | eP    | 9     | 09 | 28 |        |           |      |    |                       | Central part of Kii peninsula.                             |
|     |          | eL    | 9     | 09 | 31 |        |           |      |    |                       |  |
|     |          | F     | 9     | 11 | ±  |        |           |      |    |                       |  |
| 125 | Aug. 12  | P     | 17    | 55 | 49 |        |           |      |    | 83                    | Apper course of River Hidaka in Wakayama province.         |
|     |          | L     | 17    | 56 | 00 |        |           |      |    |                       |  |
|     |          | F     | 17    | 59 | ±  |        |           |      |    |                       |  |
| 126 | Aug. 12  | P     | 18    | 19 | 16 |        |           |      | 89 | Upper course of River |  |

| No.              | Date    | Phase            | Time    |     |    | Period | Amplitude |         |      | Δ   | Remarks   |
|------------------|---------|------------------|---------|-----|----|--------|-----------|---------|------|-----|---|
|                  |         |                  | G.      | M.  | T. |        | AE        | AN      | AZ   |     |   |
|                  |         |                  | h       | m   | s  | s      | μ         | μ       | μ    | km. |   |
|                  |         | L                | 18      | 19  | 28 |        |           |         |      |     | Hidaka, at epicentral regions, the shock was felt strongly, but no damage to be noted, felt at Kobe weakly. |
|                  |         | M <sub>1</sub> E | 18      | 19  | 28 |        | > ±1450   |         |      |     |   |
|                  |         | M <sub>1</sub> N | 18      | 19  | 28 |        |           | > ±1750 |      |     |   |
|                  |         | M <sub>2</sub> E | 18      | 20  | 41 | 3.2    | ±843      |         |      |     |   |
|                  |         | M <sub>2</sub> N | 18      | 20  | 42 | 3.8    |           | ±1373   |      |     |   |
|                  |         | MZ               | 18      | 20  | 31 | 3.4    |           |         | ±509 |     |   |
|                  |         | FE               | 18      | 31  | ±  |        |           |         |      |     |   |
|                  |         | FN               | 18      | 31  | ±  |        |           |         |      |     |   |
|                  |         | FZ               | 18      | 26  | ±  |        |           |         |      |     |   |
|                  |         | 127              | Aug. 13 | P   | 0  | 33     | 52        |         |      |     |   |
| L                | 0       |                  |         | 34  | 03 |        |           |         |      |     |   |
| M <sub>1</sub> E | 0       |                  |         | 34  | 04 |        | > ±1463   |         |      |     |   |
| M <sub>1</sub> N | 0       |                  |         | 34  | 05 |        |           | ±575    |      |     |   |
| M <sub>1</sub> Z | 0       |                  |         | 34  | 04 |        |           |         | ±163 |     |   |
| M <sub>2</sub> E | 0       |                  |         | 35  | 14 | 1.4    | ±150      |         |      |     |   |
| M <sub>2</sub> N | 0       |                  |         | 35  | 17 | 2.9    |           | ±518    |      |     |   |
| M <sub>2</sub> Z | 0       | 35               | 20      | 2.1 |    |        | ±130      |         |      |     |   |
| 128              | Aug. 13 | P                | 0       | 39  | 29 |        |           |         |      | 68  | An after shock of No. 126.  |
|                  |         | L                | 0       | 39  | 38 |        |           |         |      |     |   |
|                  |         | FE               | 0       | 42  | ±  |        |           |         |      |     |   |
|                  |         | FN               | 0       | 43  | ±  |        |           |         |      |     |   |
|                  |         | FZ               | 0       | 41  | ±  |        |           |         |      |     |   |
| 129              | Aug. 13 | P                | 15      | 18  | 07 |        |           |         |      | 94  | Ditto.  |
|                  |         | L                | 15      | 18  | 20 |        |           |         |      |     |   |
|                  |         | F                | 15      | 19  | ±  |        |           |         |      |     |   |
| 130              | Aug. 14 | P                | 17      | 55  | 12 |        |           |         |      | 624 | Off Iwaki, a fore shock of No. 131.   |
|                  |         | L                | 17      | 56  | 32 |        |           |         |      |     |   |
|                  |         | ME               | 17      | 56  | 36 | 2.3    | ±16       |         |      |     |   |
|                  |         | MN               | 17      | 56  | 32 |        |           | ±13     |      |     |   |
|                  |         | FE               | 18      | 02  | 06 |        |           |         |      |     |   |
|                  |         | FN               | 18      | 01  | 12 |        |           |         |      |     |   |



| No. | Date    | Phase | Time<br>G. M. T. | Period<br>s | Amplitude |         |         | Δ<br>km. | Remarks   |
|-----|---------|-------|------------------|-------------|-----------|---------|---------|----------|---|
|     |         |       |                  |             | AE<br>μ   | AN<br>μ | AZ<br>μ |          |   |
| 131 | Aug. 14 | P     | 18 04 01         |             |           |         |         | 631      | E off of Taira in Iwaki province, at epicentral regions the shock was felt. weakly. |
|     |         | L     | 18 05 22         |             |           |         |         |          |   |
|     |         | ME    | 18 06 11         |             | > ±1035   |         |         |          |   |
|     |         | MN    | 18 06 03         | 5.3         |           | ±1313   |         |          |   |
|     |         | MZ    | 18 06 56         | 4.0         |           |         | ±604    |          |   |
|     |         | FE    | 19 17 ±          |             |           |         |         |          |   |
|     |         | FN    | 19 17 ±          |             |           |         |         |          |   |
|     |         | FZ    | 18 53 ±          |             |           |         |         |          |   |
| 132 | Aug. 14 | P     | 23 28 56         |             |           |         |         | 699      | An after shock of No. 131.  |
|     |         | L     | 23 30 27         |             |           |         |         |          |   |
|     |         | ME    | 23 32 06         | 3.8         | ±573      |         |         |          |   |
|     |         | MN    | 23 30 39         | 3.3         |           | ±203    |         |          |   |
|     |         | MZ    | 23 30 47         | 2.8         |           |         | ±105    |          |   |
|     |         | FE    | 23 52 ±          |             |           |         |         |          |   |
|     |         | FN    | 23 52 ±          |             |           |         |         |          |   |
|     |         | FZ    | 23 37 ±          |             |           |         |         |          |   |
| 133 | Aug. 17 | eP    | 1 47 51          |             |           |         |         |          | In Kashima sea.   |
|     |         | L     | 1 49 10          |             |           |         |         |          |   |
|     |         | ME    | 1 50 49          | 2.4         | ±53       |         |         |          |   |
|     |         | MN    | 1 50 03          | 1.4         |           | ±73     |         |          |   |
|     |         | MZ    | 1 49 35          |             |           |         | ±81     |          |   |
|     |         | F     | 1 57 ±           |             |           |         |         |          |   |
|     |         |       |                  |             |           |         |         |          |   |
| 134 | Aug. 17 | eP    | 2 11 39          |             |           |         |         |          | Ditto.  |
|     |         | L     | 2 13 05          |             |           |         |         |          |   |
|     |         | ME    | 2 15 10          | 3.4         | ±153      |         |         |          |   |
|     |         | MN    | 2 13 27          | 3.8         |           | ±183    |         |          |   |
|     |         | MZ    | 2 13 40          | 3.1         |           |         | ±43     |          |   |
|     |         | FE    | 2 29 ±           |             |           |         |         |          |   |
|     |         | FN    | 2 29 ±           |             |           |         |         |          |   |
|     |         | FZ    | 2 24 ±           |             |           |         |         |          |   |
| 135 | Aug. 18 | P     | 3 08 08          |             |           |         |         | 84       | In Kii channel.   |
|     |         | L     | 3 08 19          |             |           |         |         |          |   |

| No. | Date    | Phase | Time<br>G. M. T. | Period<br>s | Amplitude |         |         | Δ<br>km. | Remarks                              |
|-----|---------|-------|------------------|-------------|-----------|---------|---------|----------|--------------------------------------|
|     |         |       |                  |             | AE<br>μ   | AN<br>μ | AZ<br>μ |          |                                      |
| 136 | Aug. 19 | FE    | 3 11 ±           |             |           |         |         |          | A local shock.                       |
|     |         | FN    | 3 11 ±           |             |           |         |         |          |                                      |
|     |         | FZ    | 3 10 ±           |             |           |         |         |          |                                      |
| 137 | Aug. 23 | eP    | 19 31 28         |             |           |         |         |          | A local shock, in Wakayama province. |
|     |         | ME    | 19 32 37         | 1.4         | ±9        |         |         |          |                                      |
|     |         | MN    | 19 32 36         | 2.4         |           | ±6      |         |          |                                      |
|     |         | F     | 19 35 ±          |             |           |         |         |          |                                      |
| 138 | Aug. 24 | ME    | 18 45 41         | 2.1         | ±8        |         |         |          | Faint record.                        |
|     |         | MN    | 18 45 27         | 2.7         |           | ±6      |         |          |                                      |
|     |         | F     | 18 49 ±          |             |           |         |         |          |                                      |
| 139 | Aug. 25 | eP    | 19 01 24         |             |           |         |         | 740      | In Kashima sea.                      |
|     |         | L     | 19 01 27         |             |           |         |         |          |                                      |
|     |         | F     | 19 20 ±          |             |           |         |         |          |                                      |
| 140 | Aug. 25 | P     | 14 32 27         |             |           |         |         |          | Ditto.                               |
|     |         | L     | 14 34 04         |             |           |         |         |          |                                      |
|     |         | ME    | 14 35 32         | 3.0         | ±364      |         |         |          |                                      |
|     |         | MN    | 14 34 51         | 3.0         |           | ±308    |         |          |                                      |
|     |         | MZ    | 14 34 12         | 3.0         |           |         | ±186    |          |                                      |
|     |         | FE    | 14 57 ±          |             |           |         |         |          |                                      |
|     |         | FN    | 14 57 ±          |             |           |         |         |          |                                      |
|     |         | FZ    | 14 40 ±          |             |           |         |         |          |                                      |
| 141 | Aug. 28 | eP    | 17 18 16         |             |           |         |         | 365      | In Bungo strait.                     |
|     |         | L     | 17 19 58         |             |           |         |         |          |                                      |
|     |         | ME    | 17 20 10         | 2.2         | ±10       |         |         |          |                                      |
|     |         | MN    | 17 20 03         |             |           | ±23     |         |          |                                      |
|     |         | F     | 17 27 ±          |             |           |         |         |          |                                      |
| 142 | Aug. 28 | P     | 23 51 23         |             |           |         |         |          |                                      |
|     |         | L     | 23 52 13         |             |           |         |         |          |                                      |
|     |         | ME    | 23 52 20         | 2.2         | ±419      |         |         |          |                                      |
|     |         | MN    | 23 52 22         | 2.2         |           | ±285    |         |          |                                      |



| No. | Date    | Phase | Time  |    |       | Period | Amplitude |          |           | $\Delta$          | Remarks                            |
|-----|---------|-------|-------|----|-------|--------|-----------|----------|-----------|-------------------|------------------------------------|
|     |         |       | G.    | M. | T.    |        | AE        | AN       | AZ        |                   |                                    |
|     |         |       | h     | m  | s     | s      | $\mu$     | $\mu$    | $\mu$     | km.               |                                    |
| 142 | Aug. 30 | MZ    | 23    | 52 | 23    | 2.2    |           |          | $\pm 244$ | 4397              | The trace of a distant earthquake. |
|     |         | FE    | 0     | 03 | $\pm$ |        |           |          |           |                   |                                    |
|     |         | FN    | 0     | 03 | $\pm$ |        |           |          |           |                   |                                    |
|     |         | FZ    | 0     | 02 | $\pm$ |        |           |          |           |                   |                                    |
|     |         | P     | 3     | 10 | 44    |        |           |          |           |                   |                                    |
|     |         | S     | 3     | 14 | 07    |        |           |          |           |                   |                                    |
|     |         | L     | 3     | 20 | 07    |        |           |          |           |                   |                                    |
|     |         | ME    | 3     | 23 | 39    |        | $\pm 13$  |          |           |                   |                                    |
|     |         | MN    | 3     | 22 | 07    | 17.5   |           | $\pm 43$ |           |                   |                                    |
|     |         | MZ    | 3     | 22 | 08    | 15.7   |           | $\pm 8$  |           |                   |                                    |
| FE  | 3       | 45    | $\pm$ |    |       |        |           |          |           |                   |                                    |
| FN  | 3       | 49    | $\pm$ |    |       |        |           |          |           |                   |                                    |
| FZ  | 3       | 25    | $\pm$ |    |       |        |           |          |           |                   |                                    |
| 143 | Aug. 31 | e     | 21    | 25 | 17    |        |           |          |           | Faint record.     |                                    |
|     |         | F     | 21    | 26 | $\pm$ |        |           |          |           |                   |                                    |
| 144 | Sept. 4 | P     | 6     | 25 | 23    |        |           |          | 505       | Near Kasumigaura. |                                    |
|     |         | L     | 6     | 26 | 27    |        |           |          |           |                   |                                    |
|     |         | ME    | 6     | 27 | 44    | 3.1    | $\pm 38$  |          |           |                   |                                    |
|     |         | MN    | 6     | 26 | 35    |        |           | $\pm 39$ |           |                   |                                    |
|     |         | MZ    | 6     | 26 | 38    | 2.2    |           | $\pm 11$ |           |                   |                                    |
|     |         | FE    | 6     | 34 | $\pm$ |        |           |          |           |                   |                                    |
|     |         | FN    | 6     | 34 | $\pm$ |        |           |          |           |                   |                                    |
|     |         | FZ    | 6     | 29 | $\pm$ |        |           |          |           |                   |                                    |
| 145 | Sept. 5 | P     | 7     | 00 | 50    |        |           |          | 74        | In Kii channel.   |                                    |
|     |         | L     | 7     | 01 | 00    |        |           |          |           |                   |                                    |
|     |         | ME    | 7     | 01 | 02    |        | $\pm 22$  |          |           |                   |                                    |
|     |         | FE    | 7     | 02 | $\pm$ |        |           |          |           |                   |                                    |
| 146 | Sept. 9 | P     | 4     | 06 | 01    |        |           |          | 53        | Ditto.            |                                    |
|     |         | L     | 4     | 06 | 08    |        |           |          |           |                   |                                    |
|     |         | F     | 4     | 07 | $\pm$ |        |           |          |           |                   |                                    |

| No. | Date     | Phase | Time |    |       | Period | Amplitude |          |       | $\Delta$  | Remarks   |
|-----|----------|-------|------|----|-------|--------|-----------|----------|-------|---|---|
|     |          |       | G.   | M. | T.    |        | AE        | AN       | AZ    |   |   |
|     |          |       | h    | m  | s     | s      | $\mu$     | $\mu$    | $\mu$ | km.   |   |
| 147 | Sept. 9  | P     | 14   | 23 | 18    |        |           |          |       |   | Ditto.  |
|     |          | eL    | 14   | 23 | 20    |        |           |          |       |   |   |
|     |          | F     | 14   | 24 | $\pm$ |        |           |          |       |   |   |
| 148 | Sept. 11 | MN    | 3    | 33 | 11    | 3.3    |           | $\pm 4$  |       |   | East component was not distinct by the influence of pulsatory motion. |
|     |          | FN    | 3    | 36 | $\pm$ |        |           |          |       |   |   |
| 149 | Sept. 12 | P     | 19   | 52 | 03    |        |           |          | 30    | A local shock. A slight shock was felt at Kobe. |   |
|     |          | L     | 19   | 52 | 07    |        |           |          |       |   |   |
|     |          | M     | 19   | 52 | 07    |        | $\pm 37$  |          |       |   |   |
|     |          | F     | 19   | 53 | $\pm$ |        |           |          |       |   |   |
| 150 | Sept. 12 | P     | 20   | 28 | 34    |        |           |          | 24    | Ditto.  |   |
|     |          | L     | 20   | 28 | 37    |        |           |          |       |   |   |
|     |          | M     | 20   | 28 | 37    |        | $\pm 21$  | $\pm 21$ |       |   |   |
|     |          | F     | 20   | 29 | $\pm$ |        |           |          |       |   |   |
| 151 | Sept. 13 | P     | 12   | 59 | 09    |        |           |          | 9     | Ditto.  |   |
|     |          | L     | 12   | 59 | 10    |        |           |          |       |   |   |
|     |          | M     | 12   | 59 | 10    |        | $\pm 40$  | $\pm 40$ |       |   |   |
| 152 | Sept. 13 | P     | 12   | 59 | 21    |        |           |          | 9     | Ditto.  |   |
|     |          | L     | 12   | 59 | 22    |        |           |          |       |   |   |
|     |          | M     | 12   | 59 | 22    |        | $\pm 90$  | $\pm 90$ |       |   |   |
|     |          | F     | 13   | 02 | $\pm$ |        |           |          |       |   |   |
| 153 | Sept. 13 | ME    | 15   | 19 | 01    | 17.6   | $\pm 8$   |          |       | A faint record.                                 |   |
|     |          | MN    | 15   | 19 | 12    | 17.6   |           | $\pm 6$  |       |   |   |
|     |          | F     | 15   | 30 | $\pm$ |        |           |          |       |   |   |
| 154 | Sept. 14 | ME    | 4    | 35 | 38    |        | $\pm 6$   |          |       | A faint record.                                 |   |
|     |          | MN    | 4    | 35 | 39    |        |           | $\pm 13$ |       |   |   |
|     |          | F     | 4    | 40 | $\pm$ |        |           |          |       |   |   |
| 155 | Sept. 14 | ME    | 10   | 44 | 18    | 3.0    | $\pm 4$   |          |       | A faint record.                                 |   |
|     |          | MN    | 10   | 43 | 09    | 2.5    |           | $\pm 5$  |       |   |   |



| No. | Date     | Phase            | Time<br>G. M. T. | Period<br>s | Amplitude |         |         | J<br>km.  | Remarks |
|-----|----------|------------------|------------------|-------------|-----------|---------|---------|---|---------|
|     |          |                  |                  |             | AE<br>μ   | AN<br>μ | AZ<br>μ |   |         |
|     |          | F                | 10 47 ±          |             |           |         |         |   |         |
| 156 | Sept. 14 | MN               | 14 23 56         | 18.4        |           | ±3      |         | A faint record.                                 |         |
|     |          | FN               | 14 28 ±          |             |           |         |         |   |         |
| 157 | Sept. 18 | P                | 1 09 40          |             |           |         | 543     | In Kashima sea.                                 |         |
|     |          | L                | 1 10 59          |             |           |         |         |   |         |
|     |          | ME               | 1 12 29          | 3.7         | ±800      |         |         |   |         |
|     |          | MN               | 1 11 11          | 1.8         |           | ±385    |         |   |         |
|     |          | MZ               | 1 11 16          | 2.5         |           |         | ±281    |   |         |
|     |          | FE               | 1 25 ±           |             |           |         |         |   |         |
|     |          | FN               | 1 25 ±           |             |           |         |         |   |         |
|     |          | FZ               | 1 22 ±           |             |           |         |         |   |         |
| 158 | Sept. 18 | P                | 2 55 05          |             |           |         | 542     | Ditto.  |         |
|     |          | L                | 2 56 15          |             |           |         |         |   |         |
|     |          | M <sub>1</sub> E | 2 56 32          |             | ±40       |         |         |   |         |
|     |          | MN               | 2 56 42          | 2.8         |           | ±36     |         |   |         |
|     |          | MZ               | 2 56 33          | 2.4         |           |         | ±19     |   |         |
|     |          | M <sub>2</sub> E | 2 57 40          | 4.2         | ±48       |         |         |   |         |
|     |          | FE               | 3 03 ±           |             |           |         |         |   |         |
|     |          | FN               | 3 03 ±           |             |           |         |         |   |         |
|     |          | FZ               | 3 02 ±           |             |           |         |         |   |         |
| 159 | Sept. 22 | e                | 13 38 07         |             |           |         |         | Near Wakayama.                                  |         |
| 160 | Sept. 24 | P                | 18 42 40         |             |           |         | 713     | In Kashima sea, a weak shock was felt in Tokyo. |         |
|     |          | S                | 18 43 30         |             |           |         |         |   |         |
|     |          | L                | 18 44 13         |             |           |         |         |   |         |
|     |          | M <sub>1</sub> E | 18 44 16         | 1.9         | ±38       |         |         |   |         |
|     |          | M <sub>1</sub> N | 18 44 22         | 1.3         |           | ±59     |         |   |         |
|     |          | M <sub>2</sub> E | 18 45 30         | 1.5         | ±50       |         |         |   |         |
|     |          | M <sub>2</sub> N | 18 45 47         | 3.6         |           | ±60     |         |   |         |
|     |          | FE               | 18 51 ±          |             |           |         |         |   |         |
|     |          | FN               | 18 51 ±          |             |           |         |         |   |         |

| No. | Date     | Phase | Time<br>G. M. T. | Period<br>s | Amplitude |         |         | J<br>km.  | Remarks |
|-----|----------|-------|------------------|-------------|-----------|---------|---------|---|---------|
|     |          |       |                  |             | AE<br>μ   | AN<br>μ | AZ<br>μ |   |         |
| 161 | Sept. 28 | e     | 10 48 42         |             |           |         |         | In Kii channel.   |         |
| 162 | Oct. 2   | P     | 16 32 46         |             |           |         | 503     | In the course of River Kinu in Kwanto province, at the epicentral region the weak shocks were felt. |         |
|     |          | L     | 16 33 50         |             |           |         |         |   |         |
|     |          | ME    | 16 33 52         | 2.1         | ±22       |         |         |   |         |
|     |          | MN    | 16 33 52         | 1.8         |           | ±30     |         |   |         |
|     |          | FE    | 16 37 ±          |             |           |         |         |   |         |
|     |          | FN    | 16 37 ±          |             |           |         |         |   |         |
| 163 | Oct. 5   | P     | 13 22 45         |             |           |         | 510     | In Boso peninsula. At Yokohama and Tokyo the shocks were felt weakly.                               |         |
|     |          | L     | 13 23 50         |             |           |         |         |   |         |
|     |          | ME    | 13 24 13         |             | ±31       |         |         |   |         |
|     |          | MN    | 13 24 20         | 2.1         |           | ±50     |         |   |         |
|     |          | MZ    | 13 24 05         | 1.6         |           |         | ±8      |   |         |
|     |          | FE    | 13 29 ±          |             |           |         |         |   |         |
|     |          | FN    | 13 29 ±          |             |           |         |         |   |         |
|     |          | FZ    | 13 27 ±          |             |           |         |         |   |         |
| 164 | Oct. 8   | MN    | 14 03 13         |             |           | ±9      |         | In the course of Kinu River.  |         |
|     |          | ME    | 14 03 16         | 2.2         | ±9        |         |         |   |         |
|     |          | FE    | 14 05 ±          |             |           |         |         |   |         |
|     |          | FN    | 14 05 ±          |             |           |         |         |   |         |
| 165 | Oct. 8   | MN    | 20 44 39         | 19.9        |           | ±6      |         | A flat wave form.   |         |
| 166 | Oct. 10  | P     | 6 55 43          |             |           |         | 10      | A local shock.  |         |
|     |          | L     | 6 55 46          |             |           |         |         |   |         |
|     |          | ME    | 6 55 53          | 1.2         | ±9        |         |         |   |         |
|     |          | MN    | 6 55 47          | 1.2         |           | ±13     |         |   |         |
|     |          | FE    | 6 56 ±           |             |           |         |         |   |         |
|     |          | FN    | 6 56 ±           |             |           |         |         |   |         |
| 167 | Oct. 15  | P     | 0 51 10          |             |           |         | 56      | Near Kii channel.   |         |
|     |          | L     | 0 51 17          |             |           |         |         |   |         |
|     |          | F     | 0 52 ±           |             |           |         |         |   |         |



| No. | Date    | Phase                           | Time<br>C. M. T.   | Period<br>s | Amplitude |         |         | J<br>km.  | Remarks |
|-----|---------|---------------------------------|--|-------------|-----------|---------|---------|---|---------|
|     |         |                                 |  |             | AE<br>μ   | AN<br>μ | AZ<br>μ |   |         |
| 168 | Oct. 18 | e<br>F                          | 1 03 38<br>1 04 ±  |             |           |         |         | A faint record.                                       |         |
| 169 | Oct. 18 | ME<br>MN<br>FE<br>FN            | minute.<br>16 25 37<br>16 28 ±<br>16 28 ±                          |             |           |         |         | Do.   |         |
| 170 | Oct. 18 | MN<br>FN                        | 18 41 26<br>18 48 ±  | 11.1        |           | ±45     |         | Do. By Omori's seismometer.                           |         |
| 171 | Oct. 18 | P<br>F                          | 19 17 06<br>19 17 30   |             |           |         |         | A faint record.                                       |         |
| 172 | Oct. 19 | P<br>L<br>FE<br>FN<br>FZ        | 21 15 39<br>21 15 51<br>21 19 ±<br>21 19 ±<br>21 17 ±              |             |           |         | 91      | A local shock.  |         |
| 173 | Oct. 20 | MN                              | 20 04 47   | 8.5         |           | ±50     |         | By Omori's seismometer.                               |         |
| 174 | Oct. 22 | Pe<br>L<br>FE<br>FN<br>FZ       | 23 04 49<br>23 04 55<br>23 07 ±<br>23 07 ±<br>23 05 ±              |             |           |         |         | A local shock.  |         |
| 175 | Oct. 23 | eP<br>L<br>ME<br>MN<br>FE<br>FN | 12 48 43<br>12 49 45<br>12 50 06<br>12 50 07<br>12 55 ±<br>12 55 ± | 1.5<br>1.5  | ±8        | ±9      |         | In the lower course of River Tone in Kwanto province. |         |
| 176 | Oct. 23 | P                               | 21 40 03   |             |           |         |         | Near Wakayama.  |         |

| No. | Date    | Phase                                | Time<br>G. M. T.  | Period<br>s | Amplitude |         |         | J<br>km.                                | Remarks |
|-----|---------|--------------------------------------|---|-------------|-----------|---------|---------|---|---------|
|     |         |                                      |   |             | AE<br>μ   | AN<br>μ | AZ<br>μ |   |         |
|     |         | M<br>F                               | 21 40 06<br>21 40 30  |             |           |         |         |   |         |
| 177 | Oct. 24 | eP                                   | 11 36 ±   |             |           |         |         | A faint record.                         |         |
| 178 | Oct. 27 | P<br>L<br>ME<br>MN<br>FE<br>FN<br>FZ | 17 52 07<br>17 52 08<br>17 52 08<br>17 52 08<br>17 53 ±<br>17 53 ±<br>17 53 ± |             |           | ±83     |         | 7<br>A local shock.                     |         |
| 179 | Oct. 27 | MN<br>FN                             | 20 45 25<br>20 54 ±   |             |           | ±30     |         | A faint record, by Omori's seismometer. |         |
| 180 | Oct. 30 | eP<br>F                              | 5 54 59<br>5 55 ±   |             |           |         |         | A faint record.                         |         |
| 181 | Nov. 4  | e<br>F                               | 19 51 36<br>19 52 20  |             |           |         |         | In Kii channel.                         |         |
| 182 | Nov. 6  | P<br>L<br>F                          | 10 22 39<br>10 22 46<br>10 24 ±   |             |           |         | 47      | Ditto.                                  |         |
| 183 | Nov. 6  | P<br>L<br>ME<br>MN<br>FE<br>FN<br>FZ | 20 46 06<br>20 46 17<br>20 46 18<br>20 46 18<br>20 47 ±<br>20 47 ±<br>20 47 ± |             |           | ±74     |         | 88<br>In Wakayama province.             |         |
| 184 | Nov. 6  | ME<br>MN                             | 20 47 20<br>20 47 26  | 1.9         |           | ±6      |         | Ditto.                                  |         |



| No. | Date    | Phase            | Time |    |    | Period | Amplitude |       |       | $\Delta$ | Remarks                                      |
|-----|---------|------------------|------|----|----|--------|-----------|-------|-------|----------|--|
|     |         |                  | G.   | M. | T. |        | AE        | AN    | AZ    |          |  |
|     |         |                  | h    | m  | s  | s      | $\mu$     | $\mu$ | $\mu$ | km.      |  |
|     |         | FE               | 20   | 49 | ±  |        |           |       |       |          |  |
|     |         | FN               | 20   | 49 | ±  |        |           |       |       |          |  |
| 185 | Nov. 14 | P                | 6    | 16 | 33 |        |           |       |       |          | Near Wakayama.                               |
|     |         | F                | 6    | 17 | ±  |        |           |       |       |          |  |
| 186 | Nov. 22 | e                | 17   | 45 | 50 |        |           |       |       |          | Ditto.                                       |
|     |         | F                | 17   | 46 | 30 |        |           |       |       |          |  |
| 187 | Nov. 23 | e                | 1    | 25 | 02 |        |           |       |       |          | A faint record.                              |
| 188 | Nov. 23 | P                | 23   | 28 | 12 |        |           |       |       | 90       | Near Hikone.                                 |
|     |         | L                | 23   | 28 | 24 |        |           |       |       |          |  |
|     |         | ME               | 23   | 28 | 24 |        | ±100      |       |       |          |  |
|     |         | MN               | 23   | 28 | 24 |        |           |       |       |          |  |
|     |         | MZ               | 23   | 28 | 24 |        |           |       |       |          |  |
|     |         | FE               | 23   | 33 | ±  |        |           |       |       |          |  |
|     |         | FN               | 23   | 33 | ±  |        |           |       |       |          |  |
|     |         | FZ               | 23   | 32 | ±  |        |           |       |       |          |  |
| 189 | Nov. 25 | P                | 17   | 29 | 37 |        |           |       |       | 1602     | In Tascalora Deep, east off Aomori province. |
|     |         | S                | 17   | 30 | 57 |        |           |       |       |          |  |
|     |         | L                | 17   | 31 | 52 | 2.8    | ±88       |       |       |          |  |
|     |         | M <sub>1</sub> E | 17   | 31 | 59 | 3.2    |           | ±125  |       |          |  |
|     |         | M <sub>1</sub> N | 17   | 32 | 01 | 2.8    | ±63       |       |       |          |  |
|     |         | M <sub>2</sub> E | 17   | 33 | 18 | 3.7    |           | ±46   |       |          |  |
|     |         | M <sub>2</sub> N | 17   | 33 | 34 |        |           |       |       |          |  |
|     |         | FE               | 17   | 37 | ±  |        |           |       |       |          |  |
|     |         | FN               | 17   | 38 | ±  |        |           |       |       |          |  |
| 190 | Nov. 27 | P                | 1    | 25 | 28 |        |           |       |       | 135      | In southern part of Kii channel.             |
|     |         | L                | 1    | 25 | 46 |        |           |       |       |          |  |
|     |         | M <sub>1</sub> E | 1    | 25 | 47 |        |           |       |       |          |  |
|     |         | M <sub>2</sub> E | 1    | 25 | 59 |        |           |       |       |          |  |
|     |         | MN               | 1    | 25 | 59 |        |           |       |       |          |  |
|     |         | FE               | 1    | 29 | ±  |        |           |       |       |          |  |

| No. | Date    | Phase            | Time |    |    | Period | Amplitude |       |       | $\Delta$ | Remarks                        |
|-----|---------|------------------|------|----|----|--------|-----------|-------|-------|----------|--------------------------------|
|     |         |                  | G.   | M. | T. |        | AE        | AN    | AZ    |          |                                |
|     |         |                  | h    | m  | s  | s      | $\mu$     | $\mu$ | $\mu$ | km.      |                                |
|     |         | FN               | 1    | 29 | ±  |        |           |       |       |          |                                |
|     |         | FZ               | 1    | 27 | ±  |        |           |       |       |          |                                |
| 191 | Dec. 5  | P                | 7    | 29 | 07 |        |           |       |       |          | Near Hikone, shiga prefecture. |
|     |         | F                | 7    | 29 | 30 |        |           |       |       |          |                                |
| 192 | Dec. 13 | P                | 9    | 58 | 29 |        |           |       |       |          | A local shock, Near Wakayama.  |
|     |         | F                | 9    | 58 | 50 |        |           |       |       |          |                                |
| 193 | Dec. 13 | P                | 20   | 25 | 17 |        |           |       |       | 831      | Off of the eastern coast.      |
|     |         | S                | 20   | 25 | 56 |        |           |       |       |          |                                |
|     |         | L                | 20   | 27 | 06 |        |           |       |       |          |                                |
|     |         | ME               | 20   | 27 | 22 | 2.4    | ±68       |       |       |          |                                |
|     |         | MN               | 20   | 27 | 57 | 2.4    |           | ±60   |       |          |                                |
|     |         | MZ               | 20   | 27 | 59 | 2.2    |           |       | ±5    |          |                                |
|     |         | FE               | 20   | 33 | ±  |        |           |       |       |          |                                |
|     |         | FN               | 20   | 33 | ±  |        |           |       |       |          |                                |
|     |         | FZ               | 20   | 29 | ±  |        |           |       |       |          |                                |
| 194 | Dec. 21 | P                | 12   | 59 | 20 |        |           |       |       | 120      | N. part of Ise province.       |
|     |         | L                | 12   | 59 | 36 |        |           |       |       |          |                                |
|     |         | ME               | 12   | 59 | 37 |        | ±55       |       |       |          |                                |
|     |         | M <sub>1</sub> N | 12   | 55 | 37 |        |           | ±60   |       |          |                                |
|     |         | M <sub>2</sub> N | 12   | 59 | 59 |        |           | ±63   |       |          |                                |
|     |         | FE               | 13   | 05 | ±  |        |           |       |       |          |                                |
|     |         | FN               | 13   | 01 | ±  |        |           |       |       |          |                                |
| 195 | Dec. 26 | P                | 5    | 21 | 30 |        |           |       |       | 138      | In Kii channel.                |
|     |         | L                | 5    | 21 | 48 |        |           |       |       |          |                                |
|     |         | M <sub>1</sub> E | 5    | 21 | 48 |        |           |       |       |          |                                |
|     |         | M <sub>1</sub> N | 5    | 21 | 49 |        |           |       |       |          |                                |
|     |         | M <sub>2</sub> E | 5    | 21 | 54 | 0.9    | ±203      |       |       |          |                                |
|     |         | M <sub>2</sub> N | 5    | 21 | 53 |        |           | ±115  |       |          |                                |
|     |         | MZ               | 5    | 21 | 55 |        |           |       |       |          |                                |
|     |         | FE               | 5    | 26 | ±  |        |           |       |       |          |                                |
|     |         | FN               | 5    | 26 | ±  |        |           |       |       |          |                                |



| No. | Date    | Phase            | Time |    |    | Period | Amplitude |     |    | Δ    | Remarks                      |
|-----|---------|------------------|------|----|----|--------|-----------|-----|----|------|------------------------------|
|     |         |                  | G.   | M. | T. |        | AE        | AN  | AZ |      |                              |
|     |         |                  | h    | m  | s  | s      | μ         | μ   | μ  | km.  |                              |
| 196 | Dec. 27 | FZ               | 5    | 25 | ±  |        |           |     |    | 1691 | Off of S. coast of Hokkaido. |
|     |         | P                | 11   | 24 | 57 |        |           |     |    |      |                              |
|     |         | eS               | 11   | 26 | 17 |        |           |     |    |      |                              |
|     |         | L                | 11   | 27 | 26 |        |           |     |    |      |                              |
|     |         | M <sub>1</sub> E | 11   | 28 | 17 | 4.0    | ±38       |     |    |      |                              |
|     |         | M <sub>N</sub>   | 11   | 27 | 44 | 3.9    |           | ±38 |    |      |                              |
|     |         | M <sub>2</sub> E | 11   | 28 | 51 | 4.9    | ±38       |     |    |      |                              |
|     |         | F <sub>E</sub>   | 11   | 41 | ±  |        |           |     |    |      |                              |
|     |         | F <sub>N</sub>   | 11   | 41 | ±  |        |           |     |    |      |                              |
| FZ  | 11      | 30               | ±    |    |    |        |           |     |    |      |                              |
| 197 | Dec. 28 | P                | 22   | 58 | 01 |        |           |     |    | 2559 | Ditto.                       |
|     |         | S                | 23   | 01 | 35 |        |           |     |    |      |                              |
|     |         | L                | 23   | 02 | 58 |        |           |     |    |      |                              |
|     |         | M <sub>E</sub>   | 23   | 03 | 24 |        |           |     |    |      |                              |
|     |         | M <sub>N</sub>   | 23   | 03 | 09 |        |           |     |    |      |                              |
|     |         | M <sub>Z</sub>   | 23   | 03 | 24 | 18.2   |           |     | ±6 |      |                              |
|     |         | F <sub>E</sub>   | 23   | 13 | ±  |        |           |     |    |      |                              |
|     |         | F <sub>N</sub>   | 23   | 13 | ±  |        |           |     |    |      |                              |
|     |         | FZ               | 23   | 09 | ±  |        |           |     |    |      |                              |
| 198 | Dec. 31 | P                | 9    | 46 | 24 |        |           |     |    | 54   | N. part of Kii channel.      |
|     |         | L                | 9    | 46 | 31 |        |           |     |    |      |                              |
|     |         | M <sub>E</sub>   | 9    | 46 | 31 |        | ±34       |     |    |      |                              |
|     |         | M <sub>N</sub>   | 9    | 46 | 31 |        |           | ±23 |    |      |                              |
|     |         | F <sub>E</sub>   | 9    | 47 | 30 |        |           |     |    |      |                              |
|     |         | F <sub>N</sub>   | 9    | 47 | 30 |        |           |     |    |      |                              |

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