M.O. 534

# AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

## KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN FOR JANUARY 1950

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

| COMPONENT. | DATE FROM WHICH CONSTANTS APPLY. | GALVANOMETER FREE PERIOD $T_1$ | PENDULUM FREE PERIOD T. | DAMPING CONSTANT $\mu 2$. | $\frac{Ak}{\pi l}$ |
|---|---|---|---|---|---|
| | | sec. | sec. | | sec$^{-1}$ |
| N. | 22 July, 1949 | 21.6 | 23.2 | -0.06 | 52.1 |
| E. | 22 April, 1949 | 17.8 | 18.3 | +0.04 | 70.8 |
| Z. | 20 May, 1949 | 14.2 | 12.5 | -0.05 | 133. |

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.
TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.
SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. $\mu$ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ZNE | e | 03 | 32 | - | | | | |
| | | F | | 50 | - | | | | |
| 1 | ZNE | eL | 16 | 54 | - | | | | |
| | | F | 17 | 25 | - | | | | |
| 2 | ZNE | e | 01 | 09 | - | | | | |
| | | F | 02 | 20 | - | | | | |
| 2 | ZNE | e | 16 | 29 | - | | | | |
| | | F | 17 | 35 | - | | | | |
| 3 | Z | iP | 03 | 05 | 14 | | | 10720 | Philippine Islands. |
| | ZNE | iPP | | 09 | 02 | | | | 18°N., 121°E. (U.S.C.G.S). |
| | ZNE | e | | 12 | 50 | | | | |
| | NE | eSKS | | 15 | 44 | | | | |
| | NE | eS | | 16 | 42 | | | | |
| | ZNE | ePPS | | 18 | 44 | | | | |
| | ZNE | eSS | | 23 | 14 | | | | |
| | NE | eSSS | | 27 | 58 | | | | |
| | NE | e | | 30 | 02 | | | | |
| | ZNE | eL | | 32 | - | | | | |
| | Z | M | | 52 | 08 | 16 | -23 | | |
| | N | M | | 52 | 12 | 17 | -35 | | |
| | | F | 05 | 30 | - | | | | |
| 3 | ZNE | e | 06 | 54 | - | | | | |
| | | F | 07 | 05 | - | | | | |
| 3 | NE | e(PP) | 11 | 31 | 30 | | | | |
| | ZNE | eL | 12 | 02 | - | | | | |
| | Z | M | | 20 | 57 | 16 | +2 | | |
| | | F | 13 | 10 | - | | | | |

Form 3717.

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

JANUARY, 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 4/5 | NE | e | 23 | 59 | – | | | | |
| | | F | 00 | 50 | – | | | | |
| 5 | ZNE | e | 04 | 54 | – | | | | |
| | | F | 05 | 25 | – | | | | |
| 9 | ZV,E | $iP_g$ | 19 | 41 | 02 | | | 160 | Recorded on Galitzin |
| | ZV,NE | $iS_g$ | | 41 | 21 | | | | instruments. |
| | | $F^g$ | | 44 | – | | | | |
| 10 | ZNE | ePPP | 03 | 26 | 54 | | | | Off S.E. Coast of Mexico |
| | ZNE | eL | | 46 | – | | | | 11°N., 103°W. (U.S.C.G.S). |
| | | F | 04 | 30 | – | | | | |
| 10 | ZNE | e | 17 | 25 | 13 | | | | |
| | ZNE | eL | | 34 | – | | | | |
| | | F | | 55 | – | | | | |
| 12 | ZV, | ePKP | 12 | 26 | 57 | | | | (17,000 Km) |
| | N | eSKS | | 34 | 20 | | | | Fiji Islands. |
| | ZNE | eL | | 50 | – | | | | 17°S., 178½°W. Depth about |
| | | F | 13 | 20 | – | | | | 500 Km. (U.S.C.G.S.) |
| 14 | ZNE | e | 00 | 34 | 59 | | | | |
| | ZNE | eL | | 58 | – | | | | |
| | | F | 01 | 25 | – | | | | |
| 15 | NE | e | 05 | 40 | – | | | | |
| | | F | 06 | 20 | – | | | | |
| 15 | E | e | 18 | 35 | 13 | | | | |
| | ZNE | eL | | 54 | – | | | | |
| | | F | 19 | 30 | – | | | | |
| 17 | ZNE | e | 11 | 28 | – | | | | |
| | | F | 12 | 15 | – | | | | |
| 19 | ZV,Z | iP | 17 | 35 | 44 | | | 5,250 | |
| | ZV, | iPP | | 36 | 09 | | | | |
| | Z | eS | | 42 | 37 | | | | |
| | ZE | eSS | | 46 | 14 | | | | |
| | ZNE | eL | | 51 | – | | | | |
| | E | M | | 02 | 42 | 14 | +2 | | |
| | | F | | 45 | – | | | | |
| 20 | ZV,Z | e | 18 | 39 | 03 | | | | |
| | NE | e | 19 | 00 | 38 | | | | |
| | ZNE | eL | | 10 | – | | | | |
| | | F | | 45 | – | | | | |
| 22 | ZNE | eL | 04 | 15 | – | | | | |
| | | F | 05 | 05 | – | | | | |
| 23 | ZNE | e | 10 | 40 | – | | | | |
| | | F | 11 | 20 | | | | | |
| 24 | Z | ePKP | 17 | 06 | 31 | | | | New Hebrides. |
| | ZNE | eL | | 40 | – | | | | |
| | | F | 19 | 20 | – | | | | |

FORM 3718.

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

JANUARY, 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 25 | E | e | 12 | 24 | 09 | | | | |
| | ZNE | eL | | 38 | - | | | | |
| | | F | 13 | 10 | - | | | | |
| 30 | NE | e | 01 | 27 | 03 | | | | Large microseisms. |
| | ZNE | e | | 33 | 22 | | | | |
| | NE | $eL_Q$ | | 41 | - | | | | |
| | Z | $eL_R$ | | 48 | - | | | | |
| | N | M | 02 | 01 | 14 | 22 | +23 | | |
| | E | M | | 02 | 35 | 20 | +18 | | |
| | Z | M | | 12 | 52 | 18 | +18 | | |
| | | F | 04 | 15 | - | | | | |
| 30 | NE | e | 14 | 28 | - | | | | Large microseisms. |
| | | F | 16 | 00 | - | | | | |
| 31 | ZV, | e | 10 | 52 | 42 | | | | Confused by microseisms. |
| | ZV, | e | | 53 | 02 | | | | Shown on Galitzin |
| | ZV, | e | | 53 | 28 | | | | seismograph. |
| | | F | | 56 | - | | | | |
| | NE | e | 11 | 54 | - | | | | Confused by microseisms. |
| | | F | 12 | 30 | - | | | | |

FORM 3718.

DS 27565/1/R139 150 2/50 CL

M.O. 534



# AIR MINISTRY, METEOROLOGICAL OFF

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN FOR FEBRUARY, 19 50

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

| COMPONENT. | DATE FROM WHICH CONSTANTS APPLY. | GALVANOMETER FREE PERIOD $T_1$ | PENDULUM FREE PERIOD T. | DAMPING CONSTANT $\mu_2$. | $\frac{A_1}{\pi l}$ |
|---|---|---|---|---|---|
| N. | 22 July, 1949 | 21.6 sec. | 23.2 sec. | − 0.06 | 52.1 sec$^{-1}$ |
| E. | 22 April, 1949 | 17.8 | 18.3 | + 0.04 | 70.8 |
| Z. | 20 May, 1949 | 14.2 | 12.5 | − 0.05 | 133. |

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.
TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.
SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | NE | e | 17 | 37 | − | | | | Large microseisms. |
| | | F | 18 | 30 | − | | | | |
| 2 | NE | e | 07 | 05 | − | | | | Large microseisms. |
| | | F | 08 | 30 | − | | | | |
| 2/3 | ZNE | eI | 23 | 45 | 49 | | | 8,890 | Large microseisms. Yunnan Province China. 22°N, 100½°E. (US.C.G.S.) |
| | Z | eI P | | 48 | 13 | | | | |
| | NE | eS | | 55 | 57 | | | | |
| | NE | eSS | 00 | 00 | 53 | | | | |
| | NE | eSSS | | 05 | 15 | | | | |
| | NE | eL | | 10 | − | | | | |
| | N | M | | 18 | 07 | 22 | −130 | | |
| | E | M | | 18 | 13 | 22 | −75 | | |
| | | F | 02 | 10 | − | | | | |
| 3 | ZV, | eP | 03 | 04 | 04 | | | 8,730 | Large microseisms. Repetition. |
| | ZV, | eP P | | 07 | 19 | | | | |
| | NE | eS | | 14 | 04 | | | | |
| | NE | eSS | | 18 | 37 | | | | |
| | NE | eSSS | | 23 | 29 | | | | |
| | NE | eL | | 27 | − | | | | |
| | N | M | | 36 | 19 | 19 | +65 | | |
| | E | M | | 36 | 33 | 22 | −30 | | |
| | | F | 05 | 10 | − | | | | |
| 3 | NE | e | 13 | 47 | − | | | | Large microseisms. |
| | | F | 14 | 10 | − | | | | |
| 3 | NE | e | 19 | 01 | − | | | | Large microseisms. |
| | | F | | 25 | − | | | | |
| 4 | NE | e | 02 | 47 | − | | | | Large microseisms. |
| | | F | 03 | 10 | − | | | | |

Form 3717.

# KEW OBSERVATORY, RICHMOND, SURREY, EI

## SEISMOLOGICAL BULLETIN.

FEBRUARY, 19 50

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| J 5 | Z | ePKP2 | 01 | 45 | 13 | | | (19000) | Large microseisms. |
| | Z | ePP | | 50 | 14 | | | | South of New Zealand. |
| | ZNE | e(PPP) | | 55 | 45 | | | | 50°S, 164°E. |
| | NE | ePPS | 02 | 04 | 53 | | | | (U.S.C.G.S.). |
| | ZNE | eSS | | 09 | 52 | | | | |
| | ZNE | e | | 13 | 09 | | | | |
| | NE | e | | 26 | 05 | | | | |
| | ZNE | eL | | 48 | - | | | | |
| | N | M | | 59 | 37 | 24 | +15 | | |
| | E | M | 03 | 04 | 02 | 20 | -11 | | |
| | Z | M | | 06 | 26 | 17 | -13 | | |
| | | F | 05 | 25 | - | | | | |
| 7 | ZNE | e | 11 | 00 | (16) | | | | Large microseisms. |
| | ZNE | eL | | 16 | - | | | | |
| | | F | 12 | 05 | - | | | | |
| 8 | ZV, | eP | 18 | 24 | 04 | | | (2,335) | Large microseisms. |
| | NE | e(S) | | 27 | 50 | | | | North Atlantic Ocean. |
| | NE | e | | 28 | 50 | | | | 48°N, 27½°W. (U.S.C.G.S.). |
| | ZNE | eL | | 30 | - | | | | |
| | | F | 19 | 20 | - | | | | |
| J 11 | Z | e(P) | 01 | 35 | (24) | | | (12000) | Large microseisms. |
| | ZNE | ePP | | 39 | 24 | | | | |
| | NE | eSKS | | 45 | 32 | | | | |
| | NE | eSS | | 55 | 32 | | | | |
| | ZNE | eL | 02 | 08 | - | | | | |
| | N | M | | 25 | 11 | 19 | -6 | | |
| | | F | 03 | 20 | - | | | | |
| 12/13 | NE | e | 23 | 16 | 05 | | | | Large microseisms. |
| | NE | e | | 24 | 51 | | | | |
| | ZNE | eL | | 26 | - | | | | |
| | | F | 00 | 50 | - | | | | |
| 14/15 | Z | e | 23 | 37 | 59 | | | | Large microseisms. |
| | ZNE | eL | | 59 | - | | | | |
| | | F | 00 | 50 | - | | | | |
| 15 | ZNE | e | 08 | 48 | - | | | | |
| | | F | 09 | 05 | - | | | | |
| 21 | ZNE | e | 15 | 40 | - | | | | |
| | | F | 16 | 20 | | | | | |
| 22 | ZN | e | 11 | 58 | 18 | | | | |
| | ZNE | eL | 12 | 10 | - | | | | |
| | | F | 13 | 20 | - | | | | |
| 22 | ZV | e | 15 | 59 | (00) | | | | Confused by microseisms. |
| | ZNE | eL | 16 | 53 | - | | | | |
| | | F | 17 | 15 | - | | | | |
| 23 | ZNE | eL | 05 | 32 | - | | | | Confused by microseisms. |
| | | F | 06 | 10 | - | | | | |
| 23 | NE | e | 09 | 51 | 20 | | | | Confused by microseisms. |
| | | F | 10 | 15 | - | | | | |

FORM 3718.

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

FEBRUARY, 19 50

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 23 | NE | e | 11 | 29 | (16) | | | | Confused by microseisms. |
| | NE | eL | | 36 | - | | | | |
| | | F | | 55 | - | | | | |
| 25 | ZV, | e | 06 | 03 | 10 | | | | Confused by microseisms. |
| | N | e | | 12 | 06 | | | | |
| | ZNE | eL | | 20 | - | | | | |
| | N | M | | 25 | 45 | 14 | -5 | | |
| | | F | | 55 | - | | | | |
| 25 | NE | e | 10 | 15 | 03 | | | | Confused by microseisms. |
| | NE | e | | 15 | 55 | | | | |
| | NE | $eL_Q$ | | 34 | - | | | | |
| | Z | $eL_R$ | | 39 | - | | | | |
| | E | M | | 43 | 33 | 22 | -10 | | |
| | N | M | | 43 | 34 | 20 | +8 | | |
| | Z | M | | 50 | 36 | 14 | -5 | | |
| | | F | 11 | 55 | - | | | | |
| 28 | ZNE | e | 08 | 00 | - | | | | |
| | | F | | 20 | - | | | | |
| 28 | ZV,ZNE | iP | 10 | 32 | 19 | | | 8,055 | |
| | ZNE | $iP_cP$ | | 32 | 25 | | | | |
| | ZNE | i | | 34 | 14 | | | | |
| | ZV,ZNE | ePP | | 35 | 16 | | | | |
| | NE | iPPP | | 37 | 12 | | | | |
| | NE | iS | | 41 | 48 | | | | |
| | NE | iPS | | 43 | 23 | | | | |
| | NE | eSS | | 45 | 34 | | | | |
| | NE | eSSS | | 47 | 28 | | | | |
| | NE | e | | 50 | 24 | | | | |
| | ZNE | eL | | 52 | - | | | | |
| | N | M | | 56 | 55 | 22 | -34 | | |
| | E | M | | 57 | 51 | 25 | -65 | | |
| | ZNE | $eL_2$ | 12 | 51 | - | | | | Via antipodes. |
| | | F | 13 | 55 | - | | | | |

FORM 3718.

DS 29220 /1/ R139 150 3/50 CL

M.O. 534

# AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

## KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN FOR MARCH, 1950

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

| COMPONENT. | DATE FROM WHICH CONSTANTS APPLY. | GALVANOMETER FREE PERIOD $T_1$ | PENDULUM FREE PERIOD T. | DAMPING CONSTANT $\mu^2$. | $\frac{Ak}{\pi^2}$ |
|---|---|---|---|---|---|
| N. | 22 July, 1949 | 21.6 sec. | 23.2 sec. | - 0.06 | 52.1 $sec^{-1}$ |
| E. | 22 April, 1949 | 17.8 | 18.3 | + 0.04 | 70.8 |
| Z. | 20 May, 1949 | 14.2 | 12.5 | - 0.05 | 133. |

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.
TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.
SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. $\mu$ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | NE | e | 09 | 31 | 29 | | | | |
| | ZNE | eL | | 39 | - | | | | |
| | N | M | | 47 | 23 | 19 | -5 | | |
| | | F | 10 | 25 | - | | | | |
| 2 | N | ePS | 19 | 09 | 17 | | | 12,800 | Sandwich Islands region. 59.5°S., 34°W. (U.S.C.G.S.) |
| | NE | eSS | | 15 | 43 | | | | |
| | NE | eSSS | | 19 | 37 | | | | |
| | ZNE | eL | | 31 | - | | | | |
| | N | M | | 42 | 18 | 22 | +5 | | |
| | | F | 20 | 20 | - | | | | |
| 3 | Z | e | 11 | 04 | 06 | | | | No N-S record. |
| | ZE | e | | 27 | 11 | | | | |
| | ZE | eL | 12 | 06 | - | | | | |
| | | F | 13 | 15 | - | | | | |
| 4 | E | e | 14 | 03 | - | | | | Small. |
| | | F | | 15 | - | | | | |
| 4 | E | e | 16 | 08 | - | | | | ditto. |
| | | F | 17 | 15 | - | | | | |
| 5 | ZE | e | 01 | 00 | - | | | | |
| | | F | | 15 | - | | | | |
| 5 | ZE | e | 08 | 10 | - | | | | |
| | | F | | 30 | - | | | | |
| 7 | ZNE | eP | 02 | 21 | 30 | | | 11,000 | Phillipines 10°N., 120°E. (Poona). |
| | ZN | ePP | | 25 | 45 | | | | |
| | ZN | ePPP | | 29 | 04 | | | | |
| | ZNE | eSKS | | 32 | 08 | | | | |
| | ZNE | eSP | | 34 | 31 | | | | |
| | ZNE | eSS | | 40 | 27 | | | | |

Form 3717.
DS.3344J-1-

7

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

MARCH 19 50

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| contd. | | | | | | | | | |
| 7 | ZNE | e | 02 | 42 | 47 | | | | |
| | ZNE | e | | 46 | 07 | | | | |
| | ZNE | eL | | 52 | - | | | | |
| | E | M | 03 | 12 | 43 | 19 | +31 | | |
| | Z | M | | 12 | 52 | 18 | -33 | | |
| | N | M | | 12 | 55 | 19 | -39 | | |
| | | F | 05 | 10 | - | | | | |
| 8 | ZV, | iP | 04 | 28 | 01 | | | 500 | Small. |
| | ZV, | $iP_g$ | | 28 | 17 | | | | Western Germany. |
| | NE | $eS_g$ | | 29 | 17 | | | | |
| | E | e | | 29 | 53 | | | | Large movement. |
| | | F | | 35 | - | | | | |
| 9 | ZV,Z | iP | 10 | 13 | 32 | | | 6,950 | |
| | ZV,Z | i | | 13 | 43 | | | | |
| | NE | eS | | 21 | 59 | | | | |
| | ZNE | eL | | 28 | - | | | | |
| | E | M | | 32 | 44 | 18 | -2 | | |
| | | F | 11 | 05 | - | | | | |
| 9 | NE | e | 20 | 35 | - | | | | |
| | | F | 21 | 05 | - | | | | |
| 12 | ZNE | e | 02 | 34 | - | | | | |
| | | F | 03 | 00 | - | | | | |
| 12 | ZNE | e | 05 | 25 | - | | | | |
| | | F | | 50 | - | | | | |
| 12 | ZNE | e | 07 | 35 | - | | | | |
| | | F | | 45 | - | | | | |
| 14 | ZV,Z | iP | 03 | 22 | 21 | | | 9,500 | Dilatation. |
| | ZV,ZNE | iS | | 32 | 43 | | | | Eastern Peru 8°S, 74°W. |
| | ZE | iSP | | 33 | 37 | | | | Depth about 150 Km. |
| | NE | eSSS | | 45 | 32 | | | | (U.S.C.G.S.) |
| | ZNE | eL | | 50 | - | | | | Poorly developed. |
| | | F | 04 | 05 | - | | | | |
| 14 | NE | e | 16 | 42 | - | | | | |
| | | F | 17 | 10 | - | | | | |
| 15 | Z | e | 06 | 40 | 17 | | | | |
| | ZNE | eL | | 45 | - | | | | |
| | | F | | 55 | - | | | | |
| 16 | ZV, | ipPKP | 19 | 43 | 31 | | | 16,000 | Fiji Islands region. |
| | N | eSKS | | 54 | 32 | | | | 17°S, 178½°W. |
| | E | eSS | 20 | 05 | 14 | | | | Depth about 600 Km. |
| | | F | | 50 | - | | | | (U.S.C.G.S.) |
| | | | | | | | | | No surface waves. |
| 18 | ZV,ZN | e | 05 | 06 | 27 | | | | Large microseisms. |
| | ZNE | e | | 19 | 07 | | | | |
| | ZNE | eL | | 31 | - | | | | |
| | N | M | | 38 | 17 | 23 | +9 | | |
| | | F | 06 | 25 | | | | | |

FORM 3718.

D.S.33449-1-

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

MARCH 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 18 | NE | e | 11 | 52 | – | | | | Large microseisms. |
| | | F | 13 | 10 | – | | | | |
| 20 | NE | e | 15 | 58 | – | | | | |
| | | F | 16 | 20 | – | | | | |
| 22 | ZV, | i | 12 | 54 | 59 | | | | Small. |
| | ZNE | eL | | 58 | – | | | | |
| | N | M | | 00 | 42 | 11 | +3 | | |
| | | F | | 10 | – | | | | |
| 22 | Z | e | 21 | 33 | 46 | | | | |
| | NE | $eL_Q$ | | 54 | – | | | | |
| | Z | $eL_R$ | 22 | 03 | – | | | | |
| | | F | | 25 | – | | | | |
| 24 | ZNE | e | 01 | 00 | 55 | | | | |
| | | F | | 15 | – | | | | |
| 25 | ZNE | e | 07 | 36 | 06 | | | | |
| | NE | $eL_Q$ | | 43 | – | | | | |
| | Z | $eL_R$ | | 47 | – | | | | |
| | | F | 08 | 10 | – | | | | |
| 25/26 | ZNE | e | 23 | 55 | – | | | | |
| | | F | 00 | 35 | – | | | | |
| 26 | ZNE | e | 17 | 11 | – | | | | |
| | ZNE | eL | | 20 | – | | | | |
| | | F | 18 | 20 | — | | | | |
| 27 | ZNE | e | 11 | 28 | – | | | | |
| | | F | | 40 | – | | | | |
| 27 | ZV, | iP | 13 | 15 | 50 | | | 8,220 | Dilatation. |
| | ZV, Z | i | | 15 | 54 | | | | Aleutian Islands region |
| | ZNE | iS | | 25 | 24 | | | | 53½°N, 173°E. (U.S.C.G.S.) |
| | NE | ePS | | 25 | 58 | | | | |
| | ZNE | e | | 27 | 09 | | | | |
| | ZNE | eSS | | 30 | 26 | | | | |
| | ZNE | eL | | 36 | – | | | | |
| | N | M | | 41 | 51 | 29 | +12 | | |
| | E | M | | 54 | 20 | 18 | -15 | | |
| | | F | 16 | 05 | – | | | | |
| 27 | Z | e | 21 | 46 | 06 | | | | |
| | NE | e | | 51 | 35 | | | | |
| | NE | $eL_Q$ | 22 | 04 | – | | | | |
| | Z | $eL_R$ | | 13 | – | | | | |
| | N | M | | 23 | 31 | 22 | -7 | | |
| | E | M | | 28 | 24 | 18 | -6 | | |
| | | F | 23 | 55 | – | | | | |
| 28 | NE | e | 04 | 52 | – | | | | |
| | | F | 05 | 10 | – | | | | |
| 29 | ZNE | e | 14 | 23 | – | | | | |
| | | F | | 50 | – | | | | |

FORM 3718.

D.S. 33449.-1-

M.O. 534 9

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

MARCH 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 29 | ZN | e(P) | 18 | 01 | 33 | | | (10,000) | |
| | ZNE | e(SKS) | | 11 | 25 | | | | |
| | ZNE | e(PS) | | 12 | 57 | | | | |
| | NE | e(SS) | | 18 | 17 | | | | |
| | NE | e | | 31 | 51 | | | | |
| | ZNE | eL | | 37 | - | | | | |
| | N | M | | 43 | 50 | 30 | -7 | | |
| | Z | M | | 52 | 55 | 24 | +5 | | |
| | | F | 20 | 45 | - | | | | |
| 30 | ZNE | e | 16 | 55 | - | | | | |
| | | F | 17 | 10 | - | | | | |

FORM 3718.

DS. 33449-1-R.139 150.4/50 C.L.

M.O. 534

10

# AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

## KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN FOR APRIL, 1950

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

| COMPONENT. | DATE FROM WHICH CONSTANTS APPLY. | GALVANOMETER FREE PERIOD $T_1$ | PENDULUM FREE PERIOD T. | DAMPING CONSTANT $\mu^2$. | $\frac{Ak}{\pi^2}$ |
|---|---|---|---|---|---|
| N. | 22 July, 1949 | 21.6 sec. | 23.2 sec. | - 0.06 | 52.1 $sec.^2$ |
| E. | 22 April, 1949 | 17.8 | 18.3 | + 0.04 | 70.8 |
| Z. | 20 May, 1949 | 14.2 | 12.5 | - 0.05 | 133. |

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.
TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.
SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ZNE | e | 00 | 36 | 29 | | | | Small |
| | ZNE | eL | 01 | 06 | - | | | | |
| | | F | | 40 | - | | | | |
| 1 | ZNE | e | 02 | 55 | - | | | | |
| | ZNE | eL | 03 | 08 | - | | | | |
| | | F | | 35 | - | | | | |
| 1 | ZNE | eL | 03 | 49 | - | | | | |
| | N | M | 04 | 02 | 15 | 14 | -2 | | |
| | | F | | 15 | - | | | | |
| 4 | NE | e | 04 | 22 | 32 | | | | |
| | ZNE | eL | | 27 | - | | | | |
| | N | M | | 40 | 31 | 16 | -3 | | |
| | | F | 05 | 05 | - | | | | |
| 4 | ZV, Z | iP | 08 | 54 | 07 | | | 6,400 | Border of U.S.S.R. and outer Mongolia. 52°N, 101°E. (U.S.C.G.S.) |
| | ZV, ZN | ePP | | 56 | 25 | | | | |
| | ZNE | eS | 19 | 02 | 04 | | | | |
| | ZNE | eSS | | 05 | 53 | | | | |
| | ZNE | eSSS | | 08 | 10 | | | | |
| | ZNE | eL | | 09 | - | | | | |
| | N | M | | 17 | 03 | 19 | +85 | | |
| | E | M | | 17 | 37 | 18 | -70 | | |
| | N | M | | 21 | 41 | 16 | -130 | | |
| | E | M | | 21 | 53 | 16 | -95 | | |
| | Z | M | | 21 | 53 | 15 | -120 | | |
| | | F | 22 | 00 | - | | | | |
| 5 | Z | e(P) | 01 | 28 | (52) | | | (8500) | Doubtful. Confused by microseisms. Aleutian Islands region. 52°N, 177°W. (U.S.C.G.S.) |
| | N | e(PS) | | 39 | 10 | | | | |
| | ZNE | e(SS) | | 44 | 06 | | | | |
| | ZNE | eL | | 56 | - | | | | |
| | | F | 03 | 10 | - | | | | |

Form 3717.

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

APRIL, 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 5 | NE | e | 18 | 22 | 37 | | | | Confused by microseisms. |
| | ZNE | e(L) | | 24 | – | | | | |
| | | F | | 40 | – | | | | |
| 6 | NE | e | 03 | 01 | 07 | | | | |
| | ZNE | eL | | 11 | – | | | | |
| | | F | | 40 | – | | | | |
| 10 | NE | e | 07 | 32 | – | | | | Confused by microseisms. |
| | | F | 08 | 15 | – | | | | |
| 10 | ZE | e | 17 | 11 | – | | | | Large microseisms. |
| | | F | 18 | 20 | – | | | | No N-S record. |
| 12 | NE | e | 08 | 30 | – | | | | Small. |
| | | F | 09 | 10 | – | | | | |
| 12 | NE | e | 14 | 55 | – | | | | |
| | | F | 16 | 00 | – | | | | |
| 13 | Z | eP | 11 | 56 | 23 | | | (2650) | Azores Islands region. |
| | ZNE | e(S) | 12 | 00 | 35 | | | | 36°N, 27°W. (U.S.C.G.S.) |
| | ZNE | eL | | 02 | – | | | | |
| | | F | | 15 | – | | | | |
| 14 | Z | i | 20 | 20 | 42 | | | | |
| | Z | e | | 21 | 26 | | | | |
| | ZNE | e | | 30 | 06 | | | | |
| | ZNE | e | | 30 | 50 | | | | |
| | ZNE | e | | 33 | 44 | | | | |
| | ZNE | e | | 37 | 56 | | | | |
| | ZNE | eL | | 55 | – | | | | |
| | E | M | 21 | 05 | 10 | 23 | +3 | | |
| | | F | 22 | 25 | – | | | | |
| 14/15 | ZNE | e | 23 | 53 | – | | | | |
| | | F | 00 | 05 | – | | | | |
| 15 | Z | iP | 15 | 03 | 27 | | | | e, NE. |
| | Z | ePP | | 06 | 28 | | | | |
| | NE | e | | 12 | 08 | | | | |
| | NE | e(SS) | | 17 | 47 | | | | |
| | ZNE | e | | 24 | 36 | | | | |
| | ZNE | eL | | 28 | – | | | | |
| | | F | 16 | 15 | – | | | | |
| 16 | ZNE | e | 22 | 15 | – | | | | |
| | | F | | 45 | – | | | | |
| 18 | ZNE | e | 15 | 25 | – | | | | |
| | | F | 16 | 10 | – | | | | |

FORM 3718.

D5 37722-1.

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

APRIL, 19 50

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 20 | Z | iP | 10 | 03 | 00 | | | 8,760 | e, NE. |
| | N | eS | | 13 | 01 | | | | Kurile Islands region. |
| | NE | ePS | | 13 | 25 | | | | 45°N, 150°E. (U.S.C.G.S). |
| | ZN | e(PPS) | | 14 | 18 | | | | |
| | ZN | eSS | | 19 | 10 | | | | |
| | ZNE | eL | | 29 | — | | | | |
| | Z | M | | 42 | 12 | 22 | -4 | | |
| | | F | 11 | 25 | — | | | | |
| 20 | ZV,ZNE | iP | 17 | 23 | 21 | | | 2,040 | Northern Algeria. |
| | NE | eS | | 26 | 44 | | | | 34°N, 3°E. (U.S.C.G.S.) |
| | ZNE | eL | | 28 | — | | | | |
| | Z | M | | 31 | 15 | 12 | +3 | | |
| | | F | 18 | 05 | — | | | | |
| 26 | ZV,Z | iP | 07 | 17 | 36 | | | 9220 | Near southern coast of |
| | ZV,Z | e(pP) | | 17 | 51 | | | | Japan. |
| | NE | ePP | | 21 | 13 | | | | |
| | NE | eS | | 27 | 56 | | | | |
| | ZN | eSKS | | 28 | 07 | | | | |
| | ZNE | ePS | | 29 | 07 | | | | |
| | ZNE | eSS | | 33 | 59 | | | | |
| | ZNE | eL | | 39 | — | | | | |
| | N | M | 08 | 01 | 37 | 17 | +7 | | |
| | | F | 09 | 05 | — | | | | |
| 26 | ZNE | e | 19 | 40 | — | | | | |
| | | F | 20 | 10 | — | | | | |
| 30 | Z | e | 10 | 59 | 31 | | | | |
| | NE | e | 11 | 06 | 26 | | | | |
| | Z | e | | 06 | 51 | | | | |
| | N | e | | 08 | 21 | | | | |
| | NE | e | | 09 | 23 | | | | |
| | NE | $eL_Q$ | | 20 | — | | | | |
| | Z | $eL_R$ | | 27 | — | | | | |
| | | F | 13 | 55 | — | | | | |
| 30 | ZNE | e(L) | 19 | 05 | — | | | | |
| | | F | | 25 | — | | | | |

FORM 3718.

D537723-1. R139.150. 5/50. C.L.

M.O. 534

12

# AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

## KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN FOR MAY, 1950

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1918).

| COMPONENT. | DATE FROM WHICH CONSTANTS APPLY. | GALVANOMETER FREE PERIOD $T_1$. | PENDULUM FREE PERIOD T. | DAMPING CONSTANT $\mu 2$. | $\frac{Ak}{\pi l}$ |
|---|---|---|---|---|---|
| N. | 22 July, 1949 | 21.6 sec. | 23.2 sec. | -0.06 | 52.1 sec$^{-1}$ |
| E. | 22 April, 1949 | 17.8 | 18.3 | +0.04 | 70.8 |
| Z. | 20 May, 1949 | 14.2 | 12.5 | -0.05 | 133. |

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.
TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.
SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ZV,ZNE | e | 00 | 12 | 32 | | | | |
| | ZNE | eL | | 22 | – | | | | |
| | | F | | 55 | – | | | | |
| 2 | ZV, | e | 00 | 51 | – | | | | Very small. |
| | | F | | 55 | – | | | | |
| 3 | ZV,ZNE | e | 07 | 21 | 01 | | | | |
| | ZNE | eL | | 25 | – | | | | |
| | | F | | 40 | – | | | | |
| 7 | ZNE | e | 05 | 52 | – | | | | Small. |
| | | F | 06 | 05 | – | | | | |
| 7 | Z | e | 07 | 06 | 44 | | | | |
| | NE | e | | 20 | 44 | | | | |
| | ZNE | eL | | 51 | – | | | | |
| | | F | 09 | 00 | – | | | | |
| 7 | ZNE | e | 10 | 53 | – | | | | Small. |
| | | F | 11 | 10 | – | | | | |
| 9 | Z | iP | 06 | 20 | 07 | | | 6,055 | eNE. |
| | ZNE | ePPP | | 23 | 38 | | | | Gulf of Aden. |
| | NE | iS | | 27 | 45 | | | | |
| | ZNE | eSP | | 27 | 58 | | | | |
| | ZNE | eSS | | 31 | 34 | | | | |
| | ZNE | eL | | 35 | – | | | | |
| | N | M | | 42 | 51 | 18 | -3 | | |
| | | F | 07 | 35 | – | | | | |
| 9 | ZNE | e | 09 | 40 | – | | | | Earlier phases lost in changing of charts. |
| | | F | 10 | 10 | – | | | | |

Form 3717.

1 2

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

MAY, 19 50

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 9 | ZV,ZNE | iP | 11 | 24 | 54 | | | 4,730 | Turkmen |
| | ZNE | i | | 25 | 02 | | | | 41°N, 58°E. (U.S.C.G.S.) |
| | ZNE | iPP | | 26 | 40 | | | | |
| | ZNE | eS | | 31 | 15 | | | | |
| | NE | eSS | | 34 | 04 | | | | |
| | ZNE | i | | 34 | 22 | | | | |
| | ZNE | eL | | 39 | - | | | | |
| | N | M | | 45 | 39 | 17 | +17 | | |
| | E | M | | 45 | 55 | 15 | -8 | | |
| | Z | M | | 48 | 50 | 15 | -10 | | |
| | | F | 13 | 20 | - | | | | |
| 10 | ZNE | e | 02 | 15 | - | | | | Small. |
| | | F | | 25 | - | | | | |
| 10 | ZNE | e | 22 | 40 | - | | | | |
| | | F | | 50 | - | | | | |
| 10/11 | ZV,ZNE | eP | 23 | 51 | 23 | | | 8,430 | |
| | ZV,ZNE | ePP | | 54 | 18 | | | | |
| | NE | eS | 00 | 01 | 08 | | | | |
| | NE | ePS | | 01 | 24 | | | | |
| | ZNE | eL | | 13 | - | | | | |
| | N | M | | 24 | 06 | 19 | +16 | | |
| | E | M | | 24 | 42 | 15 | +18 | | |
| | | F | 03 | 00 | - | | | | |
| 13 | ZNE | e | 01 | 25 | - | | | | |
| | | F | | 55 | - | | | | |
| 13 | ZNE | e | 18 | 55 | - | | | | Small. |
| | | F | 20 | 00 | - | | | | |
| 14 | ZNE | e | 04 | 59 | 26 | | | | Small. |
| | | F | 05 | 25 | - | | | | |
| 17 | ZNE | e | 05 | 44 | 33 | | | | |
| | NE | e | | 49 | 23 | | | | |
| | ZNE | eL | 06 | 03 | - | | | | |
| | | F | | 50 | - | | | | |
| 17 | ZV,Z | iP | 11 | 58 | 00 | | | 9300 | Compression. |
| | ZV,Z | ipP | 12 | 00 | 00 | | | | Sea of Japan. 39°N, 130½°E. |
| | ZE | iS | | 07 | 11 | | | | Depth about 600 Km. |
| | E | esS | | 10 | 49 | | | | (U.S.C.G.S.) |
| | ZNE | eL | | 28 | - | | | | Records very faint. |
| | | F | | 50 | - | | | | |
| 17 | ZV,Z | iPKP | 18 | 32 | 57 | | | (16,000) | |
| | ZV, | i | | 33 | 13 | | | | |
| | ZV, | i | | 33 | 42 | | | | |
| | ZV, | i | | 34 | 36 | | | | |
| | NE | e | | 56 | 33 | | | | |
| | ZNE | eL | 19 | 16 | - | | | | |
| | E | M | | 39 | 36 | 20 | +10 | | Records very faint. |
| | | F | 21 | 10 | - | | | | New Hebrides Islands region. |
| | | | | | | | | | 20°S, 169°E. (U.S.C.G.S.) |

FORM 3718.

M.9. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

MAY, 19 50

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| V 19 | ZV,Z | iPKP | 02 | 57 | 56 | | | (16,500) | Compression. |
| | ZNE | i | | 58 | 02 | | | | New Hebrides Islands region. |
| | ZN | e | | 59 | 10 | | | | 20½°S, 169°E. (U.S.C.G.S.) |
| | ZN | ePP | 03 | 01 | 33 | | | | |
| | Z | e(SP) | | 12 | 02 | | | | |
| | NE | eSS | | 20 | 49 | | | | |
| | ZNE | eL | | 47 | - | | | | |
| | N | M | 04 | 06 | 24 | 20 | +5 | | |
| | Z | M | | 06 | 48 | 19 | -6 | | |
| | | F | 06 | 00 | - | | | | |
| V 19 | Z | ePKP | 07 | 25 | 18 | | | (16,500) | Probably repetition. |
| | ZV,ZNE | i | | 25 | 22 | | | | |
| | Z | e | | 26 | 42 | | | | |
| | ZN | ePP | | 28 | 53 | | | | |
| | NE | eSS | | 48 | 03 | | | | |
| | N | e | 08 | 05 | 21 | | | | |
| | ZNE | eL | | 16 | - | | | | |
| | Z | M | | 34 | 17 | 18 | +3 | | |
| | | F | 10 | 20 | - | | | | |
| 20 | Z | eP | 09 | 44 | 58 | | | (11,000) | |
| | Z | e | | 45 | 28 | | | | |
| | ZNE | ePPP | | 51 | 03 | | | | |
| | N | e | | 53 | 54 | | | | |
| | ZNE | e(SKKS) | | 56 | 24 | | | | |
| | NE | eSS | 10 | 03 | 40 | | | | |
| | E | eSSS | | 07 | 38 | | | | |
| | ZNE | eL | | 12 | - | | | | |
| | | F | 11 | 30 | - | | | | |
| 21 | ZNE | e | 19 | 25 | - | | | | |
| | | F | | 40 | - | | | | |
| 21 | ZNE | e | 23 | 05 | - | | | | |
| | | F | | 15 | - | | | | |
| 21/22 | ZNE | e(PPP) | 23 | 34 | 25 | | | | |
| | Z | e(SKS) | | 35 | 04 | | | | |
| | ZNE | eL | 00 | 36 | - | | | | Small. |
| | | F | 01 | 25 | - | | | | |
| 23 | ZNE | e | 13 | 02 | - | | | | Small. |
| | | F | | 30 | - | | | | |
| 24 | ZV,Z | i | 04 | 15 | 42 | | | | |
| | NE | e | | 16 | 13 | | | | |
| | NE | e | | 26 | 42 | | | | |
| | ZNE | eL | 05 | 11 | - | | | | |
| | | F | 06 | 15 | - | | | | |
| 25 | ZNE | e | 13 | 50 | - | | | | Small. |
| | | F | | 55 | - | | | | |
| V 25 | ZV,ZNE | e (P) | 18 | 54 | 10 | | | (12,000) | Possibly deeper focus |
| | ZV,ZNE | i | | 54 | 26 | | | | than normal. |
| | ZNE | e | | 56 | 38 | | | | |
| | ZNE | i (PP) | | 59 | 40 | | | | |
| | ZNE | e SKS | 19 | 04 | 52 | | | | |

FORM 3718.

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

MAY, 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| contd. | | | | | | | | | |
| 25 | ZNE | ePPS | 19 | 09 | 44 | | | | |
| | NE | eSS | | 14 | 00 | | | | |
| | ZNE | eSSS | | 19 | 36 | | | | |
| | ZNE | eL | | 23 | - | | | | |
| | N | M | | 31 | 47 | 33 | +13 | | |
| | E | M | | 32 | 36 | 26 | -14 | | |
| | | F | 21 | 20 | - | | | | |
| 26 | ZV,ZNE | iPKP | 01 | 36 | 54 | | | (17,500) | Compression Multiple shock. |
| | ZV,ZNE | i | | 37 | 12 | | | | |
| | ZV,ZNE | i | | 37 | 26 | | | | |
| | ZV,ZNE | e | | 38 | 06 | | | | |
| | ZV,ZNE | e | | 39 | 02 | | | | |
| | ZV,ZNE | ePP | | 40 | 38 | | | | |
| | ZV,ZNE | eSKKS | | 48 | 18 | | | | |
| | ZNE | e | | 50 | 33 | | | | |
| | ZNE | iSS | | 59 | 40 | | | | Large. |
| | ZNE | i | 02 | 09 | 54 | | | | |
| | ZNE | eL | | 18 | - | | | | |
| | N | M | | 42 | 07 | 23 | -40 | | |
| | E | M | | 43 | 44 | 20 | +22 | | |
| | Z | M | | 45 | 30 | 21 | -31 | | |
| | | F | 06 | 05 | - | | | | |
| 26 | Z | e(PKP) | 18 | 59 | 04 | | | | |
| | Z | e | 18 | 00 | 10 | | | | |
| | ZNE | eL | | 54 | - | | | | Small. |
| | | F | 19 | 55 | - | | | | |
| 27 | ZV,ZNE | eP | 12 | 59 | 12 | | | | |
| | ZV,ZNE | e | 13 | 00 | 06 | | | | |
| | ZNE | eL | | 30 | - | | | | |
| | Z | M | | 23 | 32 | 18 | +1 | | |
| | | F | 15 | 10 | - | | | | |
| 28 | ZV,NE | ePKP | 01 | 56 | 31 | | | | No Z record. |
| | NE | ePP | 02 | 00 | 14 | | | | |
| | N | e | | 06 | 02 | | | | |
| | NE | e(PPS) | | 14 | 58 | | | | |
| | NE | eL | | 50 | - | | | | |
| | E | M | 03 | 04 | 30 | 20 | +4 | | |
| | | F | 04 | 20 | - | | | | |
| 30 | Z | e | 10 | 03 | 15 | | | | Small. |
| | ZNE | eL | | 09 | - | | | | |
| | | F | | 20 | - | | | | |
| 30 | ZV,Z | iPKP | 15 | 22 | 41 | | | | eNE |
| | ZV,ZNE | ePP | | 25 | 05 | | | | |
| | ZNE | ePKS | | 26 | 07 | | | | |
| | ZNE | eL | 16 | 08 | - | | | | |
| | | F | | 30 | - | | | | |
| 31 | Z | eP | 13 | 26 | 01 | | | (11,000) | |
| | Z | eSKS | | 36 | 29 | | | | |
| | ZNE | ePS | | 38 | 03 | | | | |
| | ZNE | eL | | 55 | - | | | | |
| | Z | M | 14 | 10 | 49 | 16 | +5 | | |
| | | F | 15 | 30 | - | | | | |



DS 4/480-1.R139.150.6/50.C.L.

M.O. 554

AIR MINISTRY, METEOROLOGICAL OFFICE



# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN FOR JUNE, 1950

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

| COMPONENT. | DATE FROM WHICH CONSTANTS APPLY. | GALVANOMETER FREE PERIOD $T_1$ | PENDULUM FREE PERIOD T. | DAMPING CONSTANT $\mu 2$. | $\frac{Ak}{\pi^l}$ |
|---|---|---|---|---|---|
| N. | 22 July, 1949 | 21.6 sec. | 23.2 sec. | - 0.06 | 52.1 sec$^{-1}$ |
| E. | 22 April, 1949 | 17.8 | 18.3 | + 0.04 | 70.8 |
| Z. | 20 May, 1949 | 14.2 | 12.5 | - 0.05 | 133. |

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.
TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.
SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. $\mu$ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 4 | ZNE | e | 02 | 45 | - | | | | Small. |
| | | F | 03 | 00 | - | | | | |
| 4 | EZ | e(P) | 08 | 00 | 14 | | | | No N-S record. |
| | EZ | e | | 04 | 57 | | | | |
| | E | e | | 13 | 10 | | | | |
| | EZ | eL | | 17 | - | | | | |
| | | F | 09 | 30 | - | | | | |
| 4 | Z | ePKP | 15 | 37 | 55 | | | (16,300) | Loyalty Islands region. |
| | ZNE | ePP | | 40 | 14 | | | | 21°S., 170½°E. Depth about |
| | Z | e(SKS) | | 46 | 08 | | | | 100 Km. (U.S.C.G.S.). |
| | | F | 16 | 20 | - | | | | No surface waves |
| 5 | ZV, | eP | 11 | 23 | 24 | | | (4,200) | North Polar region. |
| | ZV, | ePP | | 25 | 15 | | | | 87°N., 45°E. (U.S.C.G.S.). |
| | ZNE | eL | | 40 | - | | | | |
| | | F | 12 | 30 | - | | | | |
| 7 | ZV,ZNE | iP | 17 | 05 | 00 | | | 9,000 | Dilatation. |
| | ZV,ZNE | ipP | | 05 | 30 | | | | Northern Peru. 4°S, 76½°W. |
| | ZV,Z | iPP | | 08 | 24 | | | | Depth about 100 Km. |
| | ZV,ZNE | iS | | 15 | 13 | | | | (U.S.C.G.S.). |
| | ZV,ZNE | iPS | | 16 | 10 | | | | |
| | ZV,ZNE | ePPS | | 17 | 08 | | | | |
| | ZNE | eSS | | 20 | 56 | | | | |
| | ZNE | eL | | 25 | - | | | | |
| | N | M | | 34 | 05 | 22 | +2 | | |
| | | F | 19 | 45 | - | | | | |
| 8 | ZV,Z | iP | 16 | 21 | 09 | | | 10,945 | Compression. eNE. |
| | ZNE | ePP | | 24 | 58 | | | | South of Tristan da Cunha |
| | NE | eSKS | | 31 | 48 | | | | 45½°S., 15°E.(U.S.C.G.S.). |
| | NE | iS | | 32 | 46 | | | | |
| | ZNE | ePPS | | 34 | 38 | | | | |

Form 3717.

DS 4315-5/1

# KEW OBSERVATORY, RICHMOND, SURRE

## SEISMOLOGICAL BULLETIN.

JUNE, 19 50

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| contd. | | | | | | | | | |
| 8 | ZNE | eSS | 16 | 39 | 12 | | | | |
| | NE | eSSS | | 42 | 28 | | | | |
| | ZNE | eL | | 47 | – | | | | |
| | N | M | | 58 | 00 | 30 | +17 | | |
| | N | M | | 03 | 53 | 17 | -10 | | |
| | Z | M | | 03 | 56 | 17 | -9 | | |
| | | F | 19 | 30 | – | | | | |
| 11 | ZNE | eL | 04 | 20 | – | | | | |
| | N | M | | 28 | 55 | 18 | +2 | | |
| | | F | | 55 | – | | | | |
| 11 | ZV,ZNE | e | 14 | 00 | 08 | | | | Small. |
| | | F | | 15 | – | | | | |
| 11 | ZNE | e | 18 | 05 | – | | | | Small. |
| | | F | | 30 | – | | | | |
| 11 | ZNE | e | 21 | 10 | – | | | | Small. |
| | | | | 25 | – | | | | |
| 11 | ZV,ZNE | ePKP | 22 | 31 | 09 | | | (17,000) | |
| | NE | eSKKS | | 41 | 21 | | | | |
| | ZNE | e | | 43 | 10 | | | | |
| | NE | ePS | | 46 | 00 | | | | Later records lost. |
| | ZNE | eSS | | 56 | 53 | | | | Galitzins failed from |
| | | F | – | – | – | | | | 11d 23h 12m to 12d 09h 25m. |
| 12 | ZNE | e | 15 | 15 | – | | | | Small. |
| | | F | 16 | 00 | – | | | | |
| 14 | ZV,ZNE | ePKP | 04 | 03 | 53 | | | (17,500) | |
| | ZV,ZNE | e | | 04 | 09 | | | | |
| | ZV,ZNE | e | | 05 | 00 | | | | |
| | ZV,ZNE | ePP | | 07 | 18 | | | | |
| | ZNE | e(SSS) | | 33 | 06 | | | | |
| | Z | e | | 33 | 54 | | | | |
| | ZNE | eL | | 47 | – | | | | |
| | N | M | 05 | 02 | 06 | 23 | +2 | | |
| | | F | 06 | 30 | – | | | | |
| 14 | ZNE | e | 07 | 50 | – | | | | Small. |
| | | F | 08 | 30 | – | | | | |
| 15 | ZNE | e | 07 | 40 | – | | | | Small. |
| | | F | 08 | 25 | – | | | | |
| 17/18 | ZV,Z | iP | 22 | 50 | 10 | | | 11,310 | Compression. |
| | ZV,Z | i | | 50 | 26 | | | | |
| | ZNE | eSKS | 23 | 00 | 23 | | | | |
| | ZNE | iSKKS | | 00 | 56 | | | | |
| | ZNE | i(ScS) | | 01 | 05 | | | | |
| | ZNE | eS | | 02 | 00 | | | | |
| | ZNE | eSS | | 08 | 19 | | | | |
| | ZNE | eSSS | | 13 | 21 | | | | |
| | ZNE | eL | | 15 | – | | | | |
| | N | M | | 32 | 52 | 18 | +3 | | |
| | | F | 00 | 15 | – | | | | |



DS 4315-5/1

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

JUNE, 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 18 | ZNE | e | 11 | 01 | – | | | | Small. |
| | | F | | 15 | – | | | | |
| √18 | ZV,ZNE | e | 13 | 07 | 00 | | | | |
| | NE | e | | 08 | 15 | | | | |
| | NE | e | | 12 | 15 | | | | |
| | ZNE | eL | | 20 | – | | | | |
| | N | M | | 29 | 16 | 17 | +2 | | |
| | | F | 14 | 25 | – | | | | |
| √19 | ZV,Z | ePP | 12 | 55 | 57 | | | (12,000) | |
| | ZV,Z | ePPP | | 58 | 26 | | | | |
| | Z | ePS | | 05 | 47 | | | | |
| | Z | ePPS | | 07 | 00 | | | | |
| | NE | eSSS | | 26 | 03 | | | | |
| | ZNE | eL | | 30 | – | | | | |
| | E | M | | 35 | 25 | 33 | -14 | | |
| | N | M | | 36 | 00 | 30 | +18 | | |
| | | F | 16 | 20 | – | | | | |
| 20 | ZV,Z | e | 14 | 16 | 56 | | | | Small. |
| | Z | e | | 22 | 13 | | | | |
| | | F | | 50 | – | | | | |
| √21 | ZV,ZNE | iPKP 1 | 07 | 15 | 24 | | | (17,000) | Compression. |
| | ZV,ZNE | iPKP 2 | | 15 | 29 | | | | New Hebrides Islands region. |
| | ZV,ZNE | e | | 15 | 46 | | | | 21°S., 169°E. (U.S.C.G.S.). |
| | ZV,Z | i | | 16 | 39 | | | | |
| | ZNE | ePP | | 18 | 56 | | | | |
| | ZNE | ePPP | | 29 | 30 | | | | > 180°. |
| | ZNE | e | | 38 | 12 | | | | |
| | ZNE | eL | | 45 | – | | | | |
| | N | M | 08 | 22 | 11 | 21 | +25 | | |
| | Z | M | | 22 | 26 | 21 | +16 | | |
| | E | M | | 24 | 18 | 20 | +7 | | |
| | | F | – | – | – | | | | Overlapped by next shock |
| √21 | ZNE | ePKP | 10 | 16 | 55 | | | 13,500 | Off north east coast of |
| | Z | ePP | | 18 | 40 | | | | New Guinea. 3½°S, 147°E. |
| | ZNE | ePKKP | | 26 | 58 | | | | (U.S.C.G.S.). |
| | NE | ePPS | | 29 | 06 | | | | |
| | NE | eSSS | | 40 | 00 | | | | |
| | ZE | e | | 45 | 12 | | | | |
| | ZNE | eL | | 47 | – | | | | |
| | N | M | | 59 | 38 | 28 | +9 | | |
| | Z | M | 11 | 09 | 12 | 22 | -5 | | |
| | | F | – | – | – | | | | Overlapped by next shock. |
| 21 | ZNE | e | 12 | 40 | – | | | | |
| | | F | 13 | 25 | – | | | | |
| 22 | E | e | 01 | 53 | 22 | | | | |
| | ZNE | eL | | 57 | – | | | | |
| | | F | 02 | 20 | – | | | | |
| √24/25 | ZV,ZNE | iPKP | 22 | 45 | 14 | | | (16500) | Compression. |
| | ZV,ZNE | i | | 45 | 21 | | | | |
| | ZV,ZNE | i | | 46 | 25 | | | | |
| | ZV,ZNE | iPP | | 48 | 52 | | | | |
| | NE | e | | 49 | 34 | | | | |

FORM 3718.

DS 42155/1

M.O. 534

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# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

JUNE, 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLI-TUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| contd. | | | | | | | | | |
| 24/25 | NE | eSKKS | | 55 | 26 | | | | |
| | NE | eSKSP | | 59 | 00 | | | | |
| | ZNE | e(SS) | 23 | 07 | 56 | | | | |
| | Z | i(SSS) | | 12 | 38 | | | | |
| | ZNE | eL | | 25 | - | | | | |
| | Z | M | | 52 | 25 | 22 | -28 | | |
| | N | M | | 52 | 43 | 21 | +32 | | |
| | E | M | | 53 | 57 | 20 | -12 | | |
| | | F | 02 | 25 | - | | | | |
| 25 | ZV, | eP | 11 | 20 | 54 | | | (11,500) | |
| | ZV,Z | ePP | | 24 | 51 | | | | |
| | ZV,Z | iPS | | 33 | 52 | | | | |
| | ZV,Z | iPPS | | 34 | 53 | | | | |
| | NE | e(SSS) | | 44 | 58 | | | | |
| | ZNE | eL | | 50 | - | | | | |
| | N | M | 12 | 04 | 27 | 20 | -5 | | |
| | Z | M | | 17 | 16 | 18 | +3 | | |
| | | F | 13 | 40 | - | | | | |
| 27 | ZNE | e | 02 | 35 | - | | | | Small. |
| | | F | 03 | 00 | - | | | | |
| 27 | ZV,Z | iP | 15 | 53 | 53 | | | 8,780 | Compression. eNE. |
| | ZN,Z | i | | 54 | 00 | | | | |
| | ZN | ePP | | 56 | 54 | | | | |
| | ZNE | i(PPP) | | 59 | 54 | | | | |
| | ZNE | iS | 16 | 03 | 55 | | | | |
| | ZNE | iSKS | | 04 | 35 | | | | |
| | NE | e | | 06 | 42 | | | | |
| | NE | eSS | | 09 | 52 | | | | |
| | ZNE | eL | | 18 | - | | | | |
| | E | M | | 28 | 19 | 17 | +10 | | |
| | N | M | | 28 | 30 | 17 | +11 | | |
| | Z | M | | 36 | 45 | 13 | +8 | | |
| | | F | 17 | 50 | - | | | | |
| 28 | ZV, | i | 23 | 30 | 49 | | | | Not very distant. |
| | ZV,ZNE | i | | 31 | 52 | | | | |
| | ZV,ZNE | i | | 32 | 01 | | | | |
| | | F | | 35 | - | | | | |
| 29 | ZNE | e | 00 | 03 | - | | | | |
| | | F | | 55 | - | | | | |

FORM 3718

DS 43165/1/R 139 150 7/50 CL

M.S. 534



# AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

## KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN FOR JULY, 1950

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

| COMPONENT. | DATE FROM WHICH CONSTANTS APPLY. | GALVANOMETER FREE PERIOD $T_1$ | PENDULUM FREE PERIOD T. | DAMPING CONSTANT $\mu 2$. | $\frac{Ak}{\pi l}$ |
|---|---|---|---|---|---|
| | | sec. | sec. | | sec$^{-1}$ |
| N. | 22 July, 1949 | 21.6 | 23.2 | -0.06 | 52.1 |
| E. | 22 April, 1949 | 17.8 | 18.3 | +0.04 | 70.8 |
| Z. | 20 May, 1949 | 14.2 | 12.5 | -0.05 | 133. |

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.
TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.
SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 2/3 | ZV,Z | eP | 23 | 01 | 17 | | | | |
| | ZNE | eL | | 27 | - | | | | Central Columbia |
| | | F | 00 | 15 | - | | | | 4°N, 73½°W. (U.S.C.G.S). |
| 3 | Z | ePKP | 10 | 20 | 57 | | | (12000) | |
| | ZV,Z | iPP | | 22 | 52 | | | | Caroline Islands Region. |
| | ZNE | ePPP | | 25 | 01 | | | | 8°N, 141½°E. (U.S.C.G.S.) |
| | NE | eSS | | 38 | 21 | | | | |
| | NE | e | | 49 | 23 | | | | |
| | NE | $eL_Q$ | | 53 | - | | | | |
| | ZNE | $eL_R$ | | 59 | - | | | | |
| | E | M | 11 | 01 | 39 | 30 | +17 | | |
| | N | M | | 02 | 36 | 25 | -18 | | |
| | Z | M | | 09 | 19 | 19 | +5 | | |
| | | F | 12 | 50 | - | | | | |
| 3 | ZNE | e | 13 | 50 | - | | | | |
| | | F | 14 | 10 | - | | | | Small. |
| 5 | ZV,Z | ePKP | 03 | 54 | 47 | | | (16000) | |
| | Z | ePP | | 58 | 11 | | | | New Hebrides. |
| | Z | e | 04 | 03 | 17 | | | | 19°S, 168°E. (U.S.C.G.S) |
| | ZNE | eL | | 53 | - | | | | |
| | | F | 05 | 55 | - | | | | |
| 6 | ZNE | e | 07 | 23 | 54 | | | | |
| | ZNE | eL | | 30 | - | | | | Small. |
| | | F | | 55 | - | | | | |
| 7 | Z | ePKP | 17 | 06 | 19 | | | (15,000) | |
| | Z | e | | 06 | 40 | | | | Solomon Islands Region. |
| | ZNE | ePP | | 08 | 59 | | | | 11°S, 163½°E. (U.S.C.G.S |
| | Z | eSKKS | | 16 | 23 | | | | |
| | ZNE | e | | 18 | 07 | | | | |
| | ZNE | e(SKSP) | | 19 | 55 | | | | |

Form 3717.

M.O. 534



# KEW OBSERVATORY, RICHMOND, SURREY, ENG

## SEISMOLOGICAL BULLETIN.

JULY, 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 7 | Z | e(SS) | 17 | 30 | 05 | | | | |
| | ZNE | e | | 39 | 35 | | | | |
| | ZNE | eL | | 50 | - | | | | |
| | N | M | 18 | 08 | 55 | 27 | +4 | | |
| | | F | 20 | 05 | - | | | | |
| 8 | ZNE | e | 07 | 15 | - | | | | |
| | | F | | 40 | - | | | | |
| 9 | ZV, ZN | eP | 00 | 37 | 53 | | | 6020 | |
| | Z | $eP_cP$ | | 38 | 54 | | | | |
| | NE | eS | | 45 | 29 | | | | |
| | NE | $eS_cS$ | | 47 | 57 | | | | |
| | NE | eSS | | 49 | 25 | | | | |
| | ZNE | eL | | 53 | - | | | | |
| | N | M | 01 | 05 | 03 | 22 | -5 | | Overlapped by next shock. |
| | | F | - | - | - | | | | |
| 9 | ZN | e(PP) | 01 | 58 | 57 | | | (15,000) | |
| | Z | e | 02 | 00 | 01 | | | | |
| | ZNE | eSKP | | 03 | 49 | | | | |
| | ZNE | eSS | | 18 | 05 | | | | |
| | ZNE | eL | | 40 | - | | | | Overlapped by next shock. |
| | | F | - | - | - | | | | |
| 9 | Z | e(P) | 03 | 43 | 42 | | | | Confused by coda of previous shock. |
| | ZE | e | | 46 | 45 | | | | |
| | | F | 04 | 20 | - | | | | |
| 9 | ZV, ZNE | iP | 04 | 51 | 34 | | | 9,700 | Dilatation. |
| | ZV, ZNE | ipP | | 53 | 50 | | | | Western Brazil. |
| | Z | e | | 57 | 54 | | | | $8\frac{1}{2}$°S, 71°W. |
| | ZE | e | | 58 | 53 | | | | Depth about 600Km.(U.S.C.G.S) |
| | ZNE | iSKS | 05 | 00 | 57 | | | | Probably more than one shock. |
| | ZNE | eSP | | 02 | 10 | | | | |
| | ZNE | ePS | | 03 | 13 | | | | |
| | ZNE | esS | | 05 | 33 | | | | |
| | ZNE | eSS | | 07 | 03 | | | | |
| | ZNE | esSS | | 10 | 33 | | | | |
| | NE | i | | 13 | 55 | | | | |
| | NE | e | | 20 | 33 | | | | |
| | ZNE | eL | | 23 | - | | | | |
| | N | M | | 27 | 46 | 18 | -4 | | |
| | | F | 07 | 25 | - | | | | |
| 9 | ZNE | iP | 09 | 56 | 37 | | | 9,700 | Dilatation. |
| | Z | ipP | | 58 | 51 | | | | Approximate repetition. |
| | ZNE | isP | | 59 | 51 | | | | |
| | ZNE | iSKS | 10 | 06 | 09 | | | | |
| | E | iSKKS | | 06 | 31 | | | | |
| | ZNE | eS | | 07 | 12 | | | | |
| | ZNE | epS | | 10 | 05 | | | | |
| | ZNE | eSS | | 15 | 35 | | | | |
| | NE | e | | 19 | 05 | | | | |
| | ZNE | eL | | 21 | - | | | | Poorly developed. |
| | Z | i | | 25 | 13 | | | | Possibly another shock. |
| | | F | 11 | 00 | - | | | | |

FORM 3718.

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

JULY, 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 9 | ZNE | iP | 16 | 19 | 05 | | | 5800 | Compression. |
| | ZE | isP | | 20 | 17 | | | | eN. |
| | ZNE | ePPP | | 21 | 58 | | | | Pakistan. |
| | ZNE | iS | | 26 | 08 | | | | 36°N, 72°E.(U.S.C.G.S). |
| | NE | isS | | 27 | 29 | | | | Depth about 200Km. |
| | ZNE | i | | 27 | 43 | | | | |
| | ZNE | eSS | | 29 | 57 | | | | |
| | ZNE | eL | | 33 | - | | | | |
| | N | M | | 41 | 04 | 21 | +6 | | |
| | | F | 17 | 35 | - | | | | |
| 9 | ZNE | e | 20 | 10 | - | | | | Small. |
| | | F | | 30 | - | | | | |
| 10 | Z | eP | 05 | 46 | 56 | | | 8,870 | |
| | NE | eS | | 57 | 03 | | | | |
| | NE | eSS | 06 | 01 | 49 | | | | |
| | ZNE | eL | | 07 | - | | | | |
| | | F | 07 | 30 | - | | | | |
| 12 | ZV, ZN | eP | 11 | 21 | 00 | | | 8,620 | Aleutian Islands Region. |
| | ZNE | ePP | | 23 | 53 | | | | 53°N, 166°W. (U.S.C.G.S). |
| | NE | eS | | 30 | 55 | | | | |
| | NE | ePS | | 31 | 16 | | | | |
| | ZNE | eL | | 40 | - | | | | |
| | N | M | 12 | 00 | 16 | 18 | -3 | | |
| | | F | 14 | 00 | | | | | |
| 12 | ZNE | e | 16 | 20 | - | | | | Small. |
| | | F | 17 | 10 | - | | | | |
| 13 | ZV, Z | i(pP) | 04 | 18 | 08 | | | (10,300) | Bonin Islands Region. |
| | NE | e(SKS) | | 26 | 04 | | | | 27½°N. 139½°W. |
| | NE | i(S) | | 26 | 36 | | | | Depth about 500 Km. |
| | NE | i(SP) | | 26 | 41 | | | | (U.S.C.G.S). |
| | NE | e(sS) | | 29 | 57 | | | | |
| | NE | e(SS) | | 33 | 12 | | | | |
| | ZNE | eL | | 36 | - | | | | |
| | | F | 05 | 50 | - | | | | |
| 17 | ZNE | e | 00 | 51 | - | | | | Small. |
| | | F | 01 | 05 | - | | | | |
| 17 | ZNE | e | 20 | 38 | - | | | | Small. |
| | | F | 21 | 00 | - | | | | |
| 18 | ZV, Z | eP | 01 | 45 | 31 | | | (10,500) | Doubtful. |
| | NE | e(S) | | 56 | 51 | | | | |
| | ZNE | eL | 02 | 18 | - | | | | |
| | E | M | | 22 | 45 | 22 | +2 | | |
| | | F | | 55 | - | | | | |
| 18 | ZV, | e | 16 | 48 | 55 | | | | Doubtful. |
| | E | e | | 58 | 52 | | | | |
| | ZNE | e | 17 | 01 | 31 | | | | |
| | NE | e | | 11 | 41 | | | | |
| | ZNE | eL | | 15 | - | | | | |
| | N | M | | 29 | 37 | 22 | +3 | | |
| | | F | 18 | 00 | - | | | | |

FORM 3718.

M.O. 534



# KEW OBSERVATORY, RICHMOND, SURREY, E[illegible]

## SEISMOLOGICAL BULLETIN.

JULY, 19 50

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 19 | ZNE | e | 05 | 42 | - | | | | Small. |
| | | F | 06 | 05 | - | | | | |
| 19 | ZNE | e | 11 | 37 | - | | | | Small. |
| | | F | 12 | 05 | - | | | | |
| 19 | ZNE | e | 13 | 40 | - | | | | Small. |
| | | F | 14 | 05 | - | | | | |
| 20 | ZV,Z | iPKP | 09 | 50 | 24 | | | (16000) | Dilatation. |
| | ZV,Z | ePP | | 53 | 48 | | | | Fiji Islands Region |
| | NE | eSKKS | 10 | 00 | 44 | | | | 17°S, 174°E. (U.S.C.G.S). |
| | NE | eSKSP | | 03 | 49 | | | | |
| | NE | eSS | | 11 | 52 | | | | |
| | NE | eSSS | | 17 | 52 | | | | |
| | ZNE | eL | | 27 | - | | | | |
| | N | M | | 43 | 25 | 30 | +16 | | |
| | | F | 12 | 30 | - | | | | |
| 20 | ZNE | e | 17 | 40 | - | | | | Small. |
| | | F | 18 | 15 | - | | | | |
| 21 | Z | e | 07 | 38 | 52 | | | | Small. |
| | ZNE | eL | 08 | 35 | - | | | | |
| | | F | 09 | 05 | - | | | | |
| 21 | ZV,Z | iPKP$_1$ | 20 | 51 | 35 | | | (16000) | Dilatation. eNE. |
| | ZV,Z | ePKP$_2$ | | 52 | 08 | | | | New Hebrides Islands Region. |
| | NE | ePP | | 55 | 18 | | | | 15½°S. 168½°E. (U.S.C.G.S). |
| | NE | eSS | 21 | 13 | 36 | | | | |
| | NE | ePSS | | 15 | 12 | | | | |
| | NE | eSSS | | 19 | 12 | | | | |
| | ZNE | eL | | 33 | - | | | | |
| | N | M | | 47 | 20 | 25 | +6 | | |
| | | F | 23 | 25 | - | | | | |
| 22/23 | ZV,ZNE | ePKP$_1$ | 23 | 30 | 20 | | | | |
| | ZV,Z | ePKP$_2$ | | 30 | 52 | | | | |
| | NE | eL | 00 | 15 | - | | | | |
| | | F | 01 | 30 | - | | | | |
| 24 | ZNE | e | 13 | 40 | - | | | | Small. |
| | | F | 14 | 30 | - | | | | |
| 25 | ZV,ZE | eP | 18 | 22 | 14 | | | 4,165 | |
| | NE | ePP | | 23 | 36 | | | | |
| | ZNE | eS | | 28 | 02 | | | | |
| | NE | eSS | | 30 | 48 | | | | |
| | ZNE | eL | | 33 | - | | | | |
| | N | M | | 34 | 03 | 17 | -2 | | |
| | | F | 19 | 20 | - | | | | |
| 28 | ZV,Z | ePKP | 05 | 14 | 47 | | | (15,000) | |
| | NE | ePP | | 18 | 14 | | | | |
| | ZNE | e | | 19 | 18 | | | | |
| | NE | eSKS | | 24 | 20 | | | | |
| | NE | eL | | 52 | - | | | | |
| | N | M | 06 | 16 | 28 | 22 | +2 | | |
| | | F | 07 | 45 | - | | | | |

FORM 3718.

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

JULY, 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 28 | NE | e | 18 | 20 | – | | | | |
| | NE | eL | | 30 | – | | | | |
| | | F | | 55 | – | | | | |
| 29 | NE | eL | 15 | 15 | – | | | | Traces on Z. |
| | | F | | 50 | – | | | | |
| 29 | ZV,Z | eP | 17 | 03 | 16 | | | 10,110 | |
| | ZV,ZNE | eS | | 14 | 19 | | | | |
| | ZV,ZNE | ePS | | 15 | 22 | | | | |
| | NE | eSS | | 20 | 20 | | | | |
| | ZNE | eL | | 30 | – | | | | |
| | E | M | | 46 | 44 | 23 | +3 | | |
| | | F | 19 | 20 | – | | | | |
| 30 | ZV,Z | i(PKP) | 00 | 08 | 08 | | | (14,000) | eNE. |
| | ZV,ZNE | e(PP) | | 10 | 23 | | | | |
| | ZV,ZNE | i(PKS) | | 11 | 30 | | | | |
| | ZV,Z | e(PPS) | | 24 | 20 | | | | |
| | NE | e(SS) | | 30 | 10 | | | | |
| | ZNE | eL | | 38 | – | | | | |
| | N | M | | 57 | 49 | 28 | -21 | | |
| | E | M | | 58 | 36 | 25 | -7 | | |
| | | F | 03 | 10 | – | | | | |
| 31 | NE | eL | 18 | 37 | – | | | | Traces on Z. |
| | | F | 19 | 20 | – | | | | |

FORM 3718.

DS.47387-1.R139.150.8/50.C.L.

M.O. 534

# AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

## KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN FOR AUGUST, 1950

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

| COMPONENT. | DATE FROM WHICH CONSTANTS APPLY. | GALVANOMETER FREE PERIOD $T_1$ | PENDULUM FREE PERIOD T. | DAMPING CONSTANT $\mu^2$. | $\frac{Ak}{\pi^2}$ |
|---|---|---|---|---|---|
| N. | 22 July, 1949 | 21.6 sec. | 23.2 sec. | - 0.06 | 52.1 sec.$^2$ |
| E. | 22 April, 1949 | 17.8 | 18.3 | + 0.04 | 70.8 |
| Z. | 20 May, 1949 | 14.2 | 12.5 | - 0.05 | 133. |

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.
TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.
SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. $\mu$ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | NE | e | 00 | 50 | - | | | | |
| | | F | 02 | 10 | - | | | | |
| 1 | ZV,ZNE | eP | 09 | 24 | 01 | | | | Off Hokkaido, Japan. |
| | ZV, | e | | 24 | 14 | | | | 42½°N., 145°E. (U.S.C.G.S). |
| | NE | eL | | 50 | - | | | | Chart changing. |
| | N | M | | 58 | 15 | 26 | +4 | | |
| | | F | 10 | 40 | - | | | | |
| 2 | ZV,Z | iP | 11 | 09 | 09 | | | (9510) | Compression. e, NE. |
| | NE | ePPP | | 15 | 19 | | | | |
| | NE | eS | | 19 | 51 | | | | Phases doubtful. |
| | NE | eSS | | 24 | 55 | | | | |
| | ZNE | eL | | 40 | - | | | | |
| | N | M | 12 | 00 | 25 | 17 | +3 | | |
| | | F | 13 | 20 | - | | | | |
| 2 | ZV,ZNE | iP | 13 | 58 | 46 | | | 5,460 | Compression. |
| | ZV,Z | ePP | 14 | 00 | 34 | | | | e, NE. |
| | ZNE | eS | | 05 | 50 | | | | |
| | ZE | eSS | | 09 | 53 | | | | |
| | ZNE | eL | | 15 | - | | | | |
| | E | M | | 24 | 20 | 14 | -5 | | |
| | | F | 15 | 50 | - | | | | |
| 3 | ZNE | e | 07 | 00 | - | | | | Small. |
| | | F | | 20 | - | | | | |
| 3 | ZV,Z | e(P) | 15 | 45 | 52 | | | (9,035) | |
| | ZNE | e(S) | | 56 | 07 | | | | |
| | ZNE | eL | 16 | 25 | - | | | | Indefinite. |
| | | F | 17 | 30 | - | | | | |
| 3/4 | ZV,ZNE | iP | 22 | 29 | 28 | | | 7,780 | Compression. |
| | Z | ePPP | | 33 | 41 | | | | |

Form 3717.

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M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

AUGUST, 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| contd. | | | | | | | | | |
| 3/4 | ZNE | iS | 22 | 38 | 38 | | | | Northwestern Venezuela. |
| | NE | iPS | | 39 | 31 | | | | 10°N., 69½°W. (U.S.C.G.S). |
| | ZE | e(SKS) | | 40 | 34 | | | | |
| | ZNE | eL | | 43 | - | | | | |
| | N | M | | 47 | 38 | 37 | +18 | | |
| | | F | 01 | 15 | - | | | | |
| 5 | ZV,Z | iPKP1 | 09 | 36 | 59 | | | (19,000) | Compression. e, NE. |
| | ZV,Z | iPKP2 | | 38 | 15 | | | | e, NE. |
| | ZV,Z | iPKS | | 39 | 14 | | | | e, NE. |
| | ZNE | ePP | | 42 | 09 | | | | |
| | ZNE | ePPP | | 46 | 33 | | | | Auckland Islands region. |
| | ZN | eSKKS | | 47 | 49 | | | | 50°S., 164°E. (U.S.C.G.S). |
| | ZNE | eSKSP | | 52 | 39 | | | | |
| | NE | eSS | 10 | 03 | 03 | | | | |
| | ZNE | eL | | 28 | - | | | | |
| | E | M | | 59 | 35 | 19 | -12 | | |
| | Z | M | | 59 | 47 | 20 | -13 | | |
| | N | M | 11 | 00 | 59 | 18 | -14 | | |
| | | F | 12 | 45 | - | | | | |
| 7 | ZV,ZNE | eP | 02 | 59 | 00 | | | (11,500) | Off Mindanao. 6°N, 126°E. |
| | ZV,ZNE | e | | 59 | 33 | | | | (U.S.C.G.S). |
| | ZV,ZNE | ePP | 03 | 03 | 07 | | | | |
| | ZE | ePPP | | 06 | 01 | | | | |
| | NE | eSKS | | 09 | 27 | | | | |
| | NE | ePKKP | | 14 | 26 | | | | |
| | ZNE | eL | | 27 | - | | | | |
| | N | M | | 45 | 33 | 25 | -12 | | |
| | Z | M | | 49 | 10 | 18 | - 9 | | |
| | E | M | | 49 | 14 | 18 | - 7 | | |
| | | F | 06 | 10 | - | | | | |
| 7 | ZNE | e | 16 | 16 | 01 | | | | |
| | ZNE | eL | | 35 | - | | | | |
| | | F | 17 | 50 | - | | | | |
| 8 | ZNE | e | 05 | 45 | - | | | | Small. |
| | | F | 06 | 10 | - | | | | |
| 10 | ZNE | e | 20 | 25 | - | | | | Small. |
| | | F | 21 | 10 | - | | | | |
| 13 | ZNE | e | 17 | 10 | - | | | | |
| | | F | | 50 | - | | | | |
| 14/15 | ZV,Z | iP | 23 | 03 | 47 | | | (10,500) | Dilatation. e, NE. |
| | ZV, | i | | 03 | 54 | | | | |
| | Z | ipP | | 05 | 58 | | | | Northern Argentina. |
| | ZNE | esP | | 07 | 05 | | | | 27°S., 62½°W. |
| | ZV,ZNE | ePP | | 07 | 45 | | | | Depth about 700Km. |
| | ZNE | iPPP | | 10 | 48 | | | | (U.S.C.G.S.). |
| | ZNE | i(S) | | 13 | 25 | | | | |
| | N | i(SKS) | | 14 | 10 | | | | |
| | NE | isS | | 17 | 36 | | | | |
| | NE | eSS | | 19 | 32 | | | | |
| | NE | esSS | | 21 | 24 | | | | |
| | NE | eSSS | | 24 | 28 | | | | |
| | ZNE | eL | | 26 | - | | | | |
| | N | M | | 31 | 16 | 28 | +11 | | |
| | | F | 02 | 00 | - | | | | |

FORM 3718.

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

AUGUST, 19 50

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 15 | ZNE | e | 07 | 00 | - | | | | Small. |
| | | F | | 30 | - | | | | |
| 15 | ZV,ZNE | iP | 14 | 21 | 00 | | | 8,000 | Compression. |
| | ZNE | i | | 22 | 04 | | | | Clear. |
| | ZNE | iPP | | 24 | 34 | | | | Destructive around |
| | ZNE | ePPP | | 26 | 22 | | | | Assam - Tibet. |
| | NE | i | | 29 | 56 | | | | |
| | ZV,ZNE | iS | | 30 | 22 | | | | Large. |
| | ZV, | iPS | | 30 | 40 | | | | |
| | ZV, | e | | 32 | 38 | | | | |
| | ZV, | eSSS | | 37 | 04 | | | | |
| | ZV, | e(PKKP) | | 40 | 02 | | | | |
| | ZV, | eL | | 41 | - | | | | |
| | ZV, | M* | | 55 | (40) | (22) | (+28mm) | | *Short period record (ZV). Galitzins very faint and maxima exceeding 400 μ. |
| | ZV, | e | | 38 | 52 | | | | ) |
| | ZV, | e | | 44 | 58 | | | | ) |
| | ZV, | e | 15 | 02 | 44 | | | | ) |
| | ZV, | e | | 28 | 05 | | | | ) |
| | ZV, | e | | 35 | 04 | | | | ) |
| | ZV, | e | | 37 | 38 | | | | ) |
| | ZV, | e | | 40 | 38 | | | | ) |
| | ZV, | e | | 49 | 25 | | | | ) |
| | ZV, | e | 16 | 09 | 10 | | | | )Aftershocks. |
| | ZV, | e | | 40 | 56 | | | | ) |
| | ZV, | e | | 58 | 04 | | | | ) |
| | ZV, | i | 17 | 01 | 26 | | | | ) |
| | ZV, | e | | 07 | 48 | | | | ) |
| | ZV, | e | | 28 | 20 | | | | ) |
| | ZV, | e | 18 | 14 | 06 | | | | ) |
| | ZV, | e | | 50 | 08 | | | | ) |
| | ZV, | e | 21 | 13 | 03 | | | | ) |
| | ZV, | e | | 45 | 08 | | | | ) |
| | | F | - | - | - | | | | Overlapped. |
| 15 | ZV,Z | e(P) | 21 | 53 | 47 | | | 7,980 | Aftershock. |
| | ZV,Z | e | | 53 | 59 | | | | |
| | NE | eS | 22 | 03 | 08 | | | | |
| | NE | ePS | | 03 | 24 | | | | |
| | ZNE | eL | | 16 | - | | | | |
| | N | M | | 23 | 25 | 24 | +9 | | |
| | | F | - | - | - | | | | Overlapped. |
| 15/16 | ZV, | e | 23 | 56 | 03 | | | | |
| | | F | - | - | - | | | | Overlapped to about 05h. |
| 16 | ZV, | iP | 05 | 44 | 35 | | | 7,980 | Aftershock. |
| | ZV, | i | | 44 | 48 | | | | |
| | NE | eS | | 53 | 56 | | | | |
| | N | ePS | | 54 | 14 | | | | |
| | NE | eSKS | | 55 | 02 | | | | |
| | ZNE | eL | 06 | 10 | - | | | | |
| | | F | - | - | - | | | | Overlapped. |
| 16 | ZV,Z | iP | 06 | 53 | 26 | | | 8,035 | Aftershock. |
| | ZV, | i | | 53 | 48 | | | | |
| | NE | eS | 07 | 02 | 50 | | | | |
| | NE | eSKS | | 03 | 38 | | | | |

FORM 3718.

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M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

AUGUST, 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| contd. | | | | | | | | | |
| 16 | ZNE | e | 07 | 11 | 03 | | | | |
| | ZNE | eL | | 16 | - | | | | |
| | N | M | | 22 | 12 | 24 | -18 | | |
| | Z | M | | 29 | 00 | 12 | + 8 | | |
| | | F | 09 | 05 | - | | | | |
| 16 | ZNE | e | 10 | 10 | - | | | | Small. |
| | | F | | 15 | - | | | | |
| 16 | ZNE | e | 12 | 06 | - | | | | Small. |
| | | F | | 25 | - | | | | |
| 16 | ZV, | eP | 15 | 47 | 23 | | | | Aftershock. |
| | NE | eL | 16 | 06 | - | | | | |
| | ZV, | e | | 35 | 32 | | | | Probably further aftershocks. |
| | ZV, | e | | 47 | 24 | | | | |
| | | F | | 50 | - | | | | |
| 16 | ZV,Z | eP | 18 | 02 | 51 | | | 7,835 | Aftershock. |
| | NE | eS | | 12 | 04 | | | | |
| | NE | eSKS | | 12 | 58 | | | | |
| | ZNE | eL | | 25 | - | | | | |
| | | F | 19 | 30 | - | | | | |
| 16 | ZV, | e(P) | 19 | 37 | 00 | | | | |
| | ZNE | eL | 20 | 00 | - | | | | |
| | | F | | 20 | - | | | | |
| 16 | ZV, | e(P) | 20 | 22 | 52 | | | | Small. |
| | ZNE | eL | | 50 | - | | | | |
| | | F | 21 | 30 | - | | | | |
| 16/17 | ZV, | e(P) | 23 | 33 | 00 | | | | Small. |
| | ZNE | eL | 00 | 01 | - | | | | |
| | | F | | 30 | - | | | | |
| 17 | ZV,Z | eP | 02 | 05 | 36 | | | 7,925 | Aftershock. |
| | NE | eS | | 14 | 54 | | | | |
| | ZNE | eL | | 30 | - | | | | |
| | N | M | | 34 | 50 | 21 | +7 | | |
| | | F | 03 | 25 | - | | | | |
| 17 | ZNE | e | 03 | 55 | - | | | | |
| | | F | 04 | 15 | - | | | | |
| 17 | ZV, | eP | 05 | 40 | 31 | | | 8,075 | Aftershock. |
| | NE | eS | | 49 | 47 | | | | |
| | ZNE | eL | 06 | 05 | - | | | | |
| | | F | | 55 | - | | | | |
| 17 | ZNE | e | 07 | 50 | - | | | | |
| | | F | 08 | 15 | - | | | | |
| 17 | ZNE | e | 15 | 30 | - | | | | Small. |
| | | F | | 35 | - | | | | |
| 17 | ZV, | i(PKP) | 16 | 34 | 02 | | | | Compression. e, ZNE. |
| | ZV,Z | e(PKP) | | 36 | 27 | | | | Deep focus. |
| | ZN | e | | 37 | 51 | | | | |

FORM 3718.

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

AUGUST, 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| contd. | | | | | | | | | |
| 17 | ZV, | e | 16 | 45 | 33 | | | | |
| | ZV, | e | | 45 | 07 | | | | |
| | N | e | | 47 | 56 | | | | |
| | ZNE | eL | | 55 | – | | | | |
| | | F | 18 | 00 | – | | | | |
| 18 | ZV,Z | iP | 01 | 19 | 14 | | | 7,925 | Dilatation. e, NE. Aftershock. |
| | ZNE | iS | | 28 | 32 | | | | |
| | NE | iSP | | 29 | 21 | | | | |
| | NE | eSS | | 33 | 25 | | | | |
| | N | eSSS | | 36 | 47 | | | | |
| | ZNE | eL | | 40 | – | | | | |
| | E | M | | 53 | 05 | 18 | +18 | | |
| | Z | M | | 54 | 16 | 14 | +11 | | |
| | | F | 04 | 00 | – | | | | |
| 18 | ZV,Z | iP | 17 | 10 | 12 | | | 7,925 | Dilatation. e, NE. Aftershock. |
| | ZNE | eS | | 19 | 30 | | | | |
| | ZNE | eL | | 24 | – | | | | |
| | N | M | | 41 | 12 | 16 | - 5 | | |
| | | F | 19 | 00 | – | | | | |
| 18 | ZNE | e | 22 | 55 | – | | | | |
| | | F | 23 | 20 | – | | | | |
| 19 | ZNE | e | 21 | 55 | – | | | | Small. |
| | | F | 23 | 30 | – | | | | |
| 20 | ZV,Z | iP | 09 | 14 | 55 | | | (7,815) | Aftershock. |
| | NE | e | | 23 | 09 | | | | |
| | ZE | e(S) | | 24 | 07 | | | | |
| | ZNE | eL | | (50) | – | | | | Doubtful; Chart Changing. |
| | | F | 10 | 45 | – | | | | |
| 21 | ZV,Z | eP | 06 | 03 | 09 | | | 8,220 | Small. Aftershock. |
| | E | eS | | 12 | 43 | | | | |
| | NE | ePS | | 13 | 27 | | | | |
| | E | eSSS | | 20 | 59 | | | | |
| | ZNE | eL | | 28 | – | | | | |
| | | F | 07 | 15 | – | | | | |
| 21 | NE | e(S) | 08 | 49 | 21 | | | | |
| | ZNE | e | | 56 | 46 | | | | |
| | | F | 10 | 00 | – | | | | L lost in chart changing. |
| 21 | NE | e | 16 | 40 | – | | | | Small. |
| | | F | 17 | 00 | – | | | | |
| 21 | ZV, | eP | 18 | 55 | 16 | | | | |
| | ZNE | eL | 19 | 20 | – | | | | |
| | | F | | 45 | – | | | | |
| 21/22 | ZV, | iP | 23 | 06 | 56 | | | 7,870 | Aftershock. |
| | E | eS | | 16 | 11 | | | | |
| | NE | ePS | | 17 | 01 | | | | |
| | ZNE | eL | | 32 | – | | | | |
| | | F | 00 | 15 | – | | | | |
| 22 | ZV,Z | iP | 02 | 33 | 54 | | | 7,855 | Aftershock. |
| | ZV,Z | i | | 33 | 01 | | | | |

FORM 3718.

30

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

AUGUST, 19 50

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| contd. | | | | | | | | | |
| 22 | NE | eS | 02 | 43 | 08 | | | | |
| | NE | ePS | | 44 | 01 | | | | |
| | NE | e(PKKP) | | 50 | 36 | | | | |
| | ZNE | eL | | 55 | - | | | | |
| | N | M | 03 | 02 | 05 | 22 | - 4 | | |
| | | F | | 55 | - | | | | |
| 22 | NE | e | 06 | 26 | 49 | | | | |
| | ZNE | eL | | 45 | - | | | | |
| | | F | - | - | - | | | | Overlapped. |
| 22 | ZV,Z | iP | 06 | 54 | 30 | | | 8,020 | Compression. |
| | NE | eS | 07 | 03 | 53 | | | | Aftershock. |
| | NE | ePS | | 05 | 01 | | | | |
| | ZNE | eL | | 16 | - | | | | |
| | | F | - | - | - | | | | Overlapped. |
| 22 | ZV,Z | e(P) | 07 | 51 | 49 | | | | Small. |
| | NE | e | 08 | 02 | 19 | | | | |
| | ZNE | eL | | 20 | - | | | | |
| | | F | 09 | 05 | - | | | | |
| 22 | ZV,Z | eP | 13 | 33 | 56 | | | 8,130 | Aftershock. |
| | ZV,Z | i | | 34 | 01 | | | | |
| | NE | eS | | 43 | 25 | | | | |
| | NE | ePS | | 44 | 19 | | | | |
| | ZNE | eL | | 53 | - | | | | |
| | N | M | 14 | 03 | 36 | 22 | -12 | | |
| | | F | 15 | 05 | - | | | | |
| 23 | ZV,Z | iP | 03 | 20 | 39 | | | 7,890 | Compression. |
| | NE | e | | 29 | 55 | | | | Aftershock. |
| | NE | eS | | 30 | 09 | | | | |
| | NE | ePS | | 30 | 47 | | | | |
| | NE | e | | 37 | 57 | | | | |
| | ZNE | eL | | 45 | - | | | | |
| | Z | M | | 55 | 26 | 13 | + 5 | | |
| | | F | 04 | 55 | - | | | | |
| 23 | NE | e | 15 | 50 | - | | | | |
| | ZNE | eL | 16 | 10 | - | | | | |
| | | F | | 50 | - | | | | |
| 23 | ZV, | i | 18 | 36 | 04 | | | | Not shown on Galitzins. |
| | ZV, | i | | 36 | 28 | | | | |
| | ZV, | i | | 37 | 26 | | | | |
| | ZV, | i | | 38 | 38 | | | | |
| | | F | | 40 | - | | | | |
| 23 | ZV,Z | iP | 18 | 58 | 27 | | | 8000 | Aftershock. |
| | NE | iS | 19 | 07 | 49 | | | | |
| | N | eSKS | | 08 | 00 | | | | |
| | NE | eSP | | 08 | 47 | | | | |
| | ZNE | eL | | 20 | - | | | | |
| | Z | M | | 33 | 58 | 13 | - 3 | | |
| | | F | 24 | 20 | - | | | | |

FORM 3718.

## SEISMOLOGICAL BULLETIN.

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. /" | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 24 | ZV, | iP | 01 | 39 | 29 | | | 7930 | Aftershock. |
| | NE | eS | | 48 | 47 | | | | |
| | ZNE | eL | 02 | 05 | - | | | | |
| | | F | 04 | 00 | - | | | | |
| 24 | ZNE | e | 11 | 02 | 02 | | | | Small. |
| | | F | | 35 | - | | | | |
| 24 | ZNE | e | 13 | 50 | - | | | | Small. |
| | | F | 14 | 00 | - | | | | |
| 24 | ZV, | e | 16 | 47 | 55 | | | | Small with traces on Galitzins. |
| | | F | 17 | 40 | - | | | | |
| 25 | ZNE | e | 08 | 50 | - | | | | Small. |
| | | F | 09 | 20 | - | | | | |
| 26 | ZNE | e(S) | 04 | 58 | 30 | | | | |
| | NE | e | 05 | 02 | 24 | | | | |
| | ZNE | eL | 06 | 10 | - | | | | |
| | | F | - | - | - | | | | Overlapped. |
| 26 | ZV, | i(P) | 06 | 45 | 10 | | | | |
| | E | i | | 53 | 58 | | | | |
| | ZE | e | 07 | 02 | 24 | | | | |
| | ZNE | eL | | 07 | - | | | | |
| | N | M | | 14 | 52 | 19 | -11 | | |
| | Z | M | | 19 | 47 | 15 | + 5 | | |
| | | F | 08 | 30 | - | | | | |
| 26 | ZNE | e | 16 | 45 | - | | | | Small. |
| | | F | 17 | 30 | - | | | | |
| 27 | ZNE | e | 11 | 35 | - | | | | Small. |
| | | F | 12 | 00 | - | | | | |
| 29 | ZNE | e | 18 | 47 | - | | | | Small. |
| | | F | 19 | 00 | - | | | | |
| 29/30 | ZNE | e | 23 | 15 | - | | | | Small. |
| | | F | 00 | 10 | - | | | | |
| 30 | Z | e | 05 | 32 | 20 | | | | Small. |
| | | F | | 55 | - | | | | |
| 30 | Z | e(P) | 07 | 06 | 10 | | | | |
| | ZNE | e | | 20 | 28 | | | | |
| | ZNE | eL | | 40 | - | | | | |
| | N | M | | 53 | 15 | 23 | + 3 | | |
| | | F | 08 | 05 | - | | | | |
| 30 | ZNE | e | 09 | 32 | 34 | | | | Small. |
| | | F | | 50 | - | | | | |
| 30 | ZN | e | 23 | 33 | 40 | | | | Small. |
| | | F | | 45 | - | | | | |
| 31 | ZNE | e | 02 | 00 | - | | | | Small. |
| | | F | | 30 | - | | | | |

FORM 3718.

## SEISMOLOGICAL BULLETIN.

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLI-TUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 31 | ZNE | eP | 07 | 19 | 57 | | | (12000) | |
| | ZNE | ePP | | 24 | 49 | | | | |
| | NE | eSKS | | 30 | 26 | | | | |
| | ZNE | e(PPS) | | 34 | 23 | | | | |
| | ZNE | eL | | 43 | - | | | | |
| | N | M | 08 | 03 | 56 | 28 | +11 | | |
| | | F | 09 | 25 | - | | | | |
| 31 | ZV,Z | e | 17 | 29 | 18 | | | | |
| | NE | i | | 30 | 05 | | | | |
| | ZNE | i | | 30 | 29 | | | | |
| | ZE | i | | 31 | 19 | | | | |
| | NE | e | | 32 | 23 | | | | |
| | | F | | 55 | - | | | | |
| 31 | Z | e(P) | 20 | 04 | 02 | | | | |
| | NE | e | | 13 | 15 | | | | |
| | ZNE | eL | | 30 | - | | | | |
| | | F | 21 | 00 | - | | | | |

FORM 3718.

OS 50929/1/R139 150 9/50 CL

M.O. 534

# AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

## KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN FOR SEPTEMBER, 1950

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: GALITZIN APERIODIC SEISMOGRAPHS; PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

| COMPONENT. | DATE FROM WHICH CONSTANTS APPLY. | GALVANOMETER FREE PERIOD $T_1$ | PENDULUM FREE PERIOD T. | DAMPING CONSTANT $\mu 2$. | $\frac{Ak}{\pi l}$ |
|---|---|---|---|---|---|
| N. | 22 July, 1949 | 21.6 sec. | 23.2 sec. | - 0.06 | 52.1 $sec^{-1}$ |
| E. | 22 April, 1949 | 17.8 | 18.3 | + 0.04 | 70.8 |
| Z. | 20 May, 1949 | 14.2 | 12.5 | - 0.05 | 133. |

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.
TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.
SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ZV,Z | e P | 03 | 00 | 15 | | | 9,240 | |
| | NE | eS | | 10 | 40 | | | | |
| | NE | ePS | | 12 | 23 | | | | |
| | ZNE | eSS | | 17 | 11 | | | | |
| | ZNE | eL | | 33 | - | | | | |
| | | F | | 40 | - | | | | |
| 1 | ZV, | e(P) | 07 | 23 | 18 | | | | |
| | ZNE | eL | | 47 | - | | | | |
| | | F | 08 | 25 | - | | | | |
| 2 | ZNE | eL | 00 | 20 | - | | | | |
| | | F | | 55 | - | | | | |
| 2 | ZV,Z | iP | 02 | 59 | 03 | | | 8,350 | Compression. e, NE. Aleutian Islands. 52½°N., 169°W. (U.S.C.G.S) |
| | NE | eS | 03 | 08 | 44 | | | | |
| | ZNE | eL | | 20 | - | | | | |
| | E | M | | 38 | 47 | 18 | -4 | | |
| | | F | 04 | 55 | - | | | | |
| 2 | ZNE | e | 10 | 30 | - | | | | Small. |
| | | F | | 55 | - | | | | |
| 2 | Z | e(PKP) | 13 | 20 | 26 | | | | Doubtful. |
| | ZNE | eL | 14 | 35 | - | | | | |
| | N | M | | 48 | 49 | 26 | +7 | | |
| | | F | 16 | 20 | - | | | | |
| 2 | ZV,Z | iP | 16 | 26 | 02 | | | (7,930) | Dilatation. e, NE. Repetition from Assam. |
| | NE | e | | 32 | 06 | | | | |
| | NE | e(S) | | 35 | 20 | | | | |
| | ZNE | eL | | 50 | - | | | | |
| | N | M | | 56 | 40 | 17 | -4 | | |
| | | F | 18 | 20 | - | | | | |

Form 3717.

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

SEPTEMBER, 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 4 | Z | eP | 06 | 30 | 56 | | | (7,450) | Doubtful. |
| | NE | e(S) | | 39 | 49 | | | | Further repetition |
| | ZNE | eL | | 55 | - | | | | from Assam. |
| | | F | 07 | 55 | - | | | | |
| 4 | ZNE | e | 12 | 25 | - | | | | |
| | | F | | 55 | - | | | | |
| 4 | ZNE | e | 21 | 37 | - | | | | Small. |
| | | F | 22 | 10 | - | | | | |
| 5 | ZV, | i(P) | 04 | 12 | 06 | | | | Probably two earthquakes |
| | ZV | i | | 14 | 55 | | | | superposed. |
| | ZV,ZE | i | | 15 | 30 | | | | Felt in Central Italy. |
| | ZNE | eL | | 15 | - | | | | |
| | N | M | | 16 | 23 | 22 | +17 | | |
| | | F | 05 | 05 | - | | | | |
| 5 | NE | e | 08 | 40 | - | | | | Small. |
| | | F | | 50 | - | | | | |
| 9 | ZV, | ePKP | 10 | 40 | 40 | | | (14,000) | New Britain region. |
| | Z | e(PP) | | 43 | 09 | | | | 4°S., 153°E. (U.S.C.G.S). |
| | NE | eSS | | 56 | 45 | | | | |
| | ZNE | eL | 11 | 15 | - | | | | |
| | N | M | | 32 | 52 | 26 | +6 | | |
| | | F | 13 | 00 | - | | | | |
| 10 | ZV,Z | iP | 03 | 34 | 08 | | | 9,200 | Near coast of Honshu, Japan. |
| | ZV, | i | | 34 | 18 | | | | 35°N., 140°E. (U.S.C.G.S). |
| | ZNE | eS | | 44 | 31 | | | | |
| | ZNE | ePS | | 45 | 05 | | | | |
| | ZNE | eSS | | 50 | 03 | | | | |
| | ZNE | eL | 04 | 00 | - | | | | |
| | E | M | | 06 | 09 | 34 | +7 | | |
| | | F | 05 | 10 | - | | | | |
| 10 | ZV,ZNE | iPKP | 15 | 35 | 29 | | | (16,000) | Dilatation. |
| | ZV,Z | i(pPKP) | | 36 | 16 | | | | e, NE. |
| | ZV, | i(sPKP) | | 37 | 17 | | | | New Hebrides Islands region. |
| | ZNE | iPP | | 38 | 43 | | | | 14°S., 167°E. (U.S.C.G.S). |
| | ZNE | iPKS | | 39 | 15 | | | | Probably somewhat deeper |
| | ZNE | ePPP | | 42 | 05 | | | | than normal. |
| | ZNE | eSKKS | | 45 | 22 | | | | |
| | ZNE | e(PS) | | 50 | 16 | | | | |
| | ZNE | eSS | | 58 | 00 | | | | |
| | ZNE | eL | 16 | 15 | - | | | | |
| | N | M | | 32 | 48 | 23 | -12 | | |
| | | F | 18 | 30 | - | | | | |
| 11 | ZNE | e | 00 | 53 | - | | | | |
| | | F | 01 | 20 | - | | | | |
| 11 | ZV, | e(P) | 09 | 52 | 06 | | | | |
| | ZNE | eL | 10 | 20 | - | | | | |
| | | F | 11 | 00 | - | | | | |
| 12 | ZNE | e | 05 | 45 | - | | | | |
| | | F | 06 | 00 | - | | | | |

FORM 3718.

M.O. 534



# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

SEPTEMBER, 19 50

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 13 | NE | e | 00 | 34 | 38 | | | | |
| | ZNE | eL | | 45 | - | | | | |
| | | F | 01 | 30 | - | | | | |
| 13 | ZV, | e(P) | 11 | 24 | 27 | | | | Confused by microseisms. |
| | ZNE | eL | | 45 | - | | | | |
| | N | M | | 49 | 02 | 18 | +12 | | |
| | | F | 13 | 00 | - | | | | |
| 14 | ZNE | e | 09 | 35 | 35 | | | | Chart changing. |
| | ZNE | eL | 10 | 00 | - | | | | |
| | | F | | 55 | - | | | | |
| 16 | ZNE | e | 01 | 40 | - | | | | Small. |
| | | F | 02 | 45 | - | | | | |
| 18 | ZNE | e | 19 | 45 | - | | | | Small. |
| | | F | 20 | 00 | - | | | | |
| 19 | ZNE | ePKP | 20 | 49 | 50 | | | | Near northern coast of New Guinea. |
| | ZNE | ePP | | 52 | 38 | | | | |
| | ZNE | i | | 59 | 46 | | | | 2°S, 138½°E (U.S.C.G.S). |
| | ZNE | e | 21 | 03 | 56 | | | | |
| | ZNE | e | | 06 | 46 | | | | |
| | NE | e | | 18 | 52 | | | | |
| | ZNE | eL | | 28 | - | | | | |
| | E | M | | 36 | 05 | 23 | +21 | | |
| | N | M | | 43 | 30 | 21 | +22 | | |
| | Z | M | | 43 | 48 | 21 | +18 | | |
| | | F | 23 | 45 | - | | | | |
| 21/22 | ZV, | eP | 23 | 03 | 20 | | | 10,000 | |
| | Z | i | | 04 | 23 | | | | |
| | NE | eSKS | | 13 | 50 | | | | |
| | N | eSSS | | 24 | 13 | | | | |
| | ZNE | eL | | 30 | - | | | | |
| | | F | 00 | 40 | - | | | | |
| 22 | NE | e | 04 | 25 | - | | | | Small. |
| | | F | | 45 | - | | | | |
| 22 | Z | e(PP) | 08 | 15 | 33 | | | | |
| | ZNE | e(SKKS) | | 21 | 59 | | | | |
| | ZNE | e(PPP) | | 30 | 11 | | | | By path > 180°. |
| | ZNE | eL | | 45 | - | | | | |
| | E | M | | 53 | 58 | 24 | +4 | | |
| | | F | 09 | 30 | - | | | | |
| 23 | ZV,ZNE | iPKP | 00 | 12 | 27 | | | | Dilatation. |
| | ZN | iPP | | 14 | 46 | | | | |
| | ZNE | ePPP | | 18 | 19 | | | | |
| | NE | eSS | | 30 | 11 | | | | Large on E. |
| | NE | e | | 36 | 52 | | | | |
| | ZNE | eSSS | | 39 | 45 | | | | Interpretations doubtful. |
| | ZNE | e | | 54 | 05 | | | | Deep focus. |
| | ZNE | e | | 56 | 51 | | | | |
| | ZNE | eL | 01 | 05 | - | | | | Small. |
| | | F | 02 | 20 | - | | | | |

FORM 3718.

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M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

SEPTEMBER, 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 23 | ZV, | iP | 06 | 29 | 19 | | | 2,830 | |
| | ZNE | iS | | 33 | 44 | | | | |
| | ZNE | eL | | 37 | – | | | | |
| | | F | 07 | 00 | – | | | | |
| 23 | ZNE | e | 19 | 05 | – | | | | |
| | ZNE | eL | | 40 | – | | | | |
| | | F | 20 | 05 | – | | | | |
| 24/25 | ZV, | e(PP) | 23 | 04 | 57 | | | | |
| | NE | e(S) | | 11 | 53 | | | | |
| | ZNE | eL | | 25 | – | | | | |
| | | F | 00 | 05 | – | | | | |
| 26 | ZNE | eL | 00 | 03 | – | | | | |
| | | F | | 55 | – | | | | |
| 26 | ZNE | e | 15 | 00 | – | | | | Doubtful. |
| | | F | | 20 | – | | | | |
| 26 | ZNE | eL | 19 | 45 | – | | | | |
| | | F | 20 | 15 | – | | | | |
| 27 | NE | e | 04 | 00 | 10 | | | | Small. |
| | ZNE | eL | | 10 | – | | | | |
| | | F | | 50 | – | | | | |
| 27 | ZV,Z | i(P) | 08 | 43 | 45 | | | | |
| | ZV,Z | e | | 44 | 12 | | | | |
| | ZNE | eL | 09 | 45 | – | | | | Small. |
| | | F | 10 | 30 | – | | | | |
| 27 | ZNE | e | 13 | 32 | – | | | | |
| | | F | | 55 | – | | | | |
| 28 | ZV,Z | e(P) | 03 | 46 | 12 | | | | |
| | ZNE | eL | 04 | 10 | – | | | | |
| | Z | M | | 27 | 32 | 18 | +4 | | |
| | | F | 05 | 05 | | | | | |
| 29 | ZV,Z | iP | 06 | 44 | 57 | | | 9,210 | Dilatation. e, NE. |
| | Z | i | | 45 | 27 | | | | |
| | Z | i | | 46 | 23 | | | | |
| | ZNE | eS | | 55 | 20 | | | | |
| | E | eSS | 07 | 02 | 00 | | | | |
| | ZNE | eL | | 07 | – | | | | |
| | N | M | | 14 | 42 | 22 | +11 | | |
| | E | M | | 16 | 47 | 27 | +45 | | |
| | Z | M | | 17 | 41 | 22 | -19 | | |
| | | F | 09 | 25 | – | | | | |
| 29 | ZNE | e | 23 | 05 | – | | | | |
| | | F | | 30 | – | | | | |

FORM 3718.

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

SEPTEMBER, 19 50

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 30 | ZV, ZE | iP | 07 | 40 | 15 | | | 7,800 | Compression. |
| | ZV, ZE | i | | 44 | 24 | | | | |
| | ZE | ePPP | | 44 | 44 | | | | |
| | NE | eS | | 49 | 28 | | | | |
| | E | e(SKS) | | 50 | 16 | | | | |
| | E | eSS | | 53 | 40 | | | | |
| | NE | eSSS | | 57 | 12 | | | | |
| | ZNE | eL | 08 | 05 | - | | | | |
| | E | M | | 13 | 57 | 18 | +11 | | |
| | Z | M | | 15 | 22 | 12 | -8 | | |
| | | F | 09 | 05 | - | | | | |

FORM 3718.

DS 55013/1/R139 150 10/50 CL.

M.O. 534

# AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

## KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN FOR OCTOBER, 1950

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

| COMPONENT. | DATE FROM WHICH CONSTANTS APPLY. | GALVANOMETER FREE PERIOD $T_1$ | PENDULUM FREE PERIOD T. | DAMPING CONSTANT $\mu^2$. | $\frac{A k}{\pi^l}$ |
|---|---|---|---|---|---|
| N. | 22 July, 1949 | 21.6 sec. | 23.2 sec. | - 0.06 | 52.1 sec$^{-1}$ |
| E. | 22 April, 1949 | 17.8 | 18.3 | + 0.04 | 70.8 |
| Z. | 20 May, 1949 | 14.2 | 12.5 | - 0.05 | 133. |

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.
TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.
SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. $\mu$ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ZNE | e | 02 | 45 | - | | | | Small. |
| | | F | 03 | 20 | - | | | | |
| 3 | ZNE | e | 07 | 05 | - | | | | Small. |
| | | F | | 30 | - | | | | |
| 3/4 | ZV, | e P | 23 | 13 | 32 | | | 8180 | Microseisms. |
| | NE | e S | | 23 | 04 | | | | |
| | NE | e(SP) | | 24 | 05 | | | | |
| | ZNE | eL | | 40 | - | | | | |
| | E | M | | 44 | 08 | 23 | +6 | | |
| | | F | 00 | 20 | - | | | | |
| 5 | ZNE | eL | 01 | 50 | - | | | | Microseisms. |
| | | F | 03 | 10 | - | | | | |
| 5 | ZV,ZE | iP | 16 | 21 | 32 | | | 9070 | Compression. eN. Northwestern Costa Rica. 10½°N. 85°W. (U.S.C.G.S). |
| | ZV,ZE | ePP | | 24 | 24 | | | | |
| | ZE | ePPP | | 26 | 59 | | | | |
| | NE | eS | | 31 | 49 | | | | |
| | ZV,ZNE | ePS | | 32 | 14 | | | | |
| | ZE | e | | 36 | 10 | | | | |
| | Z | eSS | | 37 | 00 | | | | |
| | NE | eSSS | | 40 | 36 | | | | |
| | ZNE | eL | | 45 | - | | | | |
| | E | M | | 49 | 39 | 23 | > +420 | | |
| | Z | M | | 50 | 02 | 23 | -260 | | |
| | N | M | | 53 | 00 | 20 | -150 | | |
| | | F | 22 | 15 | - | | | | |
| 5/6 | ZNE | e | 23 | 50 | - | | | | Small. |
| | | F | 00 | 20 | - | | | | |
| 6 | ZE | e | 08 | 35 | - | | | | Small. |
| | | F | 09 | 10 | - | | | | |

Form 3717.

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

OCTOBER, 19 50

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 7 | NE | e | 23 | 10 | - | | | | Large microseisms. |
| | | F | | 35 | - | | | | |
| 8 | ZNE | eP | 03 | 38 | 19 | | | (12,500) | Large microseisms. |
| | ZV,ZNE | iPP | | 43 | 09 | | | | Molucca Islands |
| | ZNE | e | | 44 | 46 | | | | 4°S, 128°E. (U.S.C.G.S). |
| | E | iSKS | | 48 | 54 | | | | |
| | NE | eSKKS | | 50 | 12 | | | | |
| | NE | iPS | | 52 | 43 | | | | |
| | Z | i | | 54 | 36 | | | | |
| | ZNE | iSS | | 59 | 04 | | | | |
| | NE | e | 04 | 03 | 04 | | | | |
| | NE | eSSS | | 04 | 00 | | | | |
| | NE | e | | 08 | 08 | | | | |
| | ZNE | eL | | 15 | - | | | | |
| | E | M | | 37 | 09 | 21 | +60 | | |
| | N | M | | 37 | 40 | 23 | +110 | | |
| | Z | M | | 41 | 41 | 20 | +40 | | |
| | | F | - | - | - | | | | Overlapped. |
| 8 | ZV, | iP | 05 | 01 | 35 | | | | |
| | | F | 08 | 20 | - | | | | |
| 8 | ZNE | eL | 15 | 50 | - | | | | Large microseisms. |
| | | F | 17 | 50 | - | | | | |
| 13 | NE | e | 00 | 45 | - | | | | Small. |
| | | F | 01 | 15 | - | | | | |
| 15 | ZV, | ePP | 16 | 21 | 50 | | | (14,700) | Solomon Islands. |
| | ZNE | e | | 22 | 45 | | | | 10°S, 160°E. (U.S.C.G.S). |
| | NE | ePS | | 32 | 23 | | | | |
| | ZNE | eSSS | | 43 | 56 | | | | |
| | ZNE | eL | | 55 | - | | | | |
| | N | M | 17 | 09 | 58 | 30 | +3 | | |
| | | F | 18 | 20 | - | | | | |
| 16 | ZNE | e | 08 | 10 | - | | | | Small. |
| | | F | | 20 | - | | | | |
| 16 | ZNE | e | 16 | 20 | - | | | | Small. |
| | | F | | 35 | - | | | | |
| 17 | ZNE | e | 22 | 45 | - | | | | Small. |
| | | F | 23 | 10 | - | | | | |
| 19 | ZNE | e | 04 | 10 | - | | | | Small. |
| | | F | | 40 | - | | | | |
| 19 | ZV, | ePKP | 10 | 19 | 47 | | | (16000) | |
| | ZV,Z | ePP | | 23 | 29 | | | | |
| | E | eSS | | 41 | 57 | | | | |
| | NE | eSSS | | 50 | 05 | | | | |
| | ZNE | eL | 11 | 15 | - | | | | |
| | | F | 12 | 10 | - | | | | |
| 20 | ZNE | e | 08 | 10 | - | | | | Small. |
| | | F | | 30 | - | | | | |

FORM 3718.

M.O.534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

OCTOBER, 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| √ 21 | ZV,ZNE | iPKP$_1$ | 04 | 32 | 33 | | | (17,000) | Compression. |
| | Z | iPKP$_2$ | | 33 | 04 | | | | |
| | ZNE | ePP | | 35 | 57 | | | | |
| | ZNE | e | | 42 | 36 | | | | |
| | N | iSKKS | | 42 | 52 | | | | |
| | Z | e | | 43 | 55 | | | | |
| | NE | ePPS | | 48 | 59 | | | | |
| | NE | eSS | | 54 | 58 | | | | |
| | ZNE | eL | 05 | 15 | - | | | | |
| | N | M | | 33 | 56 | 22 | -75 | | |
| | | F | 06 | 40 | - | | | | |
| √ 21 | ZV,ZNE | eP | 09 | 55 | 52 | | | 8,960 | |
| | ZV,Z | e | | 56 | 25 | | | | |
| | NE | eS | 10 | 06 | 16 | | | | |
| | NE | ePS | | 06 | 36 | | | | |
| | ZNE | eSS | | 11 | 54 | | | | |
| | ZNE | eL | | 17 | - | | | | |
| | N | M | | 23 | 48 | 34 | +9 | | |
| | | F | 11 | 20 | - | | | | |
| 22 | ZNE | e | 06 | 02 | - | | | | Small. |
| | | F | | 20 | - | | | | |
| 23 | ZV,ZE | iP | 16 | 25 | 26 | | | 8,690 | Compression. eN. |
| | ZE | i(PcP) | | 25 | 33 | | | | eN. |
| | ZNE | e | | 25 | 52 | | | | Near coast of Guatemala. |
| | ZNE | ePP | | 28 | 14 | | | | 14½°N. 92°W. (U,S.C.G.S). |
| | ZNE | iS | | 35 | 24 | | | | |
| | ZNE | ePS | | 35 | 42 | | | | |
| | ZNE | e | | 36 | 34 | | | | |
| | ZNE | eSS | | 40 | 08 | | | | |
| | ZNE | eSSS | | 44 | 31 | | | | |
| | ZNE | eL | | 46 | - | | | | |
| | Z | M | | 59 | 39 | 19 | +90 | | |
| | E | M | 17 | 00 | 11 | 19 | -105 | | |
| | N | M | | 05 | 43 | 16 | +60 | | |
| | ZV, | i | 18 | 00 | 01 | | | | Probably another shock. |
| | | F | 21 | 20 | - | | | | |
| 24 | ZNE | eL | 00 | 15 | - | | | | Small. |
| | | F | 01 | 00 | - | | | | |
| 24 | Z | eP | 01 | 04 | 10 | | | (10,420) | |
| | ZNE | e(S) | | 15 | 26 | | | | |
| | ZNE | eL | | 25 | - | | | | |
| | | F | 02 | 40 | - | | | | |
| 25 | NE | eP | 07 | 15 | 02 | | | (9,730) | |
| | ZNE | e(SKS) | | 25 | 26 | | | | |
| | ZNE | e (S) | | 25 | 49 | | | | |
| | ZNE | eL | | 45 | - | | | | |
| | | F | 08 | 20 | - | | | | |
| 26 | N | e | 04 | 38 | - | | | | |
| | ZNE | eL | 05 | 10 | - | | | | |
| | | F | 06 | 15 | - | | | | |

FORM 3718.

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

OCTOBER, 19 50

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 26 | ZE | eL | 17 | 00 | - | | | | No "N-S" record. |
| | E | M | | 09 | 16 | 18 | +2 | | Large microseisms. |
| | | F | 18 | 15 | - | | | | |
| 28 | ZNE | e | 10 | 30 | - | | | | Small. |
| | | F | 11 | 15 | - | | | | |
| 28 | ZNE | eL | 22 | 55 | - | | | | |
| | | F | 23 | 25 | - | | | | |
| 29 | ZNE | e | 01 | 50 | - | | | | Small. |
| | | F | 02 | 20 | - | | | | |
| 29 | ZNE | e | 06 | 42 | - | | | | Small. |
| | | F | 07 | 10 | - | | | | |
| 30 | ZNE | eL | 03 | 40 | - | | | | |
| | | F | | 55 | - | | | | |
| 30/31 | ZNE | e | 23 | 52 | - | | | | Small. |
| | | F | 00 | 10 | - | | | | |
| 31 | ZV,Z | e(P) | 19 | 27 | 22 | | | | Microseisms. |
| | ZNE | e | | 32 | 31 | | | | |
| | ZNE | eL | | 38 | - | | | | |
| | Z | e | | 50 | 46 | | | | |
| | | F | 20 | 30 | - | | | | |
| 31 | ZNE | eL | 21 | 00 | - | | | | |
| | E | M | | 09 | 45 | 19 | -3 | | |
| | | F | | 40 | - | | | | |

FORM 3718.

DS 59854/1/A139 150 11/50 CL

M.O. 534

41

# AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

## KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN FOR NOVEMBER 1950

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

| COMPONENT. | DATE FROM WHICH CONSTANTS APPLY. | GALVANOMETER FREE PERIOD $T_1$ | PENDULUM FREE PERIOD T. | DAMPING CONSTANT $\mu 2$. | $\frac{Ak}{\pi l}$ |
|---|---|---|---|---|---|
| | | sec. | sec. | | sec-1 |
| N. | 22 July 1949 | 21.6 | 23.2 | -0.06 | 52.1 |
| E. | 22 April 1949 | 17.8 | 18.3 | *0.04 | 70.8 |
| Z. | 20 May 1949 | 14.2 | 12.5 | -0.05 | 133. |

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.
TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.
SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ZNE | e | 13 | 25 | - | | | | |
| | | F | 14 | 50 | - | | | | |
| 2. | ZNE | e | 07 | 31 | 00 | | | | |
| | NE | e | | 31 | 21 | | | | |
| | NE | e | | 37 | 25 | | | | |
| | ZNE | eL | | 52 | - | | | | |
| | | F | 08 | 40 | - | | | | |
| 2 | ZV,ZNE | e(P) | 15 | 43 | 00 | | | (2,800) | Banda Sea Region |
| | ZV,ZNE | e | | 44 | 00 | | | | 6°S., 129½°E. (U.S.C.G.S.) |
| | ZV,ZNE | iPKP | | 46 | 38 | | | | |
| | ZNE | ePP | | 48 | 05 | | | | |
| | ZNE | e | | 49 | 09 | | | | Large |
| | ZNE | ePPP | | 51 | 36 | | | | Large |
| | Z | ePS | | 57 | 41 | | | | |
| | NE | ePPS | | 58 | 33 | | | | |
| | NE | e(SKKS) | 16 | 06 | 01 | | | | |
| | NE | eSSS | | 08 | 57 | | | | |
| | ZNE | eL | | 15 | - | | | | |
| | N | M | | 34 | 09 | 35 | -140 | | |
| | E | M | | 43 | 29 | 27 | +70 | | |
| | Z | M | | 45 | 52 | 20 | -23 | | |
| | | F | 20 | 15 | - | | | | |
| 2 | ZNE | e | 20 | 52 | - | | | | |
| | ZNE | eL | | 58 | - | | | | |
| | | F | 21 | 25 | - | | | | |
| 5 | Z | e | 16 | 58 | - | | | | |
| | ZNE | eL | 17 | 15 | - | | | | |
| | | F | - | - | - | | | | Overlapped by following shock |
| 5 | Z | iP (contd) | 17 | 50 | 12 | | | 9,240 | Compression e,NE |

Form 3717.

D5 62579/1

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

NOVEMBER 1950

| DATE. | COMPT. | PHASE. | G.M.T. | PERIOD. | AMPLITUDE. | Δ | REMARKS. |
|---|---|---|---|---|---|---|---|
| | (contd) | | h. m. s. | sec. | μ | km. | |
| 5 | ZNE | ePP | 17 53 09 | | | | |
| | ZNE | e | 57 01 | | | | Off Coast of Shikoku, Japan |
| | NE | eSKS | 18 00 11 | | | | 33°N., 134½°E. (U.S.C.G.S.) |
| | ZNE | eS | 00 37 | | | | |
| | ZNE | ePS | 00 53 | | | | |
| | ZNE | e | 02 17 | | | | |
| | ZNE | eSS | 06 21 | | | | |
| | ZNE | eL | 18 - | | | | |
| | N | M | 33 24 | 15 | -40 | | |
| | Z | M | 35 23 | 15 | +30 | | |
| | E | M | 35 27 | 13 | +24 | | |
| | | F | 20 35 - | | | | |
| 6/7 | ZNE | ePKP | 22 44 49 | | | (14,000) | Microseisms. Solomon Islands |
| | Z | e(PS) | 57 35 | | | | Region 7½°S., 155½°E. |
| | N | e(SS) | 23 07 16 | | | | (U.S.C.G.S.) |
| | ZNE | eL | 28 - | | | | |
| | N | M | 37 58 | 22 | -3 | | |
| | | F | 00 45 - | | | | |
| 8 | ZV,Z | iPKP | 02 40 08 | | | (13,800) | e,NE |
| | Z | i | 40 20 | | | | e,NE |
| | ZV,ZNE | iPP | 41 12 | | | | |
| | ZNE | ePPP | 44 40 | | | | Solomon Islands Region |
| | NE | eSKS | 46 58 | | | | 9½°S., 159½°E. (U.S.C.G.S.) |
| | ZNE | ePKKP | 50 08 | | | | |
| | ZNE | ePS | 52 10 | | | | |
| | ZNE | ePPS | 54 08 | | | | |
| | ZNE | ePPP | 57 20 | | | | >180° |
| | ZNE | ePSS | 59 40 | | | | |
| | ZNE | eSSS | 03 03 04 | | | | |
| | ZNE | eL | 12 - | | | | |
| | N | M | 32 03 | 25 | -33 | | |
| | Z | M | 35 00 | 23 | +18 | | |
| | E | M | 43 06 | 19 | +12 | | |
| | | F | 06 10 - | | | | |
| 10 | NE | e | 02 31 05 | | | | Microseisms |
| | ZNE | eL | 50 - | | | | |
| | | F | 03 50 - | | | | |
| 11 | ZNE | e | 04 45 - | | | | ditto |
| | | F | 05 10 - | | | | |
| 12 | ZNE | e | 09 55 - | | | | ditto |
| | | F | 10 30 - | | | | |
| 12 | ZNE | e | 22 05 - | | | | ditto |
| | | F | 30 - | | | | |
| 14 | ZN | e | 04 45 - | | | | ditto |
| | | F | 05 10 - | | | | |
| 14 | ZNE | e | 22 40 - | | | | ditto |
| | | F | 23 10 - | | | | |
| 16 | ZNE | e | 09 45 - | | | | Small |
| | | F | 10 15 - | | | | |

FORM 3718.

DS 62579/1

M.O. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

NOVEMBER 19 50

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 17 | ZNE | eL | 16 | 15 | – | | | | |
| | N | M | | 23 | 47 | 13 | +3 | | |
| | | F | | 40 | – | | | | |
| 17 | ZV,ZNE | eP | 19 | 40 | 51 | | | 8,990 | Near West Coast of Mexico |
| | ZV,ZNE | ePP | | 43 | 56 | | | | 17°N., 100½°W. (U.S.C.G.S.) |
| | NE | eS | | 51 | 03 | | | | |
| | ZV,Z | ePS | | 51 | 12 | | | | |
| | ZNE | eSS | | 55 | 48 | | | | |
| | ZNE | eSSS | | 59 | 31 | | | | |
| | ZNE | eL | 20 | 03 | – | | | | |
| | N | M | | 19 | 08 | 18 | -5 | | |
| | E | M | | 19 | 08 | 18 | +6 | | |
| | Z | M | | 19 | 12 | 16 | +4 | | |
| | | F | 21 | 10 | – | | | | |
| 17 | ZNE | eL | 22 | 28 | – | | | | |
| | | F | | 50 | – | | | | |
| 19 | ZNE | e | 22 | 00 | – | | | | Microseisms |
| | | F | | 15 | – | | | | |
| 21 | ZNE | e | 21 | 27 | – | | | | Microseisms |
| | | F | | 45 | – | | | | |
| 22 | Z | eP | 10 | 28 | 31 | | | 8,430 | Aleutian Islands Region |
| | NE | eS | | 38 | 16 | | | | 51°N., 176°W. (U.S.C.G.S.) |
| | NE | e(SKS) | | 38 | 50 | | | | |
| | N | ePS | | 39 | 16 | | | | |
| | NE | eSS | | 43 | 18 | | | | |
| | NE | eSSS | | 47 | 08 | | | | |
| | ZNE | eL | | 50 | – | | | | |
| | N | M | 11 | 03 | 47 | 20 | -5 | | |
| | | F | 12 | 05 | – | | | | |
| 24 | Z | ePKP | 13 | 23 | 19 | | | | |
| | Z | ePP | | 26 | 33 | | | | |
| | ZNE | eL | 14 | 15 | – | | | | |
| | | F | 15 | 25 | – | | | | |
| 24 | Z | ePKP | 20 | 38 | 01 | | | (17,500) | |
| | NE | ePPS | | 55 | 57 | | | | |
| | NE | e | 21 | 00 | 29 | | | | |
| | NE | eSS | | 01 | 49 | | | | |
| | ZNE | eL | | 33 | – | | | | |
| | N | M | | 40 | 33 | 19 | +3 | | |
| | | F | 22 | 50 | – | | | | |
| 25 | ZNE | e | 17 | 40 | – | | | | Microseisms |
| | | F | | 50 | – | | | | |
| 28 | ZV,Z | e | 17 | 59 | 15 | | | | Microseisms |
| | NE | e | 18 | 02 | 39 | | | | |
| | ZNE | eL | | 05 | – | | | | |
| | N | M | | 07 | 37 | 14 | -7 | | |
| | | F | | 20 | – | | | | |
| 30 | NE | e | 18 | 50 | – | | | | Microseisms |
| | | F | 20 | 00 | – | | | | |

FORM 3718.

DS 62579/1/R139 150 12/50 CL

M.O. 534

# AIR MINISTRY, METEOROLOGICAL OFFICE, LONDON.

## KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN FOR DECEMBER, 1950

Lat. 51° 28′ 6″ N, Long. 0° 18′ 47″ W, Height above M.S.L. 5m.

LITHOLOGIC FOUNDATION: RIVER GRAVEL RESTING ON LONDON CLAY.

INSTRUMENTS: GALITZIN APERIODIC SEISMOGRAPHS, PHOTO-GALVANOMETRIC REGISTRATION, THREE COMPONENTS.

CONSTANTS: FOR NOTATION SEE FÜRST B. GALITZIN "VORLESUNGEN ÜBER SEISMOMETRIE" (LEIPZIG, 1914) OR G. W. WALKER "MODERN SEISMOLOGY" (LONDON, 1913).

| COMPONENT. | DATE FROM WHICH CONSTANTS APPLY. | GALVANOMETER FREE PERIOD $T_1$ | PENDULUM FREE PERIOD T. | DAMPING CONSTANT $\mu 2$. | $\frac{Ak}{\pi l}$ |
|---|---|---|---|---|---|
| N. | 22 July 1949 | 21.6 sec. | 23.2 sec. | -0.06 | 52.1 $sec^{-1}$ |
| E. | 22 April 1949 | 17.8 | 18.3 | +0.04 | 70.8 |
| Z. | 20 May 1949 | 14.2 | 12.5 | -0.05 | 133. |

TIME SERVICE: MINUTE TIME-MARKS ARE MADE ELECTROMAGNETICALLY BY CONTACT CLOCK.
TIME COMPARISONS ARE MADE DAILY WITH SIGNALS FROM GREENWICH OBSERVATORY.
SEISMOMETRIC READINGS CAN BE DETERMINED TO THE NEAREST SECOND.

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ZV,Z | iP | 15 | 00 | 09 | | | 5,890 | Mid-Atlantic Ocean. 14°N, 47°W. Depth about 100 Km. (U.S.C.G.S.). |
| | ZV,Z | i | | 00 | 13 | | | | |
| | ZV,Z | ePP | | 02 | 12 | | | | |
| | ZNE | iS | | 07 | 37 | | | | |
| | NE | eScS | | 10 | 32 | | | | |
| | NE | eSS | | 11 | 19 | | | | |
| | ZNE | eL | | 13 | - | | | | |
| | N | M | | 18 | 08 | 17 | +55 | | |
| | Z | M | | 18 | 10 | 18 | +60 | | |
| | E | M | | 19 | 24 | 18 | -65 | | |
| | | F | 18 | 30 | - | | | | |
| 2 | ZV, | iP | 15 | 30 | 49 | | | (9500) | Western Brazil 8°S, 71½°W depth about 650 Km. (U.S.C.G.S). |
| | ZV, | ipP | | 33 | 06 | | | | |
| | ZV,E | iSKS | | 40 | 12 | | | | |
| | NE | eS | | 40 | 24 | | | | |
| | NE | eSP | | 41 | 26 | | | | |
| | NE | eSSS | | 45 | 20 | | | | |
| | NE | eSSS | | 49 | 54 | | | | |
| | NE | e | | 53 | 16 | | | | |
| | | F | 16 | 30 | - | | | | |
| 2 | ZV,ZN | iPKP1 | 20 | 11 | 26 | | | (16000) | Compression New Hebrides region 18°S, 167°E. (U.S.C.G.S.). |
| | ZNE | iPKP2 | | 11 | 50 | | | | |
| | ZV,ZNE | ePP | | 15 | 06 | | | | |
| | ZNE | ePPP | | 18 | 25 | | | | |
| | ZV,ZNE | e(PKKP) | | 20 | 19 | | | | |
| | NE | ePS | | 25 | 12 | | | | |
| | NE | eSS | | 32 | 45 | | | | |
| | ZNE | ePSS | | 34 | 07 | | | | |
| | ZNE | eL | | 50 | - | | | | |
| | N | M | 21 | 04 | 12 | 31 | +86 | | |
| | E | M | | 04 | 46 | 26 | +40 | | |
| | Z | M | | 22 | 17 | 18 | -30 | | |
| | | F | 00 | 50 | - | | | | |

Form 3717.

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NO. 534

# KEW OBSERVATORY, RICHMOND, SURREY, ENGLAND.

## SEISMOLOGICAL BULLETIN.

DECEMBER, 1950

| DATE. | COMPT. | PHASE. | G.M.T. h. | m. | s. | PERIOD. sec. | AMPLITUDE. μ | Δ km. | REMARKS. |
|---|---|---|---|---|---|---|---|---|---|
| 3 | ZV, | i(P) | 06 | 38 | 16 | | | (8240) | |
| | ZV, | i | | 38 | 25 | | | | |
| | N | e(S) | | 47 | 51 | | | | |
| | ZNE | eL | 07 | 05 | - | | | | |
| | N | M | | 12 | 45 | 18 | +5 | | |
| | | F | | 45 | - | | | | |
| 3 | ZV, | i | 08 | 07 | 13 | | | | Small. |
| | | F | 10 | 20 | - | | | | |
| 4 | ZV,Z | e | 07 | 57 | 48 | | | | Small. |
| | NE | e | 08 | 20 | 11 | | | | Aftershock of 2nd 19h. |
| | NE | e | | 21 | 33 | | | | |
| | NE | eL | | 48 | - | | | | |
| | | F | 09 | 10 | - | | | | |
| 4 | ZV,Z | iPKP | 16 | 47 | 03 | | | (13,700) | NE,e. |
| | ZV,Z | ipPKP | | 47 | 29 | | | | New Britain region |
| | NE | ePP | | 50 | 21 | | | | 5°S, 153½°E. depth about |
| | NE | epPP | | 50 | 43 | | | | 100 Km. (U.S.C.G.S.). |
| | NE | eSKKS | | 55 | 55 | | | | |
| | NE | e(SS) | 17 | 08 | 55 | | | | |
| | ZNE | eL | | 10 | - | | | | |
| | E | M | | 33 | 16 | 29 | +16 | | |
| | N | M | | 36 | 38 | 25 | +32 | | |
| | Z | M | | 49 | 57 | 18 | -7 | | |
| | | F | 19 | 15 | - | | | | |
| 5 | ZV, | e | 22 | 21 | 51 | | | | |
| | ZNE | eL | | 40 | - | | | | |
| | E | M | | 44 | 01 | 23 | -4 | | |
| | | F | 23 | 15 | - | | | | |
| 9/10 | ZV,Z | iP | 21 | 52 | 05 | | | (11,000) | NE,e. |
| | ZNE | ipP | | 52 | 35 | | | | Northern Argentina |
| | ZNE | i | | 53 | 07 | | | | - Chile border region. |
| | ZNE | iPP | | 55 | 43 | | | | 24°S, 67½°W. depth about |
| | ZNE | ePPP | | 59 | 35 | | | | 200 Km. (U.S.C.G.S). |
| | NE | eSKS | 22 | 02 | 31 | | | | |
| | ZNE | eS | | 03 | 10 | | | | |
| | Z | e(SS) | | 08 | 53 | | | | |
| | ZNE | eL | | 10 | - | | | | |
| | E | M | | 31 | 26 | 23 | +110 | | |
| | Z | M | | 31 | 30 | 22 | +200 | | |
| | N | M | | 36 | 12 | 18 | +110 | | |
| | | F | 02 | 20 | - | | | | |
| 10 | ZV,ZNE | eP | 03 | 04 | 12 | | | (11,400) | Near Southern coast of Peru. |
| | NE | eSKS | | 14 | 18 | | | | 14½°S, 76½°W. |
| | NE | eSKKS | | 14 | 44 | | | | depth about 60 Km. |
| | NE | ePS | | 16 | 41 | | | | (U.S.C.G.S.). |
| | ZNE | eL | | 25 | - | | | | |
| | Z | M | | 38 | 52 | 24 | +4 | | |
| | N | M | | 39 | 12 | 24 | +10 | | |
| | E | M | | 39 | 12 | 24 | +9 | | |
| | | F | 04 | 20 | - | | | | |

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|---|---|---|---|---|---|---|---|---|---|
| | | | 13 | | | | | | |
| 10 | ZV,Z | iPKP$_1$ | 14 | 42 | 33 | | | (17,200) | NE,e. Dilatation. |
| | ZV,Z | iPKP$_2$ | | 43 | 06 | | | | NE,e. |
| | ZNE | iPP | | 46 | 44 | | | | Kermadec Islands region. |
| | ZNE | eSKKS | | 53 | 00 | | | | 28½°S, 179°W. |
| | ZNE | eSKSP | | 56 | 59 | | | | depth about 300 Km. |
| | NE | ePPS | 14 | 01 | 14 | | | | (U.S.C.G.S.). |
| | NE | e | | 02 | 00 | | | | |
| | ZNE | eSS | | 06 | 07 | | | | |
| | ZNE | e | | 09 | 59 | | | | |
| | ZNE | eSSS | | 14 | 54 | | | | |
| | ZNE | eL | | 18 | - | | | | |
| | E | M | | 39 | 47 | 25 | -12 | | |
| | N | M | | 40 | 04 | 28 | -18 | | |
| | | F | 17 | 20 | - | | | | |
| 12 | ZNE | eL | 02 | 30 | - | | | | |
| | | F | 03 | 15 | - | | | | |
| 14 | ZV,Z | iPKP$_1$ | 02 | 12 | 10 | | | (15,000) | NE,e. Compression. |
| | ZV,ZNE | iPKP$_2$ | | 12 | 18 | | | | Tonga Islands region. |
| | ZV,ZNE | i | | 13 | 21 | | | | 19½°S. 176°W. |
| | ZV,ZNE | iPP | | 15 | 44 | | | | depth about 200 Km. |
| | ZV,ZNE | i | | 15 | 56 | | | | (U.S.C.G.S). |
| | ZV,ZNE | ePSKS | | 23 | 30 | | | | |
| | ZV,ZNE | e | | 25 | 58 | | | | |
| | ZNE | eL | | 32 | - | | | | |
| | E | M | | 34 | (34) | 21 | -150 | | |
| | Z | M | | 36 | (09) | 13 | +24 | | |
| | N | M | | 53 | 43 | 20 | -52 | | |
| | | F | 06 | 30 | - | | | | |
| 14 | ZV,ZNE | iP | 14 | 28 | 09 | | | (10,000) | Southern Mexico |
| | ZV,ZNE | i | | 28 | 24 | | | | 17°N, 98°W. (U.S.C.G.S.). |
| | Z | e | | 29 | 40 | | | | |
| | ZV,ZNE | ePP | | 31 | 14 | | | | |
| | NE | eSKS | | 38 | 34 | | | | |
| | ZNE | e | | 39 | 10 | | | | |
| | ZNE | e | | 44 | 04 | | | | |
| | Z | iSS | | 46 | 32 | | | | |
| | N | i | | 47 | 16 | | | | |
| | ZNE | eL | | 50 | - | | | | |
| | Z | M | 15 | 04 | 01 | 19 | +56 | | |
| | E | M | | 04 | 11 | 19 | -75 | | |
| | N | M | | 08 | 20 | 19 | -34 | | |
| | | F | 18 | 30 | - | | | | |
| 18 | ZV,Z | eP | 08 | 16 | 30 | | | (11,100) | Quatemala. |
| | ZV,Z | e | | 17 | 18 | | | | 15°N, 90°W. depth about |
| | ZV,Z | ePP | | 20 | 33 | | | | 200 Km. (U.S.C.G.S.). |
| | NE | e | | 26 | 10 | | | | |
| | NE | eSKS | | 27 | 37 | | | | |
| | ZNE | eL | | 35 | - | | | | |
| | | F | 09 | 00 | - | | | | |
| 18 | ZNE | e | 16 | 13 | 37 | | | | Small. |
| | ZNE | e | | 21 | 21 | | | | |
| | N | e | | 27 | 07 | | | | |
| | ZNE | eL | | 40 | - | | | | |
| | | F | 17 | 30 | - | | | | |

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|---|---|---|---|---|---|---|---|---|---|
| 19 | ZE | e | 21 | 30 | 15 | | | | ZV record lost. |
| | NE | e | | 32 | 07 | | | | |
| | NE | e | | 36 | 09 | | | | |
| | ZNE | eL | | 37 | - | | | | |
| | | F | | 55 | - | | | | |
| 19/20 | N | e(L) | 23 | 55 | - | | | | |
| | | F | 00 | 35 | - | | | | |
| 22 | ZNE | eL | 09 | 52 | - | | | | |
| | N | M | | 58 | 52 | 26 | +6 | | |
| | | F | 10 | 30 | - | | | | |
| 24 | ZV, | e | 05 | 44 | 17 | | | | |
| | ZNE | eL | 06 | 00 | - | | | | |
| | | F | | 30 | - | | | | |
| 24 | ZNE | e | 17 | 05 | - | | | | Very small. |
| | | F | | 30 | - | | | | |
| 26 | ZNE | eL | 14 | 35 | - | | | | Small. |
| | | F | 15 | 05 | - | | | | |
| 28 | ZNE | e | 22 | 41 | 52 | | | | |
| | N | eL | | 45 | - | | | | |
| | | F | 23 | 00 | - | | | | |
| 29 | ZE | e | 12 | 15 | 21 | | | | |
| | ZNE | e | | 22 | 25 | | | | |
| | ZNE | eL | | 27 | - | | | | |
| | N | M | | 31 | 34 | 16 | -10 | | |
| | | F | 13 | 25 | - | | | | |
| 29 | ZNE | eL | 20 | 40 | - | | | | Small. |
| | | F | 21 | 20 | - | | | | |
| 29 | Z | e | 22 | 46 | 53 | | | | |
| | NE | e | | 56 | 23 | | | | |
| | ZNE | eL | | 10 | - | | | | |
| | N | M | | 17 | 33 | 21 | -5 | | |
| | | F | | 55 | - | | | | |
| 30 | Z | e | 07 | 03 | 27 | | | | Small. |
| | ZNE | eL | 08 | 05 | - | | | | |
| | | F | | 50 | - | | | | |

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