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KONINKLIJK NEDERLANDSCH METEOROLOGISCH INSTITUUT.

N<sup>o</sup>. 108.

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SEISMISCHE REGISTRERINGEN  
IN DE BILT.

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21.

1933.

—◆—  
1935.

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1929-2012

TE VERKRIJGEN BIJ | EN VENTE CHEZ  
DE RIJKSUITGEVERIJ TE 'S GRAVENHAGE.  
Prijs f 0.70. | Prix fl 0 70.



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#### V O R W O R T.

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Die vorliegende ein und zwanzigste Nummer der Seismischen Registrierungen ist in der Hauptsache in derselben Weise abgefasst wie die vorangehende.

Die Bearbeitung wurde vom Direktor der Seismischen Abteilung, Dr. G. VAN DIJK, gemacht und in der Einleitung erläutert.

Der Hauptdirektor  
des Kgl. Niederl. Meteor. Instituts  
Dr. E. VAN EVERDINGEN.

De Bilt, Dezember 1935.

#### E I N L E I T U N G.

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Die geographischen Koordinaten der Station sind: Breite  $52^{\circ}6'$  N., Länge  $5^{\circ}11'$  E. von Greenwich. Die Höhe des Terrains über dem Meeresniveau beträgt 3m. Der Untergrund besteht aus Sand (diluvialen Ablagerungen).

Die Temperatur im Instrumentenraum war am 1 Januar 893, das Minimum war 591 am 31 Januar, das Maximum 1694 vom 10 zum 13 August, während am 31 Dezember die Temperatur 693 betrug.

#### DIE SEISMOGRAPHEN.

Die folgenden Instrumente waren regelmässig in Betrieb:  
ein Paar Horizontalseismographen und ein Vertikalseismograph mit magnetischer Dämpfung und galvanometrischer Registrierung nach GALITZIN.  
ein astatischer Horizontalseismograph nach WIECHERT,  $M = 200$  kg.  
ein Paar Horizontalpendel von BOSCH,  $M = 25$  kg.

DIE HORIZONTALSEISMOGRAPHEN GALITZIN. Unten sind angegeben: die Galvanometerperiode  $T_1$ , die reduzierte Pendellänge  $l$ , die Entfernung des Galvanometerspiegels vom Registrierpapier  $A_1$ , und weiter die Grenzen der Werte der Eigenperiode des Pendels ohne Dämpfung  $T$ , der Dämpfungskonstante  $\mu_2$  und des Übertragungsfaktors  $k$  während 1933, nach den Bestimmungen in 1933, Ende 1932 und Anfang 1934.

|                                    | Komp.N.S.    | Komp.E.W.    |
|------------------------------------|--------------|--------------|
| Galvanometerperiode T <sub>1</sub> | 24.43s       | 24.96s       |
| Reduzierte Pendellänge l           | 123.13mm     | 122.58mm     |
| Entfernung A <sub>1</sub>          | 1380 "       | 1380 "       |
| Pendelperiode T                    | 23.82, 24.89 | 24.78, 25.48 |
| Dämpfungskonstante $\mu_2$         | -0.09, +0.06 | -0.05, +0.10 |
| Übertragungsfaktor k               | 10.79, 11.01 | 10.36, 11.12 |

DER VERTIKALSEISMOGRAPH GALITZIN. Bei den diesbezüglichen Bestimmungen wurde gefunden: Galvanometerperiode T<sub>1</sub>: 12.0s, reduzierte Pendellänge l: 405.9mm, Entfernung des Galvanometerspiegels vom Registrierpapier A<sub>1</sub>: 1380mm. Als Wert für den Übertragungsfaktor k ergab sich: 21 September 1932 172.3, 20 Januar 1933, 178.5, 13 April 175.2, 9 Juni 175.4, 8 August 171.7, 24 Oktober 172.4, 5 Januar 1934 168.0, im Mittel 173. Die Pendelperiode T war annähernd = 12s, die Dämpfungskonstante  $\mu_2 = 0.0$ .

DIE SEISMOGRAPHEN WIECHERT UND BOSCH. Die Grenzen der Werte der Eigenperiode des Pendels ohne Dämpfung T, des Dämpfungsverhältnisses  $\epsilon$  und der Indikatorvergrößerung V während 1933 waren, nach den Bestimmungen in 1933, Ende 1932 und Anfang 1934:

|                       | T          | $\epsilon$ | V          |
|-----------------------|------------|------------|------------|
| WIECHERT (N.S. Komp.) | 5.0s, 5.1s | 4          | 158, 163   |
| " (E.W. Komp.)        | 5.0, 5.1   | 4          | 172, 177   |
| BOSCH (N.S. Komp.)    | 18.1, 18.3 | 4          | 20.0, 20.5 |
| " (E.W. Komp.)        | 18.1, 18.4 | 4          | 20.2, 20.7 |

 BEARBEITUNG DER SEISMISCHEN REGISTRIERUNGEN;  
 BESTIMMUNG DER HERDE.

Die Bearbeitung der seismischen Registrierungen und die Bestimmung der Herde geschah in nahezu derselben Weise wie in den vorhergehenden Jahren.

Zur Zusammenstellung der Tabellen haben die Diagramme der Seismographen GALITZIN gedient; falls der Lichtpunkt über den Papierrand trat und daher die Umkehrpunkte der Wellen berechnet werden mussten, wurden die Werte der Amplituden mit \* bezeichnet. Wenn die Registrierungen der Seismographen BOSCH und WIECHERT mitbenutzt wurden, ist dies in der Rubrik Bemerkungen mitgeteilt worden; die diesen Seismographen entnommenen Maxima M wurden mit \* bezeichnet. Es sind in den Tabellen keine Korrekturen an die auf den Diagrammen gemessenen Zeiten der Maxima angebracht.

Die folgenden Zeichen wurden angewandt:

- P = undae primae = erste Vorläufer.
- PP = einmal an der Erdoberfläche reflektierte erste Vorläufer.
- PPP = zweimal an der Erdoberfläche reflektierte erste Vorläufer.
- S = undae secundae = zweite Vorläufer.
- SS = einmal an der Erdoberfläche reflektierte zweite Vorläufer.
- SSS = zweimal an der Erdoberfläche reflektierte zweite Vorläufer.
- m = undae maximae = Maxima von Wellen in der Vorphase.
- L = undae longae = lange Wellen.
- M = Maxima der Bodenbewegung im Hauptbeben.
- L' = Oberflächenwellen, die die Station über den Gegenpunkt erreichen.
- M' = Maxima dieser Wellen.
- M'' = Maxima von Oberflächenwellen, die über Station, Gegenpunkt und Herd die Station zum zweiten Mal erreichen.
- F = finis = Ende der sichtbaren Bewegung.
- i = impetus = scharfes Auftreten einer Phase.
- e = emersio = allmähliches Auftreten einer Phase.
- A = Amplitude der wahren Bodenbewegung in  $\mu (= 0.001\text{mm})$ , gerechnet von der Ruhelinie aus.
- AN = Nord-Süd-Komponente von A (+ nach N, - nach S).
- AE = Ost-West-Komponente von A (+ nach E, - nach W).
- AZ = Vertikal-Komponente von A (+ nach dem Zenit, - nach unten).

Der Index N, E oder Z wird zur Angabe der Komponente auch den übrigen Zeichen beigelegt; der Index H wird beigelegt, falls die betreffende Phase sich auf die beiden Horizontalkomponenten bezieht.

$\Delta$  = Epizentralentfernung.

O = Zeit des Bebens im Epizentrum.

Die Zeit ist in mittlerer Greenwicher Zeit, von Mitternacht bis Mitternacht, gezählt von 0 bis 23h, angegeben. Die Periode gibt die Dauer einer Doppelschwingung in Sekunden an. Wenn eine Grösze fraglich war, wurde dieselbe in Klammern gesetzt oder mit einem ? versehen.

Die Epizentralentfernung  $\Delta$  wurde aus S - P berechnet und in Kilometern und in Graden angegeben; die Werte in Kilometern wurden abgeleitet nach den von ZEISSIG zusammengestellten Laufzeittabellen von WIECHERT und ZOEPPRITZ (u.a. vorkommend in Seismological Tables by OTTO KLOTZ), die Werte in Graden nach der Zeittabelle von Dr.S.W.VISSER (s. Verhandlungen, Batavia, N<sup>o</sup>22, 1930, S.116, Corrected Time Tables).

Die unter Bemerkungen angegebenen Herdesind ausser aus den eigenen Registrierungen mit Hilfe der dem Institute in de Bilt zugegangenen Berichte seismischer Stationen und anderen Publikationen abgeleitet oder denselben entnommen. Meistens wurden nur einige Stationen zitiert, in vielen Fällen die herdnächsten Stationen.

Die Erdbebenwarten, deren Berichte für das ganze Jahr oder für einen Teil des Jahres zur Verfügung standen, waren:

Agra, Algier, Alicante, Almeria, Ambon, Apia, Athen, Baku, Barcelona, Batavia, Belgrad, Bergen, Berkeley, Bombay, Calcutta, Cartuja, Chiu-feng, Chur, Denver, Florenz, Florissant, Frankfurt, Göttingen, Halifax, Hamburg, Heizyô, Helwan, Hohenheim, Hongkong, Hukuoka, Husan, Irkutsk, Jena, Keizyô, Kew, Kobe, Kodaikanal, Kopenhagen, Kôti, Kucino, La Paz, La Plata, Lemberg, Little Rock, Ljubljana, Madison, Malabar, Malaga, Manila, Medan, Melbourne, Mizusawa, Mount Hamilton, Nagoya, Neuchâtel, New York (Fordham), Oak Ridge, Osaka, Ottawa, Parc St.Maur, Pasadena, Peichiko, Pulkovo, Quito, Ravensburg, Reykjavik, San Fernando, Saskatoon, Sion, St.Louis, Straszburg, Stuttgart, Sucre, Sumoto, Suva, Sverdlovsk, Sydney (Riverview), Tachkent, Taihoku, Taikyû, Tananarivo, Tokyo, Toledo, Tortosa, Tooyooka, Triest, Uccle, Upsala, Vladivostok, Washington, Wellington, Wien, Zagreb, Zikawei, Zinsen und Zürich.

Die folgenden Abkürzungen wurden benutzt:

C.M.O. = Central Meteorological Observatory, Tokyo.

E.R.I. = Earthquake Research Institute, Tokyo.

J.S.A. = Jesuit Seismological Association, St.Louis.

URSS = Institut Sèismologique de l'Académie des Sciences de l'Union des Républiques Soviétiques Socialistes, Leningrad.

U.S.E. = United States Earthquakes, 1933, Coast and Geodetic Survey, Washington.

## DIE MIKROSEISMISCHE BEWEGUNG.

Die Tabelle S.VIII, die den Charakter der mikroseismischen Bewegung angibt, ist in derselben Weise zusammengestellt wie für die früheren Jahre (vgl. 1915, S.101, 1916, S.101). Es bedeutet: 0 sehr schwach und schwach, 1 mässig, 2 stark und 3 sehr stark. Die Daten sind den Registrierungen des Seismographen WIECHERT entnommen; die Amplituden des Diagrammes (von der Ruhelinie aus gemessen) und die angenäherten Amplituden der Bodenbewegung die den Klassen 0, 1, 2 und 3 entsprechen, sind unten zusammengefasst.

| Klasse | Ampl. Diagramm.       | Ampl. Bodenbewegung.       |
|--------|-----------------------|----------------------------|
| 0      | 0 - $\frac{1}{4}$ mm. | 0 - $1\frac{1}{4}$ $\mu$ . |
| 1      | $\frac{1}{4}$ - 1 "   | $1\frac{1}{4}$ - 5 "       |
| 2      | 1 - 2 "               | 5 - 10 "                   |
| 3      | > 2 "                 | > 10 "                     |

SEISMISCHE REGISTRIERUNGEN IN DE BILT.

VIII

SEISMISCHE REGISTRIERUNGEN IN DE BILT

CHARAKTER DER MIKROSEISMISCHEN BEWEGUNG  
(nach „WIECHERT“).

| Datum 1933 | Jan.  | Febr. | März  | April | Mai   | Juni  | Juli  | Aug. | Sept. | Okt.  | Nov.  | Dez.  |
|------------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|
| 1          | 2,1   | 1,2,1 | 1     | 1     | 0     | 0     | 0     | 2,1  | 0,1   | 0     | 2     | 1,3,2 |
| 2          | 1,2   | 1,2,1 | 1     | 1     | 0,1   | 0     | 0,1,0 | 1,0  | 1     | 0,1   | 2     | 2,1   |
| 3          | 2     | 1     | 1,2   | 1     | 1     | 0     | 0     | 0    | 1,0   | 1,0   | 2,1   | 1,2   |
| 4          | 2,1   | 1     | 2,1   | 1     | 1     | 0     | 0,1,0 | 0    | 0     | 0,1   | 1,0   | 2,1   |
| 5          | 1,2,1 | 1,2   | 1     | 1,0   | 1,0   | 0     | 0     | 0    | 0     | 1     | 0,1,0 | 1     |
| 6          | 1     | 2,1   | 1,2,1 | 0,1,0 | 0,1,0 | 0     | 0     | 0    | 0,1,0 | 1,0   | 0,1   | 1     |
| 7          | 1     | 1,2,1 | 1     | 0     | 0,1   | 0     | 0,1,0 | 0    | 0     | 0     | 1     | 1     |
| 8          | 1     | 1,2   | 1     | 0     | 1     | 0     | 0     | 0,1  | 0,1   | 0,1   | 1     | 1     |
| 9          | 1     | 2     | 1     | 0,1,0 | 1,2,1 | 0,1   | 0     | 1,0  | 1,0   | 1,2   | 1     | 1     |
| 10         | 1     | 2,1   | 1,0   | 0,1   | 1,2,1 | 1     | 0     | 0,1  | 0     | 2,1   | 1     | 1,0   |
| 11         | 1     | 1     | 0,1,0 | 1     | 1,0   | 1     | 0,1,0 | 1,0  | 0     | 1,2   | 1     | 0     |
| 12         | 1     | 1     | 0     | 1     | 0,1,0 | 1     | 0,1,0 | 0    | 0     | 2,1   | 1     | 0,1   |
| 13         | 1     | 1     | 0     | 1     | 0     | 1     | 0,1   | 0    | 0,1   | 1     | 1     | 1,2,1 |
| 14         | 1     | 1     | 0,1   | 1     | 0,1   | 1,0   | 1     | 0    | 1     | 1     | 1     | 1     |
| 15         | 1     | 1     | 1     | 1,2,1 | 1     | 0     | 1,0   | 0,1  | 1     | 1     | 1,2   | 1     |
| 16         | 1     | 1     | 1,2   | 1     | 1,0   | 0,1   | 0     | 1,0  | 1,0   | 1,2   | 2,1   | 1     |
| 17         | 1     | 1     | 2     | 1,0   | 0,1,0 | 1     | 0,1   | 0,1  | 0,1   | 2,1   | 1     | 1     |
| 18         | 1,2,1 | 1,0   | 2,1   | 0,1   | 0,1,0 | 1     | 1,0   | 1    | 1     | 1     | 1     | 1     |
| 19         | 1     | 0,1   | 1,2   | 1     | 0,1,0 | 1,0   | 0     | 1    | 1     | 1     | 1     | 1     |
| 20         | 1     | 1     | 2,3,1 | 1,0   | 0     | 0,1   | 0     | 1    | 1     | 1     | 1     | 1     |
| 21         | 1     | 1     | 1     | 0,1,0 | 0     | 1     | 0     | 1    | 1     | 1     | 1     | 1     |
| 22         | 1     | 1     | 1     | 0,1,0 | 0     | 1,0   | 0     | 1    | 1,0   | 1,0   | 1,0   | 1     |
| 23         | 1     | 1,0   | 1     | 0,1,0 | 0     | 0,1   | 0     | 1    | 0,1   | 0,1,0 | 0,1   | 1     |
| 24         | 1     | 0,2   | 1     | 0,1   | 0     | 1,2,1 | 0     | 1    | 1     | 0,1,0 | 1,2,1 | 1     |
| 25         | 1,0   | 2,1   | 1,0   | 1     | 0,1   | 1,0   | 0     | 1,0  | 1     | 0,1   | 1     | 1     |
| 26         | 0,1,0 | 1     | 0     | 1     | 1,0   | 0,1   | 0     | 0    | 1,0   | 1,3,2 | 1     | 1     |
| 27         | 0,1   | 1     | 0     | 1     | 0,1,0 | 1     | 0     | 0    | 0     | 2     | 1,2,1 | 1     |
| 28         | 1,0   | 1     | 0,1,0 | 1     | 0     | 1     | 0,1   | 0    | 0     | 2     | 1     | 1,2   |
| 29         | 0,1   |       | 0,1,0 | 1,0   | 0     | 1     | 1     | 0    | 0,1   | 2,1   | 1     | 2     |
| 30         | 1     |       | 0,1   | 0,1,0 | 0,1,0 | 1,0   | 1     | 0    | 1,0   | 1     | 1     | 2     |
| 31         | 1,2,1 |       | 1     |       | 0     |       | 1,2   | 0    |       | 1,2   |       | 2,1   |

| DATUM 1933 | PHASE | ZEIT    | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                   |
|------------|-------|---------|---------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jan. 1     | ez    | 0 5     |         |          | (1) Herdangaben: Wellington ca. 16°S, 163°E, Manila 15°S, 167°E, Chiufeng 14°S, 167°E, O 8h48m32s, U.S.E. 16°S, 166°E, O 8h48.7m, Gegend Neue Hebriden.                                                       |
| (1)        | ez    | 11 25   |         |          | Suva: O 8h49m48s, S 8h51m54s, Sydney: 1P 8h53m42s, 1S 8h57m50s                                                                                                                                                |
|            | eL    | (55)    |         |          | Wellington: P 8h54m17s, S 8h59m30s.                                                                                                                                                                           |
| " 3        | eL    | 16 10   |         |          | Starke mikroseismische Bewegung.                                                                                                                                                                              |
| (2)        | W     | 17 28   | 21      | +        | (2) AN = 14.                                                                                                                                                                                                  |
|            | W     | 35      |         |          | Nach C.M.O. gefühlt in Hokkaido und Nord Nippon, Herd: 40°N, 144°E, Großer Ozean, vgl. (5). Andere Angaben: Chiufeng 42°N, 145°E, O 15h26m53s, URSS 50°N, 158°E.                                              |
| " 4        | eL    | 2 11    |         |          | Mizusawa: 1P 15h27m46s, 1S 15h28m24s.                                                                                                                                                                         |
| (3)        | W     | 15 55   | 26      | -        | (3) AE = 23, AN = 17.                                                                                                                                                                                         |
|            | W     | 24 22   | 21      | +        | Nach C.M.O. gefühlt in den Bonin Inseln, Herd: 25°N, 145°E, Andere Angaben: Chiufeng 26°N, 143°E.                                                                                                             |
| " 4        | e(P)z | 4 10 27 |         |          | O 1h24m50s, Manila 25°N, 144°E, URSS 20°N, 138°E, U.S.E. 26°N, 143°E, O 1h24.8m.                                                                                                                              |
| (4)        | eL    | 32      |         |          | Titizima: P 1h25m22.6s, S - P = 26.4s.                                                                                                                                                                        |
|            | P     | 55      |         |          | (4) Nach U.S.E. zerstörend in Seward, Alaska, Herd: 61°N, 147°W, O 3h59.6m, Andere Angaben: J.S.A. 60°N, 145°W, O 3h59m43s, C.M.O. 60°N, 150°W.                                                               |
| " 7        | 1(E)z | 4 19 0  |         |          | Sitka: 1P 4h1m20s, 1 4h2m44s.                                                                                                                                                                                 |
| (5)        | e(S)  | 29 8    |         |          | (5) AE = 46, AN = 55, AN = 46, AZ = 49, AZ = 27, AN = 42.                                                                                                                                                     |
|            | e(SS) | 34 24   |         |          | Δ = (8950)cm, (8125).                                                                                                                                                                                         |
|            | eL    | 45      |         |          | Nach C.M.O. gefühlt in Hokkaido und Nord Nippon, Herd: 40°N, 144°E, Großer Ozean, Andere Angaben: Chiufeng 40°N, 144°E, O 4h6m39s, URSS 40°N, 146°E, Stuttgart ca. 43°N, 141°E, U.S.E. 40°N, 143°E, O 4h6.6m. |
| " 9        | eL    | 7 13    |         |          | Mizusawa: P 4h7m17s, 1S 4h8m0s.                                                                                                                                                                               |
| (6)        | W     | 16 24   | 23      | +        | (6) AE = 7, AN = 4.                                                                                                                                                                                           |
|            | W     | 17 33   | 18      | -        | Nach C.M.O. gefühlt in Nord Nippon und Hokkaido, Herd: 41°N, 142°E, Großer Ozean, vgl. (5). Andere Angaben: Chiufeng 41°N, 143°E, O 6h29m2s, URSS 41°N, 145°E.                                                |
| " 10       | P     | 35      |         |          | Mizusawa: 1P 6h29m34s, 1S 6h30m17s.                                                                                                                                                                           |
| (7)        | 1P    | 2 10 1  |         |          | (7) AZ = 12, AN = 34.                                                                                                                                                                                         |
|            | mz    | 10 5    | 6       | -        | Kondensation. Schwache Hauptphase, tiefer Herd.                                                                                                                                                               |
|            | 1z    | 10 50   |         |          | Gefühlt in Turkestan, Herdangaben: URSS 36°N, 71°E, Strazburg 40°N, 67°E, O 2h1m32s, Stuttgart 36°N, 71°E, Schweiz, Erdb. dienst 40°N, 70°E.                                                                  |
|            | 1z    | 13 58   |         |          | Baku: 1P 2h5m28s, 1S 2h6m29s.                                                                                                                                                                                 |
| " 10       | eL    | 3 57    |         |          | (8) Herd: Gegend Ostchinesisches Meer, Chiufeng gibt: 29°N,                                                                                                                                                   |
| (8)        | W     | 4 5     |         |          |                                                                                                                                                                                                               |
| " 12       | eL    | 2 0     |         |          |                                                                                                                                                                                                               |
| (9)        | P     | 20      |         |          |                                                                                                                                                                                                               |

SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933   | PHASE                                                                        | ZEIT                                                                                                                          | PERIODE                                | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |                                                                              | h m s                                                                                                                         |                                        |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Jan. 14<br>(10) | e<br>o(L)<br>P                                                               | 8 31.6<br>33.1<br>35                                                                                                          |                                        |          | 129°E, O 3h6m29s?, japanische Stationen geben NW.lich von Amami<br>Oshima, nördl. Riu Kiu Inseln.<br>Sumoto: eP 3h9m54s, eSN 3h12m38s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| " 15<br>(11)    | eL<br>MN<br>F                                                                | 19 2<br>6 9<br>20                                                                                                             | 27                                     | -        | (9) Herd nach U.S.E.: 10°N, 87°W, unweit der Westküste von<br>Nikaragua, O 1h17.8m.<br>Florissant: eE 1h23m34s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| " 17<br>(12)    | e(L)<br>MN<br>P                                                              | 19 39<br>57 34<br>20 10                                                                                                       | 18                                     | +        | (10) Nach Wiechert, Papierwechsel Galitzin 8h25.3m-37.1m.<br>Gefühlt in Nord England (Wensleydale), Herd nach Stonyhurst<br>(s. Göttingen): 54°20'N, 2°20'W, O 8h30m20s.<br>Kew: 1 (Sg) 8h31m52s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| " 17<br>(13)    | eL<br>ME<br>ME<br>P                                                          | 22 45<br>49 57<br>49 57<br>23 0                                                                                               | 13                                     | +        | (11) AN = 9.<br>Herd unweit N.E. Neu Guinea, Angaben: C.M.O.5°S, 147°E,<br>Chiufeng 5°S, 147°E, O 18h1m58s? U.S.E. ca. 5°S, 147°E,<br>O 18h2.0m, Wellington 3°S, 157°E.<br>Palau: P 18h6m10.9s, S - P = 3m5.4s, Ambon: 1P 18h6m17s,<br>1S 18h9m40s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| " 18<br>(14)    | e<br>eL<br>ME<br>MN<br>P                                                     | 9 0.9<br>6.5<br>14<br>17 1<br>21 2<br>10 20                                                                                   | 47<br>42                               | +        | (12) AN = 3.<br>Herd nach URSS: 35°S, 60°E, Indischer Ozean.<br>Tananarivo: eP 18h51m50s, eS 18h55m5s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| " 21<br>(15)    | eL<br>MN<br>ME<br>ME<br>F                                                    | 16 51<br>55 44<br>56 34<br>56 40<br>17 10                                                                                     | 11                                     | -        | (13) AE = 7, AZ = 9.<br>Herd nach URSS: 42°N, 86°E, Tien Chan, Zentral Asien.<br>Tachkent: 1P 22h20m10s, Chiufeng 1P 22h20m58s, S 22h24m44s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| " 21<br>(16)    | 1Pz<br>1z<br>e<br>eL<br>ME<br>ME<br>ME<br>MN<br>ME<br>M'z<br>M'z<br>M'N<br>P | 19 34 47<br>36 43<br>38.9<br>45 30<br>20 2<br>16 12<br>24 4<br>29 11<br>31 21<br>31 22<br>21 46 23<br>47 26<br>48 19<br>23 50 | 24<br>18<br>16<br>17<br>18<br>17<br>17 | +        | (14) AE = 17, AN = 13.<br>Herd: Südl. Atlantischer Ozean, N.W.lich von Tristan da Cunha.<br>La Plata: P 8h43.96m, S 8h49.1m, O 8h37.3m, La Paz:<br>Pz 8h45m59s, eSN 8h52m25s, Tananarivo: e 8h55m14s.<br>Keine Reg.: 19 8h50m-15h30m; 20, 10h32m-15h32m.<br>(15) AN = 9, AE = 9, AZ = 9.<br>Herd nach URSS: 48°N, 90°E, Alta1.<br>Tachkent: 1P 16h17m23s, 1S 16h30m19s.<br>(16) AE = 77, AZ = 79, AZ = 61, AN = 73, AZ = 55, AE = 26,<br>AZ = 27, AN = 19.<br>Herd: Indischer Ozean, S.E. von Madagaskar; Angaben:<br>Tananarivo 35°S, 57°E, URSS 35°S, 61°E, Chiufeng 33°S,<br>58°E, O 19h21m17s, Strassburg 34°S, 58°E, O 19h21m0s,<br>Stuttgart 35°S, 56°E, O 19h21m3s, J.S.A. 41°S, 59°E,<br>O 19h20m57s, St. Louis 33°S, 57°E, O 19h21m21s,<br>U.S.E. 34°S, 58°E, O 19h21.2m.<br>Tananarivo: 1P 19h25m13s, 1S 19h26m42s. |
| " 23<br>(17)    | 1(P)z<br>e(L)<br>ME<br>ME<br>P                                               | 18 33 20<br>59<br>19 1 45<br>1 57<br>15                                                                                       | 14<br>14                               | -        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933   | PHASE                                             | ZEIT                                                                        | PERIODE  | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------|---------------------------------------------------|-----------------------------------------------------------------------------|----------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |                                                   | h m s                                                                       |          |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Jan. 24<br>(18) | e(L)<br>F                                         | 16 17<br>40                                                                 |          |          | (17) AZ = 3, AE = 7.<br>Herd: S.W.licher Groszer Ozean.<br>Apia: eP 18h16m50s, S 18h18m36s.                                                                                                                                                                                                                                                                                                                                                                                          |
| " 27<br>(19)    | Pz<br>mz<br>oz<br>eS<br>eN<br>e(L)E<br>ME<br>MN   | 22 56 10<br>56 20<br>59 24<br>23 18.2<br>18.9<br>36<br>37 20 42<br>49 50 24 | 5        | -        | (18) Nach U.S.E. in Michoacan, Mexiko, gefühlt. Herd:<br>ca. 18°N, 102°W, O 15h39.1m.<br>Little Rock: 1P 15h43m16s, 1S 15h46m36s<br>(19) AE = 5, AE = 30, AN = 8, AE = 8, AZ = 7.<br>Nach Apia auf den Samoa Inseln, St.V. gefühlt. Herdangaben:<br>Wellington ca. 12°S, 175°W, U.S.E. 16°S, 171°W, O 22h36.7m,<br>Chiufeng 14°S, 172°W, O 22h36m44s, URSS 20°S, 177°W,<br>J.S.A. 9°S, 173°W, O 22h36m41s, Little Rock 14°S,<br>173°W, Stuttgart 17°S, 171°W.<br>Apia: 1P 22h37m35s. |
| " 28            | ME<br>ME<br>F                                     | 0 5 5<br>5 46<br>1 30                                                       | 18<br>17 | +        | (20) Herd: S.W.licher Groszer Ozean?<br>Sydney: e(P) 10h59m46s, 1(S)N 11h3m46s, Suva: e 11h0m(0)s.<br>(21) AN = 3, AZ = 3.<br>Herd nach Chiufeng: 24°N, 122°E, nahe Formosa, O 18h5m16s.<br>Taihoku: P 18h5m34s, Zikawei: ez 18h6m52s, Se 18h8m32s.                                                                                                                                                                                                                                  |
| " 29<br>(20)    | e(P)z<br>eL<br>P                                  | 11 14 39<br>12 16<br>40                                                     |          |          | (22) AN = 15, AE = 12, AZ = 12.<br>Δ = (8650) μm; (7878).<br>Herd: Gegend der Kurilen, Angaben: URSS 47°N, 154°E,<br>Chiufeng 46°N, 152°E, J.S.A. 46°N, 151°E, U.S.E. 46°N, 151°E,<br>O 22h11.8m, Little Rock 47°N, 147°E.<br>Mizusawa: eP 22h14m15s, 1S 22h16m11s.                                                                                                                                                                                                                  |
| " 29<br>(21)    | eL<br>MN<br>ME<br>F                               | 18 51<br>19 1 36<br>1 46<br>10                                              | 17       | +        | (23) Erdbeben in S.W. Deutschland, St.VII-VIII in Rastatt<br>(Baden), Herd nach Stuttgart 48°51'N, 8°12'E, O 7h7m12s.<br>Strassburg: 1P 7h7m16s, Stuttgart: P 7h7m26.5s.<br>Keine Reg.: 10, 14h22m-16h14m.<br>(24) AN = 47, AE = 79, AZ = 82.                                                                                                                                                                                                                                        |
| Febr. 3<br>(22) | e(P)z<br>eS<br>e(SS)<br>eL<br>MN<br>ME<br>Mz<br>F | 22 23 43<br>33 36<br>39.5<br>53<br>57 18 25<br>23 1 24 21<br>1 58 20<br>40  |          |          | (25) Herd nach japanischen Stationen östlich von Kap Nosy-<br>appu, Hokkaido?<br>Mizusawa: eP 23h9m2s, eS 23h10m52s.                                                                                                                                                                                                                                                                                                                                                                 |
| " 8<br>(23)     | e<br>F                                            | 7 9.2<br>12                                                                 |          |          | (26) Herd: S.W.licher Groszer Ozean?<br>Suva: P 5h25m42s, S 5h28m0s, Wellington: 1 5h31m15s,<br>L 5h34m18s, Pasadena: ePz 5h34m41s.                                                                                                                                                                                                                                                                                                                                                  |
| " 13<br>(24)    | 1Pz<br>eL<br>MN<br>ME<br>Mz<br>F                  | 2 58 34<br>3 14<br>20 46 11<br>22 43 12<br>22 43 12<br>4 15                 |          | +        | (25) Herd nach japanischen Stationen östlich von Kap Nosy-<br>appu, Hokkaido?<br>Mizusawa: eP 23h9m2s, eS 23h10m52s.                                                                                                                                                                                                                                                                                                                                                                 |
| " 13            | eL                                                | 23 49                                                                       |          |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| " 14<br>(25)    | F                                                 | 0 10                                                                        |          |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| " 14<br>(26)    | eL<br>P                                           | 6 54<br>7 25                                                                |          |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933   | PHASE                                           | ZEIT                                                                            | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                          |
|-----------------|-------------------------------------------------|---------------------------------------------------------------------------------|---------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |                                                 | h m s                                                                           |         |          |                                                                                                                                                                                                                                                                                                                                                                      |
| Febr.16<br>(27) | e<br>eL<br>F                                    | 9 32<br>10 7<br>35                                                              |         |          | (27) Herd nach Batavia: 299 N, 12791 E, O 9h8m3s, Molukken Strasse. URSS gibt: 0°, 12295 E, Celebes. Ambon: P 9h9m43s, S 9h10m57s.                                                                                                                                                                                                                                   |
| " 18<br>(28)    | eL<br>MN<br>P                                   | 5 35<br>35 24 12<br>40                                                          |         |          | (28) AN = 3. Zagreb gibt: Kozara planina (Bosnien). Zagreb: eP 5h28m, eS 5h29m16s, Triest: P 5h28m26s.                                                                                                                                                                                                                                                               |
| " 19<br>(29)    | e(L1)<br>e(L2)<br>MN<br>ME<br>MZ<br>P           | 5 13<br>24<br>35 41 18<br>37 23 17<br>37 30 16<br>55                            |         |          | (29) AN = 3, AE = 3, Az = 2.5. Ueberlagerung von zwei Beben. Angaben: 1. Manila (nach Taiboku) 2495 N, 12298 E, Südl. Riu Kiu Inseln, Chiufeng 25°N, 123°E. O 4h26m13s, Työsen 2492 N, 12294 E, Zikawei; ez 4h27m38s, Manila P 4h28m35s, S 4h30m30s. 2. nach Manila gefühlt in S.E. Luzon, St. VIII in Daet, Herd: 14°10'N, 120°40'E. Manila: P 4h36m1s, S 4h36m26s. |
| " 19<br>(30)    | eZ<br>e<br>eL<br>ME<br>MN<br>MZ<br>P            | 8 56 36<br>9 10.1<br>42<br>54 31 21<br>55 56 20<br>56 17 20<br>11 5             |         |          | (30) AE = 4, AN = 4, Az = 4. Herdangaben: Wellington zwischen den Solomon Inseln und den Neuen Hebriden, Chiufeng 11°S, 164°E, O 8h34m37s, URSS 997 S, 15193 E, Stuttgart ca. 13°S, 163°E, U.S.E. 11°S, 163°E, O 8h34.7m. Suva: P 8h39m(0)s, S 8h42m30s, Sydney: eP 8h40m4s, IS 8h44m46s.                                                                            |
| " 20<br>(31)    | eL<br>P                                         | 10 40<br>55                                                                     |         |          | (31) Nach C.M.O. gefühlt in Nippon (Onahama), Herd: 3790 N, 14293 E, Großer Ozean, E von Kap Siocya. Chiufeng gibt: 35°N, 143°E, O 9h51m15s. Mizusawa: P 9h51m47s, S 9h52m17s.                                                                                                                                                                                       |
| " 20<br>(32)    | eL<br>P                                         | 11 45<br>12 15                                                                  |         |          | (32) Zwei Beben? 1. Herd nach URSS 59°N, 173°E, Bering Meer. Sverdlovsk: 1P 11h10m20s, IS 11h17m43s; 2. Herd nach Nagoya und Osaka, E von Miyako, Nord Nippon, Mizusawa eP 11h6m10s, eS 11h6m47s.                                                                                                                                                                    |
| " 21<br>(33)    | eL<br>MN<br>ME<br>P                             | 19 25<br>29 43 24<br>31 46 22<br>50                                             |         |          | (33) AN = 5, AE = 4. Herd nach URSS: 28°N, 55°E, Süd Persien. Baku: eP 19h6m21s, IS 19h9m2s. Keine Reg. Vert. Komp.: 21, 8h34m-22, 8h36m.                                                                                                                                                                                                                            |
| " 22<br>(34)    | eL<br>P                                         | 4 44<br>5 5                                                                     |         |          | (34) Herdangaben: Batavia 592 N, 12692 E, Philippinen. O 3h47m42s, Chiufeng 5°N, 126°E, O 3h47m57s. Manila: eP 3h48m26s, S 3h50m40s.                                                                                                                                                                                                                                 |
| " 22<br>(35)    | eL<br>ME<br>ME<br>P                             | 18 23<br>28 16 14<br>28 22 13<br>50                                             |         |          | (35) AN = 13, Az = 15. Herd nach URSS: 4295 N, 8095 E, Zentral Asien, Tien Chan. Sverdlovsk: 1P 18h1m21s, IS 18h4m50s.                                                                                                                                                                                                                                               |
| " 23<br>(36)    | P<br>PPZ<br>e(SS)<br>eL<br>MN<br>ME<br>ME<br>MZ | 8 22 48<br>26 42<br>40 48<br>54<br>54 59 33<br>59 37 26<br>9 3 38 20<br>3 59 19 |         |          | (36) AN = 114, AE = 110, AE = 199, AE = 228, AN = 140, AE = 76. Kondensation. Zerstörendes Erdbeben in Nord Chile (Iquique). Herdangaben: La Paz 1893 S, 70°W, J.S.A. 1995 S, 71°W, O 8h9m38s, U.S.E. 2097 S, 7092 W, O 8h9.3m, Strassburg                                                                                                                           |

SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933  | PHASE                                                        | ZEIT                                                                                                             | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                |                                                              | h m s                                                                                                            |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Febr.23        | MN<br>MZ<br>P                                                | 9 4 8 19<br>13 14 17<br>12 0                                                                                     |         |          | 18°S, 72°W, O 8h8m57s, Chiufeng 1995 S, 70°W, O 8h9m22s, URSS 20°S, 7795 W. La Paz: 1P 8h10m28s, IS 8h11m24s. Papierwechsel: 8h27.4m-37.4m.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| " 24<br>(37)   | eL<br>P                                                      | 18 18<br>30                                                                                                      |         |          | (37) (Baku: eP 18h0m33s, eS 18h8m48s, L 18h23m). (38) Herd: Gegend der Marianen. Guam (nach Manila): Δ = 180 km, Manila: P 1h18m48s, S 1h22m51s, Sverdlovsk: P 1h25m19s, eS 1h35m5s.                                                                                                                                                                                                                                                                                                                                                                                                    |
| " 25<br>(38)   | eL<br>P                                                      | 2 10<br>26                                                                                                       |         |          | (39) AN = 6, AE = 13, Az = 12. Herd: Gegend E.liches Mittelmeer; URSS gibt: 3495 N, 25°E. Athen: eP 23h20m47s, (S) 23h21m55s.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| " 25<br>(39)   | e(S)<br>eL<br>MN<br>ME<br>MZ<br>P                            | 23 28 44<br>31.5<br>34 49 16<br>34 58 19<br>34 59 17<br>50                                                       |         |          | (40) Nach Boll. Siam. Roma gefühlt in Sciacca (Sizilien), St. VI, 2h50m. Keine Reg.: 27, 14h31m-16h23m.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| " 26<br>(40)   | eL<br>P                                                      | 2 59<br>3 7                                                                                                      |         |          | (41) AN = 3. Herd nach Wellington nahe 55°S, 142°E, südl. von Ost Australien.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| " 27<br>(41)   | eL<br>MN<br>P                                                | 17 29<br>51 34 18<br>18 20                                                                                       |         |          | Melbourne: e 16h15.3m? L 16h19m20s. Sydney: eP 16h15m24s, IS 16h19m10s, Wellington: P 16h15m25s, S 16h19m42s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| " 28<br>(42)   | e<br>ME<br>ME<br>P                                           | 22 28<br>32 12 13<br>32 15 14<br>45                                                                              |         |          | (42) AN = 2.5, Az = 2. Herd: Atlantischer Ozean? Toledo: P 22h24m10s, Cartuja: 1P 22h24m35s. Keine Reg.: 1, 11h45m-15h21m; 2, 9h21m-10h50m.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| März 1<br>(43) | eL<br>P                                                      | 16 52<br>56                                                                                                      |         |          | (43) Herd: Ost Asien? Chiufeng: eP 16h17m5s, S 16h21m38s, Peichiko: eP 16h18m28s, SN 16h24m10s, Sverdlovsk: P 16h20m4s, eS 16h25m3s.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| " 2<br>(44)    | (e)<br>eL<br>P                                               | 8 38<br>9 4                                                                                                      |         |          | (44) Nach Manila in Guam gefühlt, Δ = 145 km., vgl. (38); Herd nach C.M.O.: 15°N, 144°E, Marianen. P nach 9h21m. Palau: P 8h12m32.1s, S - P = 2m21.9s.                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| " 2<br>(45)    | 1P<br>S<br>eL<br>MN*<br>ME*<br>ME*<br>ME*<br>MN*<br>MN*<br>P | 17 43 21<br>53(38)<br>18 7<br>16 (0) 27<br>16 (15) 26<br>18(50) 21<br>22(25) 19<br>23(40) 20<br>26(45) 18<br>0 0 |         |          | (45) AN*=(6100), AE*=(5700), AE*=(3200), AE*=(2800), AN*=(3200), AN*=(2900). Δ = (9120) km; (8392), Dilatation. Erdbeben in N.E. Japan (Sanriku Erdbeben), herd im Großen Ozean. zerstörende Plutwelle. Viele Nachbeben. Herdangaben: C.M.O. 3921 N, 14497 E, E.R.I. 3895 N, 14490 E, Chiufeng 39°N, 14495 E, O 17h31m0s, URSS 4299 N, 15399 E, Apia 38°N, 142°E, Stuttgart 39°N, 144°E, O 17h30m55s, Strassburg 39°N, 14295 E, O 17h30m54s, Uccle ca. 39°N, 143°E, J.S.A. 3995 N, 143°E, O 17h31m6s, U.S.E. 39°N, 144°E, O 17h31.0m, Bull. E.R.I. Vol. XIII, a.173, 39915 N, 144940 E. |
| " 3<br>(46)    | eL<br>ME*<br>MN*<br>P                                        | 21 29<br>32 5 19<br>35 15 18                                                                                     |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |



SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933  | PHASE                                               | ZEIT                                                                        | PERIODE              | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------|-----------------------------------------------------|-----------------------------------------------------------------------------|----------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                |                                                     | h m s                                                                       | s                    |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| März 3<br>(47) | eL<br>P                                             | 1 3<br>35                                                                   |                      |          | Mizusawa: 1P 17h31m39s, Pasadena: 1Pz 17h42m31s.<br>Die Maxima nach Bosch, die anderen Angaben nach Galitzin.<br>Ausschläge Galitzin in der Hauptphase zu stark um gemessen<br>zu werden.                                                                                                                                                                                                                                                                                                         |
| " 3<br>(48)    | eL<br>P                                             | 3 8<br>30                                                                   |                      |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| " 3<br>(49)    | eL<br>MN<br>ME<br>F                                 | 5 20<br>33 9<br>36 44<br>6 5                                                | 16<br>15             | +        | (46) $A_E^* = 24$ , $A_N^* = 30$ . Nach Wiechert. P im vorigen Beben.<br>Nachbeben von (45), Herd nach C.M.O. 39°3 N, 144°6 E.<br>Mizusawa: 1P 20h43m25s, 1S 20h43m53s, Pasadena: e 20h54m36s.<br>(47) Nachbeben von (45).                                                                                                                                                                                                                                                                        |
| " 3<br>(50)    | Pz<br>PPz<br>SLE<br>PZ<br>eL<br>ME<br>ME<br>MN<br>P | 9 25 13<br>28 20<br>35 27<br>51 5<br>54<br>10 0 37<br>5 31<br>5 32<br>11 40 | 20                   | -        | Mizusawa: P 0h19m5s, S 0h19m26s, Pasadena: 1Pz 0h29m58s.<br>(48) Nach Manila gefühlt in W. Luzon, St. IV, Herd: Zambales<br>Berge. Herdangaben: Chiufeng 16°N, 119°5 E, O 2h19m39s,<br>URSS 16°5 N, 121°5 E.<br>Manila: P 2h20m0s, S 2h20m15s.<br>(49) $A_N = 3$ , $A_Z = 2.5$ .<br>Nachbeben von (45). Herdangaben: C.M.O. 39°0 N, 143°6 E,<br>Chiufeng 39°N, 144°5 E, O 4h37m46s.<br>Mizusawa: 1P 4h38m27s, 1S 4h38m52s, Pasadena: 1P 4h49m27s.                                                 |
| " 3<br>(51)    | eL<br>P                                             | 12 44<br>13 25                                                              |                      |          | (50) $A_E = 21$ , $A_Z = 20$ , $A_N = 20$ .<br>$\Delta_1 = 9060$ km; 82°6.                                                                                                                                                                                                                                                                                                                                                                                                                        |
| " 3<br>(52)    | eL<br>ME<br>MN<br>MN<br>ME<br>P                     | 15 46<br>51 8<br>54 57<br>59 21<br>16 0 9<br>20                             | 22<br>19<br>17<br>16 | -        | Überlagerung einiger Nachbeben von (45). Herdangaben:<br>C.M.O. 9h13m, 9h39m, 39°N, 143°E; 10h4m, 39°N, 144°E;<br>10h32m, 39°7 N, 143°0 E, Chiufeng 9h12m44s, 9h38m35s, 10h32m6s,<br>39°N, 144°5 E, URSS 9h13m, 39°5 N, 146°0 E, U.S.E. 9h12.7m, 39°N,<br>144°E, Manila 9h13m, Gegend 39°N, 150°E.<br>Mizusawa: 1P 9h13m21s, 1S 9h13m57s; 1P 9h39m13s, 1S 9h39m37s;<br>eP 10h4m11s, 1S 10h4m35s; P 10h(32m48s), S 10h(33m16s),<br>Pasadena: eP 9h24m37s, 1P 9h50m23s, 1P 10h15m46s, 1P 10h43m58s. |
| " 3<br>(53)    | eL<br>P                                             | 16 38<br>55                                                                 |                      |          | (51) Überlagerung von 2 Nachbeben von (45), Herdangaben:<br>C.M.O. 11h57m, 38°2 N, 145°0 E, Chiufeng 11h56m28s und 12h13m52s,<br>39°N, 144°5 E.                                                                                                                                                                                                                                                                                                                                                   |
| " 3<br>(54)    | eL<br>P                                             | 16 58<br>17 20                                                              |                      |          | Mizusawa: 1P 11h57m10s, 1S 11h57m34s; 1P 12h14m33s,<br>1S 12h15m1s, Pasadena: 1Pz 12h8m19s, 1Pz 12h25m27s.                                                                                                                                                                                                                                                                                                                                                                                        |
| " 3<br>(55)    | eL<br>ME<br>MN<br>P                                 | 19 53<br>56 14<br>59 35<br>20 15                                            | 22<br>20             | +        | (52) $A_E = 5$ , $A_N = 5$ , $A_Z = 4$ , $A_Z = 4$ .<br>Überlagerung von 2 Nachbeben von (45). Herdangaben: C.M.O.<br>15h2m, 39°0 N, 144°4 E; 15h8m, 39°4 N, 144°0 E, Chiufeng 15h2m2s?<br>39°N, 144°5 E.                                                                                                                                                                                                                                                                                         |
| " 5            | e(L)z<br>e(L)N<br>MN<br>P                           | 9 16<br>17<br>30 2<br>50                                                    | 18                   | -        | Mizusawa: 1P 15h2m48s, 1S 15h3m16s; P 15h7m40s, 1S 15h8m3s,<br>Pasadena: 1Pz 15h13m56s, 1Pz 15h18m57s.                                                                                                                                                                                                                                                                                                                                                                                            |
| " 6<br>(57)    | eLN<br>eLE<br>ME                                    | 13 41<br>44<br>49 2                                                         | 17                   | +        | (53) und (54). Nachbeben von (45). Herdangaben: C.M.O. 15h51m, 39°0 N,<br>143°7 E; 16h12m, 39°1 N, 145°1 E.<br>Mizusawa: P 15h(51m14s), S 15h(51m40s); P 16h12m29s, 1S 16h13m0s.                                                                                                                                                                                                                                                                                                                  |

SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933 | PHASE                                         | ZEIT                                                                  | PERIODE        | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------|-----------------------------------------------|-----------------------------------------------------------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |                                               | h m s                                                                 | s              |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| März 6        | ME<br>P                                       | 13 49 3<br>14 0                                                       | 19             | -        | (55) $A_E = 4$ , $A_N = 4$ .<br>Nachbeben von (45). Herdangaben: C.M.O. 39°0 N, 144°4 E,<br>Chiufeng 39°N, 144°5 E, O 19h7m18s.                                                                                                                                                                                                                                                                                                                                                                      |
| " 7<br>(58)   | eL<br>MN<br>ME<br>ME<br>P                     | 14 47<br>49 59<br>50 1<br>50 1<br>15 0                                | 12             | +        | Mizusawa: 1P 19h8m0s, 1S 19h8m27s.<br>(56) $A_N = 2.5$ .<br>Nach Batavia gefühlt in Laiwoei, Obi Inseln, Molukken, St. VI,<br>Herd: 1°2 S, 127°9 E, O 8h19m54s.<br>Ambon: 1P 8h20m33s, S 8h21m4s.                                                                                                                                                                                                                                                                                                    |
| " 8<br>(59)   | eL<br>MN<br>MZ<br>P                           | 2 19<br>27 56<br>28 5<br>50                                           | 19<br>18       | -        | (57) $A_Z = 7$ , $A_E = 8$ .<br>Nach India Weather Review gefühlt in Dhubri, St. VII, Herd<br>Gazo Hügel, West Assam. Andere Angaben: Chiufeng 25°N, 90°E,<br>O 13h5m30s, URSS 28°N, 93°E.<br>Calcutta: P 13h5m43s, S 13h6m30s.                                                                                                                                                                                                                                                                      |
| " 9<br>(60)   | e<br>F                                        | 20 53<br>55                                                           |                |          | (58) $A_N = 6$ , $A_E = 5$ , $A_Z = 6$ .<br>Nach Boll. Sism. Roma gefühlt St. VI in der Gegend des Volturno<br>Süd Italien.<br>Florenz: P 14h41m12s, S 14h42m18s.                                                                                                                                                                                                                                                                                                                                    |
| " 9<br>(61)   | eL<br>P                                       | 22 6<br>45                                                            |                |          | (59) $A_N = 4$ , $A_Z = 3$ .<br>Nachbeben von (45), Herd nach C.M.O. 39°6 N, 144°0 E; URSS<br>gibt 42°N, 148°E.                                                                                                                                                                                                                                                                                                                                                                                      |
| " 10<br>(62)  | eL<br>P                                       | 8 27.5<br>34                                                          |                |          | Mizusawa: 1P 1h36m11s, 1S 1h36m33s, Pasadena: 1P 1h47m23s.<br>(60) Vorbeben von (62), nach Athen gefühlt in Psara und<br>Chica, Ägäisches Meer?                                                                                                                                                                                                                                                                                                                                                      |
| " 11<br>(63)  | Pz<br>S<br>e(SS)<br>eL<br>ME<br>MN<br>ME<br>F | 2 6 29<br>16 41<br>22 1<br>33<br>39 45<br>44 23<br>44 25<br>4 0       | 21<br>15<br>15 | +        | Athen: eP 20h42m(24)s, Stuttgart: e 20h50.5m.<br>(61) Herd: S.W.licher Groszer Ozean.<br>Suva: e 20h29m18s, Wellington: P 20h35m47s, S 20h37m40s.                                                                                                                                                                                                                                                                                                                                                    |
| " 11<br>(64)  | eL<br>P                                       | 8 19<br>42                                                            |                |          | (62) Nach Athen gefühlt in Psara und Chios, Ägäisches Meer?<br>Athen: 1P 6h8m(18?)23s, L 6h8m(18?)42s, Stuttgart: e 6h25.4m.                                                                                                                                                                                                                                                                                                                                                                         |
| " 11<br>(65)  | Pz<br>S<br>eL<br>ME<br>MN<br>MZ<br>ME<br>P    | 14 34 12<br>44 18<br>15 1<br>5 37<br>13 46<br>18 12<br>19 10<br>17 15 | 26<br>15<br>14 | -        | (63) $A_E = 42$ , $A_N = 23$ , $A_Z = 25$ .<br>$\Delta = 9020$ km; 82°2. Kondensation.<br>Zerstörendes Erdbeben in Kalifornien (Long Beach Erdbeben),<br>Herd im Groszen Ozean. Angaben: Bull. Sism. Soc. America,<br>Vol. 23, p. 56: nahe 33°34'15 N, 117°59' W, O 1h54m8s, J.S.A.<br>32°8 N, 118°5 W, O 1h54m4s, U.S.E. 33°6 N, 118°0 W, O 1h54.1m,<br>URSS 31°5 N, 122°5 W, Chiufeng 33°6 N, 118°W, O 1h54m13s,<br>Schweiz. Erdb. dienst 32°8 N, 118°W. Viele Nachbeben.<br>Pasadena: P 1h54m19s. |
| " 11<br>(66)  | 1Pz<br>1z<br>1z<br>e(S)H<br>eH<br>ME          | 19 44 58<br>46 52<br>48 48<br>54 44<br>55 10<br>20 22 19              | 22             | +        | (64) (Melbourne: 1 7h33m0s, L 7h39m, Sverdlovsk: 1P 7h30m43s,<br>L 8h0m, Chiufeng 7h41m23s). Papierwechsel 8h26.2m-35.7m.<br>(65) $A_E = 12$ , $A_N = 12$ , $A_Z = 9$ , $A_Z = 13$ .<br>$\Delta = 8910$ km; 81°2.                                                                                                                                                                                                                                                                                    |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933 | PHASE | ZEIT     | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------|-------|----------|---------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |       | h m s s  |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| März 11       | MN    | 20 27 18 | 17      | -        | Herd: Großer Ozean, E von Nord Japan; Mizusawa und Tyōsen geben: Nachbeben von (45). Herdangaben: Chiufeng 43°N, 147°E, 0 14h22m8s, URSS 40°N, 149°E, Stuttgart 46°N, 148°E, U.S.E. 42°N, 148°E, 0 14h22.1m.<br>Mizusawa: eP 14h23m36s, 1S 14h24m37s.                                                                                                                                                                                                                                                                                                                                                          |
|               | MZ    | 33 9     | 14      | +        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | F     | 21 45    |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| " 12          | eL    | 5 51     |         |          | (66) AE = 12, AN = 13, AZ = 6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| (67)          | F     | 6 20     |         |          | Dilatation. Tiefer Herd. Gefühlt in den Bonin Inseln und in Nippon. Herdangaben: C.M.O. 28°N, 140°E, Tiefe ca. 350 km<br>Geoph. Mag., Tokyo, Vol. VIII, S. 79, 26°29'N, 140°53'E, Tiefe 510 km, S. 182, 26°4'N, 140°2'E, Tiefe 300 km, Chiufeng 31°N, 139°E, 0 19h32m40s, URSS 34°N, 138°E, Manila Gegend 24°N, 138°E, U.S.E. 27°N, 140°E, 0 19h32.7m, Stuttgart 33°N, 128°E, 0 ca. 19h33m15s, Tiefe ca. 400 km, Gerlands Beitr. zur Geophysik, Bd. 44, S. 357, Tiefe 470 km.<br>Titizima: P 19h33m49.1s, S-P=51.0s, Sumoto: 1P 19h34m50s, Tokyo: P 19h34m50.4s, Nagoya: 1P 19h34m51.0s, Osaka: P 19h34m52.0s. |
| " 12          | e     | 15 30    |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| (68)          | F     | 34       |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| " 13          | eL    | 8 2      |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| (69)          | MN    | 9 2      | 16      | -        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | ME    | 9 13     | 15      | +        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | F     | 25       |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| " 13          | eL    | 14 5     |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| (70)          | F     | 15       |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| " 13          | eL    | 18 8     |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| (71)          | F     | 40       |         |          | (67) Nach japanischen Stationen Nachbeben von (45); URSS gibt Herd: 36°N, 140°E.<br>Mizusawa: P 5h6m31s, S 5h7m9s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| " 14          | 1Pz   | 1 24 3   |         |          | (68) Nach Athen Nachbeben von (62), Ägäisches Meer.<br>Athen: Pz 15h19m43s, L 15h20m3s, Stuttgart: e 15h27.7m.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| (72)          | S     | 27 43    |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | eL    | 29       |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | MN    | 30 49    | 14      | +        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | ME    | 31 17    | 11      | -        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | MZ    | 32 37    | 10      | -        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | F     |          |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| " 14          | 1(F)z | 1 39 51  |         |          | (70) Nachbeben von (63), Kalifornien. Nach Pasadena Herd nahe 33°37'N, 118°1'W.<br>Pasadena: 1P 13h18m39s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| (73)          | S     | 47 37    |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | eL    | 55       |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | ME    | 2 0 30   | 19      | -        | (71) Herd: S.W.licher Großer Ozean? Vgl. (61).<br>Suva: e 16h39m26s, Wellington: P 16h39m10s, L 16h42m0s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|               | ME    | 2 36     | 16      | -        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | MN    | 3 5      | 17      | +        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | F     | 55       |         |          | (72) AN = 30, AE = 21, AZ = 10.<br>Δ = 2200 km; 20°3. Dilatation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| " 15          | eL    | 5 18 10  |         |          | Nach Athen sehr stark gefühlt in Psara, weiter in Lesbos, Lemnos, Chios und Skyros, Herd: N.liches Ägäisches Meer, vgl. (68). Herdangaben: Stuttgart ca. 38°N, 25°E, 0 1h19m30s, URSS 39°N, 25°E, U.S.E. 37°N, 26°E, 0 1h19.5m.<br>Athen: 1P 1h20m3s, 1L 1h20m22s, Δ = 170 km.<br>P im folgenden Beben.                                                                                                                                                                                                                                                                                                        |
| (74)          | eL    | 6 21     |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | MZ    | 30 13    | 19      | -        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | MN    | 32 54    | 19      | -        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | ME    | 33 19    | 19      | -        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | F     | 7 30     |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| " 17          | 1Pz   | 16 6 49  |         |          | (73) AE = 13, AZ = 8, AN = 10.<br>Herd: Atlantischer Ozean, Gegend von Ascension.<br>La Plata: L 1h45.7m, Sucre: eP 1h39m30s, S 1h47m12s, La Paz: 1P 1h39m49s, 1S 1h47m42s, Washington: P 1h40.49m, S 1h50.72m.                                                                                                                                                                                                                                                                                                                                                                                                |
| (75)          | S     | 16 7     |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | e(L)E | 26       |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | e(L)N | 29       |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|               | ME    | 37 54    | 24      | +        | (74) AZ = 5, AN = 4, AE = 4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|               | ME    | 44 8     | 19      | +        | Herd: Gegend der Samoa Inseln (Tonga Inseln?)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|               | MZ    | 44 9     | 19      | -        | Apia: eP 5h0m27s, S 5h2m1s, Suva: P 5h2m(0)s, S 5h4m20s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933 | PHASE  | ZEIT     | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                              |
|---------------|--------|----------|---------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |        | h m s s  |         |          |                                                                                                                                                                                                                                                                          |
| März 17       | MN     | 16 44 38 | 19      | -        | (75) AE = 45, AN = 36, AZ = 43, AN = 43.<br>Δ = 7960 km; 72°4.                                                                                                                                                                                                           |
|               | F      | 17 50    |         |          |                                                                                                                                                                                                                                                                          |
| " 17          | e(P)z  | 19 46 34 |         |          | Herd: Gegend Kamtschatka - Aleuten. Angaben: C.M.O. 55°N, 164°E, Tyōsen und Hukuoka 51°N, 166°E, URSS und Stuttgart 55°N, 162°E, Chiufeng 55°N, 159°E, 0 15h55m29s, J.S.A. 56°N, 160°E, 0 15h55m33s, U.S.E. 56°N, 160°E, 0 15h55.5m.<br>Mizusawa: P 16h0m8s, eS 16h4m2s. |
| (76)          | e(PP)z | 50 52    |         |          |                                                                                                                                                                                                                                                                          |
|               | eH     | 57.3     |         |          |                                                                                                                                                                                                                                                                          |
|               | eL     | 20 20    |         |          |                                                                                                                                                                                                                                                                          |
|               | ME     | 29 27    | 26      | -        |                                                                                                                                                                                                                                                                          |
|               | MN     | 30 15    | 23      | +        | (76) AE = 55, AN = 53, AE = 37, AZ = 32.                                                                                                                                                                                                                                 |
|               | ME     | 37 1     | 19      | -        | Nach Manila gefühlt in Ost Mindanao, Herd im Großen Ozean, Gegend 6°N, 128°E. Andere Angaben: Chiufeng 6°N, 128°E, 0 19h32m23s, C.M.O. 6°N, 128°E, URSS 7°N, 129°E, Tyōsen und Hukuoka 7°N, 128°E, Stuttgart 5°N, 128°E, 0 19h32m5s.                                     |
|               | MZ     | 39 26    | 16      | +        | Palau: P 19h34m13.5s, S - P = 1m21.4s, Manila: P 19h34m56s, S 19h37m1s, Ambon: P 19h35m0s.                                                                                                                                                                               |
| " 18          | eN     | 3 35     |         |          |                                                                                                                                                                                                                                                                          |
| (77)          | eH     | 40.2     |         |          |                                                                                                                                                                                                                                                                          |
|               | e(L)   | 51       |         |          |                                                                                                                                                                                                                                                                          |
|               | MN     | 55 52    | 39      | -        | (77) AN = 34, AE = 59,                                                                                                                                                                                                                                                   |
|               | ME     | 56 10    | 36      | -        | Herd: Südl. Atlantischer Ozean, nach U.S.E. 63°S, 16°W, 0 3h5.3m; URSS gibt: 21°N, 135°E.<br>La Plata: P 3h12.52m, S 3h18.3m, Sucre: eP 3h14m44s, 1S 3h22m20s, Tananarivo: eE 3h23m47s, Pasadena: 1z 3h25m31s.                                                           |
| " 22          | eL     | 2 48     |         |          |                                                                                                                                                                                                                                                                          |
| (78)          | MN     | 48 39    | 20      | -        | Keine Reg. Vert. Komp.: 19, 19h4m-20, 8h47m.                                                                                                                                                                                                                             |
|               | ME     | 52 24    | 16      | +        |                                                                                                                                                                                                                                                                          |
|               | MZ     | 52 24    | 16      | -        |                                                                                                                                                                                                                                                                          |
|               | F      | 57       |         |          | (78) AN = 4, AE = 4, AZ = 3.<br>Herd nach URSS: 43°N, 77°E, Turkestan.<br>Sverdlovsk: eP 2h26m45s, S 2h29m44s.                                                                                                                                                           |
| " 22          | e(S)   | 18 22 6  |         |          |                                                                                                                                                                                                                                                                          |
| (79)          | eL     | 24       |         |          | (79) AN = 8, AE = 12.                                                                                                                                                                                                                                                    |
|               | MN     | 25 5     | 15      | +        | Gefühlt im westl. Peloponnes (Pyrgos), auf Zante und Kephallinia, Herd nach Athen nahe der Südküste von Kephallinia; URSS gibt: 37°N, 20°E.<br>Athen: P 18h15m19s, L 18h15m47s.                                                                                          |
|               | ME     | 26 34    | 11      | -        |                                                                                                                                                                                                                                                                          |
|               | F      | 40       |         |          |                                                                                                                                                                                                                                                                          |
| " 23          | eE     | 17 57    |         |          |                                                                                                                                                                                                                                                                          |
| (80)          | eL     | 18 9     |         |          | Keine Reg.: 23, 10h54m-11h44m, 16h5m-17h9m.                                                                                                                                                                                                                              |
|               | MN     | 14 41    | 13      | -        |                                                                                                                                                                                                                                                                          |
|               | MZ     | 18 11    | 11      | -        | (80) AN = 17, AZ = 12, AE = 17.                                                                                                                                                                                                                                          |
|               | ME     | 18 41    | 10      | +        | Herdangaben: Chiufeng 44°N, 103°E, 0 17h38m11s, Stuttgart ca. 51°N, 109°E, URSS 45°N, 103°E, Mongolei.<br>Chiufeng: eP 17h40m46s, 1S 17h42m40s.                                                                                                                          |
|               | F      | 55       |         |          |                                                                                                                                                                                                                                                                          |
| " 23          | e(S)   | 18 49 9  |         |          |                                                                                                                                                                                                                                                                          |
| (81)          | F      | 51       |         |          | (81) Gefühlt in den Niederlanden (Prov. Zeeland, Noordbrabant und Zuidholland), auf der Nordsee und in West Belgien, St. V in der Gegend von Dixmuiden. Vgl. Ann. de la Soc. Geol. de Belgique T. LVI, 1933, S. B. 344-E. 350.<br>Uocle: P 18h48m31s, S 18h48m44s.       |
| " 25          | eL     | 13 34    |         |          |                                                                                                                                                                                                                                                                          |
| (82)          | F      | 50       |         |          | (82) Nach Hukuoka gefühlt in Kiusiu, Herd: 32°N, 131°E E. Hukuoka: P 12h50m35.4s, 1S 12h50m47.4s.                                                                                                                                                                        |
| " 26          | eL     | 5 36.5   |         |          |                                                                                                                                                                                                                                                                          |
| (83)          | F      | 45       |         |          | (83) Nach Athen Nachbeben von (79).                                                                                                                                                                                                                                      |
| " 26          | eL     | 19 38    |         |          |                                                                                                                                                                                                                                                                          |
| (84)          | F      | 20 5     |         |          |                                                                                                                                                                                                                                                                          |

SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933   | PHASE                                                    | ZEIT                                                                                 | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|----------------------------------------------------------|--------------------------------------------------------------------------------------|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| März 28<br>(85) | Pz<br>eL<br>F                                            | 4 31 29<br>54<br>5 30                                                                |         |          | Athen: Pz 5h27m38s, L 5h26m6s.<br>(84) Berkeley: eP 19h7m36s, Pasadena: 1P 19h8m45s, Florissant: ePz 19h11m49s, eS 19h16m32s, Straszburg: eL 19h41m.                                                                                                                                                                                                                                                                                                            |
| " 30<br>(86)    | eL<br>F                                                  | 21 10<br>25                                                                          |         |          | (85) Herd: Gegend Ostl. Bering Meer, URSS gibt: 58°N, 160°W. Madison: 1P 4h29m31s, 1S 4h36m51s.                                                                                                                                                                                                                                                                                                                                                                 |
| " 31<br>(87)    | eL<br>MN<br>ME<br>MZ<br>F                                | 22 30<br>39 18 13<br>39 25 13<br>39 51 12<br>23 0                                    |         |          | (86) Herd: Zentral Asien?<br>Tachkent: eL 20h42m14s, eL 20h45.7m.<br>(87) AN = 4, AE = 6, AZ = 5.<br>Herd: N.E. Tibet, ca. 36°N, 96°E. Bombay gibt 24°N, 102°E. Hongkong: P 22h4m10s, S 22h8m11s, Zikawei: Pz 22h4m13s, Sz 22h8m13s, Tachkent: 1P 22h4m21s, eS 22h8m28s.                                                                                                                                                                                        |
| April 1<br>(88) | e(S)E<br>eL<br>ME<br>MZ<br>MN<br>F                       | 16 21 27<br>38<br>46 39 21<br>51 32 17<br>53 50 15<br>17 35                          |         |          | (88) AE = 7, AZ = 7, AN = 8<br>Nach C.M.O. gefühlt in N. Nippon und S. Hokkaido, Nachbeben von (45), Herd: 39°5 N, 143°5 E. Andere Angaben: Chiufeng 39°N, 144°E, O 15h58m56s, URSS 39°N, 142°E. Mizusawa: 1P 15h59m32s, 1S 15h59m54s.                                                                                                                                                                                                                          |
| " 1<br>(89)     | e(S)E<br>eL<br>F                                         | 23 3 34<br>22<br>50                                                                  |         |          | (89) Nach C.M.O. Nachbeben von (45), Herd: 38°6 N, 144°8 E; URSS gibt: 40°N, 145°E. Mizusawa 1P 22h41m42s, 1S 22h42m2s.                                                                                                                                                                                                                                                                                                                                         |
| " 2<br>(90)     | eL<br>F                                                  | 10 56<br>11 20                                                                       |         |          | (90) Nach C.M.O. Nachbeben von (45), Herd: 39°4 N, 144°0 E. Mizusawa: 1P 10h11m5s, 1S 10h11m28s.                                                                                                                                                                                                                                                                                                                                                                |
| " 4<br>(91)     | e(L)<br>F                                                | 12 37<br>13 0                                                                        |         |          | (91) (La Paz: 1Pz 11h29m57s; ePz 11h39m18s; ePz 12h16m39s, Pasadena: 1P 11h38m10s; 1Pz 12h19m5s).                                                                                                                                                                                                                                                                                                                                                               |
| " 9<br>(92)     | Pz<br>PPz<br>S<br>eL<br>ME<br>ME<br>MN<br>MZ<br>F        | 2 59 0<br>3 2 6<br>9 12<br>26<br>34 24 21<br>35 38 21<br>39 20 18<br>39 20 18<br>F   |         |          | Keine Reg.: 5, 15h43m-17h2m.<br>(92) AE = 38, AE = 38, AN = 45, AZ = 46.<br>Δ = 9020 km: 82°2.<br>Nachbeben von (45), gefühlt in Nord Nippon und Hokkaido. Herdangaben: C.M.O. 39°2 N, 144°0 E, Chiufeng 39°N, 144°E, O 2h46m38s, URSS 40°N, 145°E, J.S.A. 39°5 N, 143°E, U.S.E. 39°N, 143°E, O 2h46.7m. C.M.O. erwähnt noch ein Nachbeben um 2h57m, Herd: 39°3 N, 144°0 E. Mizusawa: 1P 2h47m13s, S? 2h47m37s; P? 2h57m49s, 1S 2h58m15s. F im folgenden Beben. |
| " 9<br>(93)     | e(P)z<br>e(PP)z<br>eE<br>eN<br>eL<br>MN<br>ME<br>MZ<br>F | 4 11 24<br>14 34<br>21 48<br>21 59<br>39<br>42 54 25<br>48 54 20<br>48 54 20<br>6 25 |         |          | (93) AN = 12, AE = 23, AZ = 15.<br>Herdangaben: J.S.A. 18°7 N, 106°8 W, O 3h58m12s, U.S.E. 18°N, 105°W, O 3h58.2m, Großer Ozean nahe S.W. Mexiko. Pasadena: 1P 4h2m40s, 1S 4h6m32s, Little Rock: 1P 4h2m46s, 1S 4h6m32s.<br>(94) AE = 3, AN = 4, AZ = 4.<br>Gefühlt in Nord Nippon, Nachbeben von (45). Herdangaben:                                                                                                                                            |

| DATUM<br>1933   | PHASE                                   | ZEIT                                                                                               | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------|-----------------------------------------|----------------------------------------------------------------------------------------------------|---------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| April 9<br>(94) | eH)<br>eL<br>ME<br>MN<br>MZ<br>F        | 10 48<br>11 13<br>19 30 20<br>22 20 16<br>23 10 18<br>55                                           |         |          | C.M.O. 39°2 N, 144°2 E, Chiufeng 39°N, 144°E, O 10h30m23s, URSS 33°N, 135°E. Mizusawa: P 10h30m58s, eS 10h31m32s.                                                                                                                                                                                                                                                                                                                                                                  |
| " 9<br>(95)     | eL<br>F                                 | 15 53<br>16 35                                                                                     |         |          | (95) Nach St. Louis wahrscheinlich Nachbeben von (93). Pasadena: 1P 15h17m20s, Little Rock: ePz 15h17m43s, eS 15h21m41s.<br>(96) AE = 3, AE = 3, AZ = 2.<br>Herdangaben: J.S.A. 18°5 S(N?), 107°W, U.S.E. 19°N, 106°W, O 21h3.7m; vgl. (93). Pasadena: 1P 21h7m52s, Little Rock: eP 21h8m19s, eS 21h12m15s.                                                                                                                                                                        |
| " 9<br>(96)     | eH)<br>eL<br>ME<br>ME<br>MZ<br>F        | 21 27 27<br>45<br>52 34 21<br>58 4 14<br>59 26 13<br>22 35                                         |         |          | (97) Herd: S.W.licher Großer Ozean?<br>Manila: P 6h1m8s, S 6h6m17s, Sydney: e 6h4.2m, eL 6h9.1m, Chiufeng: e 6h3m50s, Sverdlovsk: 1P 6h7m35s, L 6h36m.<br>(98) Gefühlt auf den Kanal Inseln (Jersey) und in Normandien (Coutances). Parc St. Maur: eP 14h31m50s, S 14h32m24s.                                                                                                                                                                                                      |
| " 12<br>(97)    | e(L)<br>F                               | 6 54<br>7 30                                                                                       |         |          | Keine Reg.: 13, 8h45m-11h45m.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| " 12<br>(98)    | e<br>F                                  | 14 33.7<br>36                                                                                      |         |          | (99) AE = 3, AE = 4.<br>Herd: S.E.lich von Australien?<br>Melbourne: e 22h2m30s, S 22h5m28s, Sydney: e 22h3.1m, 1(S)E 22h6m53s, Wellington: P? 22h2m12s, S 22h6m50s.                                                                                                                                                                                                                                                                                                               |
| " 13<br>(99)    | eL<br>ME<br>ME                          | 23 21<br>33 39 20<br>36 12 18                                                                      |         |          | (100) AE = 4.<br>Herdangaben: Stuttgart ca. 34°S, 178°W, O ca. 6h0.0m, U.S.E. 34°S, 176°W, O 6h0.1m, zwischen Neu Seeland und den Kermadec Inseln. Suva: e 6h3m30s, Wellington: P 6h4m24s, L 6h6m49s.                                                                                                                                                                                                                                                                              |
| " 14<br>(100)   | F                                       | 0 5                                                                                                |         |          | (101) AN = 9, AZ = 9, AE = 11.<br>Nach Batavia gefühlt in Neu Guinea (Genjem, Denta, über Digoel), St. V, Herd: 3°5 S, 140°3 E, O 19h16m12s. Andere Angaben: C.M.O. 2°S, 138°E, Chiufeng 3°S, 140°5 E, O 19h16m27s, URSS 0°, 151°E, Stuttgart 3°S, 139°5 E, O 19h16m20s. Ambon: 1P 19h19m17s, S 19h21m27s, Palau: P 19h19m22.3s.                                                                                                                                                   |
| " 16<br>(101)   | eL<br>ME<br>ME<br>ME<br>F               | 7 30<br>37 30 17<br>8 15<br>19 36 46<br>46.2<br>20 12<br>26 48 22<br>28 34 20<br>28 45 22<br>21 50 |         |          | (102) AN = 3, AE = 4, AZ = 5.<br>Herd: Südl. Großer Ozean, ca. 53°S, 115°W; nach U.S.E. 52°S, 118°W, O 1h45.8m. La Plata: P 1h54.0m, S 2h0.5m, La Paz: P 1h54m56s, 1SN 2h0m17m. Wellington: L 2h9m20s, Sydney: e 2h5.7m, eL 2h17.1m.<br>(103) AE = 6, AN = 4, AZ = 6, AE = 4, AN = 4.<br>Gefühlt in Nord Nippon und Süd Hokkaido, Nachbeben von (45). Herdangaben: C.M.O. 39°6 N, 144°5 E, Chiufeng 40°N, 144°E, O 2h55m37s, URSS 39°N, 144°E. Mizusawa: 1P 2h56m20s, 1S 2h56m52s. |
| " 16<br>(101)   | e(PP)<br>e<br>eL<br>MN<br>ME<br>ME<br>F | 19 36 46<br>46.2<br>20 12<br>26 48 22<br>28 34 20<br>28 45 22<br>21 50                             |         |          | (102) AN = 3, AE = 4, AZ = 5.<br>Herd: Südl. Großer Ozean, ca. 53°S, 115°W; nach U.S.E. 52°S, 118°W, O 1h45.8m. La Plata: P 1h54.0m, S 2h0.5m, La Paz: P 1h54m56s, 1SN 2h0m17m. Wellington: L 2h9m20s, Sydney: e 2h5.7m, eL 2h17.1m.<br>(103) AE = 6, AN = 4, AZ = 6, AE = 4, AN = 4.<br>Gefühlt in Nord Nippon und Süd Hokkaido, Nachbeben von (45). Herdangaben: C.M.O. 39°6 N, 144°5 E, Chiufeng 40°N, 144°E, O 2h55m37s, URSS 39°N, 144°E. Mizusawa: 1P 2h56m20s, 1S 2h56m52s. |
| " 19<br>(103)   | eL<br>ME<br>MN                          | 3 35<br>39 10 29<br>39 38 23                                                                       |         |          | (103) AE = 6, AN = 4, AZ = 6, AE = 4, AN = 4.<br>Gefühlt in Nord Nippon und Süd Hokkaido, Nachbeben von (45). Herdangaben: C.M.O. 39°6 N, 144°5 E, Chiufeng 40°N, 144°E, O 2h55m37s, URSS 39°N, 144°E. Mizusawa: 1P 2h56m20s, 1S 2h56m52s.                                                                                                                                                                                                                                         |

| DATUM<br>1933 | PHASE | ZEIT     | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                          |
|---------------|-------|----------|---------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| April 19      | ME    | 3 48 35  | 20      | -        | (104) AE = 33, AN = 43, AE = 47, AZ = 43, AN = 56, AE = 58, AZ = 65.                                                                                                                                 |
|               | ME    | 48 36    | 21      | +        |                                                                                                                                                                                                      |
|               | MN    | 48 37    | 20      | +        | $\Delta = (9330) \text{ km}; (8512)$ .                                                                                                                                                               |
|               | F     | 4 10     |         |          | Geführt auf Formosa und in S.E.China (Fuchau). Herdangaben: C.M.O. 2493 N, 12197 E, Manila 24°20'N, 121°50'E, Chiufeng 2493 N, 12197 E, O 6h44m44s, URSS 2395 N, 12190 E, Peichiko: 2598 N, 12195 E. |
| " 19<br>(104) | 1Pz   | 8 57 20  |         |          | Taihoku: P 6h44m59.1s, S - P = 12.5 Sek.                                                                                                                                                             |
|               | PPz   | 7 0 40   |         |          | Keine Reg.: 21, 8h32m - 14h42m.                                                                                                                                                                      |
|               | e(S)E | 7 47     |         |          | (105) AN = 123, AN = 176, AE = 167, Az = 87*.                                                                                                                                                        |
|               | eE    | 7 54     |         |          | $\Delta = 2440 \text{ km}; 2296$ . Azimut E 32°S.                                                                                                                                                    |
|               | eL    | 29       |         |          | Zerstörendes Erdbeben auf Kos und Nisyros (Ägäisches Meer) und in S.W.Kleinasien (Budrun).                                                                                                           |
|               | ME    | 33 20    | 20      | -        | Herdangaben: Straszburg 3695 N, 2695 E, O 5h57m32s, URSS 36°N, 27°E, Chiufeng 37°N, 28°E, O 5h57m37s. J.S.A. 37°N, 27°E, O ca. 5h57m38s.                                                             |
|               | MN    | 33 30    | 20      | -        | Athen: P 5h58m20s, eS 5h59m3s, Helwan: 1P 5h59m25s                                                                                                                                                   |
|               | Ms    | 39 23    | 15      | -        | 1S 6h0m50s.                                                                                                                                                                                          |
|               | ME    | 39 24    | 16      | +        | F im folgenden Beben.                                                                                                                                                                                |
|               | MN    | 40 30    | 18      | +        | (106) AE = 19, AE = 19, AN = 25, AZ = 15, AZ = 12.                                                                                                                                                   |
|               | ME    | 40 31    | 17      | +        | $\Delta = 9080 \text{ km}; 8298$ .                                                                                                                                                                   |
|               | ME    | 40 31    | 17      | -        | Geführt in Nord Nippon und Süd Hokkaido, Nachbeben von (45).                                                                                                                                         |
|               | F     | 9 0      |         |          | Herdangaben: C.M.O. 3997 N, 14396 E, Chiufeng 40°N, 14497 E, O 7h13m32s, URSS 3995 N, 145°E, Stuttgart ca.38°N, 145°E.                                                                               |
| " 23<br>(105) | Pz    | 6 2 27   |         |          | Mizusawa: 1P 7h14m16s, S 7h14m(40)s.                                                                                                                                                                 |
|               | 1z    | 2 30     |         | +        | P im folgenden Beben. Papierwechsel: 8h17.4m - 22.8m.                                                                                                                                                |
|               | S     | 6 27     |         |          | (107) Nachbeben von (45), Herd nach Kōti und Tyōsen: 3994 N, 14393 E.                                                                                                                                |
|               | eL    | 8        |         |          | Mizusawa: 1P 8h26m37s, 1S 8h27m1s.                                                                                                                                                                   |
|               | MN    | 10 19    | 16      | -        | (108) (La Paz: ePN 10h44m54s, SN? 10h53m29s, LW 11h5m42s).                                                                                                                                           |
|               | MN    | 12 10    | 13      | +        | (109) (La Paz: ePE 8h57m56s, LE 9h8m0s, Pasadena: 1Pz 9h0m21s).                                                                                                                                      |
|               | ME    | 12 11    | 11      | +        | (110) AE = 6, AN = 4, AZ = 4.                                                                                                                                                                        |
|               | ME    | 12 44    | 9       | -        | Kopenhagen: e 22h39m7s, e 22h42m28s, L 22h45m, Pulkovo: eP 22h(39m30s), eS 22h(42m46s), Straszburg: e1(P)22h40m, eL 22h49m, Stuttgart: e 22h40.1m, e 22h43m25s, eL 22h50m, Triest eL 22h42m.         |
| " 23<br>(106) | 1Pz   | 7 26 4   |         |          | (111) AN = 112, AE = 80, AN = 116, AZ = 111, AZ = 115, AE=82.                                                                                                                                        |
|               | SE    | 36 19    |         |          | $\Delta = 7350 \text{ km}; 6697$ . Kondensation.                                                                                                                                                     |
|               | eL    | 53       |         |          | Stark gefühlt in Alaska (Seward, Anchorage); zahlreiche Nachbeben, s. Pasadena.                                                                                                                      |
|               | ME    | 8 1 34   | 21      | -        | Herdangaben: J.S.A. 6097 N, 14898 W, O 2h36m18s, U.S.E. 62°N, 151°W, O 2h36.1m, Straszburg 6295 N, 15295 W, O 2h36m0s, URSS 60°N,                                                                    |
|               | ME    | 2 47     | 21      | -        |                                                                                                                                                                                                      |
|               | MN    | 6 30     | 17      | -        |                                                                                                                                                                                                      |
|               | ME    | 6 37     | 16      | -        |                                                                                                                                                                                                      |
|               | ME    | 15 51    | 13      | +        |                                                                                                                                                                                                      |
| " 23<br>(107) | eL    | 9 (9)    |         |          |                                                                                                                                                                                                      |
|               | F     | 10 0     |         |          |                                                                                                                                                                                                      |
| " 23<br>(108) | eL    | 11 24    |         |          |                                                                                                                                                                                                      |
|               | F     | 50       |         |          |                                                                                                                                                                                                      |
| " 24<br>(109) | e(L)  | 9 25     |         |          |                                                                                                                                                                                                      |
|               | F     | 31       |         |          |                                                                                                                                                                                                      |
| " 25<br>(110) | 1z    | 22 42 46 |         |          |                                                                                                                                                                                                      |
|               | eL    | 48       |         |          |                                                                                                                                                                                                      |

| DATUM<br>1933 | PHASE | ZEIT        | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                    |
|---------------|-------|-------------|---------|----------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Apr-125       | ME    | 22 50 21 21 |         | +        | 152°W, Chiufeng 60°N, 150°W?, O 2h36m11s, C.M.O 63°N, 150°W,                                                                                   |
|               | MN    | 51 18 14    |         | -        | Tyōsen 68°N, 149°W.                                                                                                                            |
|               | Mz    | 52 44 14    |         | +        | Sitka: P 2h38m17s.                                                                                                                             |
|               | F     | 23 5        |         |          |                                                                                                                                                |
| " 27<br>(111) | 1Pz   | 2 46 51     |         | +        | (112) AN = 6, AZ = 6, AE = 5.                                                                                                                  |
|               | PPz   | 49 17       |         |          | $\Delta = (8490) \text{ km}; (7794)$ .                                                                                                         |
|               | 1SE   | 55 38       |         |          | Herdangaben: U.S.E. 55°N, 166°W, O 11h56.1m, URSS 50°N, 170°W,                                                                                 |
|               | eL    | 3 8         |         |          | Aleuten.                                                                                                                                       |
|               | MN    | 11 32 30    |         | -        | Pasadena: 1P 12h3m8s, Vladivostok: 1P 12h3m25s, S 12h9m32s.                                                                                    |
|               | ME    | 18 57 15    |         | +        |                                                                                                                                                |
|               | MN    | 19 3 16     |         | +        |                                                                                                                                                |
|               | Mz    | 19 4 16     |         | -        |                                                                                                                                                |
|               | Mz    | 20 40 14    |         | +        | (113) AN = 11, AZ = 11, AZ = 5.                                                                                                                |
|               | ME    | 20 46 14    |         | -        | Herd: Ostl. Mittelmeer, nach URSS 3595 N, 2890 E, südl. von Rhodos. Vgl. (105).                                                                |
|               | F     | 6 55        |         |          | Athen: P 22h29m46s, S 22h30m32s, Helwan: eP 22h30m18s,                                                                                         |
| " 27<br>(112) | Pz    | 12 7 24     |         |          | 1S 22h31m28s, Algier: 1P 22h33m9s, eS 22h36m55s, Pulkovo: eP 22h34m5s, eS 22h38m19s.                                                           |
|               | e(S)  | 17 9        |         |          |                                                                                                                                                |
|               | e(L)  | 30          |         |          |                                                                                                                                                |
|               | MN    | 45 0 16     |         | +        |                                                                                                                                                |
|               | Mz    | 45 0 18     |         | -        |                                                                                                                                                |
|               | ME    | 50 23 16    |         | -        | (114) (Chiufeng: e? 4h43m35s, eS? 4h51m2s, Sverdlovsk: eP 4h45m35s, Pasadena: 1P 4h46m19s, Bombay: ME 5h6m40s, Baku: eP 4h57m50s, eS 5h5m14s). |
|               | F     | 13 55       |         |          |                                                                                                                                                |
| " 28<br>(113) | e(S)  | 22 37 59    |         |          | (115) (Pasadena: 1P 10h9m42s, Sverdlovsk: eP 10h13m3s,                                                                                         |
|               | eL    | 40          |         |          | eS 10h21m14s, Fiorissant: eE 10h26m5s, Chiufeng: e 10h34m39s).                                                                                 |
|               | MN    | 41 58 16    |         | +        |                                                                                                                                                |
|               | ME    | 44 22 11    |         | +        |                                                                                                                                                |
|               | Mz    | 45 29 10    |         | -        |                                                                                                                                                |
|               | F     | 23 10       |         |          |                                                                                                                                                |
| " 30<br>(114) | e(L)N | 5 14        |         |          | (116) $\Delta = (8750) \text{ km}; (7898)$ .                                                                                                   |
|               | eLz   | 16          |         |          | Herd nach japanischen Stationen nahe Etorofu, Kurilen;                                                                                         |
|               | F     | 45          |         |          | Chiufeng gibt 44°N, 149°E, O 18h30m13s, URSS 44°N, 151°E.                                                                                      |
| Ma 1<br>(115) | e     | 10 40       |         |          | Mizusawa: 1P 18h32m5s, 1S 18h33m34s.                                                                                                           |
|               | F     | 11 0        |         |          | F im folgenden Beben.                                                                                                                          |
| " 1<br>(116)  | e(P)z | 18 42 11    |         |          |                                                                                                                                                |
|               | e(S)z | 52 9        |         |          |                                                                                                                                                |
|               | F     |             |         |          | (117) AE = 6, Az = 6, AN = 5, Az = 6.                                                                                                          |
| " 1<br>(117)  | Pz    | 19 1 43     |         |          | Herdangaben: URSS 57°N, 174°W, Chiufeng 52°N, 171°W,                                                                                           |
|               | ME    | 41 12 20    |         | +        | O 18h49m52s, J.S.A. 50°N, 170°W, O 18h49m55s, U.S.E. 52°N,                                                                                     |
|               | Mz    | 44 16 17    |         | -        | 173°W, O 18h49.9m. Einige japanische Stationen geben: nahe Etorofu, vgl. (116).                                                                |
|               | MN    | 44 23 17    |         | -        | Vladivostok: P 18h57m3s, S 19h2m53s, Pasadena: 1P 18h57m50s,                                                                                   |
|               | Mz    | 51 3 17     |         | -        | eSN 19h4m14s.                                                                                                                                  |
|               | P     |             |         |          | F im folgenden Beben.                                                                                                                          |

SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933 | PHASE                                                      | ZEIT                                                                                           | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ma 1<br>(118) | e(P)z<br>e(S)<br>eL<br>MP<br>ME<br>MN<br>MZ<br>P           | 20 3 13<br>13 8<br>28<br>32 14 32<br>36 1 21<br>44 6 16<br>44 42 16<br>22 5                    | h m s s |          | (118) AE = 14, AF = 12, AN = 14, AZ = 10.<br>Δ = (8690)km; (7912).<br>Nach C.M.O. gefühlt auf Etorofu (Shana), Kurilen und in Ost Hokkaido, Herd: 43°4 N, 148°5 E. Andere Angaben: Chiufeng 44°N, 148°E, 0 19h51m13s, URSS 45°N, 152°5 E; vgl. (116).<br>Mizusawa: 1P 19h53m5s, 1S 19h54m36s.<br>Keine Reg. Vert. Komp.: 1, 20h48m - 2, 8h35m.<br>(119) Nach Nagoya Nachbeben von (118).<br>Mizusawa: eP 23h14m28s, eS 23h15m36s. |
| " 1<br>(119)  | eL<br>P                                                    | 23 55<br>0 35                                                                                  |         |          | (120) Mizusawa: eP 16h35m18s, eS 16h36m13s, Chiufeng: e 16h38m13s, Vladivostok: L 16h39.8m).                                                                                                                                                                                                                                                                                                                                      |
| " 2<br>(120)  | e(L)<br>P                                                  | 17 20<br>35                                                                                    |         |          | (121) Little Rock gibt: Herd Alaska.<br>Pasadena: 1z 12h39m33s, St. Louis: eP 12h40m45s, eS 12h47m15s, Sverdlovsk: P 12h42m47s, L 12h59m.                                                                                                                                                                                                                                                                                         |
| " 3<br>(121)  | eL<br>P                                                    | 13 14<br>30                                                                                    |         |          | (122) AN = 3, AF = 3, AZ = 3.<br>Nach Taihoku gefühlt in Nord Formosa, Herd: 24°2 N, 121°8 E.<br>Chiufeng gibt: 24°N, 122°E, 0 23h31m0s, Manila: 23°40'N, 122°30'E.<br>Taihoku: 1P 23h31m22.3s, 1S 23h31m35.7s.                                                                                                                                                                                                                   |
| " 4<br>(122)  | eL<br>MN<br>ME<br>MZ<br>P                                  | 0 18<br>26 51 18<br>26 51 18<br>26 52 17<br>40                                                 |         |          | (123) AE = 9, AN = 7, AZ = 4.<br>Herd: Großer Ozean, unweit Vancouver Insel (ca. 49°N, 130°W).<br>Berkeley: ePN 4h17m6s, 1SE 4h19m25s, Pasadena: 1P 4h18m10s, Madison: eP 4h20m8s, eS 4h25m2s, St. Louis: eP 4h20m12s, eS 4h25m12s.                                                                                                                                                                                               |
| " 5<br>(123)  | e(S)<br>eL<br>ME<br>MN<br>MZ<br>P                          | 4 35 5<br>44<br>52 50 21<br>53 9 21<br>55 16 19<br>5 30                                        |         |          | (124) AN = 6, AF = 15, AE = 13, AZ = 12.<br>Δ = 9250 km; 8414.<br>Herdangaben: J.S.A. 6°N, 82°5 W, 0 5h33m40s, U.S.E. 6°N, 83°W, 0 5h33.6m, URSS 7°N, 90°W, Großer Ozean unweit Panama.<br>Nach U.S.E. gefühlt in Balboa.<br>La Paz: PN 5h39m11s, 1SN 5h43m52s, Little Rock: ePN 5h39m47s, 1SE 5h44m42s, San Juan: P 5h38m11s, S - P = 240s.                                                                                      |
| " 6<br>(124)  | Pz<br>S<br>eE<br>e(L)N<br>eLz<br>MN<br>ME<br>ME<br>MZ<br>P | 5 46 10<br>56 33<br>57 33<br>6 9<br>13<br>13 59 21<br>15 30 27<br>18 12 20<br>18 13 19<br>7 35 |         |          | (125) Herd nach U.S.E.: 6°N, 83°W, 0 20h30.4m, Nachbeben von (124).<br>La Paz: ePN 20h36m9s, 1SN 20h40m55s, Madison: eP 20h37m46s, eS 20h43m38s.                                                                                                                                                                                                                                                                                  |
| " 6<br>(125)  | e(S)N<br>e(L)N<br>eLz<br>P                                 | 20 53 36<br>21 6<br>10<br>35                                                                   |         |          | (126) Herd: Gegend Kurilen?<br>Mizusawa: eP 16h36m28s, eS 16h37m50s, Vladivostok: eP 16h37m20s, eL 16h40.7m, Sverdlovsk: eP 16h43m50s, eS 16h51m51s.                                                                                                                                                                                                                                                                              |
| " 7<br>(126)  | eL<br>P                                                    | 17 20<br>50                                                                                    |         |          | (127) Herd: Gegend Kurilen? Vgl. (126).<br>Mizusawa: eP 23h2m8s, S 23h3m16s, Vladivostok: eP 23h2m42s, eL 23h5.5m, Sverdlovsk: eP 23h9m14s, eS 23h17m14s.                                                                                                                                                                                                                                                                         |

SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933 | PHASE                                                      | ZEIT                                                                                                                 | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                              |
|---------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ma 7          | eL                                                         | 23 47                                                                                                                | h m s s |          | (128) AN = 9, AF = 7, AZ = 2.                                                                                                                                                                                                                                                                                                                                                            |
| " 8<br>(127)  | F                                                          | 0 10                                                                                                                 |         |          | Gefühlt auf Chalcidice, Herd nach Athen: Golf von Herissos; URSS gibt: 38°5 N, 24°0 E. Vorbeben von (133).                                                                                                                                                                                                                                                                               |
| " 8<br>(128)  | e<br>eL<br>MN<br>ME<br>MZ<br>P                             | 1 21<br>22.5<br>23 41 12<br>24 3 11<br>25 21 9<br>40                                                                 |         |          | Athen: Pz 1h14m20s, S 1h14m55s, Belgrad: eP 1h15m14.3s, eS 1h16m8.1s, Zagreb: eP 1h15m37s.                                                                                                                                                                                                                                                                                               |
| " 8<br>(129)  | Pz<br>PPz<br>e(S)<br>eL<br>MN<br>MZ<br>ME<br>ME<br>MN<br>F | 10 46 27<br>49 47<br>57 10<br>11 14<br>18 25 30<br>26 27 17<br>27 36 18<br>27 46 19<br>32 30 16<br>34 17 16<br>13 40 |         |          | (129) AN = 27, AF = 30, AZ = 35, AE = 42, AF = 34, AN = 21.<br>Kondensation.<br>Nach Pasadena zerstörendes Erdbeben in Mexiko, Herdangaben: J.S.A. 16°3 N, 101°2 W, 0 10h33m50s, Herdtiefe 100 km, U.S.E. 17°N, 101°W, 0 10h33.8m, URSS 13°5 N, 105°0 W, Chiufeng: 17°5 N, 100°5 W, 0 10h33m46s.<br>Tucson: 1P 10h37m50s, eS 10h41m15s, Pasadena: 1P 10h38m46s, St. Louis: eP 10h38m48s. |
| " 8<br>(130)  | eL<br>F                                                    | 17 (59)                                                                                                              |         |          | (130) In Davao, Mindanao, gefühlt?<br>Manila: P 17h7m13s, S 17h8m50s, Hongkong: P 17h9m21s, S 17h12m50s, Sverdlovsk: eP 17h16m19s, L 17h30m.<br>P im folgenden Beben.                                                                                                                                                                                                                    |
| " 8<br>(131)  | 1(P)z<br>e(S)z<br>eL<br>F                                  | 18 14 3<br>24 45<br>45<br>19 20                                                                                      |         |          | (131) Gefühlt in Mexiko; Herd nach U.S.E. 17°N, 103°W, 0 18h1.1m. Nachbeben von (129).<br>Pasadena: 1P 18h6m22s, St. Louis: eP 18h6m23s.                                                                                                                                                                                                                                                 |
| " 8<br>(132)  | 1(P)z<br>e(S)z<br>eL<br>F                                  | 18 14 3<br>24 45<br>45<br>19 20                                                                                      |         |          | (132) Gefühlt in Süd Mexiko, Nachbeben von (129).<br>Pasadena: 1P 2h39m25s, St. Louis: eP 2h39m26s.                                                                                                                                                                                                                                                                                      |
| " 9<br>(132)  | eL<br>F                                                    | 3 23<br>45                                                                                                           |         |          | (133) AN = 143, AF = 108, AN = 113, AZ = 130, AF = 115, AE = 54.<br>Δ = 1990 km; 1813. Kondensation.<br>Zerstörendes Erdbeben auf Chalcidice; vgl. (128).<br>Herdangaben: Strassburg 40°N, 24°E, 0 19h9m32s, URSS 41°5 N, 23°5 E, Kew nahe 40°N, 23°E, U.S.E. 40°N, 24°E, 0 19h9.6m.                                                                                                     |
| " 11<br>(133) | 1Pz<br>S<br>eL<br>MN<br>ME<br>MN<br>MZ<br>ME<br>MZ<br>F    | 19 13 48<br>17 10<br>18<br>19 45 11<br>20 5 9<br>21 16 13<br>21 16 11<br>21 16 10<br>22 20 8<br>20 30                |         |          | Athen: 1P 19h10m27s, S 19h10m58s, Belgrad: P 19h10m58.0s, 1S 19h12m12.2s, Zagreb: eP 19h11m38s.                                                                                                                                                                                                                                                                                          |
| " 12<br>(134) | eL<br>MN<br>ME<br>P                                        | 16 49<br>51 2 22<br>51 13 22<br>17 5                                                                                 |         |          | (134) AN = 4, AF = 2.<br>Herdangaben: Chiufeng 24°N, 98°E, 0 16h10m33s, Bombay und Taihoku: 25°N, 100°E, S.W. China.<br>Calcutta: P 16h11m30s, S 16h13m28s.                                                                                                                                                                                                                              |
| " 12<br>(135) | eL<br>MN<br>ME<br>P                                        | 16 49<br>51 2 22<br>51 13 22<br>17 5                                                                                 |         |          | (135) In Mexiko gefühlt, Nachbeben von (129)?<br>Pasadena: eP 10h18m36s, (St. Louis ePN 9h(10?)18m26s).                                                                                                                                                                                                                                                                                  |
| " 12<br>(136) | eL<br>MN<br>ME<br>P                                        | 16 49<br>51 2 22<br>51 13 22<br>17 5                                                                                 |         |          | (136) Herd nach URSS: 40°5 N, 32°5 E, Kleinasien.<br>Pulkovo: P 3h25m23s, S 3h28m53s, Athen: e 3h25m5s.                                                                                                                                                                                                                                                                                  |

SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933  | PHASE                                                       | ZEIT                                                                                            | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------|---------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                |                                                             | h m s s                                                                                         |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Ma 14<br>(135) | eL<br>F                                                     | 11 2<br>20                                                                                      |         |          | (137) AN = 3, AZ = 3, AE = 4.<br>Herdangaben: Stuttgart Gegend der Insel Rhodos. Nachbarbeben von (105), O 20h1m25s, URSS 35°5 N, 14°0 E, Kreta.                                                                                                                                                                                                                                                                                                                                                                       |
| " 15<br>(136)  | eL<br>F                                                     | 3 33<br>45                                                                                      |         |          | Athen: 1P 20h2m24s, S 20h3m10s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| " 15<br>(137)  | e(S)<br>eL<br>MN<br>ME<br>F                                 | 20 10 34<br>13.5<br>15 12 14<br>17 1 11<br>18 12 1<br>30                                        |         |          | (138) AN = 18, AN = 23, AZ = 9, AE = 18.<br>Nach Batavia geföhlt in Nord Sumatra (Atjeh), St.V, Herd: 7°0 N, 97°0 E, Strasse von Malakka, O 1h12m15s. Andere Angaben: URSS 6°N, 95°E, Chiufeng 6°N, 97°5 E, O 1h12m26s, C.M.O. 5°N, 98°E, Taihoku 2°N, 101°E, Kobe 5°S, 96°E, Stuttgart ca.5°N, 97°E, U.S.E.7°N, 97°E, O 1h12.5m.<br>Medan: 1P 1h13m23s, 1S 1h14m2s.                                                                                                                                                   |
| " 16<br>(138)  | e(P)<br>e(PP)<br>e(S)<br>e(SS)<br>eL<br>MN<br>MN<br>ME<br>F | 1 25 12<br>28 34<br>35 37<br>41 31<br>54<br>2 4 7 25<br>6 28 20<br>11 55 14<br>15 55 17<br>3 55 |         |          | (139) Nachbarbeben von (137)?<br>Athen: P 11h14m54s, SN 11h15m52s.<br>(140) Geföhlt in der Gegend von San Francisco; nach Berkeley St.VIII in Miles Canyon, Herd: 37°38'N, 121°5'W, U.S.E.gibt: 38°N, 122°W, O 11h45.3m.<br>Berkeley: 1P 11h45m29s, 1SN 11h45m25s.<br>(141) Nach Batavia geföhlt in Mittel Celebes, St.VI, Herd: 1°9 S, 120°9 E, O 16h41m17s. Manila gibt: 3°S, 123°E, URSS 0°, 124°E. Ambon: P 16h43m13s, S 16h45m39s.                                                                                |
| " 16<br>(139)  | e(S)<br>eL<br>P                                             | 11 23 20<br>26<br>40                                                                            |         |          | (142) AE = 4.<br>Δ = 8020 km; 73°0. Kondensation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| " 16<br>(140)  | eL<br>F                                                     | 12 28<br>40                                                                                     |         |          | Herdangaben: Chiufeng 57°N, 154°E, O 23h55m51s, URSS 54°3 N, 160°4 E, Kamtschatka. (Kobe und Osaka geben: nahe den Marianen)                                                                                                                                                                                                                                                                                                                                                                                           |
| " 16<br>(141)  | eL<br>F                                                     | 17 43<br>18 0                                                                                   |         |          | Mizusawa: P 0h0m4s, S? 0h3m47s, Vladivostok: P 0h0m16s, eS 0h4m21s, Pasadena: 1P 0h5m21s, 1S 0h13m24s, Osaka: P 0h0m43.9s, S 0h4m22.9s.                                                                                                                                                                                                                                                                                                                                                                                |
| " 18<br>(142)  | 1P<br>S<br>eL<br>ME<br>F                                    | 0 8 54<br>16 15<br>31<br>37 38 22<br>1 15                                                       |         |          | (143) Herd: Gegend Nordl.Vorderindien?<br>Calcutta: P 10h27m11s, S 10h28m30s, Bombay: P 10h28m30s, S 10h31m0s, M 10h32m30s, Kodaikanal: P 10h28m32s, S 10h31m35s, L 10h33m36s, M 10h35m37s.                                                                                                                                                                                                                                                                                                                            |
| " 18<br>(143)  | eL<br>eL<br>?                                               | 10 58<br>11 3<br>7                                                                              |         |          | (144) AN = 75, AN = 82, AZ = 46, AE = 111, AN = 73, AZ = 51.<br>Δ = 6070 km; 55°3.<br>Herd: Atlantischer Ozean, S.W.lich von Liberia. Angaben: Strassburg 1°5 S, 11°W, O 17h57m57s, Stuttgart 0°5 N, 16°5 W, Schweiz. Erdb.dienst 2°S, 15°W, J.S.A. 1°9 S, 14°3 W, O 17h58m2s, U.S.E. 2°S, 15°W, O 17h58.0m, Chiufeng 1°9 S, 14°3 W, O 17h58m0s, URSS 0°5 S, 16°0 W.<br>Dakar: 1P 18h1m59s, eS 18h5m44s. Barcelona nimmt zwei Beben an, eP 18h6m71s, S 18h13m7s, Δ = 5070 km und eP 18h8m6s, S 18h15m34s, Δ = 6380 km. |
| " 19<br>(144)  | P<br>1P<br>S<br>eL<br>ME                                    | 18 7 43<br>7 43<br>15 23<br>22<br>27 34 25<br>27 52 25                                          |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933 | PHASE                                              | ZEIT                                                                                  | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                   |
|---------------|----------------------------------------------------|---------------------------------------------------------------------------------------|---------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |                                                    | h m s s                                                                               |         |          |                                                                                                                                                                                                                                                                                                                                                               |
| Ma 19         | MZ<br>ME<br>MN<br>MZ<br>F                          | 18 30 35 14<br>31 12 18<br>35 32 14<br>35 39 15<br>21 0                               |         |          | (145) AZ = 4, AN = 4, AE = 5.<br>Nach Apia geföhlt in Apia, St.II. Herdangaben: U.S.E.ca.19°S, 171°W, O 4h39.0m, URSS 22°0 S, 172°5 W, Gegend Tonga Inseln.<br>Apia: eP 4h40m6s, L 4h41m18s, Suva: P 4h39m(36)s, S 4h41m0s, L 4h42m0s.                                                                                                                        |
| " 20<br>(145) | e(P)z<br>ez<br>eL<br>MZ<br>MN<br>ME<br>F           | 4 58 8<br>5 1 36<br>59<br>6 8 19 18<br>8 22 20<br>9 1 19<br>7 10                      |         |          | (146) Herd: Gegend Fidischi- und Samoa Inseln.<br>Suva: P 8h7m(30)s, S 8h9m12s, Apia: eP 8h8m36s, eS 8h9m48s.<br>(147) Stuttgart: L 12h16m (Sverdlovsk: L 12h25m, Baku: eL 12h29m).                                                                                                                                                                           |
| " 20<br>(146) | e(P)z<br>eL<br>F                                   | 8 26 41<br>9 30<br>10 20                                                              |         |          | (148) Nach Wellington geföhlt in Nord Insel, Neu Seeland und n.B.D.Northumberland, 36°7'S, 177°29'W, Herd: 36°S, 179°W.<br>Wellington: P 8h15m20s, S 8h16m41s.                                                                                                                                                                                                |
| " 20<br>(147) | eL<br>F                                            | 12 17<br>28                                                                           |         |          | (149) Herdangaben: Batavia 5°6 S, 130°9 E, Molukken, O 11h51m26s, Chiufeng 5°S, 132°E, O 11h51m22s, URSS 1°S, 132°E. Ambon: 1P 11h52m17s, S? 11h53m0s.                                                                                                                                                                                                        |
| " 21<br>(148) | e(P)z<br>eL<br>F                                   | 8 33 32<br>9 31<br>10 30                                                              |         |          | (150) Nach Athen geföhlt in Psara und Chios, St.VII, Herd westl. von Psara (Ägäisches Meer).<br>Athen: P 20h45m36s, 1L 20h45m55s.                                                                                                                                                                                                                             |
| " 21<br>(149) | eL<br>F                                            | 12 43<br>13 15                                                                        |         |          | (151) Nach Batavia geföhlt in Wonreli (Kisar), Herd: 8°0 S, 126°8 E, O 21h23m39s. URSS gibt: 22°5 N, 167°5 E.<br>Ambon: 1P 21h24m56s, S? 21h25m50s.                                                                                                                                                                                                           |
| " 21<br>(150) | eL<br>F                                            | 20 56<br>21 0                                                                         |         |          |                                                                                                                                                                                                                                                                                                                                                               |
| " 21<br>(151) | eL<br>F                                            | 22 23<br>33                                                                           |         |          | (152) AN = 2, AN = 2, AN = 2.5, AE = 1.5, AZ = 1.5, AN = 2. Zwei Beben, Zeitunterschied ca.15.3 Min. (vgl. die Maxima in De Bilt), nach japanischen Stationen geföhlt in Süd Kiusiu, Herde bezw. 31°4 N, 131°7 E; 31°2 N, 131°4 E, Hiuga-nada.<br>Tokokuoka: P 16h37m16.6s, 1S 16h37m52.8s; P 16h52m31.8s, S 16h53m10.4s, Kōti: ePN 16h37m22s, ePN 16h52m41s. |
| " 23<br>(152) | eL1<br>ME1<br>MZ1<br>MN1<br>ME2<br>MZ2<br>MN2<br>F | 17 21<br>30 53 19<br>31 2 17<br>31 11 17<br>46 10 19<br>46 17 17<br>46 28 17<br>18 15 |         |          | (153) Kopenhagen: L 21.7h, (Sverdlovsk: eP 20h29m12s, L 21h10m, Sydney: e 20h16.2m; eL 20h26.4m).                                                                                                                                                                                                                                                             |
| " 23<br>(153) | eL<br>F                                            | 21 49<br>22 20                                                                        |         |          | (154) Herd: Gegend Kleinasien?<br>Athen: e(L) 23h59m47s, M 0h0m21s, Pulkovo: P 23h59m14s, eS 0h2m59s, Baku: eL 0h2.5m.                                                                                                                                                                                                                                        |
| " 23<br>(154) | eL<br>F                                            | 0 8<br>15                                                                             |         |          | (155) Nach Manila geföhlt St.VI in Borongan (Samar) und St.V in Tacloban (Leyte), Herd im Philippinengraben. URSS gibt: 11°5 N, 130°0 E.<br>Manila: P 4h43m18s, 1S 4h44m29s.                                                                                                                                                                                  |
| " 27<br>(155) | eL<br>F                                            | 5 36<br>50                                                                            |         |          |                                                                                                                                                                                                                                                                                                                                                               |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM | PHASE | ZEIT     | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                  |
|-------|-------|----------|---------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1933  |       |          |         |          |                                                                                                                                                                                                                                                                              |
| Ma 27 | eL    | 23 28    |         |          | (156) Herd nach Manila 15°5'N, 119°35'E, Südchinesisches Meer nahe Luzon?                                                                                                                                                                                                    |
| (156) | F     | 55       |         |          | Manila: 1P 22h41m43s, SN 22h42m3s.                                                                                                                                                                                                                                           |
| " 28  | eL    | 19 56    |         |          | (157) Parc St. Maur: 19h55m-20h44m, Kopenhagen: L 19h58m, Stuttgart: L 20h0m.                                                                                                                                                                                                |
| (157) | F     | 20 5     |         |          |                                                                                                                                                                                                                                                                              |
| " 29  | ez    | 10 40    |         |          | (158) Herd: Gegend der Fidschi Inseln.                                                                                                                                                                                                                                       |
| (158) | eL    | 11 24    |         |          | Suva: P 10h20m(36)s, S 10h22m0s, Sydney: e 10h25.7m.                                                                                                                                                                                                                         |
|       | F     | 12 30    |         |          |                                                                                                                                                                                                                                                                              |
| " 30  | e(S)  | 12 6 11  |         |          | (159) Nach U.S.E. gefühlt in Panama (Balboa), Herd unweit der Westküste, 8°N, 83°W, O 11h43.6m.                                                                                                                                                                              |
| (159) | eL    | 24       |         |          | La Paz: PE 11h49m39s, SN? 11h54m25s, Washington: eP 11h49.9m, eS 11h54.9m.                                                                                                                                                                                                   |
|       | F     | 13 0     |         |          |                                                                                                                                                                                                                                                                              |
| " 30  | eL    | 14 45    |         |          | (160) Nach Taihoku gefühlt auf Formosa, Herd: 24°2'N, 122°15'E, Chiufeng gibt: 24°N, 123°E, O 13h53m48s.                                                                                                                                                                     |
| (160) | F     | 15 0     |         |          | Taihoku: 1P 13h54m13.2s, 1S 13h54m31.5s.                                                                                                                                                                                                                                     |
| " 31  | eL    | 20 5     |         |          | (161) AN = 4, AE = 4, AZ = 1.5.                                                                                                                                                                                                                                              |
| (161) | MN    | 5 44 13  |         |          | Nach Athen Herd: Golf von Hierissos, (Chalcidice); vgl. (133). URSS gibt: 39°25'N, 23°0'E.                                                                                                                                                                                   |
|       | ME    | 6 5 10   |         |          | Athen: P 19h56m18s, S 19h56m49s, Belgrad: P 19h57m3.2s, eS 19h58m16.9s.                                                                                                                                                                                                      |
|       | ME    | 7 19 10  |         |          | (162) AN = 8, AE = 6, AZ = 7, AZ = 5.                                                                                                                                                                                                                                        |
|       | P     | 20       |         |          | Δ = 2020 km; 1897.                                                                                                                                                                                                                                                           |
| Jun 1 | Pz    | 2 44 45  |         |          | Herd wie (161), ähnliche Seismogramme, Zeitunterschied nach den Maxima: 6h44m58s. URSS gibt als Herd: 40°5'N, 22°5'E.                                                                                                                                                        |
| (162) | S     | 48 10    |         |          | Belgrad: P 2h41m56.4s, eS 2h43m4.8s.                                                                                                                                                                                                                                         |
|       | eL    | 49.3     |         |          | (163) Nach japanischen Stationen Herd unweit Kap Sata, Süd Kiusiu.                                                                                                                                                                                                           |
|       | MN    | 50 42 13 |         |          | Hukuoka: eP 4h42m55.4s, eS 4h43m28.9s.                                                                                                                                                                                                                                       |
|       | ME    | 51 3 11  |         |          | (164) AN = 20, AE = 19, AZ = 28, AN = 20, AE = 19, AZ = 16.                                                                                                                                                                                                                  |
|       | ME    | 52 17 11 |         |          | Δ = 9250 km; 8494. Kondensation.                                                                                                                                                                                                                                             |
|       | ME    | 52 17 11 |         |          | Nach japanischen Stationen gefühlt in Süd Kiusiu, Herd: 31°7'N, 131°1'E, nahe Miyakonozyo. Andere Angaben: Taihoku 31°6'N, 131°1'E, O 7h38m50s, Chiufeng 31°N, 134°E, O 7h38m38s, URSS 34°25'N, 135°E, U.S.E. 31°N, 135°E, O 7h38 4m, Stuttgart ca. 30°N, 135°E, O 7h38m20s. |
|       | F     | 3 15     |         |          | Hukuoka: P 7h39m28.7s, S 7h40m2.8s, Pasadena: eP 7h51m30s.                                                                                                                                                                                                                   |
| " 2   | eL    | 5 38     |         |          | St. Louis gibt etwas früher ein Beben, eP 7h34m17s, eS 7h41m20s.                                                                                                                                                                                                             |
| (163) | P     | 50       |         |          | (165) Herd nach Batavia: 2°1'N, 132°18'E, O 12h21m36s, nach URSS: 0°, 136°15'E, Groszer Ozean, N von Neu Guinea.                                                                                                                                                             |
| " 2   | Pz    | 7 51 18  |         |          | Ambon: P 12h(22.5)m, S 12h(23.9)m, Manila: P 12h25m41s, 1S 12h26m28s.                                                                                                                                                                                                        |
| (164) | PPz   | 54 35    |         |          |                                                                                                                                                                                                                                                                              |
|       | S     | 8 1 41   |         |          |                                                                                                                                                                                                                                                                              |
|       | eL    | 20       |         |          |                                                                                                                                                                                                                                                                              |
|       | MN    | 32 26 19 |         |          |                                                                                                                                                                                                                                                                              |
|       | ME    | 33 8 19  |         |          |                                                                                                                                                                                                                                                                              |
|       | ME    | 33 8 19  |         |          |                                                                                                                                                                                                                                                                              |
|       | MN    | 33 27 17 |         |          |                                                                                                                                                                                                                                                                              |
|       | ME    | 34 52 16 |         |          |                                                                                                                                                                                                                                                                              |
|       | ME    | 35 0 14  |         |          |                                                                                                                                                                                                                                                                              |
|       | F     | 9 35     |         |          |                                                                                                                                                                                                                                                                              |
| " 2   | eL    | 13 14    |         |          |                                                                                                                                                                                                                                                                              |
| (165) | F     | 45       |         |          |                                                                                                                                                                                                                                                                              |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM | PHASE  | ZEIT       | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                              |
|-------|--------|------------|---------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1933  |        |            |         |          |                                                                                                                                                                                                                                          |
| Jun 3 | Pz     | 17 21 49   |         |          | (166) AE = 16, AN = 14, AZ = 18.                                                                                                                                                                                                         |
| (166) | PPz    | 25 11      |         |          | Δ = (9390) km; (8598).                                                                                                                                                                                                                   |
|       | e(S)   | 32 19      |         |          | Nach japanischen Stationen Herd nahe Amami Osima, Riv Kiu Inseln. Angaben: Taihoku 28°5'N, 129°5'E, O 17h9m10s, Manila 29°N, 129°5'E, Chiufeng 28°N, 129°E, O 17h9m14s, URSS 27°5'N, 128°0'E, Stuttgart ca. 26°5'N, 132°5'E, O 17h8m50s. |
|       | eL     | 53         |         |          | Hukuoka: P 17h10m32.7s, S 17h11m41.7s.                                                                                                                                                                                                   |
|       | ME     | 18 3 52 15 |         |          |                                                                                                                                                                                                                                          |
|       | MN     | 4 13 15    |         |          |                                                                                                                                                                                                                                          |
|       | ME     | 4 39 17    |         |          |                                                                                                                                                                                                                                          |
|       | F      | 55         |         |          |                                                                                                                                                                                                                                          |
| " 4   | eL     | 13 31      |         |          | (167) (La Paz: PN 12h36m31s, 1SN? 12h43m57s, St. Louis: ePE 13h23m52s, eSW 13h28m15s, Pasadena: 1P 13h24m55s, Sverdlovsk: L 13h43m).                                                                                                     |
| (167) | F      | 51         |         |          |                                                                                                                                                                                                                                          |
| " 4   | e(PP)z | 14 0 52    |         |          | (168) Herd nach C.M.O.: 4°S, 146°E, Bismarck Archipel.                                                                                                                                                                                   |
| (168) | eL     | 39         |         |          | Ambon: 1P 13h44m24s, 1S 13h47m46s, Sumoto: PE 13h47m52s, S 13h53m59s, Vladivostok: 1P 13h49m4s, 1S 13h56m9s.                                                                                                                             |
|       | F      | 15 15      |         |          |                                                                                                                                                                                                                                          |
| " 5   | eL     | 1 35       |         |          | (169) Florenz: L 1h35m0s.                                                                                                                                                                                                                |
| (169) | F      | 40         |         |          |                                                                                                                                                                                                                                          |
| " 6   | eL     | 0 59.4     |         |          | (170) Herd: S.W.licher Groszer Ozean?                                                                                                                                                                                                    |
| (170) | F      | 1 2        |         |          | Sydney: e 0h42.2m, S 0h46m54s, Melbourne: 0h48m16s, Wellington: e 0h53m, Pasadena: 1P 0h49m46s.                                                                                                                                          |
| " 6   | e(P)z  | 2 41 44    |         |          | Hauptphase nicht zu erkennen.                                                                                                                                                                                                            |
| (171) | eW     | 52 14      |         |          | (171) AN = 14, AN = 13, AE = 13, AZ = 10, AZ = 10.                                                                                                                                                                                       |
|       | e(SS)  | 59 17      |         |          | Nach Manila stark gefühlt in Luzon, Herd wahrscheinlich 14°20'N, 121°35'E. Andere Angaben: Chiufeng 12°N, 121°5'E, O 2h28m13s, URSS 11°9'N, 117°2'E, U.S.E. 14°3'N, 121°6'E, O 2h28.8m.                                                  |
|       | eL     | 3 15       |         |          | Manila 1P 2h28m54s, Hongkong: P 2h31m0s, S 2h33m15s, Taihoku: P 2h31m15.7s, eS 2h33m2s.                                                                                                                                                  |
|       | ME     | 22 53 23   |         |          | (172) Herd: S.W.licher Groszer Ozean (Gegend Solomon Inseln?), URSS gibt: 5°S, 173°E.                                                                                                                                                    |
|       | MN     | 22 53 21   |         |          | Sydney: eP 5h56m30s, 1S 6h0m2s, Manila: P 5h57m46s, Batavia: eP 5h59m15s, S 6h6m5s, Pasadena: 1P 6h2m56s.                                                                                                                                |
|       | ME     | 28 51 18   |         |          | (173) AN = 15, AE = 13, AZ = 13.                                                                                                                                                                                                         |
|       | ME     | 28 51 17   |         |          | Δ = 8080 km; 7395.                                                                                                                                                                                                                       |
|       | ME     | 31 38 18   |         |          | Herd: S.W. China, Angaben: Chiufeng 27°N, 100°E, O 11h46m10s, URSS 27°4'N, 100°2'E, C.M.O. 31°N, 97°E, Taihoku 23°N, 95°E, U.S.E. 25°2'N, 101°9'E, O 11h46.7m.                                                                           |
|       | F      | 4 20       |         |          | Calcutta: eP 11h48m56s, S 11h50m52s, Hongkong: P 11h49m20s, S 11h52m24s, Feichiko: 1P 11h50m5s, S 11h53m26s.                                                                                                                             |
| " 7   | (eL)   | 6 9        |         |          | Keine Reg. 8, 11h58m - 14h6m; 9, 6h59m - 10h35m.                                                                                                                                                                                         |
| (172) | eL     | 11.4       |         |          |                                                                                                                                                                                                                                          |
|       | eL     | 49         |         |          |                                                                                                                                                                                                                                          |
|       | F      | 7 55       |         |          |                                                                                                                                                                                                                                          |
| " 7   | Pz     | 11 57 29   |         |          |                                                                                                                                                                                                                                          |
| (173) | S      | 12 6 53    |         |          |                                                                                                                                                                                                                                          |
|       | e      | 7 39       |         |          |                                                                                                                                                                                                                                          |
|       | eL     | 25         |         |          |                                                                                                                                                                                                                                          |
|       | MN     | 27 52 24   |         |          |                                                                                                                                                                                                                                          |
|       | ME     | 32 12 13   |         |          |                                                                                                                                                                                                                                          |
|       | ME     | 32 19 12   |         |          |                                                                                                                                                                                                                                          |
|       | F      | 13 30      |         |          |                                                                                                                                                                                                                                          |
| " 8   | Pz     | 18 22 59   |         |          |                                                                                                                                                                                                                                          |
| (174) | PPz    | 26 8       |         |          |                                                                                                                                                                                                                                          |
|       | S      | 33 10      |         |          |                                                                                                                                                                                                                                          |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933 | PHASE | ZEIT       | PERIODE | RICHTUNG | BEMERKUNGEN                                                                               |
|---------------|-------|------------|---------|----------|-------------------------------------------------------------------------------------------|
| Jun 8         | eL    | 18 49      |         |          | (174) $A_E = 12, A_N = 8, A_Z = 8, A_{\Sigma} = 7.$                                       |
|               | ME    | 54 40 29   |         | +        | $\Delta = 9010 \text{ km}; 82^\circ 0.$                                                   |
|               | MN    | 55 59 25   |         | -        | Nach C.M.O. gefühlt in Nord Nippon und Süd Hokkaido, Herd                                 |
|               | MZ    | 19 3 57 18 |         | -        | im Großen Ozean. Angaben: C.M.O. $40^\circ 2' N, 144^\circ 0' E$ , Chiufeng               |
|               | MN    | 4 57 16    |         | -        | $40^\circ N, 144^\circ E, 0 18h10m45s, URSS 39^\circ N, 144^\circ E, J.S.A. 40^\circ N,$  |
|               | F     | 20 20      |         |          | $144^\circ E, 0 18h10m48s.$                                                               |
| " 10          | eL    | 12 4       |         |          | Mizusawa: 1P 18h11m31s, 1S 18h12m4s.                                                      |
| (175)         | F     |            |         |          | (175) Herd nach J.S.A.: $17^\circ N, 85^\circ W$ , Karibisches Meer nahe                  |
| " 10          | Pz    | 12 11 12   |         |          | Honduras, 0 11h27m0s, nach U.S.E.: $16^\circ N, 86^\circ W, 0 11h26.9m.$                  |
| (176)         | S     | 14 50      |         |          | Florissant: eP 11h31m55s, 1S 11h35m58s.                                                   |
|               | eL    | 15.5       |         |          | F im folgenden Beben.                                                                     |
|               | MN    | 17 36 20   |         | -        | (176) $A_N = 20, A_E = 29, A_{\Sigma} = 27, A_Z = 34, A_{\Sigma} = 36, A_Z = 22.$         |
|               | ME    | 18 56 14   |         | +        | $\Delta = 2170 \text{ km}; 20^\circ 1.$                                                   |
|               | MN    | 19 20 14   |         | +        | Nach Reykjavik gefühlt in S.W.Island. Herdangaben:                                        |
|               | MZ    | 19 28 14   |         | +        | Strasbourg ca. $66^\circ N, 25^\circ W$ , Stuttgart $64^\circ N, 26^\circ W$ , Schweiz.   |
|               | ME    | 19 42 13   |         | +        | Erdb.dienst ca. $65^\circ N, 25^\circ W, URSS 67^\circ N, 27^\circ W, U.S.E. 65^\circ N,$ |
|               | MZ    | 20 32 11   |         | +        | $25^\circ W, 0 12h6.7m, St.Louis 64^\circ N, 25^\circ W.$                                 |
|               | F     | 13 20      |         |          | Reykjavik: P 12h(6m52s), S 12h(6m55s), Kopenhagen:                                        |
| " 10          | eL    | 13 47      |         |          | 1P 12h11m20s, S 12h15m4s.                                                                 |
| (177)         | P     | 55         |         |          | (177), (178) und (179) Nachbeben von (176).                                               |
| " 10          | eL    | 14 25      |         |          | Kopenhagen: L 13h46m; L 14h24m; L 15h22m;                                                 |
| (178)         | P     | 37         |         |          | Stuttgart: L 13h49m; L 14h28m; e 15h17m, L 15h26m.                                        |
| " 10          | eL    | 15 23      |         |          | (Seismographen Reykjavik ausser Tätigkeit 12h7m-15h15m).                                  |
| (179)         | P     | 30         |         |          | (180) $A_Z = 2, A_E = 2.$                                                                 |
| " 10          | eL    | 16 40      |         |          | Nachbeben von (176), nach Reykjavik gefühlt in S.W.Island.                                |
| (180)         | MZ    | 42 24 14   |         | +        | Reykjavik: P 16h30m36s, S 16h30m39s, Kopenhagen: L 16h40m,                                |
|               | ME    | 42 36 13   |         | +        | Stuttgart: L 16h42m.                                                                      |
|               | F     | 55         |         |          | (181) Nachbeben von (176).                                                                |
| " 10          | eL    | 20 49      |         |          | Reykjavik: P 20h38m15s, S 20h38m18s, Kopenhagen: L 20h48m,                                |
| (181)         | F     | 54         |         |          | Stuttgart: L 20h52m.                                                                      |
| " 11          | ez    | 13 29 15   |         |          | (182) Herd S.E.llich von den Fidschi Inseln.                                              |
| (182)         | eL    | 14 29      |         |          | Suva: e 13h10m(25s), Wellington: L 13h18m6s, Sydney:                                      |
|               | P     | 15 40      |         |          | eL 13h22.9m, Pasadena: 1P 13h21m8s, Vladivostok: P 13h21m24s,                             |
|               |       |            |         |          | eS 13h31m44s.                                                                             |
| " 12          | e(S)  | 15 43 12   |         |          | (183) Nach U.S.E. in Seward, Alaska, gefühlt, Herd ca. $61^\circ N,$                      |
| (183)         | eL    | 16 2       |         |          | $155^\circ W, 0 15h23.4m; URSS$ gibt $50^\circ N, 145^\circ W.$                           |
|               | P     | 30         |         |          | Pasadena: 1P 15h30m26s, Florissant: ePz 15h31m38s, eS 15h38m14s,                          |
|               |       |            |         |          | Vladivostok: eP 15h32m18s, Pulkovo: P 15h33m40s, S 15h42m43s.                             |
| " 12          | eL    | 21 48      |         |          | (184) $A_N = 3, A_Z = 3, A_E = 3.$                                                        |
| (184)         | MN    | 22 0 22 19 |         | +        | Nach C.M.O. gefühlt in Nord Nippon und Süd Hokkaido, Herd:                                |
|               | ME    | 0 29 18    |         | -        | $38^\circ 8' N, 141^\circ 7' E$ . Andere Angaben: Chiufeng $39^\circ N, 144^\circ E,$     |
|               | ME    | 0 39 17    |         | +        | $0 21h8m10s, URSS 39^\circ N, 142^\circ E.$                                               |
|               | F     | 15         |         |          | Mizusawa: 1P 21h8m37s, 1S 21h8m47s.                                                       |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933 | PHASE | ZEIT       | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                  |
|---------------|-------|------------|---------|----------|----------------------------------------------------------------------------------------------|
| Jun 13        | eL    | 11 30      |         |          | (185) Herd: Gegend Ostl.Mittelmeer.                                                          |
| (185)         | F     | 32         |         |          | Helwan: P 11h14m37s, S 11h15m10s, Triest: (eP) 11h17m17s                                     |
| " 13          | Pz    | 20 45 49   |         |          | 1S 11h20m13s, Baku: eL 11h21.2m.                                                             |
| (186)         | PPz   | 48 52      |         |          | (186) $A_E = 14, A_N = 9, A_{\Sigma} = 10, A_Z = 14.$                                        |
|               | S     | 55 53      |         |          | $\Delta = 8870 \text{ km}; 80^\circ 8.$                                                      |
|               | eL    | 21 12      |         |          | Nach C.M.O. gefühlt in Nord Nippon und Süd Hokkaido, Herd:                                   |
|               | ME    | 21 41 19   |         | +        | $40^\circ 7' N, 143^\circ 7' E$ , Großer Ozean. Andere Angaben: Chiufeng                     |
|               | MN    | 21 58 18   |         | -        | $40^\circ 7' N, 143^\circ 7' E, 0 20h33m37s, URSS 41^\circ 5' N, 145^\circ 0' E, U.S.E.$     |
|               | MN    | 26 4 18    |         | +        | $40^\circ N, 144^\circ E, 0 20h33.7m.$                                                       |
|               | MZ    | 26 5 18    |         | -        | Mizusawa: 1P 20h34m19s, 1S 20h34m48s.                                                        |
|               | F     | 22 20      |         |          | (187) $A_N = 6, A_Z = 7, A_E = 5.$                                                           |
| " 13          | 1Pz   | 22 30 35   |         | +        | Kondensation.                                                                                |
| (187)         | PPz   | 32 58      |         |          | Nach U.S.E. gefühlt in Seward, Alaska, Herd: $61^\circ N, 150^\circ W,$                      |
|               | eL    | 52         |         |          | $0 22h19.9m$ . Andere Angaben: J.S.A. $61^\circ N, 149^\circ W, 0 22h20m1s,$                 |
|               | MN    | 23 2 29 17 |         | -        | Chiufeng $60^\circ 5' N, 150^\circ 5' W, 0 22h19m53s, URSS 60^\circ 0' N, 152^\circ 5' W,$   |
|               | MZ    | 2 31 17    |         | +        | Sitka (nach J.S.A.): 1P 22h21m59s, 1S 22h24m4s.                                              |
|               | ME    | 2 41 18    |         | -        | (188) Herd: Gegend von Ost China?                                                            |
| " 14          | F     | 0 20       |         |          | Vladivostok: eP 20h48m6s, eS 20h51m14s, Chiufeng: eP 20h48m8s,                               |
| " 14          | eL    | 21 33      |         |          | Peichiko: eP 20h49m0s, eSM 20h51m19s.                                                        |
| (188)         | F     | 50         |         |          | Vertikalkomponente ausser Tätigkeit: 14, 21h5m-15, 7h36m.                                    |
| " 15          | e     | 18 51      |         |          | (189) Herd: Gegend Ostl.Mittelmeer                                                           |
| (189)         | e(L)  | 53.5       |         |          | Triest: eP 18h44m57s, Kopenhagen: P 18h46.4m, S 18h50.6m,                                    |
|               | F     | 19 4       |         |          | Pulkovo: P 18h46m32s, Baku: eL 18h53m, (Helwan: 18h44m).                                     |
| " 16          | e(S)N | 1 20 25    |         |          | (190) Herd: Gegend Süd Nieder Kalifornien.                                                   |
| (190)         | eL    | 39         |         |          | La Jolla: 1P 0h59m3s, 1S 1h0m48s, Pasadena: 1P 0h59m24s,                                     |
|               | F     | 2 5        |         |          | 1S 1h1m21s, Florissant: eP 1h2m7s, eS 1h6m7s.                                                |
| " 18          | (ez)  | 4 16.7     |         |          | (191) $A_N = 7, A_Z = 8, A_E = 6.$                                                           |
| (191)         | ee    | 35 34      |         |          | Nach Apia gefühlt in Apia, Samoa Inseln, St.II; Herd nach                                    |
|               | eL    | 5 8        |         |          | U.S.E. $15^\circ S, 172^\circ W, 0 3h54.1m.$                                                 |
|               | MN    | 20 5 18    |         | -        | Apia: P 3h54m21s, S 3h54m35s, Suva: P 3h57m(30)s, S 3h59m27s.                                |
|               | MZ    | 20 13 18   |         | -        | (192) $A_N = 3, A_Z = 2.5.$                                                                  |
|               | ME    | 20 40 18   |         | +        | Herd nach japanischen Stationen nördl.von den Bonin Inseln;                                  |
|               | P     | 6 30       |         |          | Chiufeng gibt: $29^\circ N, 143^\circ E, 0 13h11m0s, URSS: 42^\circ 5' N, 152^\circ 5' E.$   |
| " 18          | eL    | 14 0       |         |          | Osaka: P 13h12m51.8s, S 13h14m51.4s.                                                         |
| (192)         | MN    | 8 20 18    |         | +        | (193) $A_N = 186, A_E = 190, A_Z = 260, A_{\Sigma} = 216, A_N = 265,$                        |
|               | MZ    | 13 14 14   |         | +        | $A_N = 395, A_E = 335, A_Z = 384^\circ, A_{\Sigma} = 135.$                                   |
|               | F     | 30         |         |          | $\Delta = 9080 \text{ km}; 82^\circ 8.$ Kondensation.                                        |
| " 18          | 1Pz   | 21 49 58   |         | +        | Nach C.M.O. stark gefühlt in Nord Nippon und Süd Hokkaido,                                   |
| (193)         | PPz   | 53 8       |         |          | Herd im Großen Ozean, $38^\circ 5' N, 142^\circ 8' E$ . Andere Angaben:                      |
|               | S     | 22 0 13    |         |          | E.R.I. $38^\circ 11' N, 142^\circ 40' E$ , Chiufeng $39^\circ N, 143^\circ E, 0 21h37m38s,$  |
|               | eL    | 16         |         |          | URSS $41^\circ 3' N, 143^\circ 0' E$ , Taihoku $38^\circ 5' N, 142^\circ 8' E, 0 21h37m35s,$ |
|               | MN    | 21 25 34   |         | +        | Strasbourg $43^\circ N, 142^\circ E, 0 21h37m48s, J.S.A. 38^\circ N, 143^\circ E,$           |
|               |       |            |         |          | $0 21h37m42s, U.S.E. 38^\circ N, 142^\circ E, 0 21h37.7m.$                                   |



## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933 | PHASE | ZEIT        | PERIODE | RICHTUNG | BEMERKUNGEN                                                       |
|---------------|-------|-------------|---------|----------|-------------------------------------------------------------------|
| Juni 18       | ME    | 22 21 49 26 |         | -        | Misusawa: 1P 21h37m58s, Tokyo (E.R.I.): P 21h38m26.8s, S-P=43.1s. |
|               | ME    | 27 1 23     |         | -        |                                                                   |
|               | ME    | 27 38 22    |         | -        | (194) AN = 3, AZ = 3.                                             |
|               | MN    | 28 35 21    |         | +        | $\Delta = 7370$ km; 66°E.                                         |
|               | MN    | 29 58 18    |         | +        | Nach U.S.E. in Alaska gefühlt, Herd: 60°N, 150°W, O 18h47.6m.     |
|               | ME    | 30 7 18     |         | -        | URSS gibt: 60°N, 145°W.                                           |
|               | ME    | 30 7 18     |         | +        | Pasadena: 1P 18h54m33s, eS 19h0m1s, Pulkovo: P 18h57m46s,         |
|               | ME    | 33 39 14    |         | +        | eS 19h5m53s.                                                      |
| " 19          | F     | 2 0         |         |          |                                                                   |
| " 19          | Pz    | 18 58 31    |         |          | (195) Parc St.Maur: 9h45m - 10h6m, (Baku: eL 9h51m).              |
| (194)         | SE    | 19 7 19     |         |          |                                                                   |
|               | eL    | 21          |         |          | (196) Nach Batavia gefühlt in Süd Sumatra, St.VI, Herd:           |
|               | MN    | 30 23 18    |         | -        | 492 S, 102°4 E, O 13h41m14s. Andere Angaben: URSS 395 S,          |
|               | ME    | 30 31 16    |         | -        | 101°5 E, Chiufeng 3°S, 101°5 E, O 13h41m14s.                      |
|               | F     | 20 25       |         |          | Batavia: Pv 13h42m28s, 1S 13h43m27s.                              |
| " 21          | eLz   | 9 55        |         |          |                                                                   |
| (195)         | F     | 10 3        |         |          | (197) AN = 326, AE = 302, AN = 248, AN = 220, AZ = 145,           |
|               | eLz   | 14 45       |         |          | AZ = 232, AZ = 172, AZ = 81.                                      |
| (196)         | F     | 15 0        |         |          | Zerstörendes Erdbeben in Süd Sumatra; nach Batavia St.IX,         |
| " 24          | Pz    | 22 8 36     |         |          | Herd 590 (5°2')S, 104°2 (104°9')E, östl. von Liwa, O 21h54m36s    |
| (197)         | e(P)z | 12 46       |         |          | Andere Angaben: URSS 5°S, 108°E, Straszburg 4°S, 103°5 E,         |
|               | eE    | 19 20       |         |          | O 21h54m45s, C.M.O. 5°S, 104°E, J.S.A. 4°S, 101°E.                |
|               | eN    | 20 18       |         |          | Batavia: 1P 21h55m19s.                                            |
|               | eL    | 37          |         |          | Viele Nachbeben, u.a. 25 Juni, Batavia: 1P 0h4m57s, 1S 0h5m36s.   |
|               | MN    | 43 48 44    |         | +        | (198) Nachbeben von (197). Chiufeng gibt Herd: 5°S, 104°E,        |
|               | ME    | 46 39 38    |         | -        | O 5h43m19s, URSS: 2°N, 112°E.                                     |
|               | MN    | 55 6 24     |         | -        | Batavia: 1Pv 5h44m1s, 1S 5h44m40s.                                |
|               | MN    | 56 55 20    |         | -        |                                                                   |
|               | MZ    | 59 34 21    |         | +        | (199) Nachbeben von (197).                                        |
|               | ME    | 23 1 34 20  |         | +        | Batavia: Pv 9h40m30s, 1S 9h41m12s.                                |
|               | ME    | 1 36 19     |         | -        |                                                                   |
|               | ME    | 8 27 13     |         | -        | (200) Herd: Indischer Ozean?                                      |
| " 25          | F     | 2 45        |         |          | Tananarivo: (P) 18h0m8s, (S) 18h1m53s, Bombay: e 18h4m0s,         |
| " 25          | eL    | 6 37        |         |          | Baku: eP 17h59m13s, eS 18h9m8s.                                   |
| (198)         | F     | 7 5         |         |          |                                                                   |
| " 25          | eL    | 10 38       |         |          | (201) AE = 7, AN = 8, AE = 8, AZ = 8.                             |
| (199)         | F     | 55          |         |          | $\Delta = (8540)$ km; (77°E).                                     |
| " 25          | eL    | 18 48       |         |          | Gefühlt in Nevada und Kalifornien, St.VIII in Wabuska und         |
| (200)         | F     | 19 15       |         |          | Grass Valley. Herdangaben: J.S.A. 38°5 N, 118°W, O 20h45m26s,     |
| " 25          | e(P)z | 20 57 28    |         |          | Pasadena ca. 39°15'N, 119°20'W, U.S.E. 39°0 N, 119°3 W,           |
| (201)         | S     | 21 7 15     |         |          | O 20h45.5m.                                                       |
|               | eL    | 22          |         |          | Berkeley: 1Pz 20h46m11s, Pasadena: eP 20h46m45s, 1SE 20h49m6s     |
|               |       |             |         |          | (202) Herd: Gegend der Fidisch Inseln.                            |
|               |       |             |         |          | Suva: P 3h14m42s, S 3h15m40s, Wellington: 1 3h25m58s.             |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933 | PHASE | ZEIT       | PERIODE | RICHTUNG | BEMERKUNGEN                                                      |
|---------------|-------|------------|---------|----------|------------------------------------------------------------------|
| Juni 25       | ME    | 21 29 6 18 |         | +        | L 3h28m30s, Melbourne: 1 3h27m25s, L 3h35m40s.                   |
|               | MN    | 31 35 19   |         | +        |                                                                  |
|               | ME    | 33 12 15   |         | -        | (203) AE = 4, AZ = 4, AN = 6.                                    |
|               | MZ    | 33 12 15   |         | -        | Herd: Atlantischer Ozean, nördl. von den Azoren, ca. 45°N, 28°W. |
|               | F     | 22 35      |         |          | Toledo: eP 15h44m27s, Kew: eP 15h44m41s, eS 15h46m21s,           |
| " 27          | eL    | 4 38       |         |          | Cartuja: 1P 15h44m46s, Sverdlovsk: eP 15h49m30s, eS 15h57m9s.    |
| (202)         | F     | 5 0        |         |          | (204) Herd nach URSS: 40°N, 31°E, N.W. Kleinasien.               |
| " 27          | e(S)E | 15 49 34   |         |          | Stuttgart: P 11h59.0m, S 12h2m35s, Pulkovo: P 11h59m12s,         |
| (203)         | eL    | 51.5       |         |          | S 12h2m52s.                                                      |
|               | ME    | 52 46 20   |         | +        | Möglicherweise kommen im letzten Teile der Registrierung         |
|               | MZ    | 53 43 15   |         | +        | Wellen eines Nachbebens von (197), Süd Sumatra, vor, Batavia:    |
|               | MN    | 53 43 11   |         | +        | 1Pv 11h15m50s, 1S 11h16m32s.                                     |
|               | F     | 16 15      |         |          | (205) AZ = 5, AN = 6, AE = 4, AZ = 4.                            |
| " 28          | eL    | 12 16.5    |         |          | $\Delta = (8260)$ km; (75°E).                                    |
| (204)         | F     | 25         |         |          | Herdangaben: U.S.E. 53°N, 165°W, Halbinsel Alaska, O 23h35.0m,   |
| " 28          | Pz    | 23 46 38   |         |          | J.S.A. 53°N, 163°W, O 23h35m12s, URSS 51°5 N, 168°W.             |
| (205)         | e(S)  | 56 11      |         |          | Sitka (nach J.S.A.): 1P 23h39m3s, 1S 23h42m23s.                  |
| " 29          | eL    | 0 10       |         |          | (206) Uccle: eL 2h1m, Stuttgart: L 2h9m, (Cartuja: e 1h52m0s,    |
|               | MZ    | 22 29 19   |         | +        | Pasadena: 1Pz 1h31m27s, Chiufeng: e? 1h34m6s, Wellington:        |
|               | MN    | 22 38 19   |         | +        | P 0h43m26s, S 0h43m46s).                                         |
|               | ME    | 23 53 19   |         | +        | (207) Nach J.S.A. Nachbeben von (205), O 2h32m43s.               |
|               | MZ    | 26 44 17   |         | +        | Sitka (nach J.S.A.): eP 2h36m43s, 1S 2h39m55s.                   |
|               | F     | 1 20       |         |          | (208) Herd: Atlantischer Ozean? (Vgl. (203).                     |
| " 29          | eL    | 2 7        |         |          | Kew: e 15h30m, Parc St.Maur: eL 15h33m, Straszburg: eL 15h35m,   |
| (206)         | F     | 25         |         |          | Stuttgart: L 15h35m, Kopenhagen: L 15.5h.                        |
| " 29          | eL    | 3 12       |         |          | (209) Herd: Atlantischer Ozean? Vgl. (203).                      |
| (207)         | F     | 45         |         |          | Uccle: eL 16h(50)m, Parc St.Maur: eL 16h51m, Straszburg:         |
| " 29          | eL    | 15 32      |         |          | eL 16h51m, Stuttgart: L 16h53m, Kopenhagen: 16h48m.              |
| (208)         | F     | 45         |         |          | F im folgenden Beben.                                            |
| " 29          | eL    | 16 50      |         |          | (210) Herd: Atlantischer Ozean? Vgl. (203).                      |
| (209)         | F     |            |         |          | Kew: e 16h58m37s, eL 17h3m, Stuttgart: P 16h59m42s, L 17h9m,     |
| " 29          | eL    | 17 5       |         |          | Kopenhagen: 17h3m37s, L 17h6m.                                   |
| (210)         | F     | 20         |         |          | (211) Herd: Atlantischer Ozean? Vgl. (203).                      |
| " 29          | eL    | 17 54      |         |          | Stuttgart: L 17h58m, Kopenhagen: L 17.9h.                        |
| (211)         | F     | 18 5       |         |          | (212) AE = 3, AN = 2.5, AZ = 3.                                  |
| " 29          | Pz    | 18 34 21   |         |          | Herd: Atlantischer Ozean? Vgl. (203).                            |
| (212)         | eL    | 39         |         |          | Kew: e 18h33m50s, eL 18h39m, Uccle: eP 18h34m22s, eS 18h38m22s,  |
|               | ME    | 42 13 17   |         | +        | Parc St.Maur: e 18h36m, Straszburg: (P) 18h34m55s,               |
|               | MN    | 43 50 13   |         | +        | eL 18h43m, Stuttgart: P 18h35.0m, S 18h39.4m, L 18h43m,          |
|               |       |            |         |          | Kopenhagen: P 18h34m37s, S 18h36m54s, L 18h41m.                  |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933  | PHASE                                             | ZEIT                                                                                      | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                    |
|----------------|---------------------------------------------------|-------------------------------------------------------------------------------------------|---------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Juni 29        | ME<br>F                                           | 18 44 3 13<br>19 10                                                                       |         |          | (213) Herd im Norden der nördl. Hemisphäre.<br>Sverdlovsk: eP 20h26m51s, L 20h41m, Pasadena: 1P 20h27m59s,<br>Kopenhagen: L 20.9h.                                                                                                                                                                                                                             |
| Jul 1<br>(213) | eL<br>F                                           | 21 0<br>32                                                                                |         |          | (214) AN = 4, AZ = 3.<br>Herd: Gegend Ostl. Mittelmeer?                                                                                                                                                                                                                                                                                                        |
| " 2<br>(214)   | (eL)<br>e<br>eL<br>MN<br>ME<br>F                  | 12 28 45<br>26.7<br>29<br>29 37 14<br>31 15 10<br>40                                      |         |          | Belgrad: e 12h21m7.5s, Zagreb: eP 12h21m31s, eS 12h23m45s,<br>Florenz: P 12h22m13s, S 12h25m18s, Uccle: eP 12h23m37s,<br>Pulkovo: P 12h24m11s.                                                                                                                                                                                                                 |
| " 2<br>(215)   | eL<br>F                                           | 17 33<br>50                                                                               |         |          | (215) Nach C.M.O. gefühlt in Nord Nippon und Süd Hokkaido,<br>Herd: 40°11 N, 142°18 E, Großer Ozean.<br>Mizusawa: 1P 16h48m42s, 1S 16h49m3s.                                                                                                                                                                                                                   |
| " 2<br>(216)   | eL<br>F                                           | 18 5<br>25                                                                                |         |          | (216) Nach Manila gefühlt in Butuan, N.E. Mindanao, St. III-IV,<br>Herd: 10°N, 127°E, Philippinengraben.<br>Manila: 1P 17h13m43s, 1S 17h15m31s.                                                                                                                                                                                                                |
| " 3<br>(217)   | eL<br>MN<br>F                                     | 15 51<br>53 58 22<br>16 35                                                                |         |          | (217) AN = 4.<br>Herd Gegend von Barma? (Bombay gibt: 5°N, 80°W, westl. von<br>Sumatra, Taihoku: 8°S, 114°E, Java, O 15h9m).                                                                                                                                                                                                                                   |
| " 4<br>(218)   | e<br>F                                            | 4 28<br>30                                                                                |         |          | Calcutta: eP 15h11m30s, S 15h14m11s, Agra: P 15h13m21s,<br>Medan: eP 15h13m25s, 1S 15h16m47s, Manila: P 15h14m10s,<br>S 15h18m36s.                                                                                                                                                                                                                             |
| " 7<br>(219)   | eL<br>F                                           | 8 6<br>25                                                                                 |         |          | (218) Triest: eRsP 4h20m58s, RsS 4h23m10s, Nachbeben von<br>(214)? Stuttgart: e 4h25.6m.                                                                                                                                                                                                                                                                       |
| " 9<br>(220)   | 1Pz<br>S<br>eL<br>ME<br>MN<br>ME<br>ME<br>MN<br>F | 1 42 6<br>52 1<br>2 7<br>19 11 22<br>19 22 21<br>21 39 18<br>21 49 17<br>23 28 16<br>4 40 |         |          | (219) Herd nach URSS: 23°N, 65°E, Nördl. Arabisches Meer.<br>Tachkent: 1P 7h35m1s, 1S 7h38m29s, Agra: P 7h33m51s.                                                                                                                                                                                                                                              |
| " 9<br>(221)   | eL<br>eL<br>eL<br>MN<br>ME<br>ME<br>F             | 5 47 37<br>57 49<br>6 13<br>19 47 25<br>25 30 19<br>27 28 18<br>7 10                      |         |          | (220) AN = 18, AN = 15, AE = 16, AZ = 18, AN = 21.<br>$\Delta = 8690$ km; 79°2. Kondensation.<br>Nach C.M.O. schwach gefühlt in Kuro, Ost Hokkaido, Herd:<br>43°N, 149°E, S.E.lich von den Kurilen, O 1h30m. Andere<br>Angaben: URSS 46°N, 154°E, J.S.A. 44°N, 152°W (E?),<br>O 1h30m13s, U.S.E. 45°N, 150°E, O 1h30.0m.<br>Mizusawa: eP 1h32m8s, 1S 1h33m40s. |
| " 9<br>(222)   | eL<br>eL<br>eL<br>MN<br>ME<br>ME<br>F             | 5 47 37<br>57 49<br>6 13<br>19 47 25<br>25 30 19<br>27 28 18<br>7 10                      |         |          | (221) AN = 4, AE = 4, AZ = 3.<br>Herdangaben: J.S.A. 17°N, 104°W, O 5h34m22s, U.S.E. 17°N,<br>105°W, O 5h34.3m, Großer Ozean nahe S.W. Mexiko.<br>Tucson: eP 5h38m1s, eL 5h42m4s.                                                                                                                                                                              |
| " 9<br>(223)   | Pz<br>S<br>eL<br>MN                               | 9 40 6<br>50 2<br>10 5                                                                    |         |          | (222) AN = 9, AE = 11, AZ = 12, AN = 12.<br>$\Delta = 8710$ km; 79°4. Dilatation.<br>Nachbeben von (220), Kurilen. Herdangaben: URSS 46°N,<br>151°E, J.S.A. 45°N, 153°E, O 9h28m17s, U.S.E. 45°N,<br>151°E, O 9h28.1m.<br>Mizusawa: eP 9h30m4s, 1S 9h31m30s.<br>P im folgenden Beben.                                                                          |

| DATUM<br>1933 | PHASE                                             | ZEIT                                                                                         | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                           |
|---------------|---------------------------------------------------|----------------------------------------------------------------------------------------------|---------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jul 9         | MN<br>ME<br>ME<br>MN<br>F                         | 10 17 22 20<br>19 49 17<br>20 16 18<br>20 34 18                                              |         |          | (223) AE = 7, AN = 8, AZ = 6.<br>$\Delta = (8800)$ km; (80°2) Kondensation.<br>Nachbeben von (220), Kurilen. Zeitunterschied (222) und (223)<br>20.2m, nach P einiger Stationen und einigen Maxima in De Bilt.<br>Mizusawa: eP 9h50m20s, 1S 9h51m44s.                                                                                                 |
| " 9<br>(223)  | Pz<br>e(S)N<br>ME<br>MN<br>Mz<br>F                | 10 0 17<br>10 17<br>40 3 16<br>40 50 17<br>40 50 17                                          |         |          | P im folgenden Beben.                                                                                                                                                                                                                                                                                                                                 |
| " 9<br>(224)  | Pz<br>eL<br>ME<br>MN<br>F                         | 11 33 39<br>59<br>12 13 49 18<br>15 9 16<br>40                                               |         |          | (224) AZ = 3, AN = 3.<br>Nachbeben von (220), Kurilen. URSS gibt als Herd: 42°N, 151°E.<br>Mizusawa: eP 11h23m45s, 1S 11h25m14s.                                                                                                                                                                                                                      |
| " 9<br>(225)  | 1Pz<br>S<br>eL<br>ME<br>MN<br>ME<br>MN<br>ME<br>F | 12 42 42<br>52 38<br>13 7<br>19 7 19<br>20 3 21<br>22 29 18<br>22 46 18<br>22 47 20<br>16 10 |         |          | (225) AE = 41, AN = 45, AE = 51, AN = 51, AZ = 52.<br>$\Delta = 8710$ km; 79°4. Kondensation.<br>Nachbeben von (220), Kurilen. Nach C.M.O. schwach gefühlt in<br>Kuro, Herd: 42°N, 149°E, O 12h31m. Andere Angaben:<br>URSS 45°N, 151°E, J.S.A. 44°N, 152°E, O 12h30m49s,<br>U.S.E. 44°N, 150°E, O 12h30.7m.<br>Mizusawa: eP 12h32m45s, 1S 12h34m27s. |
| " 9<br>(226)  | Pz<br>e(S)<br>eL<br>ME<br>MN<br>ME<br>F           | 16 19 8<br>29 10<br>44<br>55 39 17<br>59 30 19<br>59 30 17<br>18 0                           |         |          | (226) AE = 5, AN = 8, AZ = 7.<br>$\Delta = (8830)$ km; (80°5).<br>Nachbeben von (220). Herdangaben: URSS 45°N, 151°E,<br>U.S.E. 45°N, 151°E, O 16h7.1m. Japanische Stationen geben:<br>Ost von Kap Nosyappu, Hokkaido.<br>Mizusawa: eP 16h9m9s, eS 16h10m43s.                                                                                         |
| " 9<br>(227)  | ePz<br>eL<br>ME<br>MN<br>F                        | 18 3 35<br>31<br>43 46 17<br>45 16 15<br>19 30                                               |         |          | (227) AZ = 2.5, AN = 3.<br>Nachbeben von (220): URSS gibt: 42°N, 150°E, japanische<br>Stationen geben: Ost von Kap Nosyappu, wie (226).<br>Mizusawa: eP 17h50m50s, 1S 17h55m14s.                                                                                                                                                                      |
| " 9<br>(228)  | eL<br>F                                           | 20 5<br>25                                                                                   |         |          | (228) Nachbeben von (220); Nagoya gibt: Ost von Kap Nosyappu,<br>wie (226).<br>Mizusawa: eP 19h21m2s, 1S 19h22m28s, Neuchâtel: eP 19h31m42s.                                                                                                                                                                                                          |
| " 9<br>(229)  | Pz<br>S<br>eL<br>MN                               | 21 48 56<br>50 18<br>52<br>55 45 9                                                           |         |          | (229) AN = 3, AE = 3, AZ = 2.<br>$\Delta = 1990$ km; 18°3.<br>Herd: Süd Griechenland; URSS gibt: 37°N, 23°E.<br>Zagreb: eP 21h44m46s.                                                                                                                                                                                                                 |

SEISMISCHE REGISTRIERUNGEN IN DE BILT.

26

| DATUM<br>1933 | PHASE  | ZEIT                  | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                          |
|---------------|--------|-----------------------|---------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jul 9         | ME     | h m s s<br>21 56 10 9 |         | -        | (230) $\Delta = (8750)$ km; (7998).<br>Nachbeben von (220), Kurilen. URSS gibt als Herd: 4690 N, 155°E, japanische Stationen geben: Ost von Kap Nosyappu, wie (226). Mizusawa: eP 22h17m0s, eS 22h18m28s.                                                                                            |
| "             | ME     | 56 54 10              |         | -        |                                                                                                                                                                                                                                                                                                      |
| "             | F      | 22 15                 |         |          |                                                                                                                                                                                                                                                                                                      |
| " 9           | Pz     | 22 26 55              |         |          |                                                                                                                                                                                                                                                                                                      |
| (230)         | e(S)   | 36 53                 |         |          | (231) AE = 7, AE = 6, AN = 5, AZ = 5.<br>$\Delta = (9080)$ km; (8298).<br>Nach C.M.O. gefühlt in Nord Nippon und Süd Hokkaido, Herd: 3899 N, 14498 E, 0 Oh22m. Vgl. (45), Sanriku Erdbeben. Andere Angaben: URSS 3895 N, 14490 E, U.S.E. 39°N, 145°E, 0 Oh21.6m. Mizusawa: 1P 0h22m20s, 1S 0h22m49s. |
| "             | eL     | 53                    |         |          |                                                                                                                                                                                                                                                                                                      |
| "             | F      | 23 50                 |         |          |                                                                                                                                                                                                                                                                                                      |
| " 10          | Pz     | 0 33 56               |         |          |                                                                                                                                                                                                                                                                                                      |
| (231)         | e(PP)z | 37 9                  |         |          |                                                                                                                                                                                                                                                                                                      |
| "             | e(S)   | 44 11                 |         |          |                                                                                                                                                                                                                                                                                                      |
| "             | eL     | 1 2                   |         |          |                                                                                                                                                                                                                                                                                                      |
| "             | ME     | 6 21 28               |         | -        | (232) AN = 11, AE = 18, AZ = 19, AE = 17, AZ = 14.<br>Kondensation.<br>Herdangaben: J.S.A. 1798 N, 104°W, 0 3h22m2s, U.S.E. 16°N, 105°W, 0 3h21.6m, URSS 14°N, 94°W, Großer Ozean nahe S.W. Mexiko, vgl. (221). Pasadena: 1P 3h26m36s, 1SE 3h30m32s.                                                 |
| "             | ME     | 10 1 22               |         | -        |                                                                                                                                                                                                                                                                                                      |
| "             | MN     | 13 41 22              |         | -        |                                                                                                                                                                                                                                                                                                      |
| "             | ME     | 13 51 21              |         | -        |                                                                                                                                                                                                                                                                                                      |
| "             | F      | 50                    |         |          |                                                                                                                                                                                                                                                                                                      |
| " 10          | 1Pz    | 3 34 48               |         | +        | (233) Nachbeben von (220). Kurilen?<br>Mizusawa: eP 6h24m18s, eS 6h25m22s, Nagoya: e 6h25m38.9s, Vladivostok: eP 6h25m0s, L 6h29.5m.                                                                                                                                                                 |
| (232)         | e(PP)z | 38 5                  |         |          |                                                                                                                                                                                                                                                                                                      |
| "             | eH     | 45 24                 |         |          |                                                                                                                                                                                                                                                                                                      |
| "             | eL     | 4 5                   |         |          |                                                                                                                                                                                                                                                                                                      |
| "             | MN     | 13 49 16              |         | -        |                                                                                                                                                                                                                                                                                                      |
| "             | ME     | 14 29 17              |         | -        |                                                                                                                                                                                                                                                                                                      |
| "             | ME     | 14 29 17              |         | -        |                                                                                                                                                                                                                                                                                                      |
| "             | ME     | 16 51 17              |         | +        | (234) Oak Ridge: eL 9h0.5m, Pasadena: ez 8h43m17s).                                                                                                                                                                                                                                                  |
| "             | ME     | 17 0 16               |         | -        |                                                                                                                                                                                                                                                                                                      |
| "             | F      | 5 45                  |         |          | (235) AE = 5, AZ = 6, AN = 6.<br>Herdangaben: Batavia 6°S, 13395 E, 0 10h32m59s, C.M.O. 5°S, 132°E, URSS 590 S, 13590 E, U.S.E. 6°S, 133°E, 0 10h33.2m, Banda See, Molukken. Ambon: 1P 10h34m29s, 1S 10h35m33s.                                                                                      |
| " 10          | eL     | 7 8                   |         |          |                                                                                                                                                                                                                                                                                                      |
| (233)         | F      | 25                    |         |          |                                                                                                                                                                                                                                                                                                      |
| " 10          | eB     | 9 24                  |         |          |                                                                                                                                                                                                                                                                                                      |
| (234)         | F      | 28                    |         |          |                                                                                                                                                                                                                                                                                                      |
| " 10          | Pz     | 10 53 16              |         |          | (236) Nachbeben von (220). Kurilen?<br>Mizusawa: eP 13h31m42s, eS 13h33m3s.                                                                                                                                                                                                                          |
| (235)         | eL     | 11 35                 |         |          |                                                                                                                                                                                                                                                                                                      |
| "             | ME     | 44 6 25               |         | -        |                                                                                                                                                                                                                                                                                                      |
| "             | ME     | 51 25 20              |         | +        | (237) (Triest: eP 6h36m30s, Zagreb: eP 6h36m9s, Osaka: P 6h1m4.5s, S 6h2m6.5s).                                                                                                                                                                                                                      |
| "             | MN     | 51 35 22              |         | +        |                                                                                                                                                                                                                                                                                                      |
| "             | F      | 13 15                 |         |          |                                                                                                                                                                                                                                                                                                      |
| " 10          | eL     | 14 20                 |         |          | (238) Nach japanischen Stationen Herd E.S.E. von Katsuura, Präf. Tiba.<br>Nagoya: eP 6h51m2.6s, S 6h51m58.8s, Mizusawa: eP 6h51m10s, 1S 6h52m12s.                                                                                                                                                    |
| (236)         | F      | 35                    |         |          |                                                                                                                                                                                                                                                                                                      |
| " 11          | e      | 6 44                  |         |          |                                                                                                                                                                                                                                                                                                      |
| (237)         | P      | 7 10                  |         |          |                                                                                                                                                                                                                                                                                                      |
| " 11          | eL     | 7 43                  |         |          | (239) (Strassburg: eL 11h45m, Stuttgart: L 11h48m, Kucino: eL 11h50.6m).                                                                                                                                                                                                                             |
| (238)         | F      | 8 0                   |         |          |                                                                                                                                                                                                                                                                                                      |

SEISMISCHE REGISTRIERUNGEN IN DE BILT.

27

| DATUM<br>1933 | PHASE | ZEIT             | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                   |
|---------------|-------|------------------|---------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jul 12        | eL    | h m s s<br>11 50 |         |          | (240) Zerstörendes Erdbeben in Tschangri, Nördl. Kleinasien? Herd nach URSS: 4095 N, 3390 E. Kucino: eP 12h38m21s, eS 12h41m16s.                                                                                                                                                                              |
| (239)         | F     | 55               |         |          |                                                                                                                                                                                                                                                                                                               |
| " 12          | eL    | 12 49            |         |          | (241) (Triest: e 4h25m55s, Zagreb: e 4h29m, Stuttgart: e 4h29.5m, Kopenhagen: L 4.6h).                                                                                                                                                                                                                        |
| (240)         | F     | 13 5             |         |          |                                                                                                                                                                                                                                                                                                               |
| " 13          | e     | 4 36             |         |          |                                                                                                                                                                                                                                                                                                               |
| (241)         | F     | 42               |         |          | (242) Nach C.M.O. gefühlt in Süd Hokkaido, Herd: 4294 N, 13897 E, Japanisches Meer. URSS gibt: 4090 N, 13795 E. Mizusawa: eP 7h58m38s, 1S 7h59m24s.                                                                                                                                                           |
| " 13          | e(P)z | 8 9 36           |         |          |                                                                                                                                                                                                                                                                                                               |
| (242)         | eL    | 39               |         |          |                                                                                                                                                                                                                                                                                                               |
| "             | F     | 9 15             |         |          | (243) Nach Batavia gefühlt in West Java, St.V. Herd im Indischen Ozean; tiefer Herd. Batavia berechnet für den Fall eines nicht tiefen Herdes aus Batavia und Malabar Herd: 894 S, 10792 E, 0 14h23m24s; URSS gibt: 1198 S, 9797 E. Malabar: 1P 14h23m43s, 1S 14h23m59s, Batavia: 1P 14h23m59s, 1S 14h24m27s. |
| " 13          | eL    | 15 32            |         |          |                                                                                                                                                                                                                                                                                                               |
| (243)         | F     | 40               |         |          |                                                                                                                                                                                                                                                                                                               |
| " 14          | 1Pz   | 1 57 45          |         |          |                                                                                                                                                                                                                                                                                                               |
| (244)         | 1z    | 2 1 10           |         |          |                                                                                                                                                                                                                                                                                                               |
| "             | F     | 17               |         |          |                                                                                                                                                                                                                                                                                                               |
| " 18          | e     | 6 12.1           |         |          | (244) Hauptphase nicht zu erkennen; tiefer Herd. Herd: Gegend der Fidzchi Inseln? Suva: e 1h37m9s, 1 1h40m48s, Apia: P 1h41m1s, S 1h42m32s, Sydney: 1 1h43m0s, 1 1h46m53s, Wellington: P 1h43m18s, S 1h47m0s, Manila: P 1h46m1s, S 1h55m50s.                                                                  |
| (245)         | e(L)  | 14               |         |          |                                                                                                                                                                                                                                                                                                               |
| "             | F     | 25               |         |          |                                                                                                                                                                                                                                                                                                               |
| " 18          | eL    | 19 24            |         |          |                                                                                                                                                                                                                                                                                                               |
| (246)         | eH    | 33 13            |         |          |                                                                                                                                                                                                                                                                                                               |
| "             | eL    | 56               |         |          | (245) Nach Toledo Herd: 36°30'N, 5°0'W, Sierra Bermeja, 0 6h4m52s ± 3s. Gefühlt in Malaga (Süd Spanien) St.V und in Tetuan (Marokko). Malaga: 1P 6h4m58s, S 6h5m8s.                                                                                                                                           |
| "             | MN    | 20 11 37 17      |         | +        |                                                                                                                                                                                                                                                                                                               |
| "             | ME    | 11 38 18         |         | -        |                                                                                                                                                                                                                                                                                                               |
| "             | ME    | 15 23 17         |         | +        |                                                                                                                                                                                                                                                                                                               |
| "             | F     | 50               |         |          |                                                                                                                                                                                                                                                                                                               |
| " 19          | eE    | 5 28.3           |         |          | (246) AN = 7, AZ = 6, AE = 5.<br>Herdangaben: Manila 8°15'N, 143°45'E, C.M.O. 13°N, 143°E, Taihoku: 14°N, 140°E, URSS 1090 N, 13795 E, Westl. Großer Ozean. Manila: 1P 19h9m33s, S 19h13m38s.                                                                                                                 |
| (247)         | eL    | 37               |         |          |                                                                                                                                                                                                                                                                                                               |
| "             | F     | 6 20             |         |          |                                                                                                                                                                                                                                                                                                               |
| " 19          | Pz1   | 10 57 23         |         |          | (247) Herd: Großer Ozean, nahe der Küste von Oregon, nach U.S.E. 43°N, 128°W, 0 5h6.6m.                                                                                                                                                                                                                       |
| (248)         | Pz2   | 11 5 49          |         |          |                                                                                                                                                                                                                                                                                                               |
| "             | eL1   | 25               |         |          | Berkeley: e 5h8m15s, Pasadena: 1P 5h9m24s, St. Louis: 1P 5h12m28s, eS 5h17m10s, Sverdlovsk: eP 5h18m45s, eS 5h28m48s.                                                                                                                                                                                         |
| "             | ME1   | 38 57 20         |         | +        |                                                                                                                                                                                                                                                                                                               |
| "             | ME    | 42 2 19          |         | -        |                                                                                                                                                                                                                                                                                                               |
| "             | ME2   | 47 23 20         |         | +        | (248) AE = 3, AZ = 3, AN = 3.<br>Überlagerung von zwei Beben, 8m26s nach einander, Herd: Gegend der Aleuten.<br>Herdangaben: 1. J.S.A. 50°N, 170°W, 0 16h45m36s, U.S.E. 52°N, 175°W, 0 10h45.5m, URSS 4295 N, 16090 E, 2. URSS 4290 N, 179°W.                                                                 |
| "             | F     | 12 50            |         |          |                                                                                                                                                                                                                                                                                                               |
| " 19          | 1Pz   | 13 44 15         |         | +        |                                                                                                                                                                                                                                                                                                               |
| (249)         | eE    | 49 13            |         |          |                                                                                                                                                                                                                                                                                                               |
| "             | e(S)  | 54 2             |         |          |                                                                                                                                                                                                                                                                                                               |
| "             | eL    | 14 10            |         |          |                                                                                                                                                                                                                                                                                                               |
| "             | MN    | 24 50 18         |         | +        | 1. Sitka: 1P 10h50m36s, 1S 10h54m50s, Vladivostok: P 10h52m38s, S 10h58m23s, 2. Vladivostok: P 11h1m6s, eS 11h6m52s.                                                                                                                                                                                          |
| "             | ME    | 25 58 18         |         | -        |                                                                                                                                                                                                                                                                                                               |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933 | PHASE                                                              | ZEIT                                                                                                             | PERIODE | RICHTUNG                                            | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|---------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jul 19        | ME<br>F                                                            | h m s s<br>14 28 52 17                                                                                           |         | -                                                   | (249) AN = 4, AE = 4, AZ = 3.<br>Δ = (8540) km; (7728). Kondensation.<br>Herdangaben: J.S.A. 50°N, 170°W, O 13h32m44s, U.S.E. 51°N, 175°W, O 13h32.4m, URSS 50°N, 177°W, Aleuten; vgl. (248).<br>Sitka: 1P 13h37m29s, 1S 13h41m43s, Vladivostok: 1P 13h39m32s, S 13h45m16s. Zeitunterschied (248).1 und (249) nach den P. zeiten: 2h46m53s.<br>F im folgenden Beben.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| " 19<br>(250) | 1Pz<br>eL<br>ME<br>MZ<br>MN<br>F                                   | 15 11 46<br>16 38<br>37<br>53 20 18<br>53 52 17<br>54 29 18<br>17 15                                             |         | +<br>-<br>+<br>+<br>-<br>-                          | (250) AE = 6, AZ = 5, AN = 5.<br>Kondensation.<br>Herdangaben: J.S.A. 50°N, 170°W, O 15h0m11s, U.S.E. 52°N, 174°W, O 15h0.0m, URSS 51°N, 176°W, C.M.O. 51°N, 174°W, Aleuten; vgl. (249).<br>Sitka: 1P 15h5m0s, 1S 15h9m14s, Vladivostok: 1P 15h7m4s, S 15h12m50s.<br>(251) AN = 23, AN = 25, AZ = 10, AE = 20.<br>Δ = 2500 km; 2392.<br>Zerstörendes Erdbeben in S.W. Kleinasien, Gegend Denizli.<br>Herdangaben: Straszburg ca. 36°N, 27°E, URSS 37°N, 27°E, Esara (nach Straszburg): eP 20h8m45s, 1S 20h10m13s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| " 19<br>(251) | Pz<br>S<br>eL<br>MN<br>MN<br>MZ<br>ME<br>F                         | 20 12 2<br>16 7<br>19<br>19 55 11<br>22 15 10<br>22 52 10<br>22 57 9<br>21 0                                     |         | -<br>-<br>-<br>+<br>-<br>-<br>-<br>-                | (252) Herd: Gegend N.E. Barma?<br>Calcutta: eP 20h50m55s, S 20h52m55s, Feichiko: P 20h52m37s, Manila: P? 20h53m34s, S? 20h58m6s.<br>(253) AE = 4, AE = 4, AZ = 4.<br>Δ = 9060 km; 8296. Kondensation.<br>Nach C.M.O. gefühlt in Nord Nippon und Süd Hokkaido, Herd: 38°N, 144°E, Großer Ozean; vgl. (45), Andere Angaben: URSS 39°N, 146°E, Stuttgart: ca. 41°N, 146°E, O 23h13m50s.<br>Mizusawa: 1P 23h14m47s, 1S 23h15m18s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| " 20<br>(253) | 1Pz<br>PPz<br>S<br>eL<br>MN<br>ME<br>F                             | 23 26 23<br>29 35<br>36 37<br>53<br>58 55 26<br>0 2 22 21<br>6 39 21<br>45                                       |         | -<br>-<br>-<br>-<br>+<br>+<br>+                     | (254) Herd: Gegend Ost Haiti - Mona Passage.<br>Washington: 1P 7h33m49s, 1S 7h37m44s, New York: eP 7h34m1s, eS 7h38m2s, Riverside: eP 7h37m21s, eS 7h44m1s, Pasadena: 1P 7h37m26s.<br>Papierwechsel: 7h31.4m - 39.5m.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| " 21<br>(254) | e(S)<br>eL<br>F                                                    | 7 48 20<br>8 3<br>20                                                                                             |         | -<br>-<br>-                                         | (255) AE = 12, AE = 14, AN = 31, AZ = 33, AN = 18, AZ = 19.<br>Herd: Südl. Atlantischer Ozean, ca. 54°S, 22°W, unweit der Sandwich Inseln. Andere Angaben: Straszburg ca. 48°S, 22°W, URSS 62°S, 25°W, U.S.E. 56°S, 26°W, O 20h7.0m.<br>La Plata: L 20h18.4m, Sucre: P 20h15m27s, 1SN 20h22m27s, Tananarivo: P 20h17m38s, eSE 20h26m14s, Wellington: P 20h19m2s, S 20h29m21s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| " 21<br>(255) | ePz<br>eL<br>eL<br>eN, z<br>eR<br>ME<br>ME<br>MN<br>MZ<br>MN<br>MZ | 20 21 28<br>25 28<br>33 52<br>35 34<br>41.5<br>21 4 41 20<br>6 59 19<br>8 40 19<br>8 41 19<br>13 7 17<br>13 7 17 |         | +<br>-<br>-<br>-<br>-<br>+<br>-<br>-<br>-<br>+<br>+ | (256) AE = 47, AN = 56, AZ = 54, AE = 80, AN = 68, AN = 58.<br>Δ = 8380 km; 7693. Kondensation. Azimut ca. N.<br>Herd: Aleuten. Angaben: J.S.A. 51°N, 166°W, O 20h55m18s, U.S.E. 53°N, 169°W, O 20h55.3m, URSS 51°N, 157°W, C.M.O. 52°N, 170°W, Taihoku: 54°N, 178°W, O 20h55m30s, Schweiz. Erdb. Dienst. ca. 54°N, 171°W.<br>Sitka (nach J.S.A.): 1P 20h59m48s, 1(S) 21h2m49s.<br>(257) AE = 2.5, AZ = 2.5.<br>Herdangaben: Stuttgart 16°S, 77°W, O 4h12m50s, U.S.E. 16°S, 75°W, O 4h13.2m, Großer Ozean nahe S.W. Peru.<br>La Paz: 1P 4h14m27s, 1SN 4h15m48s, Sucre: 1Pv 4h15m35s, La Plata: P 4h18.5m, S 4h22.9m.<br>(258) Parc St. Maur: 8h9m - 27m, Kopenhagen: L 8.2h, Sverdlovsk: L 8h17m.<br>(259) AE = 4, AZ = 4.<br>Δ = (4220) km; (3999).<br>Herdangaben: Stuttgart ca. 30°N, 40°W, O 9h37m25s, URSS 30°N, 40°W, Atlantischer Ozean.<br>New York: eP 9h43m46s, eS 9h48m34s, Kew: e 9h44m41s.<br>(260) Δ = (8570) km; (7892).<br>Nach japanischen Stationen Herd: Japanisches Meer südl. von Vladivostok, nach Työsen: 42°N, 132°E.<br>Heizyō: P 8h39m29.3s, S - P = 1m16.2s.<br>(261) Nach Wien Herd: Kärnten, Österreich, 46°N, 14°E, gefühlt in Grafenstein, St. VI.<br>Triest: 1P 9h41m27.3s, Zagreb: eP 9h41m28s, Wien: Pz 9h41m46s.<br>(262) AN = 17, AE = 17, AZ = 18.<br>Gefühlt in Apia und Pago Pago, Samoa Inseln.<br>Herdangaben: J.S.A. 15°S, 174°W, O 18h55m36s, U.S.E. 15°S, 170°W, O 18h55.7m, URSS 17°S, 172°W.<br>Apia: P ca. 18h56m, Suva: P 18h57m30s, S 18h59m10s.<br>Viele Nachbeben, s. Apia, Entfernungen von Apia 194 und 195.<br>Keine Reg. E.W. Komp.: 25, 3h22m - 7h42m.<br>(263) (Pasadena: 1Pz 5h4m7s, Sverdlovsk: eP 5h7m22s, S 5h15m24s, Washington: P 5h12m53s, S 5h16m13s). |
| " 22          | F                                                                  | 20                                                                                                               |         | -                                                   | (264) Herd: S.E. Europa?<br>Zagreb: P 1h4m59s, eS 1h6m33s, Triest: P 1h5m1s, 1S 1h6m21.5s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933   | PHASE                                              | ZEIT                                                                                                       | PERIODE | RICHTUNG                             | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jul 22<br>(256) | 1Pz<br>S<br>eL<br>ME<br>MN<br>MZ<br>ME<br>MZ<br>MN | h m s s<br>21 7 0<br>16 39<br>(28)<br>41 28 21<br>43 56 20<br>43 57 19<br>46 43 18<br>48 47 20<br>48 54 20 |         | +<br>-<br>-<br>-<br>-<br>+<br>+<br>+ | (256) AE = 47, AN = 56, AZ = 54, AE = 80, AN = 68, AN = 58.<br>Δ = 8380 km; 7693. Kondensation. Azimut ca. N.<br>Herd: Aleuten. Angaben: J.S.A. 51°N, 166°W, O 20h55m18s, U.S.E. 53°N, 169°W, O 20h55.3m, URSS 51°N, 157°W, C.M.O. 52°N, 170°W, Taihoku: 54°N, 178°W, O 20h55m30s, Schweiz. Erdb. Dienst. ca. 54°N, 171°W.<br>Sitka (nach J.S.A.): 1P 20h59m48s, 1(S) 21h2m49s.<br>(257) AE = 2.5, AZ = 2.5.<br>Herdangaben: Stuttgart 16°S, 77°W, O 4h12m50s, U.S.E. 16°S, 75°W, O 4h13.2m, Großer Ozean nahe S.W. Peru.<br>La Paz: 1P 4h14m27s, 1SN 4h15m48s, Sucre: 1Pv 4h15m35s, La Plata: P 4h18.5m, S 4h22.9m.<br>(258) Parc St. Maur: 8h9m - 27m, Kopenhagen: L 8.2h, Sverdlovsk: L 8h17m.<br>(259) AE = 4, AZ = 4.<br>Δ = (4220) km; (3999).<br>Herdangaben: Stuttgart ca. 30°N, 40°W, O 9h37m25s, URSS 30°N, 40°W, Atlantischer Ozean.<br>New York: eP 9h43m46s, eS 9h48m34s, Kew: e 9h44m41s.<br>(260) Δ = (8570) km; (7892).<br>Nach japanischen Stationen Herd: Japanisches Meer südl. von Vladivostok, nach Työsen: 42°N, 132°E.<br>Heizyō: P 8h39m29.3s, S - P = 1m16.2s.<br>(261) Nach Wien Herd: Kärnten, Österreich, 46°N, 14°E, gefühlt in Grafenstein, St. VI.<br>Triest: 1P 9h41m27.3s, Zagreb: eP 9h41m28s, Wien: Pz 9h41m46s.<br>(262) AN = 17, AE = 17, AZ = 18.<br>Gefühlt in Apia und Pago Pago, Samoa Inseln.<br>Herdangaben: J.S.A. 15°S, 174°W, O 18h55m36s, U.S.E. 15°S, 170°W, O 18h55.7m, URSS 17°S, 172°W.<br>Apia: P ca. 18h56m, Suva: P 18h57m30s, S 18h59m10s.<br>Viele Nachbeben, s. Apia, Entfernungen von Apia 194 und 195.<br>Keine Reg. E.W. Komp.: 25, 3h22m - 7h42m.<br>(263) (Pasadena: 1Pz 5h4m7s, Sverdlovsk: eP 5h7m22s, S 5h15m24s, Washington: P 5h12m53s, S 5h16m13s). |
| " 23            | F                                                  | 1 30                                                                                                       |         | -                                    | (259) AE = 4, AZ = 4.<br>Δ = (4220) km; (3999).<br>Herdangaben: Stuttgart ca. 30°N, 40°W, O 9h37m25s, URSS 30°N, 40°W, Atlantischer Ozean.<br>New York: eP 9h43m46s, eS 9h48m34s, Kew: e 9h44m41s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| " 23<br>(257)   | Pz<br>PPz<br>eE<br>eN<br>eL<br>ME<br>ME<br>F       | 4 26 36<br>30 32<br>37 15<br>38 2<br>5 1<br>10 35 18<br>10 35 17<br>55                                     |         | -<br>-<br>-<br>-<br>-<br>-<br>-      | (258) Parc St. Maur: 8h9m - 27m, Kopenhagen: L 8.2h, Sverdlovsk: L 8h17m.<br>(259) AE = 4, AZ = 4.<br>Δ = (4220) km; (3999).<br>Herdangaben: Stuttgart ca. 30°N, 40°W, O 9h37m25s, URSS 30°N, 40°W, Atlantischer Ozean.<br>New York: eP 9h43m46s, eS 9h48m34s, Kew: e 9h44m41s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| " 23<br>(258)   | eL<br>F                                            | 8 11<br>22                                                                                                 |         | -<br>-                               | (258) Parc St. Maur: 8h9m - 27m, Kopenhagen: L 8.2h, Sverdlovsk: L 8h17m.<br>(259) AE = 4, AZ = 4.<br>Δ = (4220) km; (3999).<br>Herdangaben: Stuttgart ca. 30°N, 40°W, O 9h37m25s, URSS 30°N, 40°W, Atlantischer Ozean.<br>New York: eP 9h43m46s, eS 9h48m34s, Kew: e 9h44m41s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| " 23<br>(259)   | Pz<br>e(S)<br>eL<br>ME<br>ME<br>F                  | 9 45 11<br>51 11<br>56<br>57 49 22<br>58 38 19<br>10 40                                                    |         | -<br>-<br>-<br>+<br>-<br>-           | (259) AE = 4, AZ = 4.<br>Δ = (4220) km; (3999).<br>Herdangaben: Stuttgart ca. 30°N, 40°W, O 9h37m25s, URSS 30°N, 40°W, Atlantischer Ozean.<br>New York: eP 9h43m46s, eS 9h48m34s, Kew: e 9h44m41s.<br>(260) Δ = (8570) km; (7892).<br>Nach japanischen Stationen Herd: Japanisches Meer südl. von Vladivostok, nach Työsen: 42°N, 132°E.<br>Heizyō: P 8h39m29.3s, S - P = 1m16.2s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| " 24<br>(260)   | e(P)z<br>S<br>eL<br>F                              | 8 47 48<br>57 37<br>9(16)<br>(40)                                                                          |         | +<br>-<br>-<br>-                     | (260) Δ = (8570) km; (7892).<br>Nach japanischen Stationen Herd: Japanisches Meer südl. von Vladivostok, nach Työsen: 42°N, 132°E.<br>Heizyō: P 8h39m29.3s, S - P = 1m16.2s.<br>(261) Nach Wien Herd: Kärnten, Österreich, 46°N, 14°E, gefühlt in Grafenstein, St. VI.<br>Triest: 1P 9h41m27.3s, Zagreb: eP 9h41m28s, Wien: Pz 9h41m46s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| " 24<br>(261)   | e<br>F                                             | 9 45.5<br>48                                                                                               |         | -<br>-                               | (261) Nach Wien Herd: Kärnten, Österreich, 46°N, 14°E, gefühlt in Grafenstein, St. VI.<br>Triest: 1P 9h41m27.3s, Zagreb: eP 9h41m28s, Wien: Pz 9h41m46s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| " 24<br>(262)   | ePz<br>eL<br>eN<br>eL<br>MN<br>ME<br>MZ<br>F       | 19 15 9<br>18 22<br>25 17<br>20 3<br>9 32 26<br>19 59 19<br>20 26 20<br>22 20                              |         | -<br>-<br>-<br>-<br>-<br>+<br>-<br>- | (262) AN = 17, AE = 17, AZ = 18.<br>Gefühlt in Apia und Pago Pago, Samoa Inseln.<br>Herdangaben: J.S.A. 15°S, 174°W, O 18h55m36s, U.S.E. 15°S, 170°W, O 18h55.7m, URSS 17°S, 172°W.<br>Apia: P ca. 18h56m, Suva: P 18h57m30s, S 18h59m10s.<br>Viele Nachbeben, s. Apia, Entfernungen von Apia 194 und 195.<br>Keine Reg. E.W. Komp.: 25, 3h22m - 7h42m.<br>(263) (Pasadena: 1Pz 5h4m7s, Sverdlovsk: eP 5h7m22s, S 5h15m24s, Washington: P 5h12m53s, S 5h16m13s).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| " 26<br>(263)   | e(S)<br>eL<br>F                                    | 5 16 26<br>27<br>6 25                                                                                      |         | -<br>-<br>-                          | (263) (Pasadena: 1Pz 5h4m7s, Sverdlovsk: eP 5h7m22s, S 5h15m24s, Washington: P 5h12m53s, S 5h16m13s).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| " 26<br>(264)   | e(S)<br>eL<br>F                                    | 5 16 26<br>27<br>6 25                                                                                      |         | -<br>-<br>-                          | (264) Herd: S.E. Europa?<br>Zagreb: P 1h4m59s, eS 1h6m33s, Triest: P 1h5m1s, 1S 1h6m21.5s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

SEISMISCHE REGISTRIERUNGEN IN DE BILT.

30

| DATUM<br>1933   | PHASE                                  | ZEIT                                                   | PERIODE        | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                 |
|-----------------|----------------------------------------|--------------------------------------------------------|----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jul 27<br>(264) | e(L)<br>F                              | 1 12<br>20                                             |                |          | (265) Herd: Westl. Groszer Ozean?<br>Manila: 1Pz 21h33m27s, 1S 21h37m11s, Hongkong: P 21h35m36s,<br>Sverdlovsk: P 21h42m9s, S 21h51m31s.                                                                                                                                                                                    |
| " 27<br>(265)   | eL<br>F                                | 22 29<br>50                                            |                |          | (266) Nach C.M.O. gefühlt in Süd Nippon und Shikoku. Herd:<br>3492 N, 13590 E.<br>Sumoto: 1P 16h43m31s, S 16h43m36s.                                                                                                                                                                                                        |
| " 28<br>(266)   | eL<br>F                                | 17 30<br>45                                            |                |          | (267) Tiefer Herd?<br>Batavia gibt: gefühlt auf Bali, Lombok und in Ost Java, St.V,<br>Herd: 993 S, 11590 E, O 17h18m0s. Herd nach URSS: 21°S, 142°E.<br>Wellington: 1 17h16m45s, S? 17h22m0s, Suva: P 17h18m21s,<br>S 17h20m15s, Sydney: 1 17h20m41s, Melbourne: 1 17h21m35s,<br>Manila: P 17h23m32s, Batavia: e 17h24.7m. |
| " 30<br>(267)   | 1z<br>eE<br>eH<br>1z<br>eL<br>F        | 17 34 50<br>37 45<br>38 24<br>38 26<br>18(18)<br>19 15 |                |          | (268) AE = 15, AZ = 13.<br>Herd: Gegend von Grönland; URSS gibt: 67°N, 52°W.<br>Parc St.Maur: e 11h40m13s, Kopenhagen: P 11h41m23s,<br>S 11h45.9m, Ottawa: eP 11h41m18s, Baku: eP 11h45m16s, 1S 11h53m11s                                                                                                                   |
| " 31<br>(268)   | (eE)<br>eL<br>ME<br>ME<br>F            | 11 40 54<br>47<br>49 55<br>49 56<br>12 10              | 17<br>18       | +        | (269) Herd: Groszer Ozean unweit Süd Peru, nach U.S.E. 17°S,<br>78°W, O 15h22.5m.<br>La Paz: 1Pv 15h24m50s, 1SN 15h26m33s, La Plata: P 15h28.4m,<br>S 15h33.1m, Pasadena: 1Pz 15h33m35s.                                                                                                                                    |
| " 31<br>(269)   | eL<br>F                                | 16 13<br>40                                            |                |          | (270) Sehr fernes Eeben. Tiefer Herd?<br>Pasadena: 1P 19h15m48s, Neuchâtel: eP 19h22m40.6s.<br>(271) AN = 4.<br>Herd: Barma, URSS gibt: 22°N, 93°E.<br>Peichiko: P 17h37m2s, Manila: P 17h37m52s, S 17h42m20s.                                                                                                              |
| Aug. 3<br>(270) | e(P)z<br>eL<br>F                       | 19 22 36<br>20 21<br>30                                |                |          | (272) AE = 4, AN = 3, AZ = 3.<br>Herdangaben: Wellington nahe 9°S, 160°E, URSS 990 S, 15890 E,<br>U.S.E. 9°S, 158°E, O 0h44.2m, Solomon Inseln.<br>Sydney: 1P 0h49m44s, 1SN 0h54m16s.                                                                                                                                       |
| " 4<br>(271)    | eE<br>eL<br>MN<br>F                    | 17 44<br>18 11<br>13 22<br>40                          | 22             | -        | (273) Uccle: eL 4h32m, Strassburg: eL 4h34m, (Baku: eL 4h40m,<br>Pasadena: 1Pz 3h23m52s, La Paz: Pv 3h47m42s).                                                                                                                                                                                                              |
| " 5<br>(272)    | (eE)<br>e<br>eL<br>ME<br>MN<br>ME<br>F | 1 3.6<br>7 0<br>42<br>57 11<br>2 2 22<br>6 30<br>3 20  | 19<br>17<br>19 | +        | (274) Nach La Paz in Lima, Peru, gefühlt.<br>La Paz: 1PE 2h56m49s, 1SE 2h58m49s, Sucre: P 2h57m40s.                                                                                                                                                                                                                         |
| " 5<br>(273)    | eL<br>P                                | 4 31<br>5 15                                           |                |          | (275) Nach C.M.O. gefühlt in Nord Nippon und Süd Hokkaido,<br>Herd: 3994 N, 14497 E, Groszer Ozean. Vgl. (45). URSS gibt:<br>3795 E, 14295 E.<br>Mizusawa: P 0h42m35s, 1S 0h43m6s.                                                                                                                                          |
| " 6<br>(274)    | eH<br>e(L)<br>F                        | 3 19.1<br>35<br>4 0                                    |                |          | (276) Herd nach U.S.E.: 13°N, 98°W, Groszer Ozean nahe Süd<br>Mexiko, O 3h2.7m.<br>Florissant: eP 3h8m25s, eS 3h13m0s, Pasadena: 1P 3h8m40s,<br>La Paz: ePv 3h10m31s.                                                                                                                                                       |
| "<br>(275)      | eL<br>F                                | 1 23<br>45                                             |                |          |                                                                                                                                                                                                                                                                                                                             |

SEISMISCHE REGISTRIERUNGEN IN DE BILT.

31

| DATUM<br>1933   | PHASE                                                | ZEIT                                                                      | PERIODE              | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------|------------------------------------------------------|---------------------------------------------------------------------------|----------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aug. 7<br>(276) | Pz<br>eH<br>e(L)N<br>eLE<br>F                        | 3 15 37<br>26 17<br>39<br>44<br>4 15                                      |                      |          | (277) Nach Manila gefühlt in N.E. Mindanao, St. III, Herd im<br>Philippinengraben. URSS gibt: 1190 N, 12795 E.<br>Manila: P 12h36m31s, S 12h37m58s.                                                                                                                                                                                                                                                                                                                                                  |
| " 7<br>(277)    | (eE)<br>eL<br>F                                      | 13 9 15<br>25<br>14 5                                                     |                      |          | (278) Herd nach La Plata: Nord Chile?<br>La Paz: 1PN 23h3m16s, 1LN 23h3m36s, La Plata: P 23h7.24m,<br>S 23h10.83m, Pasadena: 1P 23h13m31s.                                                                                                                                                                                                                                                                                                                                                           |
| " 9<br>(278)    | eE<br>eL                                             | 23 26 3<br>58                                                             |                      |          | (279) Herd: Atlantischer Ozean?<br>Parc St.Maur: eL 13h0m, Strassburg: eL 13h3m, Stuttgart:<br>eL 13h3m, (Sverdlovsk: L 13h12m).                                                                                                                                                                                                                                                                                                                                                                     |
| " 10            | F                                                    | 0 5                                                                       |                      |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| " 10<br>(279)   | eL<br>F                                              | 13 1<br>18                                                                |                      |          | (280) AE = 24, AN = 42, AZ = 16, AZ = 15.<br>Δ = 8140 km; 7490. Dilatation.<br>Herdangaben: Bombay 28°N, 97°E, nahe den Namkin Bergen,<br>URSS 2690 N, 98°E, Manila Gegend 27°N, 97°E, Taihoku 2544 N,<br>9790 E, O 8h53m45s, C.M.O. 24°N, 96°E, Työsen 30°N, 96°E,<br>U.S.E. ca. 24°N, 95°E, O 8h53.7m, Ober Barma.<br>Hongkong: P 8h57m34s, S 9h0m32s, Agra: P 8h58m14s, Chiufeng:<br>1P 8h59m43s, 1S 9h2m41s, Manila: 1Pz 8h59m17s, 1S 9h3m46s,<br>Sverdlovsk: 1P 9h1m49s, 1S 9h8m2s, 1L 9h15.5m. |
| " 11<br>(280)   | 1Pz<br>1PPz<br>SE<br>eL<br>ME<br>MN<br>ME<br>ME<br>F | 9 5 28<br>8 9<br>14 55<br>33<br>34 30<br>34 31<br>40 27<br>40 28<br>10 55 | 23<br>21<br>13<br>13 | -        | (281) Nachbeben von (280), Zeitunterschied 2h18.9m.<br>Hongkong: M 11h21m12s, Chiufeng: e? 11h17m38s, e(S)? 11h21m33s,<br>Sverdlovsk: P 11h20m44s, S 11h26m56s, L 11h34m.                                                                                                                                                                                                                                                                                                                            |
| " 11<br>(281)   | eL<br>F                                              | 11 52<br>12 5                                                             |                      |          | (282) Nachbeben von (280), Zeitunterschied ca. 22h35.0m.<br>Hongkong: MN 7h37m44s, Agra: e 7h36m47s, Chiufeng:<br>e? 7h33m42s, e 7h37m43s, Manila: 1Pz 7h34m16s, S 7h38m48s,<br>Sverdlovsk: L 7h50m.                                                                                                                                                                                                                                                                                                 |
| " 12<br>(282)   | eL<br>F                                              | 8 8<br>21                                                                 |                      |          | (283) AE = 3, AZ = 5.<br>Nach dem Schweiz. Erdbebendienst gefühlt St. VIII in der<br>West Schweiz, Herd bei Moudon, Kt. Waadt.<br>Neuchâtel: 1P 9h56m57.7s, 1S 9h57m3.5s.                                                                                                                                                                                                                                                                                                                            |
| " 12<br>(283)   | e(S)N<br>LE<br>ME<br>ME<br>F                         | 9 59 56<br>10 0.1<br>0 15<br>6 21<br>12                                   | 14<br>5              | +        | (284) AE = 3, AN = 4, AZ = 3.<br>Dilatation.<br>Herdangaben: Stuttgart ca. 31°S, 56°E, URSS 3590 S, 6190 E,<br>U.S.E. ca. 27°S, 54°E, O 9h28.1m, Indischer Ozean S.E.lich<br>von Madagaskar.<br>Tananarivo: ePz 9h32m2s, 1S 9h35m15s, Kodai kanal:<br>1P 9h36m42s, S 9h43m45s.                                                                                                                                                                                                                       |
| " 13<br>(284)   | 1Pz<br>eH<br>eH<br>eL<br>ME<br>MN<br>MZ<br>F         | 9 41 36<br>51 5<br>52 24<br>10 16<br>28 54<br>37 52<br>37 53<br>12 25     | 18<br>17<br>17       | -        | (285) Stuttgart: e 20h54m, (Chiufeng: e 20h8m46s).                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| " 14<br>(285)   | eL<br>F                                              | 20 48<br>56                                                               |                      |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933    | PHASE                                       | ZEIT                                                                       | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                              |
|------------------|---------------------------------------------|----------------------------------------------------------------------------|---------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aug. 14<br>(286) | e<br>eL<br>ME<br>F                          | 22 46<br>50<br>55 11 13<br>23 16                                           |         |          | (286) AZ = 2.<br>Herd in China?<br>(Tachkent: P 22h15m2s, 1S 22h19m4s, Calcutta: P 22h18m33s,<br>S 22h23m41s, Chiufeng: P 22h19m32s, S 22h22m21s, Agra:<br>P 22h20m40s, Keizyo: eP 22h21m12.2s, S - P = 4m20.8s).                                                        |
| " 15<br>(287)    | e(P)z<br>e(S)E<br>eL<br>ME<br>MN<br>ME<br>F | 0 50 47<br>55 15<br>57<br>59 7 21<br>1 1 30 11<br>1 53 11<br>55            |         |          | (287) AE = 4, AN = 6, AZ = 3.<br>$\Delta = (2800) \text{ km}; (2691).$<br>Nach Angra do Heroismo gefühlt auf den Azoren, St.V, Herd:<br>38°13'N, 26°22'W. URSS gibt 32°0 N, 17°5 W.<br>Angra do Heroismo: P 0h46m20.6s, S 0h46m30.8s, Cartuja:<br>P 0h49m20s, S 0h53m1s. |
| " 15<br>(288)    | eH<br>eS<br>eL<br>ME<br>MN<br>F             | 3 21 29<br>23 2<br>41<br>47 47 22<br>53 23 16<br>4 30                      |         |          | (288) AE = 3, AN = 4.<br>Nach C.M.O. gefühlt auf den Bonin Inseln und in Nippon,<br>Herd: 29°2 N, 144°0 E. Andere Angaben: URSS 27°0 N, 142°5 E,<br>U.S.E. 29°N, 144°E, O 2h57.8m.<br>Nagoya: P 2h59m57.9s, S 3h1m38.6s.                                                 |
| " 15<br>(289)    | eL<br>F                                     | 11 32<br>45                                                                |         |          | (289) Herd nach Manila: 18°N, 122°E, N.E.Luzon.<br>Manila: P 10h38m50s, S 10h39m40s, Hongkong: MN 10h41m52s.                                                                                                                                                             |
| " 15<br>(290)    | eL<br>F                                     | 16 32<br>45                                                                |         |          | (290) Nicht von anderen Stationen angegeben.                                                                                                                                                                                                                             |
| " 15<br>(291)    | e<br>eL<br>F                                | 20 18.5<br>27<br>45                                                        |         |          | (291) Herd: Atlantischer Ozean (Gegend 25°N, 40°W)?<br>St.Louis: eP 20h7m25s, eS 20h14m5s, La Paz: Pv 20h8m35s,<br>Kew: eL 20h24m.                                                                                                                                       |
| " 17<br>(292)    | e(S)<br>eL<br>MN<br>F                       | 6 33 46<br>36.5<br>37 44 13<br>50                                          |         |          | (292) AN = 2.5.<br>Herd: Mittelmeer, Gegend von Ost Kreta; URSS gibt 35°5 N, 32°0 E.<br>Stuttgart: P 6h28m51s, S 6h32m28s, Pulkovo: 1P 6h29m37s,<br>S 6h33m54s.                                                                                                          |
| " 18<br>(293)    | eL<br>F                                     | 9 10<br>20                                                                 |         |          | (293) Nach japanischen Stationen gefühlt auf den nördl.<br>Riu Kiu Inseln, Herd: 29°7 N, 129°5 E.<br>Hukuoka: eP 8h20m49.5s, eS 8h21m45.2s.                                                                                                                              |
| " 20<br>(294)    | eL<br>MN<br>ME<br>ME<br>MN<br>ME<br>F       | 12 34<br>39 14 24<br>39 25 23<br>47 20 18<br>47 20 16<br>47 21 16<br>14 15 |         |          | (294) AN = 13, AE = 11, AE = 16, AN = 15, AZ = 21.<br>Nach Manila gefühlt in S.E.Luzon (St.VI) und in Nord Samar,<br>Herd im Großen Ozean, 13°37'N, 124°50'E. Andere Angaben:<br>URSS 14°6 N, 126°7 E, C.M.O. 13°N, 126°E.<br>Manila: 1P 11h46m12s, 1S 11h47m4s.         |
| " 22<br>(295)    | eL<br>F                                     | 6 10<br>20                                                                 |         |          | Einige Nachbeben, Manila: P 12h7m20s, S 12h8m13s, (geföhlt<br>St.IV); P 12h28m24s, S 12h29m17s.                                                                                                                                                                          |
| " 22<br>(296)    | e<br>eL                                     | 11 15 59<br>48                                                             |         |          |                                                                                                                                                                                                                                                                          |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933 | PHASE                                                            | ZEIT                                                                                                   | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aug. 22       | MN<br>MN<br>MN<br>MN<br>F                                        | 11 57 22 22<br>57 22 22<br>59 18 24<br>12 3 15 16<br>55                                                |         |          | (295) Kopenhagen: L 6.1h, (Tachkent: L 5h46.5m).<br>(296) AN = 6, AZ = 7, AE = 6, AZ = 5.<br>Herd nach Tananarivo: Südl. Indischer Ozean.<br>Tananarivo: ePE 11h3m28s, (S)E 11h8m36s, Kapstadt (nach<br>Tananarivo): P 11h1m58s, S 11h5m34s.                                                                                                                                                                                                                                                                                                                                                                      |
| " 22<br>(297) | eL<br>MN<br>ME<br>ME<br>F                                        | 14 3<br>7 28 20<br>15 2 15<br>15 10 17<br>50                                                           |         |          | (297) AN = 3, AE = 2.5, AZ = 3.<br>Nach Manila geföhlt in S.E.Luzon, St.IV, Nachbeben von (294)<br>Andere Herdangaben: URSS 15°5 N, 130°0 E, C.M.O. 13°N, 126°E.<br>Manila: 1P 13h14m2s, 1S 13h14m55s.                                                                                                                                                                                                                                                                                                                                                                                                            |
| " 23<br>(298) | e(L)<br>F                                                        | 6 59<br>7 7                                                                                            |         |          | (298) Strazburg: eL 6h57m, (Baku: eL 7h2m).<br>(299) AE = 3, AZ = 2.<br>Herd Gegend Süd Griechenland?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| " 24<br>(299) | e(P)z<br>e(S)<br>eL<br>ME<br>ME<br>F                             | 9 43 30<br>47 6<br>49.5<br>51 48 12<br>52 41 9<br>10 5                                                 |         |          | Taranto (nach Strazburg): P 9h40m13s, S 9h41m37s, Pulkovo:<br>P 9h44m13s, eS 9h48m23s.<br>Keine Reg.Vert.Komp.: 25, 7h45m - 26, 7h35m.<br>(300) AN = 428°, AE = 246°, AN = 268°, AE = 330°, AE = 306°.<br>$\Delta = 7980 \text{ km}; 729°.$                                                                                                                                                                                                                                                                                                                                                                       |
| " 25<br>(300) | P<br>1(PPP)<br>SN<br>eE<br>eL<br>MN<br>ME<br>MN<br>ME<br>ME<br>F | 8 1 44<br>6 13<br>11 3<br>11 6<br>24<br>28 31 29<br>30 3 19<br>30 7 18<br>36 14 15<br>39 5 22<br>12 50 |         |          | Zerstörendes Erdbeben in Szechuan, S.W.China (Tiehch'i<br>Erdbeben). Herdangaben: Chiufeng 32°N, 103°7 E, O 7h50m26s,<br>Herdiefe ca. 9 km, URSS 32°3 N, 105°9 E, C.M.O. 32°N, 103°E,<br>Peichiko 32°N, 104°E, Taihoku 31°5 N, 103°0 E, O 7h50m20s,<br>Nagoya und Työsen 34°N, 102°E, Bombay 32°N, 103°5 E, J.S.A.<br>30°9 N, 103°2 E, O 7h50m36s, U.S.E. 32°N, 103°E, O 7h50.5m,<br>Strazburg ca. 30°5 N, 102°E, Stuttgart 32°N, 103°5 E,<br>O 7h50m25s.<br>Chiufeng: P 7h53m32s, S? 7h56m15s, Peichiko: 1P 7h53m33s,<br>eSE 7h56m11s, Hongkong: P 7h53m35s, S? 7h56m5s, Vladivostok:<br>1P 7h55m56s, S 8h0m20s. |
| " 25<br>(301) | eL<br>F                                                          | 12 16                                                                                                  |         |          | (301) Nachbeben von (300).<br>Chiufeng: e 11h42m3s, Peichiko: PE 11h41m53s, Hongkong:<br>M 11h47m33s, Vladivostok: eP 11h44m16s.<br>F im vorigen Beben.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| " 25<br>(302) | eL<br>F                                                          | 18 40<br>52                                                                                            |         |          | (302) Nachbeben von (300)?<br>Chiufeng: e 18h6m42s, Peichiko: e 18h5m1s, Hongkong:<br>M 18h9m45s, Vladivostok: e 18h11m, eL 18h15m.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| " 26<br>(303) | eL<br>F                                                          | 2 17<br>40                                                                                             |         |          | (303) Herd nach japanischen Stationen N.W.lich von Amami<br>Osima, N.liche Riu Kiu Inseln.<br>Hukuoka: P 1h31m49.7s, eS 1h32m53.2s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| " 26<br>(304) | eL<br>F                                                          | 3 54<br>4 10                                                                                           |         |          | (304) Nach Manila geföhlt in Basco, Batan Inseln, St.III,<br>nach Taihoku schwach geföhlt in Süd Formosa. Herd nach                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| " 26<br>(305) | eL<br>F                                                          | 6 2<br>30                                                                                              |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| " 26<br>(306) | Pz<br>S                                                          | 20 24 31<br>28 35                                                                                      |         |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933 | PHASE | ZEIT     | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                        |
|---------------|-------|----------|---------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aug. 26       | eL    | 20 29.5  |         |          | Manila ca. 20°5'N, 121°E, nach Taihoku 21°6'N, 122°4'E. O 3h6m30s.                                                                                                                                 |
|               | MN    | 32 14 14 | -       |          | Taihoku: eP 3h7m30.8s, eS 3h8m8.8s, Manila: P 3h7m51s, 1S 3h9m3s.                                                                                                                                  |
|               | ME    | 32 33 14 | +       |          |                                                                                                                                                                                                    |
|               | MZ    | 34 36 11 | -       |          | (305) Herd nach Nagoya S.E. 11cH von Kap Otiisi?                                                                                                                                                   |
|               | F     | 21 25    |         |          | Mizusawa: eP 5h21m29s, 1S 5h22m25s.                                                                                                                                                                |
| " 27          | e(L)  | 1 7      |         |          | (306) AN = 12, AE = 7, AZ = 6.                                                                                                                                                                     |
| (307)         | F     | 45       |         |          | Δ = 2480 km; 23°1.                                                                                                                                                                                 |
| " 28          | eP    | 22 34 33 |         |          | Herd: Nördl. Atlantischer Ozean, ca. 54°N, 33°W.                                                                                                                                                   |
| (308)         | ePPz  | 39 6     |         |          | Kew: eP 20h23m56s, eS 20h27m33s, Oak Ridge: eL 20h30.5m.                                                                                                                                           |
|               | eH    | 45 16    |         |          | (307) Parc St. Maur: 1h10m - 37m, (Chiufeng: e(L)? 0h30m27s, Sverdlovsk: L 0h41m).                                                                                                                 |
|               | eH    | 47 22    |         |          |                                                                                                                                                                                                    |
|               | MN    | 55 58 33 | +       |          | (308) AN = 300, AE = 208, AN = 124, AZ = 132, AE = 101, AN = 104, AZ = 116.                                                                                                                        |
|               | e(L)  | 23 8     |         |          | Herd: Atlantischer Ozean, südl. von den Sandwich Inseln.                                                                                                                                           |
|               | ME    | 11 39 37 | -       |          | Angaben: La Paz 64°S, 28°W, J.S.A. 58°S, 27°W, O 22h19m46s, U.S.E. ca. 59°S, 24°W, O 22h19.6m, Straszburg ca. 60°S, 28°W, Stuttgart ca. 61°S, 31°W, URSS 59°S, 30°W, Apia 60°S, 40°W, O 22h19m52s. |
|               | MN    | 20 37 22 | +       |          |                                                                                                                                                                                                    |
|               | MZ    | 23 47 19 | +       |          |                                                                                                                                                                                                    |
|               | MB    | 24 7 19  | +       |          |                                                                                                                                                                                                    |
|               | MN    | 28 2 18  | -       |          |                                                                                                                                                                                                    |
|               | MZ    | 33 36 17 | -       |          |                                                                                                                                                                                                    |
| " 29          | P     | 3 40     |         |          | La Plata: P 22h26.18m, S 22h31.4m, La Paz: Pv 22h28m58s,                                                                                                                                           |
| " 29          | eL    | 10 15    |         |          | 1SN 22h36m40s, Tananarivo: P 22h30m20s, 1S 22h39m15s,                                                                                                                                              |
| (309)         | F     | 28       |         |          | Wellington: P 22h31m43s, S 22h41m32s.                                                                                                                                                              |
| " 29          | eL    | 13 14    |         |          | (309) Parc St. Maur: 10h14m - 23m.                                                                                                                                                                 |
| (310)         | F     | 40       |         |          |                                                                                                                                                                                                    |
| " 29          | 1z    | 15 4 31  | +       |          | (310) Nach C.M.O. gefühlt in Nord Nippon, Herd: 37°7'N, 141°4'E, Grosser Ozean. Herd nach E.R.I.: 37°45'N, 141°82'E.                                                                               |
| (311)         | 1z    | 6 47     | +       |          | Mizusawa: P 12h31m49s, S 12h32m8s.                                                                                                                                                                 |
|               | eZ    | 8 14     |         |          |                                                                                                                                                                                                    |
|               | 1z    | 14 1     | +       |          | (311) Tiefer Herd. Angaben: La Paz 8°S, 70°5'W, J.S.A. 8°3'S, 70°6'W, O 14h52m38s, U.S.E. 7°S, 72°5'W, O 14h52.7m, URSS 6°S, 75°W, Grenzgebiet West Brasilien - Ost Peru.                          |
|               | eZ, F | 15 43    |         |          | La Paz: 1P 14h54m20s, 1SN 14h55m47s, La Plata: P 14h57.38m, S 15h1.02m.                                                                                                                            |
|               | P     | 16 25    |         |          |                                                                                                                                                                                                    |
| " 31          | e(P)z | 3 2 22   |         |          | (312) AE = 2.5.                                                                                                                                                                                    |
| (312)         | S     | 11 6     |         |          | Δ = (7290) km; (6692).                                                                                                                                                                             |
|               | eL    | 23       |         |          | Nach U.S.E. gefühlt in Haines, Skagway und Juneau, Alaska,                                                                                                                                         |
|               | ME    | 31 25 19 | +       |          | Herd: 60°N, 137°W, O 2h51.6m.                                                                                                                                                                      |
|               | F     | 4 10     |         |          | Berkeley: 1P 2h56m55s, 1SE 3h1m27s, Sverdlovsk: 1P 3h2m9s, S 3h10m41s.                                                                                                                             |
| " 31          | eL    | 13 22    |         |          | (313) Herd: S.W.licher Grosser Ozean.                                                                                                                                                              |
| (313)         | F     | 14 20    |         |          | Suva: 12h34m, Sydney: e 12h35.1m, eL 12h40.1m, Melbourne: e 12h36m52s, L 12h42.6m, Manila: P 12h36m38s, Pasadena: 1P 12h37m44s.                                                                    |
| Sept. 1       | e(L)  | 19 51    |         |          | (314) Herd: S.W.licher Grosser Ozean.                                                                                                                                                              |
| (314)         | F     | 57       |         |          | Wellington: 1 19h4m39s, L 19h10m, Sydney: e 19h5.5m, eL 19h11.2m.                                                                                                                                  |
| " 2           | 1Pz   | 16 53 23 |         |          |                                                                                                                                                                                                    |
| (315)         | 1z    | 54 57    |         |          |                                                                                                                                                                                                    |

SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933 | PHASE | ZEIT      | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                |
|---------------|-------|-----------|---------|----------|----------------------------------------------------------------------------------------------------------------------------|
| Sept. 2       | 1z    | 16 57 0   |         |          | (315) AZ = 9, AE = 10, AN = 8, AZ = 7.                                                                                     |
|               | 1z    | 58 26     |         |          | Tiefer Herd. Nach C.M.O. gefühlt in Nippon und Hatidyozima,                                                                |
|               | 1S    | 17 3 13   |         |          | Herd: 30°3'N, 139°4'E, Grosser Ozean, Herdtiefe ca. 300 km.                                                                |
|               | e     | 4 35      |         |          | Andere Angaben: E.R.I. 30°83'N, 139°26'E, Kōti: 31°0'N, 140°0'E, O 16h41m15s, Tiefe 410 km, Geoph. Mag. Tokyo,             |
|               | ME    | 4 46 9    | -       |          | Vol. VIII, S. 311, 30°3'N, 139°4'E, Tiefe 380 km, URSS 35°0'N, 134°5'E, Stuttgart ca. 30°N, 139°E, U.S.E. 30°8'N, 139°3'E, |
|               | eL    | 27        |         |          | O 16h41.3m, J.S.A. 59°N, 178°0'E, O 16h41m12s, Tiefe ca. 400 km.                                                           |
|               | MN    | 39 12 17  | +       |          | Hatidyozima: P 16h42m19.9s, S - P = 49.7s, Sumoto:                                                                         |
|               | MZ    | 40 37 14  | -       |          | 1Pz 16h42m43.4s, S 16h43m50s, Tokyo: P 16h42m43.8s,                                                                        |
|               | F     | 18 50     |         |          | S - P = 69.3s, Nagoya: 1P 16h42m44.4s, eS 16h43m50.2s,                                                                     |
| " 2           | eL    | 20 29.5   |         |          | Osaka: P 16h42m44.8s, S 16h43m52.3s.                                                                                       |
| (316)         | F     | 32        |         |          | (316) Herd nach Algier: M'Chounech, Dept. Constantine.                                                                     |
| " 2           | eL    | 21 56     |         |          | Algier: Pn 20h19m43s, 1S 20h20m34s, Cartuja: e 20h24m22s.                                                                  |
| (317)         | F     | 22 25     |         |          | (317) Herd: Gegend der S.lichen Kurilen?                                                                                   |
| " 3           | eL    | 4 40      |         |          | Mizusawa: eP 21h15m45s, S 21h17m13s, Vladivostok: L 21h21m,                                                                |
| (318)         | F     | 5 10      |         |          | Chiufeng: P 21h19m58s, eS 21h23m43s, Sverdlovsk: eP 21h23m20s.                                                             |
| " 4           | eL    | 23 47     |         |          | (318) Herd: Grosser Ozean zwischen den Philippinen und den Marianen.                                                       |
| " 5           | F     | 0 15      |         |          | Angaben: C.M.O. Marianen, URSS 17°5'N, 149°0'E, (Manila ± 5°N, 126°E).                                                     |
| (319)         | eL    | 5 15.0    |         |          | Palau: P 3h48m14.9s, S - P = 1m42.0s, Manila: 1P 3h49m12s,                                                                 |
| " 5           | eL    | 29        |         |          | 1SN 3h51m20s, Sverdlovsk: eP 3h57m36s, 1S 4h7m9s.                                                                          |
| (320)         | F     | 6 15      |         |          | (319) Herd: Gegend Hokkaido - Südl. Kurilen? Vgl. (317).                                                                   |
| " 6           | eL    | 2 35      |         |          | Mizusawa: eP 23h6m37s, 1S 23h7m38s, Vladivostok: L 23h11.7m.                                                               |
| (321)         | F     | 3 25      |         |          | (320) Herd: Gegend von (319)?                                                                                              |
| " 6           | eL    | 10 39     |         |          | Mizusawa: eP 4h49m50s, eS 4h50m16s, Vladivostok: L 4h53.4m.                                                                |
| (322)         | F     | 11 20     |         |          | (321) Herd: südl. von Ost Australien, westl. von den Macquarie Inseln.                                                     |
| " 6           | eL    | 18 26     |         |          | Melbourne: 1 1h20m47s, S 1h23m56s, 1 1h24m42s, Sydney:                                                                     |
| (323)         | F     | 19 10     |         |          | e 1h21m5s, 1P 1h21m7s, eS 1h25m28s, Wellington: P 1h21m10s, S 1h25m20s, Stuttgart: e 1h36.4m.                              |
| " 6           | 1Pz   | 22 27 9   |         |          | (322) Herd nach Kobe weit östlich von Kap Nosyappu, Hokkaido;                                                              |
| (324)         | ME    | 27 28 6   | -       |          | URSS gibt: 42°0'N, 149°0'E.                                                                                                |
|               | 1z    | 29 31     |         |          | Mizusawa: eP 9h59m57s, 1S 10h1m25s, Vladivostok: eP 10h1m9s, L 10h4.9m.                                                    |
|               | 1z    | 30 31     |         |          |                                                                                                                            |
|               | 1N    | 31 6      |         |          |                                                                                                                            |
|               | eN    | 36 49     |         |          |                                                                                                                            |
|               | eZ    | 37 28     |         |          | (323) Herd nach Tananarivo: Indischer Ozean?                                                                               |
|               | eZ    | 44 23     |         |          | Tananarivo: 17h36m48s, L 17h39m56s, Batavia: e 17h35m26s,                                                                  |
|               | eE    | 49 12     |         |          | Bombay: e 17h37m28s, Baku: eP 17h(37m38s), 1S 17h47m50s,                                                                   |
|               | e(L)  | 59        |         |          | Melbourne: 1 17h40m32s, L 17h47m53s.                                                                                       |
|               | ME    | 59 12 32  | -       |          |                                                                                                                            |
|               | MN    | 23 0 2 28 | -       |          | (324) AZ = 23, AE = 39, AN = 24.                                                                                           |
| " 7           | P     | 1 20      |         |          | Dilatation. Schwache Hauptphase; tiefer Herd.                                                                              |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933    | PHASE                                          | ZEIT                                                                            | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                           |
|------------------|------------------------------------------------|---------------------------------------------------------------------------------|---------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sept. 7<br>(325) | e<br>eL<br>MN<br>ME<br>ME<br>P                 | 9 5.4<br>7.5<br>9 20 15<br>11 9 11<br>11 14 13<br>25                            |         |          | Herdangaben: Trans. Am. Geoph. Union, 1934, S. 73, 2396 S, 17898 W, zwischen den Fidshi und den Kermadec Inseln, O 22h8m33s, Tiefe 637 km, J.S.A. 2490 S, 17890 W, O 22h8m29s, Tiefe 600 km, U.S.E. 22°S, 179°W, O 22h8.5m, Wellington: Tiefe 600-700 km, Taihoku 23°S, 180°E, URSS 1595 S, 17595 E. Apia: 1P 22h10m58s, S 22h12m28s. |
| " 7<br>(326)     | eL<br>P                                        | 18 46<br>19 10                                                                  |         |          | (325) AN = 4, AZ = 2.5, AE = 4.<br>Herd: Gegend Ostl. Mittelmeer?<br>Helwan: 8h59m, Triest: eP 8h59m54s, Pulkovo: e 9h1.8m, L 9h9m                                                                                                                                                                                                    |
| " 7<br>(327)     | e(P)z<br>e(S)E<br>eL<br>ME<br>ME               | 22 50 12<br>59 5<br>23 10<br>25 18 20<br>27 50 18                               |         |          | (326) Herdangaben: Manila 595 N, 12695 E, C.M.O. 5°N, 130°E, Großer Ozean, S.E.lich von Mindanao.<br>Palau: P 17h55m41.7s, S - P = 1m26.8s, Manila: 1P 17h55m50s, 1S 17h57m48s, Ambon: 1 17h56m46s.                                                                                                                                   |
| " 8              | P                                              | 0 20                                                                            |         |          | (327) AE = 3, AZ = 3.<br>Δ = (7460) km; (6797).                                                                                                                                                                                                                                                                                       |
| " 8<br>(328)     | ez<br>eL<br>P                                  | 6 54.8<br>7 0.2<br>5.5<br>25                                                    |         |          | Herd nach URSS: Bering Meer, 6395 N, 17695 W.<br>Pasadena: 1 22h48m3s, Pulkovo: eP 22h48m57s, eS 22h56m37s, Tachkent: eP 22h49m42s, 1S 22h58m10s, Kopenhagen: P 22h49.7m, S 22h58m9s.                                                                                                                                                 |
| " 8<br>(329)     | eL<br>P                                        | 15 18.5<br>20                                                                   |         |          | (328) Herd: Nördl. Atlantischer Ozean?<br>Oak Ridge: e 6h52m20s, Cartuja: eL 7h2m30s, Stuttgart: ez 6h54m19s, e(L) 7h8m, (La Paz: Pv 6h56m4s).                                                                                                                                                                                        |
| " 9<br>(330)     | e(P)z<br>ez<br>S<br>e(SS)<br>P                 | 5 13 2<br>15 6<br>21 43<br>25 17<br>6 10                                        |         |          | (329) Herd: Balkan?<br>Zagreb: ePn 15h10m47s, eS 15h11m48s, Triest: 1P 15h11m3s, 1S 15h11m48s, Wien: e(P) 15h12m31s.                                                                                                                                                                                                                  |
| " 9<br>(331)     | 1(P)z<br>1z<br>eH<br>eL<br>ME<br>MN<br>ME<br>P | 21 39 16<br>42 5<br>42 53<br>22 24<br>35 10 23<br>35 18 24<br>37 47 22<br>23 55 |         |          | (330) Tiefer Herd. Herd: Gegend Ost Asien - Japanisches Meer.<br>Angaben: URSS 4795 N, 12290 E, japanische Stationen 4490 N, 13190 E, Stuttgart ca. 36°N, 10295 E.<br>Vladivostok: 1P 5h3m45s, 1S 5h4m43s, Heizyô: P 5h4m18.3s, Mizusawa: eP 5h4m45s, 1S 5h6m29s, Chiufeng: eP 5h5m2s, 1S 5h7m4s.                                     |
| " 10<br>(332)    | eL<br>P                                        | 8 43<br>57                                                                      |         |          | (331) AE = 6, AN = 7, AZ = 6.<br>Herd: S.W.licher Großer Ozean. Angaben: U.S.E. 13°S, 167°E, O 21h19.9m, Manila 1495 S, 162°E, URSS 12°S, 16295 E, Stuttgart ca. 1195 S, 165°E, J.S.A. 3090 N, 14190 E, O 21h19m5s.<br>Suva: P 21h22m30s, S 21h24m12s, Apia: 1 21h24m43s, Sydney: 1P 21h25m24s, 1SN 21h29m44s.                        |
| " 11<br>(333)    | eL<br>P                                        | 8 23<br>42                                                                      |         |          | (332) Parc St. Maur: 8h40m-54m, Strassburg: eL 8h40m, Stuttgart: e 8h43m, Sverdlovsk: L 8h46m.                                                                                                                                                                                                                                        |
| " 11<br>(334)    | Pz<br>ez<br>P                                  | 11 39 33<br>41 12<br>44                                                         |         |          | (333) Parc St. Maur: eL 8h19m, Strassburg: eL 8h24m, Stuttgart: (L) 8h27m, (Tachkent: eL 8h21.3m, Pasadena: ez 7h46m12s).                                                                                                                                                                                                             |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933     | PHASE                                 | ZEIT                                                               | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                            |
|-------------------|---------------------------------------|--------------------------------------------------------------------|---------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sept. 12<br>(335) | eL<br>P                               | 5 52<br>6 12                                                       |         |          | (334) Hauptphase nicht zu erkennen: tiefer Herd?<br>Herd: Gegend der Samoa Inseln.<br>Apia: P 11h22m27s, S 11h23m48s, Pasadena: 1P 11h31m49s.                                                                                                                                                                                                          |
| " 12<br>(336)     | e(P)z<br>eL<br>P                      | 12 36 57<br>42<br>13 5                                             |         |          | (335) Herd nach Nagoya und Osaka: 3916 N, 14396 E, Großer Ozean, E von Miyako, Nord Nippon.<br>Mizusawa: 1P 5h5m56s, 1S 5h6m21s.                                                                                                                                                                                                                       |
| " 12<br>(337)     | eL<br>P                               | 13 53<br>14 25                                                     |         |          | (336) Herd: Atlantischer Ozean, nördlich von den Azoren?<br>Kew: e 12h36m42s, eL 12h42m, Uccle: e 12h37m4s, e 12h41m9s, eL 12h43m, Stuttgart: P 12h37m33s, (S) 12h42.1m, L 12h45m.                                                                                                                                                                     |
| " 15<br>(338)     | eL<br>P                               | 17 5<br>30                                                         |         |          | (337) Herd: Großer Ozean, S.E.lich von der Oster Insel?<br>La Paz: Pz 12h59m54s, Sz 13h5m6s, L 13h8m12s, Sucre: eP 12h59m47s, La Plata: L 13h9m, Pasadena: ePz 13h4m41s.                                                                                                                                                                               |
| " 17<br>(339)     | eL<br>P                               | 23 40<br>55                                                        |         |          | (338) Nach Nagoya gefühlt auf den nördl. Riv Kiu Inseln.<br>Herd: 2993 N, 13094 E.<br>Sumoto: 1P 16h21m26s, eSN 16h23m35s.                                                                                                                                                                                                                             |
| " 20<br>(341)     | eL<br>MN<br>ME<br>P                   | 0 11<br>17 23 18<br>18 36 17<br>1 5                                |         |          | (339) Herd nach Kobe, Mizusawa und Osaka: E. von Miyako, Nord Nippon (im Großen Ozean); Nagoya gibt: Herd nahe dem Towada See, Präf. Akita, Nord Nippon.<br>Mizusawa: 1P 4h0m4s, 1S 4h0m25s, Nagoya: eP 4h1m4.4s, eS 4h2m58.5s, Vladivostok: P 4h1m45s, eS 4h(3m45s).                                                                                  |
| " 20<br>(342)     | eH<br>eL<br>MN<br>ME<br>ME<br>F       | 23 58<br>0 21<br>26 12 22<br>34 9 16<br>34 31 16<br>1 20           |         |          | (340) Uccle: eL 23h30m, (La Plata: L 22h49.4m, Wellington: 22h53m, Pasadena: eLW 22h57.1m, Sverdlovsk: L 23h30m).                                                                                                                                                                                                                                      |
| " 21<br>(343)     | Pz<br>eL<br>MN<br>ME<br>ME<br>F       | 3 26 45<br>56<br>4 10 17 12<br>10 20 11<br>10 25 11<br>1 20        |         |          | (341) AN = 3, AZ = 2.5.<br>Nach U.S.E. gefühlt in Juneau und Skagway, Alaska, Herd: ca. 59°N, 137°W, O 23h39.9m. URSS gibt: 4890 N, 17495 W.<br>Pasadena: eP 23h45m35s, eL 23h55m36s, Sverdlovsk: 1P 23h50m1s, S 23h58m46s.                                                                                                                            |
| " 21<br>(344)     | e(L)<br>P                             | 4 43<br>5 0                                                        |         |          | (342) AN = 5, AE = 6, AZ = 5.<br>Nach Manila gefühlt in Süd Luzon, St. III-IV, Herd zwischen Mindoro und Marinduque; URSS gibt: 1290 N, 12090 E.<br>Manila: 1P 23h34m7s, 1S 23h34m27s.                                                                                                                                                                 |
| " 21<br>(345)     | Pz<br>SE<br>eL<br>ME<br>MN<br>ME<br>P | 10 0 22<br>10 37<br>28<br>36 2 20<br>40 37 17<br>41 34 16<br>11 40 |         |          | (343) AN = 6, AZ = 5, AE = 8.<br>Zerstörendes Erdbeben in der Gegend der Noto Halbinsel, Nippon, Japan. Herdangaben: C.M.O. 3791 N, 13790 E, E.R.I. (Bull. Earthq. Res. Inst., Vol. XII, S. 51) ca. 37°4'N, 136°57'E, Hukuoka, Taihoku und Työsen 37°4'N, 136°58'E, URSS 35°N, 135°E.<br>Nagoya: eP 3h14m57.3s, S 3h15m21.5s.<br>P im folgenden Beben. |
| " 21<br>(346)     | eL<br>ME                              | 14 29<br>30 22 20                                                  |         |          | (344) Herd: Zentral Asien?<br>Tachkent: e(P) 4h24m54s, S 4h28m20s, Bombay: e 4h26m0s, Sverdlovsk: e 4h26m46s, Kopenhagen: e 4h33.5m, L 4.7h.                                                                                                                                                                                                           |



## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933 | PHASE  | ZEIT        | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                      |
|---------------|--------|-------------|---------|----------|------------------------------------------------------------------------------------------------------------------|
| Sept. 21      | MN     | 14 34 59 16 |         | -        | (345), (346) und (347) Geführt in Nord Nippon. Ähnliche Seismogramme, Zeitunterschied nach den Maxima in De Bilt |
|               | MZ     | 35 55 17    |         | -        | (345)-(346): 3h54m21s, (346)-(347): 6h1m20s; vgl. die P-Zeiten von Mizusawa und Vladivostok.                     |
|               | P      | 50          |         |          |                                                                                                                  |
| " 21<br>(347) | eL     | 20 31       |         | -        | (345) AE = 10, AN = 12, AZ = 9.                                                                                  |
|               | MZ     | 31 44 20    |         | -        | Δ = 9080 km; 8298.                                                                                               |
|               | MN     | 36 18 17    |         | -        | Herdangaben: C.M.O. 3993 N, 14390 E, Grosser ozean, URSS 3795 N, 14195 E, Stuttgart ca. 35°N, 143°E, 0 9h47m40s. |
|               | MZ     | 37 14 16    |         | -        | (346) AE = 2.5, AN = 2.5, AZ = 2.5.                                                                              |
|               | P      | 50          |         |          |                                                                                                                  |
| " 22<br>(348) | Pz     | 11 57 17    |         |          | Nachbeben von (345). Herdangaben: Nagoya, Osaka, Tyōsen 3994 N, 14393 E, URSS 3490 N, 13795 E.                   |
|               | ez     | 58 46       |         |          | (347) AE = 2.5, AN = 2, AZ = 2.                                                                                  |
|               | e(L)   | 12 49       |         |          | Nachbeben von (345). Herd nach C.M.O.: 3893 N, 14390 E.                                                          |
|               | P      | 13 55       |         |          | (345)-(347) Mizusawa: 1P 9h48m30s, 1S 9h49m9s; 1P 13h42m52s,                                                     |
| " 24<br>(349) | eL     | 13 32       |         | +        | 1S 13h43m24s; 1P 19h44m9s, 1S 19h44m44s, Vladivostok:                                                            |
|               | MN     | 34 21 17    |         | +        | 1P 9h50m14s, eS 9h51m48s; 1P 13h44m36s, eS 13h46m6s;                                                             |
|               | MZ     | 36 39 15    |         | -        | 1P 19h45m53s, eS 19h47m25s.                                                                                      |
|               | P      | 45          |         |          |                                                                                                                  |
| " 24<br>(350) | 1Pz    | 15 31 28    |         | +        | (348) Herd unweit der Fidachi Inseln.                                                                            |
|               | e(PP)z | 34 26       |         |          | Suva: P 11h38m33s, S 11h39m24s, Apia: eP 11h40m48s,                                                              |
|               | ez     | 36 26       |         |          | eL 11h43m7s, Wellington: 11h42m55s, Sydney: eE 11h43m19s.                                                        |
|               | eS     | 41 10       |         |          | (349) AN = 4, AE = 4.                                                                                            |
|               | e(L)   | 52          |         |          | Herd: Gegend S.lich Kleinasien.                                                                                  |
|               | MN     | 58 10 31    |         | +        | Helwan: P 13h23m50s, Wien: ePz 13h25m3s, Chur: eP 13h25m26.1s,                                                   |
|               | ME     | 16 7 33 20  |         | -        | e 13h28m43.0s, Pulkovo: eP 13h26m27s, eS 13h30m39s.                                                              |
|               | MN     | 16 16 17    |         | +        | (350) AN = 22, AE = 17, AN = 16, AZ = 15.                                                                        |
|               | MZ     | 16 16 16    |         | -        | Δ = 8430 km; 7698. Kondensation.                                                                                 |
|               | P      | 18 10       |         |          | Herdangaben: J.S.A. 5199 N, 17494 W, 0 15h19m50s, U.S.E. 5195 N,                                                 |
| " 24          | e      | 23 56       |         |          | 176°W, 0 5h19.6m, URSS 4595 N, 17995 E, C.M.O. 51°N, 177°W, Aleuten.                                             |
| " 25<br>(351) | P      | 0 0         |         |          | Sitka: 1P 15h25m0s, 1S 15h29m17s, Mizusawa: eP 15h25m56s,                                                        |
| " 25<br>(352) | (ez)   | 9 52 50     |         |          | Vladivostok: 1P 15h26m14s, 1S 15h31m42s.                                                                         |
|               | e      | 57.3        |         |          | (351) Nach dem Schweiz. Erdb. dienste Herd: Oberwallis, Gegend                                                   |
|               | eL     | 10 0        |         |          | zwischen Brig und Fiesch, gefühlt St. VI; nach Boll. Sism.                                                       |
|               | F      | 15          |         |          | Roma gefühlt St. V in der Provinz Turin.                                                                         |
| " 25<br>(353) | (ez)   | 14 0        |         |          | Sion: $\bar{S} - \bar{P} = 6.7s$ , Zürich: eP 23h55m17.0s, eS 23h55m31.1s.                                       |
|               | ee     | 10.5        |         |          | (352) Herd nach URSS: 3690 N, 3895 E, Syrien.                                                                    |
|               | eL     | 39          |         |          | Ksara (nach Strazeburg): eP 9h47m43s, 1S 9h48m43s, Pulkovo:                                                      |
|               | MN     | 42 31 23    |         | -        | P 9h51m48s, eS 9h56m3s, Triest: 1 9h50m52s.                                                                      |
|               | ME     | 47 51 25    |         | -        | (353) AN = 5, AE = 6, AZ = 5.                                                                                    |
|               | MZ     | 54 18 17    |         | +        | Herd: S.W.licher Grosser Ozean, nach URSS 795 N, 13090 E.                                                        |
| " 25<br>(354) | 1Pz    | 19 1 4      |         | +        | Ambon: P 13h48m11s, S 13h50m2s, Manila: 1P 13h48m19s, Hongkong:                                                  |
|               | 1z     | 1 16        |         |          | P 13h50m19s, S 13h54m5s, Vladivostok: eP 13h53m3s, S 13h58m47s.                                                  |
|               | e(PP)z | 3 20        |         |          | (354) AN = 112, AN = 155, AE = 107, AE = 175, AZ = 161, AZ = 71.                                                 |
|               |        |             |         |          | Δ = (6370) km; (5798). Kondensation.                                                                             |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933   | PHASE  | ZEIT     | PERIODE | RICHTUNG | BEMERKUNGEN                                                     |
|-----------------|--------|----------|---------|----------|-----------------------------------------------------------------|
| Sept. 25        | e(S)E  | 19 9 0   |         |          | Herd: Zentral Asien, Angaben: URSS 3795 N, 8795 E, Bombay:      |
|                 | ez, E  | 14 15    |         |          | 3795 N, 87°E, Taihoku: 43°N, 93°E, C.M.O. 40°N, 87°E, U.S.E.    |
|                 | eL     | 20       |         |          | 38°N, 85°E, 0 18h51.2m, Stuttgart ca. 33°N, 85°E.               |
|                 | MN     | 23 9 25  |         | -        | Tachkent: P 18h54m38s, 1S 18h57m20s.                            |
|                 | MN     | 24 32 15 |         | +        | (355) Nach Boll. Sism. Roma Vorbeben von (356), Abruzzen, 2h11m |
|                 | ME     | 27 26 18 |         | -        | geföhlt St. VI in Orsogna.                                      |
|                 | ME     | 28 12 15 |         | +        | (356) AN = 15, AN = 19, AZ = 12.                                |
|                 | MZ     | 28 14 14 |         | -        | Δ = 1300 km; 1199.                                              |
|                 | MZ     | 29 6 12  |         | +        | Erdbeben in den Abruzzen, Mittel Italien, 3h33m; nach Boll.     |
|                 | F      | 21 55    |         |          | Sism. Roma geföhlt St. IX in Lama de Peligni, Taranta Peligna   |
| " 26<br>(355)   | e      | 2 17     |         |          | und Fara S. Martino, Herd: 42°21' N, 14°11' E. (URSS gibt:      |
|                 | F      | 20       |         |          | 4095 N, 1795 E).                                                |
| " 26<br>(356)   | ePz    | 3 36 16  |         |          | Florenz: eP 3h34m10s, N 3h34m57s.                               |
|                 | eSE    | 38 34    |         |          | (357) AN = 5, AZ = 5, AE = 2.5.                                 |
|                 | eL     | 39.5     |         |          | Herd: Gegend von Neu Pommern. URSS gibt: 295 N, 16795 E.        |
|                 | ME     | 40 51 18 |         | -        | Ambon: P 21h46m33s, eS 21h50m40s, Sydney: e 21h47m38s,          |
|                 | MN     | 41 1 19  |         | +        | Manila: 1P 21h46m28s, 1S 21h53m47s, Vladivostok: P 21h50m31s,   |
|                 | MZ     | 42 52 9  |         | +        | eS 21h(57m49s).                                                 |
|                 | F      | 4 30     |         |          | (358) AN = 16, AE = 12, AZ = 17.                                |
| " 27<br>(357)   | ez     | 22 2.3   |         |          | Nach Batavia geföhlt im Biwak Waroppen, Herd: 295 S, 13990 E,   |
|                 | eL     | 48       |         |          | Neu Guinea, 0 14h20m46s. Andere Angaben: C.M.O. 3°S, 13°°E,     |
|                 | MN     | 52 30 25 |         | +        | Taihoku 0°, 140°E, URSS 2°S, 138°E, U.S.E. 2°S, 140°E,          |
|                 | MZ     | 54 28 24 |         | +        | 0 14h21.1m, Stuttgart 395 S, 139°E, 0 14h20m50s.                |
|                 | ME     | 56 23 22 |         | -        | Ambon: eP 14h23.5m, 1S 14h26m23s, Palau: P 14h23m34.8s,         |
|                 | e(L')  | 23 51    |         |          | S - P = 1m54.9s, Manila: eP 14h26m24s, S 14h30m44s.             |
| " 28            | F      | 0 25     |         |          | (359) Herd nach U.S.E. 7°S, 75°W, Nord Peru, 0 2h40.6m,         |
| " 30<br>(358)   | e(PP)z | 14 41 9  |         |          | (La Paz gibt: 22°S, 82°W).                                      |
|                 | eH     | 51 13    |         |          | La Paz: 1Pv 2h43m40s, 1S 2h46m7s, Washington: 1P 2h48m56s,      |
|                 | eL     | 15 15    |         |          | eS 2h55m34s.                                                    |
|                 | MN     | 31 30 20 |         | +        | (360) Nach japanischen Stationen geföhlt im Kwanto Distrikt;    |
|                 | ME     | 32 41 22 |         | -        | Herd nach Nagoya und Osaka: Kasimanada, 3692 N, 14194 E,        |
|                 | MZ     | 32 51 21 |         | -        | E.R.I. gibt: 36941 N, 141938 E.                                 |
|                 | F      | 17 30    |         |          | Tokyo: P 23h35m37.6s, S - P = 23.7s.                            |
| Okt. 1<br>(359) | Pz     | 2 53 33  |         |          | (361) Erdbeben in Kalifornien, Gegend von Long Beach und        |
|                 | eH     | 3 5 17   |         |          | Los Angeles, vgl. (63). Herd nach Pasadena: 33°47' N, 118°8' W, |
|                 | eE     | 14       |         |          | 0 9h10m18s.                                                     |
|                 | e(L)N  | 20       |         |          | Pasadena: 1P 9h10m24s.                                          |
|                 | F      | 45       |         |          | (362) AN = 3, AE = 3, AZ = 3.                                   |
| " 1<br>(360)    | eL     | 15 25    |         |          | Herd: Gegend der Neuen Hebriden.                                |
|                 | F      | 45       |         |          | Suva: P 14h3m24s, S 14h6m18s, L 14h7m24s, Sydney: eL 14h9.6m,   |
| " 2<br>(361)    | eL     | 9 57     |         |          | Manila: eP 14h8m9s, Vladivostok: eP 14h9m32s, eS 14h17m58s.     |
|                 | P      | 10 10    |         |          | F im folgenden Beben.                                           |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933   | PHASE                                                                  | ZEIT                                                                                                                           | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Okt. 2<br>(362) | eL<br>MN<br>ME<br>ME<br>P                                              | 15 11<br>18 35 19<br>21 5 20<br>21 33 19                                                                                       |         |          | (363) AN = 68, AN = 66, AE = 51, AN = 57, Az = 35, AE = 40, Az = 33.<br>Kondensation.<br>Gefühlt an der Westküste von Ecuador. Flutwelle. Viele Nachbeben, s. La Paz.                                                                                                                                                                                                                                                                                                                                                                                                      |
| " 2<br>(363)    | 1Pz<br>eE<br>eN<br>MN<br>e(L)<br>MN<br>ME<br>MN<br>ME<br>ME<br>MZ<br>P | 15 42 22<br>53 1<br>53 10<br>53 24 18<br>16 9<br>10 18 29<br>17 47 23<br>20 26 18<br>21 52 16<br>22 16 18<br>28 38 16<br>19 40 |         |          | Herdangaben: La Paz 223 S, 80°5 W, J.S.A. 2°5 S, 80°0 W, O 15h29m50s, Herdtiefe ca. 230 km, U.S.E. 2°S, 81°W, O 15h29.4m URSS 1°0 S, 82°5 W, Straszburg 4°N, 84°W.<br>La Paz: 1Pv 15h33m51s, 1SE 15h37m31s, San Juan (nach J.S.A.): 1P 15h34m48s.<br>(364) Gefühlt in Zentral Frankreich, Herd nach Parc St. Maur: Jarjeaud, 20 km. E von Orleans.<br>Parc St. Maur: P 7h54m32s, S 7h54m46s.<br>(365) AN = 4, AE = 3, Az = 3.<br>Nachbeben von (363), Ecuador. Herd nach La Paz: 2°S, 81°5 W, nach U.S.E.: 2°S, 81°W, O 10h21.3m.<br>La Paz: 1Pz 10h25m52s, 1SE 10h29m37s. |
| " 3<br>(364)    | e<br>F                                                                 | 7 56.8<br>58                                                                                                                   |         |          | (366) Nachbeben von (363). Ecuador. Herdangaben: La Paz ca. 2°S, 81°W, U.S.E. 2°S, 81°W, O 14h21.9m.<br>La Paz: PE 14h26m20s, 1SE 14h30m1s.                                                                                                                                                                                                                                                                                                                                                                                                                                |
| " 3<br>(365)    | eN<br>eL<br>MN<br>ME<br>ME<br>P                                        | 10 45 8<br>11 1<br>2 18 27<br>9 40 20<br>9 40 19<br>12 5                                                                       |         |          | (367) AE = 5, AN = 7, Az = 4.<br>Nach C.M.O. ziemlich stark gefühlt in Zentral Nippon, Herd: 37°20 N, 138°20 E, Präf. Niigata. E.R.I. gibt: 37°11 N, 138°29 E, URSS 41°5 N, 141°5 E.<br>Tokyo: P 18h39m22.8s, S - P = 21.3s, Mizusawa: 1P 18h39m35s, 1S 18h40m11s.                                                                                                                                                                                                                                                                                                         |
| " 3<br>(366)    | eN<br>eL<br>P                                                          | 14 45 38<br>15 2<br>45                                                                                                         |         |          | (368) (La Plata: L 21h32.4m, Andes, La Paz: ePv 21h31m48s, Pasadena: 1P 21h34m13s, Tachkent: eL 22h44m).                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| " 8<br>(367)    | e(P)z<br>e(S)z<br>eL<br>ME<br>MN<br>F                                  | 18 51 22<br>19 1 26<br>21<br>30 45 14<br>32 57 12<br>34 30 11<br>20 10                                                         |         |          | (369) Florenz: L 3h49m0s, Triest: e 3h50m0s, Uccle: eL 3h54m, (Algier: gefühlt in Bessombourg, Collo, Boulateb, gegen 3h40m oder 45m).<br>(370) und (371) Ähnliche Seismogramme, Herd unweit Island, ca. 62°N, 28°W, (oder 67°N, 22°W), Zeitunterschied 31m52s.<br>(370) AN = 2.5, AE = 3, Az = 2.5.<br>Δ = 2330 km; 20°7.<br>Reykjavik: eP 5h50m50s, eS 5h51m31s, Kew: e 5h58m, Uccle: eL 6h0m, Parc St. Maur: eL 6h1m, Stuttgart: e 5h59m.<br>(371) AN = 6, AE = 6, Az = 6.<br>Δ = 2330 km; 20°7.                                                                        |
| " 3<br>(368)    | eL<br>P                                                                | 22 39<br>55                                                                                                                    |         |          | (370) AN = 2.5, AE = 3, Az = 2.5.<br>Δ = 2330 km; 20°7.<br>Reykjavik: eP 5h50m50s, eS 5h51m31s, Kew: e 5h58m, Uccle: eL 6h0m, Parc St. Maur: eL 6h1m, Stuttgart: e 5h59m.                                                                                                                                                                                                                                                                                                                                                                                                  |
| " 5<br>(369)    | eL<br>P                                                                | 3 55<br>59                                                                                                                     |         |          | (371) AN = 6, AE = 6, Az = 6.<br>Δ = 2330 km; 20°7.<br>Reykjavik: eP 5h50m50s, eS 5h51m31s, Kew: e 5h58m, Uccle: eL 6h0m, Parc St. Maur: eL 6h1m, Stuttgart: e 5h59m.                                                                                                                                                                                                                                                                                                                                                                                                      |
| " 5<br>(370)    | Pz<br>SE<br>eL                                                         | 5 54 20<br>58 3<br>6 0                                                                                                         |         |          | Reykjavik: eP 6h22m41s, eS 6h23m22s, Kew: eP 6h26m2s, eS 6h29m30s, Uccle: e(P) 6h26m21s, e(S) 6h30m8s, Parc St. Maur: e(P)v 6h26m37s, e(S) 6h30m(40)s, Stuttgart: P 6h26m59s, S 6h31m18s.                                                                                                                                                                                                                                                                                                                                                                                  |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933 | PHASE                                                         | ZEIT                                                                                             | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                       |
|---------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Okt. 5        | MN<br>ME<br>MZ<br>P                                           | 6 2 32 14<br>3 33 11<br>3 33 12<br>20                                                            |         |          | (372) AN = 23, AE = 16, AN = 29, Az = 9.<br>Δ = 4440 km; 41°7.<br>Herdangaben: URSS 34°0 N, 54°0 E, Bombay: 35°N, 57°E, Stuttgart ca. 32°5 N, 56°E, Persien.                                                                                                      |
| " 5<br>(371)  | Pz<br>SE<br>eL<br>MN<br>ME<br>MZ<br>F                         | 6 26 12<br>29 55<br>31<br>34 24 14<br>35 25 12<br>35 25 12<br>7 0                                |         |          | Tachkent: 1P 13h32m26s, 1S 13h35m3s, Agra: P 13h34m17s, S 13h37m49s, Bombay: P 13h34m29s, S 13h38m24s, Sverdlovsk: 1P 13h34m42s, 1S 13h38m50s, Helwan: 1P 13h34m42s, 1S 13h38m56s.                                                                                |
| " 5<br>(372)  | Pz<br>e(PP)z<br>S<br>e(SS)<br>eL<br>MN<br>ME<br>MN<br>ME<br>F | 13 37 30<br>38 58<br>43 42<br>46 39<br>51<br>59 8 15<br>14 0 4 16<br>1 18 12<br>2 39 11<br>15 45 |         |          | (373) Herd: S.W.lich von den Macquarie Inseln? (Wellington gibt: Herd nahe den Neuen Hebriden).<br>Melbourne: S 2h17m47s, L 2h18m46s, Sydney: eP 2h15m1s, 1S 2h19m26s, Wellington: P? 2h15m2s, S? 2h19m35s.<br>(374) Straszburg: eL 6h40m, (Sverdlovsk: L 6h52m). |
| " 7<br>(373)  | (e)<br>eL<br>F                                                | 3 0,3<br>33<br>4 15                                                                              |         |          | (375) (Helwan: eP 7h58m20s, S 8h2m17s, Sverdlovsk: eP 8h0m30s, 1S 8h5m16s).<br>(376) Triest: e 1h30m24s, Florenz: e 1h32m25s.                                                                                                                                     |
| " 7<br>(374)  | eL<br>F                                                       | 6 37<br>7 0                                                                                      |         |          | Keine Reg.: 11, 11h29m - 13h47m.<br>(377) AN = 6, Az = 6, AE = 5.<br>Δ = (8450) km; (77°0).                                                                                                                                                                       |
| " 7<br>(375)  | e(L)<br>F                                                     | 8 18<br>30                                                                                       |         |          | Herdangaben: U.S.E. 53°N, 162°W, O 22h19.1m, URSS 48°0 N, 177°0 W, Stuttgart ca. 54°N, 158°W, Gegend Halbinsel Alaska-Aleuten.                                                                                                                                    |
| " 9<br>(376)  | eL<br>F                                                       | 1 37.5<br>42                                                                                     |         |          | Pasadena: 1P 22h26m13s, 1S 22h32m3s, Osaka: P 22h27m26.0s, S 22h32m57.0s, Sverdlovsk: 1P 22h29m31s, S 22h38m19s.                                                                                                                                                  |
| " 14<br>(377) | 1Pz<br>e(S)<br>eL<br>MN<br>ME<br>ME<br>P                      | 22 30 38<br>40 21<br>54<br>23 5 35 20<br>5 35 20<br>10 46 18<br>0 5                              |         |          | (378) AE = 4.<br>Herd nach URSS: 32°0 N, 67°5 E, Afghanistan.<br>Tachkent: P 4h36m47s, 1S 4h38m31s, Agra: P 4h37m27s, Wien: 1Pz 4h42m33s.                                                                                                                         |
| " 15          | F                                                             | 0 5                                                                                              |         |          | (379) Nach Batavia gefühlt auf den Babar und Tanimbar Inseln.                                                                                                                                                                                                     |
| " 16<br>(378) | eL<br>ME<br>P                                                 | 5 8<br>8 36 16<br>15                                                                             |         |          | St. III, Herd: 7°0 S, 130°5 E, O 12h23m41s; URSS gibt: 3°S, 127°5 E.<br>Ambon: 1P 12h24m43s, 1S 12h25m23s.                                                                                                                                                        |
| " 17<br>(379) | eL<br>P                                                       | 13 24<br>35                                                                                      |         |          | (380) AE = 3.<br>Herd nach U.S.E.: 11°N, 95°W, Großer Ozean unweit Mittelamerika.<br>Florissant: 1Pz 13h39m23s, 1S 13h43m57s, Pasadena: 1P 13h39m49s.                                                                                                             |

| DATUM<br>1933    | PHASE                              | ZEIT                                                    | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                |
|------------------|------------------------------------|---------------------------------------------------------|---------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  |                                    | h m s s                                                 |         |          |                                                                                                                                                                                                                                                                                                            |
| Okt. 17<br>(380) | eL<br>Mz<br>P                      | 14 15<br>23 29 20<br>40                                 |         |          | (381) Herd: Zentral Asien?<br>Sverdlovsk: eP 5h29m3s, L 5h43m, Bombay: e 5h31m11s,<br>Tachkent: e1 5h32m14s, eL 5h37.6m, Chiufeng: (P) 5h32m45s,<br>Medan: e 5h32.9m.                                                                                                                                      |
| " 19<br>(381)    | eL<br>F                            | 6 1<br>10                                               |         |          | (382) AE = 5, AN = 5, AZ = 4.<br>Herd nach japanischen Stationen: Großer Ozean, S.E.lich von<br>Kap Nozima, Präf. Tiba; URSS gibt: 3525 N, 14590 E.<br>Nagoya: eP 2h45m24.5s, eS 2h46m2.4s, Osaka: P 2h45m44.6s,<br>S 2h46m41.9s, Vladivostok: P 2h47m5s, L 2h49.5m.                                       |
| " 21<br>(382)    | eE<br>eL<br>Mz<br>Mn<br>Mz<br>F    | 3 7 30<br>29<br>35 55 17<br>41 28 12<br>44 8 15<br>4 25 |         |          | Keine Reg. Vert. Komp.: 22, 8h49m - 23, 2h56m.<br>(383) AE = 4, AN = 5.<br>Herdangaben: Kobe S.E.lich von den Kurilen, C.M.O. Marianen,<br>Stuttgart Gegend der Kurilen.<br>Nagoya: e 11h58m16s, Kobe: eP 11h58m26s, eSN 12h2m20s,<br>Chiufeng: eP 12h0m16s, S 12h5m2s, Manila: P 12h2m6s,<br>SN 12h8m44s. |
| " 22<br>(383)    | eE<br>eL<br>ME<br>Mn<br>F          | 12 14.8<br>32<br>42 46 17<br>47 9 13<br>13 30           |         |          | (384) Herd: Zentral Asien?<br>Bombay: e 14h6m6s, Agra: e 14h6m22s, Baku: L 14h14m.                                                                                                                                                                                                                         |
| " 23<br>(385)    | eL<br>P                            | 1 30<br>45                                              |         |          | (385) Herd nach Mizusawa und Nagoya: Großer Ozean östl.<br>von Miyako, Nord Nippon, Japan.<br>Mizusawa: 1P 0h42m9s, 1S 0h42m35s, Nagoya: eP 0h43m27.8s,<br>S 0h44m57.3s.                                                                                                                                   |
| (386)            | (eL)<br>eE<br>eL<br>P              | 4 12.3<br>39.9<br>5 27<br>6 20                          |         |          | (386) Herd: S.W.licher Großer Ozean?<br>Suva: P 3h58m36s, S 4h2m0s, Wellington: P 4h0m33s, Sydney:<br>eL 4h7.3m, Melbourne: L 4h11m32s.                                                                                                                                                                    |
| " 23<br>(387)    | eL<br>F                            | 21 18.5<br>24                                           |         |          | Keine Reg.: 23, 8h36m - 15h39m. In dieser Zeit fällt ein<br>Beben, Herd nach Tananarivo: Indischer Ozean, nach URSS<br>2490 S, 3290 E, S.E. Afrika.                                                                                                                                                        |
| " 24<br>(388)    | eL<br>F                            | 6 6<br>20                                               |         |          | Tananarivo: 1PN 13h36m26s, SE 13h39m39s, Bombay: e 13h42m20s,<br>1 13h50m4s, Stuttgart: eZ 13h46m, eL 14h18m, P 15h10m.                                                                                                                                                                                    |
| " 24<br>(389)    | eE<br>eL<br>F                      | 16 36.7<br>40<br>17 0                                   |         |          | (387) Triest: e1 21h9m21s, e2 21h12m48s, Baku: eL 21h16.5m.<br>(388) Herd: S.E. Asien?<br>Calcutta: P 5h32m20s, S 5h35m23s, Tachkent: 1 5h33m1s,<br>S 5h38m51s, Chiufeng: eP 5h36m54s, e(S) 5h39m31s.                                                                                                      |
| " 24<br>(390)    | eL<br>P                            | 22 41<br>55                                             |         |          | Keine Reg.: 24, 9h50m - 11h20m.                                                                                                                                                                                                                                                                            |
| " 25<br>(391)    | 1(P)z<br>eE<br>e<br>eE<br>eE<br>eE | 23 41 35<br>42 23<br>45.6<br>51 38<br>51 48<br>52 33    |         |          | (389) Herd nach URSS: 4395 N, 4690 E, Kaukasus.<br>Baku: eP 16h26m12s, 1L 16h27m21s.<br>(390) Nach Taihoku schwach gefühlt in Isigakijima (Südl. Rlu                                                                                                                                                       |

| DATUM<br>1933   | PHASE                                   | ZEIT                                                                | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                   |
|-----------------|-----------------------------------------|---------------------------------------------------------------------|---------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |                                         | h m s s                                                             |         |          |                                                                                                                                                                                                                                                                                                                                                               |
| Okt. 25         | mN<br>eN<br>Mz                          | 23 52 47<br>54 9<br>58 22 14                                        | 17      | +        | Kiu Inseln), Herd östlich von Isigakijima?<br>Taihoku: eP 21h51m39.4s, Hongkong: M 21h57m28s.                                                                                                                                                                                                                                                                 |
| " 26            | e(L)<br>Mn<br>ME<br>Mz<br>P             | 0 9<br>10 29 25<br>18 59 22<br>23 34 18<br>2 10                     |         |          | (391) AN = 27, AZ = 11, AN = 16, AE = 17, Az = 14.<br>Herdangaben: La Paz 2293 S, 69°W, J.S.A. 22°S, 68°W,<br>O 23h28m28s, Herdtiefe 180 km, U.S.E. 23°S, 65°W, O 23h28.3m,<br>Grenzgebiet S.W. Bolivien - Nord Chile - N.W. Argentinien.<br>Sucre: 1PN 23h29m27s, 1SN 23h30m12s, La Paz: 1PN 23h30m1s,<br>1SN 23h31m23s, La Plata: P 23h31.30m, S 23h33.67m. |
| " 26<br>(392)   | eN<br>eE<br>eL<br>Mn<br>ME<br>Mz<br>F   | 12 40<br>44.6<br>58<br>59 28 35<br>13 29 47 17<br>30 16 18<br>14 50 |         |          | (392) AN = 30, AE = 16, Az = 13.<br>Herd: Gegend der Elefant Inseln, S.E.lich von Kap Hoorn.<br>La Paz gibt: 62°S, 71°W.<br>La Plata: P 12h12.57m, S 12h16.99m, O 12h6.82m, La Paz:<br>ePN 12h15m11s, 1SN 12h22m1s, Wellington: P 12h18m13s, S 12h27m25s.                                                                                                     |
| " 30<br>(393)   | (eL)<br>eL<br>F                         | 7 19.4<br>8 14<br>9 20                                              |         |          | (393) Herdangaben: Wellington nahe 16°S, 165°E, U.S.E. ca 15°S,<br>167°E, O 6h59.7m, URSS 17°S, 172°E, Gegend der Neuen Hebriden.<br>Suva: P 7h2m57s, S 7h5m18s, Apia: PN 7h4m1s, Sydney:<br>eP 7h4m53s, eS 7h9m1s.                                                                                                                                           |
| Nov. 1<br>(394) | eL<br>F                                 | 16 16<br>50                                                         |         |          | Papierwechsel: 8h21m - 31m.<br>(394) Herd: Gegend von Mittelamerika?                                                                                                                                                                                                                                                                                          |
| " 2<br>(395)    | Pz<br>e(S)<br>eL<br>ME<br>Mn<br>Mz<br>F | 12 38 49<br>48.3<br>13 4<br>7 6 28<br>7 30 26<br>23 14 18<br>14 20  |         |          | Little Rock: 15h11m, Florissant: 15h30m, Oak Ridge: eL 15h44.5m.<br>(395) AE = 12, AN = 14, Az = 10.<br>Herdangaben: J.S.A. 45°N, 168°W, O 12h27m8s, U.S.E. 52°N,<br>176°W, O 12h27.0m, URSS 4990 N, 17990 W, Aleuten.<br>Sitka (nach J.S.A.): 1P 12h32m12s, 1S 12h36m29s.                                                                                    |
| " 4<br>(396)    | Pz<br>S<br>eL<br>ME<br>Mz<br>F          | 8 53 3<br>9 2 42<br>16<br>27 18 17<br>28 12 17<br>10 20             |         |          | (396) AE = 3, Az = 2.5.<br>Δ = 8380 km; 7693.<br>Nach U.S.E. gefühlt in Kolumbien, Herd ca. 9°N, 72°W, West<br>Venezuela, O 8h41.3m.                                                                                                                                                                                                                          |
| " 4<br>(397)    | eL<br>ME<br>Mz<br>F                     | 16<br>27 18 17<br>28 12 17<br>10 20                                 |         |          | La Paz: 1PN 8h46m44s, 1SN 8h51m18s, Florissant: ePE 8h48m3s,<br>eSE 8h53m32s, Pasadena: P 8h50m8s.                                                                                                                                                                                                                                                            |
| " 4<br>(398)    | eL<br>F                                 | 12 31<br>55                                                         |         |          | (397) Nach Pasadena gefühlt in Kolumbien, Herd nach U.S.E.<br>ca. 8°N, 72°W, Venezuela, O 11h57.2m. Vgl. (396).<br>La Paz: 1PN 12h2m37s, 1SN 12h7m14s, Pasadena: e 12h6m1s.                                                                                                                                                                                   |
| " 4<br>(398)    | eL<br>F                                 | 21 20<br>35                                                         |         |          | (398) Herd: Gegend von Mittelamerika?<br>La Paz: ePv 20h34m16s, Pasadena: 1P 20h34m54s, Florissant:<br>ePz 20h35m14s, eS 20h39m31s.                                                                                                                                                                                                                           |
| " 5<br>(399)    | eL<br>F                                 | 7 56<br>8(15)                                                       |         |          | (399) Nach Seism. Desp. Washington gefühlt in Guayaquil,<br>Ecuador, Herd nach U.S.E. ca. 0°S, 83°W, O 7h11.9m.                                                                                                                                                                                                                                               |
| " 5<br>(400)    | e<br>eL                                 | 20 56.3<br>21 3                                                     |         |          | La Paz: ePv 7h16m42s, 1SN 7h20m39s.<br>Papierwechsel: 8h15.4m - 20.6m.                                                                                                                                                                                                                                                                                        |

## SEISMISCHE REGISTRIERUNGEN IN DE BILT.

| DATUM<br>1933 | PHASE | ZEIT     | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                |
|---------------|-------|----------|---------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nov. 5        | Mz    | 21 7 28  | 25      | -        | (400) AN = 8, AN = 11.                                                                                                                                                                     |
|               | MN    | 8 14     | 20      | +        | Herdangaben: Bombay 25°N, 98°E, Taihoku: 26°N, 97°E, URSS 27°N, 103°E, Grenzgebiet N.E.Barma - S.W.China.                                                                                  |
|               | P     | 50       |         |          | Chiufeng: P 20h31m57s, S 20h35m49s, O 20h27m14s, Manila: P 20h32m30s, S 20h37m0s, Bombay: P 20h32m34s, S 20h37m3s.                                                                         |
| " 6           | e     | 7 17.5   |         |          |                                                                                                                                                                                            |
| (401)         | eL    | 20       |         |          |                                                                                                                                                                                            |
|               | MN    | 26 31    | 15      | -        | (401) AN = 5.                                                                                                                                                                              |
|               | P     | 50       |         |          | Herd: N.W.Persien. URSS gibt: 35°N, 52°E.                                                                                                                                                  |
| " 8           | e     | 0 53 45  |         |          | Baku: eP 7h8m25s, 1S 7h(9m33s), Kasara(nach Straszburg): eP 7h9m17s, eS 7h11m9s, Helwan: 1P 7h10m22s, 1S 7h13m3s, Sverdlovsk: eP 7h11m57s, eS 7h15m56s.                                    |
| (402)         | Mz    | 54 44    | 9       | +        |                                                                                                                                                                                            |
|               | MN    | 56 20    | 4.5     | -        |                                                                                                                                                                                            |
|               | Mz    | 56 46    | 4.5     | -        | (402) AN = 2, AN = 6, AN = 1.5.                                                                                                                                                            |
|               | F     | 59       |         |          | Gefühlt in Tirol, Süd Deutschland und der Schweiz, Herd wie 1930, (363). Nach Wien makroseismisches Epizentrum 47°N, 10°E, in der Gegend von Namlos(Tirol) mit St.VI beobachtet.           |
| " 10          | eL    | 0 18     |         |          | Ravensturg: P 0h50m50s, Zürich: ePn 0h51m0.5s, Wien: ePz 0h51m46s.                                                                                                                         |
| (403)         | F     | 30       |         |          | (403)(Oak Ridge: 1 0h14m59s, Sverdlovsk: L 0h32m).                                                                                                                                         |
| " 14          | e     | 14 31    |         |          |                                                                                                                                                                                            |
| (404)         | eL    | 15 4     |         |          | (404) Nach La Plata gefühlt in Zentral Chile, am stärksten in Illapel, Prov.Coquimbo.                                                                                                      |
|               | F     | 20       |         |          | Herdangaben: La Paz 32°S, 70°W, J.S.A. 32°S, 70°W, O 14h5m13s, Herdtiefe 100 km, U.S.E. 33°S, 70°W, O 14h5.2m. La Plata: P 14h7.48m, S 14h9.2m, La Paz: Pn 14h9m2s, 1s 14h12m10s.          |
| " 17          | eL    | 10 16    |         |          |                                                                                                                                                                                            |
| (405)         | F     | 30       |         |          | (405) Herd: in oder nahe S.E.Asien?                                                                                                                                                        |
| " 18          | eL    | 5 8      |         |          | Hongkong: L? 9h45m50s, Chiufeng: e(P) 9h46m13s, S 9h48m35s, Manila: P 9h48m51s, Sn 9h51m26s, Tachkent: L 9h53.8m.                                                                          |
| (406)         | F     | 35       |         |          | (406) Herd nach Manila: 7°40'S, 153°40'E, S.W.licher Großer Ozean. Ambon: 1P 3h59m25s, Sydney: e(P) 3h59m40s, e(S) 4h4m16s, Manila: P 4h1m29s, S 4h7m31s, Batavia: eP 4h2m37s, Sn 4h9m28s. |
| " 18          | eL    | 18 3     |         |          |                                                                                                                                                                                            |
| (407)         | F     | 30       |         |          | (407)(Manila: 1Pn 16h46m14s, S 16h50m11s, Melbourne: e 16h55.2m, Bombay: 17h12m0s, Tananarivo: S 17h14m9s, Wellington: 17h32m, Baku: eL 17h34.6m).                                         |
| " 19          | (eL)  | 3 31 12  |         |          |                                                                                                                                                                                            |
| (408)         | eH    | 52 47    |         |          | (408) AN = 7, AN = 6, AN = 7.                                                                                                                                                              |
|               | eH    | 54 24    |         |          | Herd: Gegend Neue Hebriden. Angaben: Wellington 17°S, 165°E, Manila Gegend 15°S, 165°E, Stuttgart ca. 16°S, 167°E, U.S.E. 16°S, 167°E, O 3h11.3m.                                          |
|               | eL    | 4 21     |         |          | Suva: P 3h14m(12s), S 3h16m36s, Apia: Pz 3h15m54s, Lz 3h20m48s, Sydney: 1P 3h16m19s, 1Sn 3h20m28s, Ambon: 1 3h18m57s.                                                                      |
|               | MN    | 41 29    | 18      | +        |                                                                                                                                                                                            |
|               | Mz    | 42 6     | 18      | -        | (409) AN = 3.                                                                                                                                                                              |
|               | ME    | 47 7     | 19      | -        | Herd nach Bombay wie (400), Taihoku gibt 25°N, 97°E.                                                                                                                                       |
|               | F     | 5 55     |         |          | Chiufeng: P 9h13m14s, e(S) 9h17m10s, O 9h8m26s, Manila: P 9h13m55s, S 9h18m25s, Bombay: P 9h14m4s, S 9h18m34s.                                                                             |
| " 19          | eL    | 9 47     |         |          |                                                                                                                                                                                            |
| (409)         | MN    | 49 24    | 21      | -        |                                                                                                                                                                                            |
|               | F     | 10 15    |         |          |                                                                                                                                                                                            |
| " 20          | P     | 23 28 45 |         |          |                                                                                                                                                                                            |
| (410)         | S     | 34 28    |         |          |                                                                                                                                                                                            |
|               | MN    | 35 39    | 27      | +        |                                                                                                                                                                                            |
|               | eL    | 38.4     |         |          |                                                                                                                                                                                            |
|               | MN    | 41 47    | 26      | +        |                                                                                                                                                                                            |
|               | ME    | 43 33    | 20      | +        |                                                                                                                                                                                            |
|               | MN    | 43 58    | 18      | -        |                                                                                                                                                                                            |

| DATUM<br>1933 | PHASE  | ZEIT     | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                               |
|---------------|--------|----------|---------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nov. 20       | ME     | 23 44 46 | 16      | +        | Keine Reg.Vert.Komp.: 20, 12h25m - 21, 8h47m.                                                                                                                                                                                                                                                                                                                             |
|               | MN     | 46 28    | 14      | +        | (410) AN = 432, AN = 745°, AE = 1040°, AN = 950°, AE = 645°                                                                                                                                                                                                                                                                                                               |
|               | ME     | 48 49    | 13      | -        | AN = 540, AE = 470°.                                                                                                                                                                                                                                                                                                                                                      |
| " 21          | F      | 3 40     |         |          | Δ = 3920 km; 37°4. Azimut W 59°N. Herd: Baffin Bai.                                                                                                                                                                                                                                                                                                                       |
| " 22          | e(S)N  | 0 11 21  |         |          | Gefühlt in West Grönland (Distrikt Upernivik).                                                                                                                                                                                                                                                                                                                            |
| (411)         | eL     | 27       |         |          | Herdangaben: J.S.A. 72°N, 70°W, O 23h21m40s, U.S.E. 73°N, 69°W, O 23h21.5m, Kew nahe 75°N, 65°W, Straszburg 75°N, 65°W, O 23h21m22s, Stuttgart 74°N, 70°W, Schweiz.Erdb.dienst 74°N, 63°W, URSS 73°N, 69°W, Publ.N? 61 des Seism.Instituts der Akad.der Wiss.der URSS 73°N, 72°W, O 23h21m30s ± 6s, C.M.O. 75°N, 65°W, Kobe 72°N, 69°W, O 23h21m36s, Taihoku: 73°N, 70°W. |
| " 22          | e(SS)E | 5 20.2   |         |          |                                                                                                                                                                                                                                                                                                                                                                           |
| (412)         | eL     | 30       |         |          | Ivigut (nach Straszburg): P 23h24m55s, (S) 23h27m29s, Reykjavik: P 23h26m9s, S 23h29m50s, Ottawa: 1P 23h27m23s, 1S 23h32m4s, Pulkovo: 1P 23h28m44s, 1S 23h34m25s.                                                                                                                                                                                                         |
|               | MN     | 37 46    | 19      | -        |                                                                                                                                                                                                                                                                                                                                                                           |
|               | ME     | 42 29    | 17      | -        |                                                                                                                                                                                                                                                                                                                                                                           |
|               | Mz     | 42 29    | 17      | -        |                                                                                                                                                                                                                                                                                                                                                                           |
|               | F      | 6 20     |         |          | (411) AN = 4, AN = 7, AN = 6.                                                                                                                                                                                                                                                                                                                                             |
| " 22          | eL     | 8 52     |         |          | Nach U.S.E. in Panama gefühlt, Herd ca.8°N, 83°W, O 23h48.5m.                                                                                                                                                                                                                                                                                                             |
| (413)         | F      | 9 15     |         |          | J.S.A.gibt: nahe 9°N, 83°W, O 23h48m41s, La Paz: 8°N, 94°W. San Juan: 1P 23h53m2s, 1S 23h56m36s, La Paz: ePn 23h54m33s, eSn 23h59m53s, Pasadena: 1P 23h56m28s.                                                                                                                                                                                                            |
| " 22          | iz     | 13 1 24  |         |          |                                                                                                                                                                                                                                                                                                                                                                           |
| (415)         | 1(PP)z | 3 16     |         |          | (412) AN = 3, AN = 6, AN = 5.                                                                                                                                                                                                                                                                                                                                             |
|               | o(PP)N | 3 21     |         |          | Nach U.S.E. gefühlt in Panama, Herd 9°N, 82°W, O 4h52.0m. Vgl.(411). J.S.A.gibt: nahe 9°N, 84°W, O 4h52m8s, La Paz: 9°N, 84°W. San Juan: 1P 4h56m30s, 1S 5h0m11s, La Paz: ePn 4h57m59s, eSn 5h3m0s, Pasadena: 1P 4h59m52s.                                                                                                                                                |
|               | iz     | 4 37     |         |          |                                                                                                                                                                                                                                                                                                                                                                           |
|               | eH     | 4 42     |         |          |                                                                                                                                                                                                                                                                                                                                                                           |
|               | eL     | 39       |         |          |                                                                                                                                                                                                                                                                                                                                                                           |
|               | ME     | 46 12    | 27      | -        | (413) und (414) Nach U.S.E. gefühlt in Panama (Balboa), bzw. 8h12m und 8h45m. Vgl.(411).                                                                                                                                                                                                                                                                                  |
|               | MN     | 56 29    | 20      | -        |                                                                                                                                                                                                                                                                                                                                                                           |
|               | Mz     | 14 1 13  | 19      | +        | La Paz: ePn 8h17m18s; ePn 8h50m19s, Pasadena: eP 8h18m14s.                                                                                                                                                                                                                                                                                                                |
|               | ME     | 1 21     | 19      | +        |                                                                                                                                                                                                                                                                                                                                                                           |
|               | F      | 15 45    |         |          | (415) AN = 23, AN = 25, AN = 27, AN = 25.                                                                                                                                                                                                                                                                                                                                 |
| " 22          | eL     | 19 44    |         |          | Herd: Gegend von Neu Pommern. Angaben: Wellington 9°S, 148°E, Manila Gegend 7°S, 149°E, C.M.O. 5°S, 152°E, Taihoku 6°S, 145°E, URSS 18°S, 143°E, J.S.A.3°S, 150°E, O 12h42m26s, U.S.E. 6°S, 150°E, O 12h42.4m.                                                                                                                                                            |
| (416)         | MN     | 49 5 16  |         | -        |                                                                                                                                                                                                                                                                                                                                                                           |
|               | MN     | 49 54    | 15      | +        |                                                                                                                                                                                                                                                                                                                                                                           |
|               | ME     | 49 58    | 15      | -        | Palau: P 12h47m12.8s, S-P=3m52.7s, Ambon: 1P 12h47m17s, S 12h51m18s.                                                                                                                                                                                                                                                                                                      |
|               | ME     | 55 10    | 14      | -        |                                                                                                                                                                                                                                                                                                                                                                           |
|               | F      | 20 15    |         |          | (416) und (417) Ähnliche Seismogramme. Herd nach Taihoku: 28°N, 129°E, Amami Osima, Nördl. Riv Kiu Inseln.                                                                                                                                                                                                                                                                |
| " 22          | eL     | 23 16    |         |          | (416) AN = 4, AN = 4, AN = 2, AN = 1.5.                                                                                                                                                                                                                                                                                                                                   |
| (417)         | MN     | 21 37    | 15      | -        | Hukuoka: P 19h0m45.2s, Sumoto: P 19h1m16s, Taihoku: eP 19h1m30s.                                                                                                                                                                                                                                                                                                          |
|               | MN     | 22 28    | 15      | +        |                                                                                                                                                                                                                                                                                                                                                                           |
|               | ME     | 22 29    | 15      | -        | (417) AN = 7, AN = 7, AN = 5, AN = 4.                                                                                                                                                                                                                                                                                                                                     |
|               | ME     | 27 41    | 14      | -        | Hukuoka: P 22h33m4.5s, Sumoto: P 22h33m47s, Taihoku: eP 22h33m47.8s.                                                                                                                                                                                                                                                                                                      |
|               | F      | 55       |         |          |                                                                                                                                                                                                                                                                                                                                                                           |

| DATUM<br>1933    | PHASE                                                                         | ZEIT                                                                                                                              | PERIODE     | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nov. 23<br>(418) | eL<br>ME<br>ME<br>F                                                           | 1 19<br>21 59<br>21 58<br>25                                                                                                      | s<br>9<br>8 |          | (418) $A_2 = 1.5$ , $A_E = 2.5$ .<br>Nach Boll.Siam.Roma gefühlt in den Abruzzen, 1h13m, St.VII<br>in Taranta Peligna; vgl.(356).<br>Florenz: 1 1h13m29s.                                                                                                                                                                                                                                                                                                            |
| " 23<br>(419)    | eL<br>eLz<br>F                                                                | 3 35<br>38.5<br>45                                                                                                                |             |          | (419) Nach URSS gefühlt in Tachkent, St.III, Herd: $42^{\circ}17'N$ ,<br>$71^{\circ}39'E$ , Kara Tau Berge.<br>Tachkent: 1P 3h10m13s, Sverdlovsk: eP 3h13m32s, eS 3h16m27s.                                                                                                                                                                                                                                                                                          |
| " 23<br>(420)    | 1Pz<br>e(S)<br>u(SS)z<br>e(L)N<br>eLs<br>MN<br>ME<br>ME<br>F                  | 19 10 13<br>20.5<br>25.8<br>33<br>36<br>42 24 19<br>48 5 17<br>48 13 17<br>20 35                                                  |             |          | (420) $A_N = 5$ , $A_2 = 8$ , $A_E = 8$ .<br>Nach U.S.E. gefühlt in Panama, Herd: $8^{\circ}N$ , $84^{\circ}W$ , 0 18h57.7m.<br>J.S.A. gibt: $898 N$ , $83^{\circ}5 W$ , 0 18h57m50s, La Paz: $9^{\circ}N$ , $84^{\circ}W$ .<br>Vgl.(411) - (414).<br>San Juan: 1P 19h2m14s, IS 19h5m54s, La Paz: eP? 19h4m49s,<br>SN 19h9m49s, Pasadena: e 19h5m35s.<br>(421) (Bombay: e 1h18m0s, Tachkent: eL 1h1.7m, Hongkong:<br>M 0h43m50s; M 1h17m30s, Peichiko: eE 0h37m19s). |
| " 25<br>(421)    | eL<br>F                                                                       | 1 22<br>30                                                                                                                        |             |          | (422) Florenz: L 21h8m0s, Stuttgart: L 21h11m, (Pulkovo):<br>eL 21h22m, La Paz: ePv 20h45m41s, LN 21h2m0s).                                                                                                                                                                                                                                                                                                                                                          |
| " 26<br>(422)    | eL<br>F                                                                       | 21 11<br>21                                                                                                                       |             |          | (423) (Sverdlovsk: 1P 6h48m35s, S 6h52m38s, Tachkent: 1S 6h52m27s)                                                                                                                                                                                                                                                                                                                                                                                                   |
| " 27<br>(423)    | eL<br>F                                                                       | 7 17<br>20                                                                                                                        |             |          | (424) Nach C.M.O. gefühlt in Nord Nippon, Herd: $39^{\circ}7 N$ ,<br>$143^{\circ}2 E$ , Großer Ozean.<br>Mizusawa: P 19h14m55s, IS 19h15m15s.                                                                                                                                                                                                                                                                                                                        |
| " 27<br>(424)    | eL<br>F                                                                       | 20 1<br>15                                                                                                                        |             |          | (425) $A_N = 47$ , $A_2 = 44$ , $A_3 = 25$ , $A_E = 40$ , $A_N = 55$ , $A_2 = 17$ .<br>$\Delta = 4580$ km; 4377.<br>Herdangaben: Stuttgart ca. $33^{\circ}N$ , $55^{\circ}E$ , URSS $31^{\circ}0 N$ , $54^{\circ}0 E$ ,<br>Bombay $35^{\circ}N$ , $57^{\circ}E$ , Persien.<br>Baku: eP 11h11m42s, eS 11h13m42s, Bombay: P 11h13m51s,<br>S 11h17m49s, Helwan: 1P 11h14m6s, IS 11h18m7s.                                                                               |
| " 28<br>(425)    | Pz<br>e(PP)z<br>IS<br>IN<br>IZ<br>eL<br>MN<br>MN<br>ME<br>ME<br>MN<br>ME<br>F | 11 17 15<br>18 57<br>23 40<br>26 45<br>26 57<br>28<br>33 32 29<br>35 35 18<br>36 50 20<br>37 1 22<br>37 43 24<br>42 44 14<br>13 0 |             |          | (426) $A_E = 9$ , $A_2 = 8$ .<br>Nach U.S.E. gefühlt in Panama, Herd unweit der Westküste von<br>Panama, $8^{\circ}N$ , $84^{\circ}W$ , 0 5h3.2m. Vgl.(420).<br>La Paz: ePv 5h9m18s, SN 5h14m21s, Pasadena: 1P 5h11m13s.                                                                                                                                                                                                                                             |
| " 29<br>(426)    | eL<br>ME<br>ME<br>F                                                           | 5 42<br>49 6 20<br>49 6 20<br>6 35                                                                                                |             |          | (427) $A_E = 10$ , $A_2 = 10$ , $A_N = 11$ .<br>Herd: Atlantischer Ozean?<br>Alicante: eP? 19h38m22s, eS 19h41m34s, Triest: eP 19h40m44s,<br>eS 19h46m37s, La Paz: ePv 19h43m37s, Sverdlovsk: 1P 19h44m5s,<br>eS 19h54m0s.                                                                                                                                                                                                                                           |

| DATUM<br>1933    | PHASE                                           | ZEIT                                                                                  | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------|-------------------------------------------------|---------------------------------------------------------------------------------------|---------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nov. 29<br>(427) | eE<br>eL<br>ME<br>ME<br>MN<br>F                 | 19 44.5<br>47.5<br>51 25 17<br>51 27 16<br>51 45 13<br>20 30                          |         |          | (428) Herd: Nördl. Atlantischer Ozean?<br>Oak Ridge: L 4h49.5m, La Paz: ePv 4h48m0s.<br>(429) Herd nach URSS: $35^{\circ}5 N$ , $64^{\circ}0 E$ , Afghanistan.<br>Agra: P 2h18m12s, S 2h20m9s, Sverdlovsk: 1P 2h20m5s,<br>S 2h23m53s, Calcutta: P 2h20m21s, S 2h24m30s, Pulkovo:<br>P 2h22m5s, eS 2h27m28s.                                                                                                                                                                                                                                                                                        |
| " 30<br>(428)    | e<br>eL<br>F                                    | 4 53.5<br>58<br>5 15                                                                  |         |          | (430) $A_E = 6$ , $A_N = 6$ .<br>Herd nach U.S.E. $53^{\circ}S$ , $161^{\circ}E$ , zwischen den Macquarie Inseln<br>und Neu Seeland, 0 5h17.2m.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Dez. 2<br>(429)  | e<br>eL<br>F                                    | 2 33<br>42<br>50                                                                      |         |          | Wellington: P 5h20m45s, S 5h23m30s, Melbourne: 1P 5h21m29s,<br>S 5h24m58s, Sydney: 1P 5h21m48s, 1SE 5h25m47s, Batavia:<br>1W 5h27m56s, 1 5h36m27s, Manila: P 5h28m57s, 1S 5h38m40s.<br>Die Angaben von Suva: P 5h16m(18)s, S 5h18m18s, und Apia:<br>eP 5h17m43s, L 5h19m2s, beziehen sich wahrscheinlich auf<br>ein anderes, etwas früheres Beben.                                                                                                                                                                                                                                                 |
| " 2<br>(430)     | e<br>eL<br>ME<br>MN<br>F                        | 6 31<br>49<br>54 44 21<br>57 46 22<br>7 25                                            |         |          | (431) $A_E = 7$ , $A_N = 7$ .<br>Nach Manila gefühlt in Basco, Batan Inseln, St.VII, Herd:<br>$20^{\circ}20'N$ , $121^{\circ}55'E$ . Taihoku gibt Herd: $20^{\circ}6 N$ , $122^{\circ}4 E$ ,<br>Baschi Kanal.                                                                                                                                                                                                                                                                                                                                                                                      |
| " 2<br>(431)     | eL<br>ME<br>MN<br>F                             | 9 31<br>33 7 20<br>33 26 21<br>55                                                     |         |          | Taihoku: eP 8h44m19s, S 8h45m31s, Manila: 1P 8h44m36s,<br>1S 8h45m45s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| " 2<br>(432)     | e<br>e<br>eL<br>ME<br>MN<br>ME<br>MN<br>ME<br>F | 20 36<br>42<br>57<br>21 8 3 22<br>8 7 24<br>14 27 20<br>14 57 21<br>16 38 19<br>22 50 |         |          | (432) $A_E = 15$ , $A_N = 17$ , $A_2 = 19$ , $A_N = 19$ , $A_2 = 17$ .<br>La Plata gibt: Herd Küste des Großen Ozeans bei ca. $19^{\circ}S$ ,<br>doch aus den Angaben von La Plata, Sucre und La Paz ergibt<br>sich: Herd Gegend Südpunkt von Südamerika.<br>La Plata: P 20h9.52m, S 20h13.1m, Sucre: eP 20h12m6s,<br>S 20h18m2s, La Paz: ePv 20h12m34s, eSN 20h18m39s.<br>Keine Reg.: 4, 8h26m - 15h12m.                                                                                                                                                                                          |
| " 4<br>(433)     | 1(S)H<br>1E<br>e(L)<br>F                        | 19 54 18<br>54 48<br>20 4<br>45                                                       |         |          | (433) Tiefer Herd. Gefühlt in Hokkaido und Nord Nippon.<br>Angaben: C.M.O. $45^{\circ}2 N$ , $144^{\circ}0 E$ , Ochotskisches Meer, Geoph.<br>Mag. Tokyo, Vol. VIII, S. 80, $46^{\circ}6 N$ , $144^{\circ}0 E$ , 0 19h32m49s,<br>Tiefe 340 km, Geoph. Mag. Tokyo, VIII, S. 182, $45^{\circ}4 N$ , $144^{\circ}0 E$ ,<br>0 19h34m, Tiefe 350 km, Gerlands Beitr. zur Geophysik, Bd. 44,<br>S. 357, Tiefe 370 km, Stuttgart $47^{\circ}5 N$ , $143^{\circ}5 E$ , 0 19h34m5s,<br>Tiefe 300 - 350 km, URSS $49^{\circ}0 N$ , $140^{\circ}5 E$ , U.S.E. $47^{\circ}N$ , $144^{\circ}E$ ,<br>0 19h33.9m. |
| " 9<br>(434)     | e<br>eL<br>MN<br>ME<br>ME<br>F                  | 8 8<br>19<br>21 35 16<br>24 16 15<br>25 11 14<br>45                                   |         |          | Mizusawa: 1P 19h35m45s, IS 19h37m11s.<br>(434) $A_N = 4$ , $A_E = 5$ , $A_2 = 4$ .<br>Herd: Gegend N.E. Afghanistan; Bombay gibt: wahrscheinlich<br>Afghanistan, URSS $37^{\circ}0 N$ , $75^{\circ}5 E$ , Kwan Lun.                                                                                                                                                                                                                                                                                                                                                                                |
| " 10<br>(435)    | eL<br>F                                         | 10 25<br>32                                                                           |         |          | Tachkent: eP 7h53m14s, Agra: eP 7h54m45s, S 7h56m50s, Baku:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| DATUM<br>1933    | PHASE                                                              | ZEIT                                                                                                               | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|---------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dez. 12<br>(436) | eL<br>P                                                            | 5 47<br>6 10                                                                                                       |         |          | eP 7h55m45s, S 7h59m26s, Bombay: eP 7h56m14s, S 7h59m29s, Sverdlovsk: 1P 7h56m47s, 1S 8h0m48s, Calcutta: P 7h57m10s, S 8h1m3s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| " 12<br>(437)    | 1z<br>e(PP)z<br>eH<br>eL<br>ME<br>MN<br>ME<br>ME<br>F              | 14 30 15<br>32 11<br>42<br>15 7<br>12 33 32<br>27 11 22<br>27 23 20<br>29 14 20<br>17 0                            |         |          | Papierwechsel: 8h26m - 40m.<br>(435) Herd: Gegend Mittelmeer?<br>Nach Boll.Sism.Roma Nahbeben, 10h17m, registriert in Piacenza, Taranto und Trenta. Florenz: P 10h17m0s, S 10h20m0s, Zagreb: e 10h17m50s.<br>(436) Herd nach URSS: 30°N, 56°E, Persien.<br>Baku: eP 5h(24m0s), eS 5h(25m49s), Tachkent: eP 5h24m58s, S 5h27m50s, Agra: P 5h26m6s, S 5h29m49s, Bombay: 1 5h26m11s, 1 5h30m6s, Sverdlovsk: 1P 5h27m2s, S 5h31m39s.                                                                                                                                                                                                                                                                                                                                                         |
| " 13<br>(438)    | 1Pz<br>1(PP)z<br>eH<br>eL<br>MN<br>ME<br>ME<br>ME<br>ME<br>MN<br>F | 21 36 31<br>39 51<br>47 2<br>22 5<br>15 14 18<br>15 29 17<br>15 37 17<br>19 34 14<br>19 50 15<br>22 23 15<br>23 45 |         |          | (437) AE = 13, AN = 12, AZ = 12, AE = 10.<br>Nach U.S.E. und Melbourne geföhlt in Rabaul, Neu Pommern.<br>Herdangaben: Manila 5°S, 153°E, wie 1930, (11), Wellington ca. 5°S, 152°E, C.M.O. 3°S, 153°E, Taihoku 5°S, 152°E, U.S.E. 5°S, 151°E, O 14h11.3m, Stuttgart 4°S, 153°E, URSS 9°S, 147°E, Bombay 6°S, 153°E.<br>Palau: P 14h16m8.1s, S - P = 4m2.4s, Suva: P 14h16m(20)s, S 14h21m3s, Sydney: 1PN 14h17m18s, 1SE 14h22m10s, Ambon: 1P 14h17m23s.<br>(438) AN = 20, AE = 32, AZ = 32, AE = 29, AZ = 24, AN = 21.<br>Nach U.S.E. geföhlt in Guadalajara, S.W.Mexiko, Herd: 19°N, 104°W, O 21h23.7m. Andere Angaben: J.S.A. 18°N, 103°W, O 21h23m47s, La Paz: 18°N, 103°W, URSS 11°N, 100°W, Tucson (nach J.S.A.): 1P 21h27m12s, 1S 21h29m58s, St.Louis: 1P 21h28m51s, 1S 21h33m1s. |
| " 14<br>(439)    | eL<br>ME<br>ME<br>F                                                | 2 0<br>2 52 16<br>3 23 13<br>15                                                                                    |         |          | (439) AE = 4, AZ = 3.<br>Vorbeben von (442)? Reykjavik: L 1h52.2m.<br>(440) AN = 7, AZ = 12, AE = 12, AE = 10, AZ = 7.<br>Herdangaben: U.S.E. 19°N, 104°W, O 7h16.7m, J.S.A. 18°N, 103°W, O 17h16m30s, La Paz: 18°N, 103°W.<br>Nachbeben von (438). Zeitunterschied P De Bilt 9h52m44s.<br>Tucson (nach J.S.A.): e 7h20m7s, eS 7h23m15s, St. Louis: 1P 7h21m35s, eS 7h25m47s.<br>Papierwechsel: 8h24.1m - 33.6m.                                                                                                                                                                                                                                                                                                                                                                         |
| " 14<br>(441)    | 1Pz<br>eH<br>eL<br>MN<br>ME<br>ME<br>ME<br>F                       | 7 29 15<br>39.9<br>58<br>8 8 18 17<br>9 6 17<br>9 13 16<br>10 29 16<br>11 28 15<br>50                              |         |          | (441) AE = 5, AN = 6, AZ = 3.<br>Herd nach URSS: 32°N, 54°E, Persien; vgl.(436).(Bombay gibt: 14°N, 94°E, Golf von Bengalen).<br>Baku: eP 18h54m8s, eS 18h56m8s, Tachkent: 1P 18h55m1s, 1S 18h57m55s, Agra: eP 18h56m8s, S 19h0m6s, Bombay: P 18h56m21s, S 19h0m14s, Helwan: P 18h56m31s, 1S 19h0m27s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| " 14<br>(441)    | e(az)<br>e(S)N<br>eLN<br>eLE<br>ME<br>MN<br>ME<br>F                | 18 59 34<br>19 5 54<br>15<br>18<br>19 23 20<br>22 45 17<br>24 53 15<br>20 10                                       |         |          | (441) AE = 5, AN = 6, AZ = 3.<br>Herd nach URSS: 32°N, 54°E, Persien; vgl.(436).(Bombay gibt: 14°N, 94°E, Golf von Bengalen).<br>Baku: eP 18h54m8s, eS 18h56m8s, Tachkent: 1P 18h55m1s, 1S 18h57m55s, Agra: eP 18h56m8s, S 19h0m6s, Bombay: P 18h56m21s, S 19h0m14s, Helwan: P 18h56m31s, 1S 19h0m27s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| DATUM<br>1933    | PHASE                                                | ZEIT                                                                                       | PERIODE | RICHTUNG | BEMERKUNGEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Dez. 15<br>(442) | 1(P)z<br>1S<br>eL<br>ME<br>ME<br>MN<br>ME<br>ME<br>F | 7 47 16<br>51 29<br>53<br>55 52 16<br>56 15 14<br>56 32 14<br>58 58 10<br>58 59 10<br>8 50 |         |          | (442) AE = 49, AZ = 31, AN = 33, AE = 31, AZ = 18.<br>Δ = (2600) km; (2492).<br>Herd: Atlantischer Ozean, S.E.lich von Süd Grönland; vgl. 1923, (314).<br>Angaben: J.S.A.54°N, 35°W, O 7h42m14s, U.S.E.ca.56°N, 34°W, O 7h42.2m, URSS 61°N, 45°W.<br>Reykjavik: P 7h44m31s, S 7h46m36s, Kew: 1P 7h46m47s, 1S 7h50m45s, Bergen: P 7h46m48s, S 7h50m43s, Ottawa: eP 7h48m2s, 1S 7h52m52s, Sverdlovsk: 1P 7h50m45s, eS 7h57m44s.<br>Papierwechsel: 8h32.0m - 40.6m.                          |
| " 17<br>(443)    | eLN<br>eLE,z<br>F                                    | 23 31<br>34<br>43                                                                          |         |          | (443) Herd: Zentral Asien, nach URSS 32°N, 76°E.<br>Tachkent: 1P 23h6m27s, 1S 23h8m0s, Baku: eP 23h8m32s, eS 23h12m33s, Bombay: e 23h10m0s.                                                                                                                                                                                                                                                                                                                                               |
| " 18<br>(444)    | eL<br>F                                              | 21 53<br>22 10                                                                             |         |          | (444) Herd: Gegend der Samoa Inseln?<br>Apia: 1P 20h27m52s, eL 20h28m32s, Suva: e 20h29m0s.                                                                                                                                                                                                                                                                                                                                                                                               |
| " 19<br>(445)    | eLE<br>eLN<br>F                                      | 5 55<br>56<br>6 20                                                                         |         |          | (445) Herd: Gegend des Nordpales.<br>Pulkovo: eS 5h50m15s, Baku: eP 5h48m30s, S 5h55m24s, Ordufeng eP 5h48m51s, 1(S) 5h56m1s, Stuttgart: (P)5h47m23s, (S)5h53m15s.                                                                                                                                                                                                                                                                                                                        |
| " 19<br>(446)    | e<br>eLE<br>eLN<br>ME<br>MN<br>ME<br>F               | 18 1<br>5<br>6<br>11 43 16<br>13 12 14<br>13 19 15<br>35                                   |         |          | (446) AE = 7, AN = 6, AZ = 5.<br>Stuttgart gibt: Herd in der nördlichen Baffin Bai?<br>Ottawa: ePN 17h54m24s, eS 17h59m2s, Pulkovo: e1 17h55m24s, e2 18h1m30s, St.Louis: ePN 17h55m28s, eSE 18h0m45s, Strassburg: 1(P) 17h55m13s, 1 17h56m13s, Stuttgart: (P)17h56m11s, (S)18h2.5m, Neuchâtel: eP 17h56m19.2s.                                                                                                                                                                            |
| " 21<br>(447)    | eL<br>F                                              | 18 53<br>19 5                                                                              |         |          | (447) Herd nach URSS: 39°N, 34°E, Kleinasien.<br>Triest: eP 18h44m23s, Pulkovo: P 18h45m11s, S 18h49m6s, Chur: eP 18h45m14.4s.                                                                                                                                                                                                                                                                                                                                                            |
| " 21<br>(448)    | eL<br>MN<br>F                                        | 23 59<br>0 6 4 17<br>20                                                                    |         |          | (448) AN = 3.<br>Herd: S.E.lich von Japan; URSS gibt: wahrscheinlich 25°N, 137°E, Nagoya: N.W.lich von den Bonin Inseln.<br>Nagoya: eP 23h11m9.6s, eS? 23h12m13.9s, Mizusawa: S? 23h12m32s.                                                                                                                                                                                                                                                                                               |
| " 24<br>(449)    | e<br>eL<br>ME<br>MN<br>ME<br>F                       | 11 19<br>46<br>54 27 24<br>58 10 22<br>12 0 13 18<br>13 15                                 |         |          | (449) AE = 7, AN = 6, AE = 4.<br>Überlagerung von zwei Beben? 1.Herd nach C.M.O. Bismarck Archipel, nach Stuttgart Gegend von Neu Pommern und Bismarck Archipel, (URSS gibt: wahrscheinlich 37°N, 171°E), Ambon: 1P 10h48m15s, S 10h52m5s, Palau: P 10h50m1.0s, S - P = 4m6.6s, Sydney: eP 10h52.2m, eS 10h57m0s, Manila: eP 10h52m20s, S 10h57m45s, 2.nach Apia geföhlt in Apia, Malinu'u und Palevac, St.III, Herd: 13°26'S, 170°30'W, Apia: 1P 10h57m23s, 1L 10h57m41s, Suva: e 11h1m. |
| " 24<br>(450)    | eL<br>F                                              | 20 27<br>33                                                                                |         |          | (450) Uccle: 20h25m - 30m, Stuttgart: (L) 20h30m.                                                                                                                                                                                                                                                                                                                                                                                                                                         |