

GEODÆTISK INSTITUT
Proviantgården · Copenhagen · Denmark

Bulletin of the seismological station

KØBENHAVN

$\varphi = 55^{\circ}41'N.$ $\lambda = 12^{\circ}26'E.$ $h = 13$ m.

Lithologic foundation: chalk

Instruments

Galitzin-Wilip. *N*, *E*, and *Z*. $T_p = T_g = 12\frac{1}{2}$ sec, $\mu^2 = 0$, $\frac{Ak}{\pi l} = 260$ sec.⁻¹ or $V_{\max} = \text{abt. } 1000$.

Benioff. *Z'*. $T_p = 1$ sec, $T_g = \frac{1}{4}$ sec, $V_{\max} = \text{abt. } 30000$.

Wiechert 1000 kg. *N* and *E*. $T = 8\frac{1}{2}$ sec, $\nu = 6:1$, $\rho = 0.3$ mm, $V_0 = 210$.

Wiechert 1300 kg. *Z*. $T = 6$ sec, $\nu = 4:1$, $\rho = 0.3$ mm, $V_0 = 150$.

Seismological Readings

Phases are indicated by the symbols used in ISS. Times are given in GMT. Positions of epicenters are most often due to BCIS or USCGS. The periods given are periods of full oscillations. The amplitudes are single amplitudes of the ground in microns. + indicates ground motion towards the north, towards the east, or upwards. - indicates the opposite direction. C means compression and D dilatation. Unless otherwise stated, the periods and amplitudes are due to readings on the Galitzin instruments. Magnitudes have been computed from the following formulas:

$$M = 1.6 \left(3.9 + \log \left(\frac{A}{T} \right)_{PZ} + \frac{\Delta}{200} \right), \quad 20^{\circ} < \Delta < 90^{\circ}.$$

$$M = 2.1 + \log A_H^{20} + 1.66 \cdot \log \Delta, \quad 15^{\circ} < \Delta < 130^{\circ}$$

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July.

2	<i>ePP·ZN</i>	12 ^h 15 ^m 30 ^s	
	<i>eSKKS·N</i>	22 24	
	<i>ePS·ZNE</i>	25 12	
	<i>eSS·E</i>	31 22	
	<i>L·NE</i>	50	
	$\Delta = 116^\circ$. Sandwich Group.		
3	<i>eP·Z'Z</i>	20 32 26	<i>Z</i> : 5 ^s , 10 μ .
	<i>i·Z</i>	32 31	
	<i>iPP·Z</i>	35 12	
	<i>iS·NE</i>	42 02	
	<i>L·NE</i>	57	
	<i>L 20^s·NE</i>	21 01	<i>N</i> : 7 μ , <i>E</i> : 7 μ .
	$\Delta = 74^\circ$. <i>M(P)</i> = 7.3. <i>M(L)</i> = 6.3. Aleutian Islands.		
3	<i>eP·Z</i>	23 03 59	
	Repetition.		
4	<i>iP·Z</i>	4 39 41	
	<i>i·ZNE</i>	39 46	<i>C</i>
	<i>iPP·Z</i>	42 03	
4	<i>iP·Z</i>	4 39 41	
	<i>i·ZNE</i>	39 46	<i>C</i>
	<i>iPP·Z</i>	42 03	
	<i>iS·NE</i>	48 51	
	<i>L·NE</i>	5 02	
	<i>L 20^s·NE</i>	07	<i>N</i> : 11 μ , <i>E</i> : 20 μ .
	$\Delta = 69^\circ$. <i>M</i> = 6.4. Queen Charlotte Islands.		
4	<i>eP·Z</i>	13 21 17	
	<i>eS·E</i>	30.2	
	<i>L·NE</i>	44	
	Repetition.		
6	<i>iP·Z'Z</i>	5 24 31	<i>C</i>
	<i>epP·Z'Z</i>	25 16	
	<i>i·Z</i>	27 22	
	<i>iS·NE</i>	30 43	
	<i>esS·NE</i>	32 02	
	<i>i·E</i>	34 09	
	$\Delta = 43^\circ$. <i>h</i> = 200 km. Hindu Kush.		
8	<i>iP·Z'Z</i>	13 03 26	<i>C</i>
	$\Delta = 79^\circ$. Japan.		
9	<i>eP·Z</i>	0 54 50	
	<i>ePP·Z</i>	57 54	
	<i>eS·N</i>	1 05.1	
	<i>L·NE</i>	26	
	$\Delta = 82^\circ$. Ryukyu Islands.		
10	<i>iP·ZNE</i>	0 18 10	<i>C</i>
	<i>ePP·ZE</i>	21 35	
	<i>iSKS·NE</i>	28 47	<i>N</i> : +, <i>E</i> : +.
	<i>eS·NE</i>	29 05	
	<i>L·NE</i>	44	
	$\Delta = 88^\circ$. Sumatra.		

July.

10	<i>iP·Z'</i>	13 ^h 57 ^m 07 ^s	<i>D</i>
	<i>eS·E</i>	14 03 13	
	$\Delta = 41^\circ$. Persian Gulf.		
11	<i>ePKP·Z</i>	12 14 37	
	<i>i·Z</i>	14 44	
	<i>ePP·Z</i>	17 36	
	<i>ePKS·NE</i>	18 22	
	$\Delta = 140^\circ$. Tonga Islands.		
13	<i>eS·NE</i>	10 27 46	
	<i>L·NE</i>	31	
	$\Delta = 17^\circ$. Greece. No <i>Z'</i> -record.		
13	<i>P·ZNE</i>	13 04 59	in the time-break.
	<i>eS·NE</i>	08 09	
	<i>L·NE</i>	12	
	$\Delta = 17^\circ$. Greece. No <i>Z'</i> -record.		
14	<i>eP·Z</i>	10 40 43	
	<i>ePP·Z</i>	45 03	
	<i>L·NE</i>	11 22	
	$\Delta = 100^\circ$. Molucca Strait.		
17	<i>iP·Z'Z</i>	5 22 39	
	<i>eS·NE</i>	29.0	
	<i>L·NE</i>	38	
	$\Delta = 43^\circ$. <i>h</i> = 200 km. Hindu Kush.		
18	<i>ePP·Z</i>	2 03 20	
	<i>L·NE</i>	44	
	$\Delta = 119^\circ$. <i>h</i> = 200 km. New Britain.		
20	<i>iP·Z'Z</i>	9 42 03	
	<i>i·Z'</i>	42 09	
	<i>iPcP·Z'</i>	42 20	
	<i>iS·NE</i>	51 24	
	<i>L·NE</i>	10 08	
	$\Delta = 72^\circ$. Kurile Islands.		
20	<i>ePKP·Z</i>	21 18 37	
	<i>ePP·ZNE</i>	21 39	
	<i>L·NE</i>	22 03	
	$\Delta = 141^\circ$. Deep. New Hebrides Islands.		
24	<i>eP·Z'Z</i>	9 59 47	
	<i>eS·NE</i>	10 08 34	
	<i>eSS·N</i>	12 31	
	<i>L·NE</i>	20	
	$\Delta = 66^\circ$. Kamchatka.		
25	<i>iP·Z'Z</i>	3 51 58	
	<i>eS·NE</i>	4 00 51	
	<i>eSS·E</i>	05 06	
	<i>L·NE</i>	14	
	<i>L 20^s·NE</i>	21	<i>N</i> : 16 μ , <i>E</i> : 21 μ .
	$\Delta = 67^\circ$. <i>M</i> = 6.5. Kamchatka.		

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July.

- 25 *iP·Z'Z* 11^h22^m50^s *Z'*: +, *Z*: -.
i·ZNE 22 52 *D. Z*: 7^s, 30 μ .
epP·Z 23 26
i·ZNE 23 39
iS·NE 31 39
isS·NE 32 36
L·NE 45
 $\Delta = 67^\circ$. *h* = 150 km. Kamchatka.
- 26 *eP·Z'ZNE* 12 41 18
eS·NE 45 27
L·NE 51
 $\Delta = 23^\circ$. Turkey.
- 27 *ePP·ZE* 10 25 32
ePPP·Z 28 16
eSKS·E 31 02
eSKKS·E 32 43
ePS·E 35 41
L·NE 11 06
 $\Delta = 125^\circ$. Chile.
- 29 *ePKP·Z* 0 43 32
ePP·ZN 46 39
ePKS·NE 47 30
L·NE 1 26
 $\Delta = 141^\circ$. Loyalty Islands.
- 29 *eS·N* 11 01 34
L·NE 14
 $\Delta = 62^\circ$. India.
- 29 *eP·Z'Z* 14 42 01
eS·NE 48 38
L·NE 56
 $\Delta = 45^\circ$. Afghanistan.
- 29 *iP·Z'ZNE* 17 43 21 *C*
iPP·ZNE 46 12 *C*
iS·NE 52 56
iPS·ZNE 53 15
L·NE 18 08
L 20^s·NE 19 *N*: 90 μ , *E*: 135 μ .
 $\Delta = 75^\circ$. *M* = 7.3. Japan.
- 31 *ePP·ZNE* 3 16 08
ePS·ZNE 26 10
L·NE 46
L 25^s·NE 4 08 *N*: 18 μ , *E*: 45 μ .
 $\Delta = 119^\circ$. *h* = 100 km. New Britain.
- 31 *ePP·Z* 15 15 44
ePS·Z 25 39
L·NE 55
 $\Delta = 123^\circ$. Chile.

July.

- 31 *iP·Z'Z* 22^h34^m38^s
eS·NE 40 49
L·NE 48
 $\Delta = 40^\circ$. Iran.
- August.
- 1 *iP·Z'Z* 2 28 26 *C*
eS·NE 34 35
L·NE 42
 $\Delta = 40^\circ$. Iran.
- 2 *iPKP·Z'Z* 5 26 43 *C*
iPP·Z 29 58
eSKP·Z 30 30
ePPP·Z 33 05
eSKSP·NE 40 08
L·NE 6 10
 $\Delta = 142^\circ$. Loyalty Islands.
- 2 *ePKP·Z* 9 50 18
 $\Delta = 152^\circ$. Kermadec Islands.
- 4 *iP·Z* 7 46 18 *C*
eS·NE 55 41
L·NE 8 10
 $\Delta = 72^\circ$. Aleutian Islands.
- 5 *eP·Z* 22 39 04
L·NE 23 06
 Repetition.
- 9 *eP·Z* 7 51 26
eS·NE 8 01 29
L·NE 16
 $\Delta = 79^\circ$. California.
- 9 *iPKP·Z* 17 06 09 *C*
L·NE 56
 $\Delta = 148^\circ$. *h* = 100 km. Tonga Islands.
- 9 *ePKS·NE* 23 59 26
L·NE 24 43
 $\Delta = 131^\circ$. Santa Cruz Islands.
- 11 *ePP·ZE* 3 11 16
L·NE 44
 $\Delta = 101^\circ$. Celebes.
- 12 *iP·Z'Z* 13 24 31 *C*
ePP·Z 27 29
eS·E 34 23
eSKS·NE 34 41
L·NE 54
 $\Delta = 78^\circ$. Japan.

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August.

13 *iP·Z'Z* 7^h22^m46^s
i·Z 22 58
iPP·Z'Z 25 35
eS·N 32 24
eSKS·N 32 48
L·NE 50
 $\Delta = 75^\circ$. Japan.

13 *iPKP·Z'Z* 14 33 45 *D*
ePP·ZNE 35 12
iPPP·ZNE 37 45
iSKS·E 40 47
iSKKS·NE 42 14
e·E 43 13
iSKSP·Z 45 04
i·Z 47 46
L·NE 15 07
L 20^s·NE 23 *N: 12 μ , E: 16 μ .*
 $\Delta = 121^\circ$. *M = 7*. Chile.

17 *eP·Z* 11 36 17
eS·N 46 08
L·NE 12 05
 $\Delta = 79^\circ$. South Atlantic Ocean.

18 *iP·Z'Z* 20 58 34
L·NE 21 26
 $\Delta = 74^\circ$. Kurile Islands.

20 *eSKS·NE* 20 32 48
eS·NE 33 20
L·NE 51
 $\Delta = 95^\circ$. Tristan da Cunha.

24 *eS·NE* 2 03 45
L·NE 16
 $\Delta = 66^\circ$. Kamchatka.

25 *eP·Z* 17 53 21
eS·NE 18 02 57
L·NE 18
 $\Delta = 72^\circ$. Aleutian Islands.

26 *ePKP·Z'Z* 18 46 31
ePKS·E 50 03
 $\Delta = 133^\circ$. New Hebrides Islands.

27 *eP·ZN* 10 22 26
eS·NE 26 36
L·NE 32
 $\Delta = 24^\circ$. Crete.

31 *eP·Z'* 22 16 58
eS·NE 21 03
L·NE 27
 $\Delta = 23^\circ$. Turkey.

September.

1 *eP·ZN* 15^h48^m15^s *C*
iS·NE 57 16
L·NE 16 08
 $\Delta = 68^\circ$. Kodiak Island.

2 *eP·Z* 14 56 49
eS·NE 15 05 26
L·NE 17
 $\Delta = 65^\circ$. Tibet.

2 *iP·Z* 22 14 16
PS·NE 23 33
L·NE 36
 $\Delta = 73^\circ$. Aleutian Islands.

3 *ePKP·Z* 6 01 18
e·Z 01 38
 $\Delta = 145^\circ$. Tonga Islands.

3 *ePKP·Z* 12 59 45
e·Z 13 01 06
iPP·ZNE 01 21
eSKS·NE 06 07
e·NE 07 41
iSS·NE 17 30
 $\Delta = 122^\circ$. *h = 450 km.* Solomon Islands.

3 *eP·ZNE* 23 57 58 *in the time-break.*
i·ZNE 58 13
eS·NE 24 07 28
eSKS·E 08 05
L·NE 22
 $\Delta = 73^\circ$. Kurile Islands.

6 *iP·Z'Z* 15 36 09 *C*
i·Z' 36 13
 $\Delta = 74^\circ$. Japan.

7 *eP·Z* 1 31 07
iSKS·NE 41 48
L·NE 2 08
 $\Delta = 95^\circ$. Tristan da Cunha.

8 *iP·Z'* 14 43 03 *C*
 $\Delta = 68^\circ$. Kamchatka.

9 *eP·Z'ZNE* 16 23 21
L·ZNE 28
 $\Delta = 18^\circ$. Jan Mayen.

9 *iP·Z'ZN* 20 08 37 *Z': D.*
L·NE 13
 $\Delta = 18^\circ$. Jan Mayen.

10 *eS·NE* 0 28 31
L·NE 33
 $\Delta = 24^\circ$. Crete.

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September.

- 12 *iP·Z'Z* 12^h29^m22^s C. Z: 5^s, 2 μ .
L·NE 13 00
 $\Delta = 81^\circ$. $M = 6.2$. Ryukyu Islands.
- 13 *iP·Z'* 3 21 07 C
 $\Delta = 87^\circ$. $h = 450$ km. Bonin Islands.
- 14 *eP·Z'* 0 47 12
 $\Delta = 87^\circ$. Philippine Islands.
- 15 *iPKP·Z'* 0 38 16 C
 $\Delta = 145^\circ$. Tonga Islands.
- 17 *iP·Z* 8 04 07
L·NE 30
 $\Delta = 71^\circ$. Kurile Islands.
- 17 *iP·Z* 8 16 47
eS·E 26 04
 Repetition.
- 17 *ePKP·Z'Z* 20 15 49
L·NE 21 07
 $\Delta = 145^\circ$. Tonga Islands.
- 19 *eP·Z* 3 52 20
eSKS·NE 4 02 45
e·E 05 17
L·NE 23
 $\Delta = 86^\circ$. Philippine Islands.
- 19 *eP·Z'Z* 19 13 58
eSKS·NE 24 25
L·NE 41
 $\Delta = 85^\circ$. Columbia-Panama border.
- 20 *iPKP(2)·Z'* 3 25 16
 $\Delta = 158^\circ$. $h = 200$ km. New Zealand.
- 21 *iP·Z'* 16 20 05 D
 $\Delta = 80^\circ$. $h = 200$ km. China Sea.
- 21 *iP·Z'* 23 12 02 D
 $\Delta = 36^\circ$. Iran.
- 22 *iP·Z'Z* 5 48 27
eS·N 56 43
L·NE 6 12
 $\Delta = 61^\circ$. Congo.
- 22 *iP·Z'Z* 9 15 48 D
eS·E 24 07
L·NE 37
 $\Delta = 61^\circ$. Congo.
- 22 *iP·Z'Z* 9 25 08 D
 $\Delta = 61^\circ$. Congo.
- 22 *iP·Z'* 22 58 32 D
 $\Delta = 73^\circ$. Aleutian Islands.

September.

- 23 *iPKP·Z'Z* 23^h22^m06^s D
 $\Delta = 145^\circ$. Tonga Islands.
- 29 *iP·Z'Z* 11 31 31 D
iPP·Z'ZNE 35 31 D
ePPP·ZNE 37 36
iS·E 42 09
iSP·ZNE 43 28
e·N 44 27
 $\Delta = 95^\circ$. $h = 450$ km. Mariana Islands.

October.

- 1 *iP·Z'Z* 16 22 25 D
iS·E 32 04
L·NE 45
 $\Delta = 73^\circ$. Aleutian Islands.
- 2 *ePP·Z* 12 14 51
L·NE 56
 $\Delta = 128^\circ$. Easter Island.
- 6 *e·Z'* 16 43 07
- 6 *L·NE* 16 44
 $\Delta = 52^\circ$. Lake Baikal.
- 6 *iP·Z'Z* 6 00 56 C
iS·NE 05 19
L·NE 07
 $\Delta = 24^\circ$. North Atlantic Ocean.
- 7 *iP·Z* 3 20 49 D
eS·NE 25 06
L·NE 27
 $\Delta = 24^\circ$. North Atlantic Ocean.
- 7 *eP·Z* 15 33 19
ePKP·Z' 37 08
ePP·ZE 37 44
iPPP·ZE 40 17
iSKS·E 43 48
eSKKS·E 44 53
ePS·ZE 47 16
i·ZE 48 20
eSS·E 53 11
L·NE 16 08
 $\Delta = 112^\circ$. Banda Sea.
- 8 *iP·Z'ZNE* 6 03 22 D
ipP·ZNE 05 26
iPP·ZNE 06 13
iS·NE 11 46
iScS·NE 12 24
iSP·Z 12 28
is·E 15 27
iSS·E 16 40
 $\Delta = 71^\circ$. $h = 600$ km. Japan Sea.

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October.

8 *eP·Z* 20^h52^m03^s
eS·NE 21 02 04
L·NE 18
 $\Delta = 78^\circ$. Nicobar Islands.

9 *iP·Z'Z* 9 12 10 *D.* *Z*: 4^s, 3 μ .
ipP·Z 12 42
iS·NE 21 35 7^s. *N*: + 5 μ , *E*: - 6 μ .
 $\Delta = 75^\circ$. *h* = 150 km. Japan.

13 *iP·Z'Z* 2 24 26 *C*
eS·N 26 56
L·NE 30
 $\Delta = 14^\circ$. Rumania.

13 *iP·Z'Z* 15 03 27
il·Z'Z 03 30 *C.* *Z*: 5^s, 5 μ .
ePP·Z 06 03
iS·NE 12 21
L·NE 25
 $\Delta = 67^\circ$. *M* = 6.7. Kamchatka.

14 *eP·Z'Z* 21 30 39
i·Z' 30 40 *D*
iS·E 40 07
L·NE 52
 $\Delta = 73^\circ$. Aleutian Islands.

14 *iP·Z'Z* 23 01 18
i·Z'Z 01 26
L·NE 24 08
 $\Delta = 27^\circ$. North Atlantic Ocean.

15 *eP·Z* 1 59 47
eS·NE 2 04 25
L·NE 07
 Repetition.

20 *ePP·ZN* 11 27 23
iPKS·ZN 28 35
L·NE 12.2
 $\Delta = 130^\circ$. Santa Cruz Islands.

27 *iP·Z* 15 43 30 *C.* *Z*: 6^s, 1 μ .
eS·NE 46 59
L·E 48.3
 $\Delta = 18^\circ$. Jan Mayen.

28 *iP·Z'ZNE* 4 22 54 *C.* *Z*: 6^s, 10 μ .
iS·NE 26 23
L·NE 27.5
 Repetition.

October.

28 *iP·Z'Z* 7^h50^m49^s *C.* *Z*: 6^s, 1 μ .
eS·NE 54 17
L·NE 56.1
 Repetition.

28 *iP·Z'ZNE* 13 29 12 *D.* *Z*: 5^s, 12 μ .
ipP·ZNE 29 52
iPP·Z'ZN 31 46 *D*
iS·NE 38 07
iSeS·ZNE 38 54
L·E 47
 $\Delta = 69^\circ$. *h* = 100 km. Kamchatka.

28 *eP·Z'Z* 22 41 30
ipP·Z' 41 44 *C*
iS·NE 51 34
esS·N 51 50
L·NE 23 08
 $\Delta = 80^\circ$. *h* = 100 km. Japan.

30 *eP·Z* 8 38 09
eS·E 42 46
L·NE 46
 $\Delta = 27^\circ$. North Atlantic Ocean.

30 *eP·Z* 12 28 44
ePP·Z 32 58
eSKS·E 39 24
iS·N 40 42
ePS·ZE 42 12
L·NE 13 01
 $\Delta = 105^\circ$. Chile.

30 *ePP·Z* 21 51 03
iSKS·NE 57 22
iSKKS·E 58 05
ePS·E 22 00 18
 $\Delta = 104^\circ$. Chile-Bolivia border.

November.

1 *ePP·ZE* 9 06 07
iSKS·E 12 00
iSKKS·NE 13 22
iPS·ZNE 16 08
L·NE 40
L 20^s·NE 54 *N*: 22 μ , *E*: 22 μ .
 $\Delta = 120^\circ$. *M* = 7.1. Chile.

5 *eP·Z'ZN* 20 24 56
eS·ZNE 28 13
L·NE 29.5
 $\Delta = 17^\circ$. Greece.

6 *iP·Z'Z* 4 49 20 *C*
iS·NE 58 19
L·NE 5 13
 $\Delta = 68^\circ$. Kamchatka.

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November.

- 6 *eP·Z'Z* 22^h21^m30^s
L·NE 49
 $\Delta = 72^\circ$. Aleutian Islands.
- 9 *ePKP·Z* 3 36 49
ePP·Z 38 28
ePS·ZNE 48 09
L·NE 4 14
 $\Delta = 120^\circ$. Sandwich Group.
- 9 *eP·Z'Z* 10 54 20
eS·NE 11 03 00
L·NE 15
 $\Delta = 64^\circ$. China.
- 9 *ePP·Z* 20 24 37
eSKS·E 31 10
eP·S·E 33 56
L·NE 54
 $\Delta = 105^\circ$. Chile.
- 13 *iSKS·NE* 7 01 29
eS·N 02 45
L·NE 24
 $\Delta = 102^\circ$. Molucca Passage.
- 13 *iP·Z'ZNE* 9 32 07 *D. Z: 10^s, 35 μ .*
iS·NE 41 37
L·NE 53
L 20^s·NE 10 05 *N: 35 μ , E: 35 μ .*
 $\Delta = 73^\circ$. *M(L) = 6.9* Aleutian Islands.
- 16 *iP·Z'* 23 09 05
i·Z' 09 09
L·NE 27
 $\Delta = 53^\circ$. Sinkiang Province, China.
- 20 *eP·Z* 22 15 29
iSKS·E 26 13
eS·NE 27 00
L·NE 46
L 20^s 56 *N: 12 μ , E: 12 μ .*
 $\Delta = 97^\circ$. *M = 6.5*. Peru.
- 23 *ePKP·Z'Z* 14 32 11 *6^s, 7 μ .*
i·Z 32 17
L·NE 15 16
 $\Delta = 148^\circ$. Tonga Islands.
- 24 *ePKP·Z'Z* 7 12 26 *6^s, 20 μ .*
i·Z 12 34
L·NE 56
 $\Delta = 148^\circ$. Tonga Islands.
- 25 *eP·Z'* 22 05 53
eS·NE 15 29
L·NE 34
 $\Delta = 76^\circ$. Japan.

November.

- 27 *iP·Z'* 15 28 39 *C*
ipP·Z' 29 06
 $\Delta = 73^\circ$. *h = 100 km.* Japan.

December.

- 2 *ePS·ZNE* 9 38 31
L 20^s·NE 10 03 *N: 35 μ , E: 45 μ .*
 $\Delta = 106^\circ$. *M = 7.5*. Chile. Strong microseisms.
- 3 *iP·Z'Z* 4 34 01 *D. Z: 10^s, 20 μ .*
 $\Delta = 57^\circ$. *M = 7*. Outer Mongolia. Strong microseisms.
- 13 *e(PKP2)·Z* 7 56 50
L·NE 8 47
 $\Delta = 160^\circ$. Macquarie Islands.
- 13 *iP·Z'Z* 10 18 08
i·Z' 18 22
L·NE 51
 $\Delta = 87^\circ$. Bonin Islands.
- 15 *iSKS·E* 0 15 59
L·NE 40
 $\Delta = 101^\circ$. Molucca Passage.
- 17 *eP·Z'* 16 56 15
 $\Delta = 73^\circ$. Kurile Islands.
- 21 *iP·Z'* 21 50 11 *C*
e·Z 50 48
eS·E 58 27
iScS·E 59 51
 $\Delta = 63^\circ$. *h = 100 km.* Alaska.
- 22 *eP·Z'* 3 14 22
i·Z' 14 25
eS·N 24 16
L·N 47
 $\Delta = 77^\circ$. Nicobar Islands.
- 22 *eSKS·N* 21 27 18
eSS·NE 38 51
 $\Delta = 123^\circ$. *h = 450 km.* Solomon Islands.
- 28 *eP·Z'* 5 44 33
 $\Delta = 22^\circ$. Crete.
- 29 *eP·Z'* 18 24 30
L·NE 32
 $\Delta = 22^\circ$. Crete.

February 1963.

HENRY JENSEN.