

University of Ljubljana
Astronomical and Geophysical
Observatory

1962

Ljubljana
Trg revolucije 11, P.O.B. 20
Yugoslavia

P R E L I M I N A R Y S E I S M O L O G I C A L
B U L L E T I N
(July-September 1962)



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PRELIMINARY SEISMOLOGICAL BULLETIN

from July 1, to September 30, 1962

Station Ljubljana: Coordinates: $46^{\circ} 02.6' N$ Lat.
 $14^{\circ} 32.0' E$ Long.

Geocentric direction cosines: $a=+ 6743$, $b=+ 1748$, $c=+ 7175$,
 $d=- 8$, $h=- 4$;

Height: 396 m;

Lithologic foundation: sandstone (carbon);

Instruments:

Wiechert, horizontal astatic seismograph, $M= 200$ kg,
mechanical registration, 14-16 mm/min;
Constants: (15.VII.1962):

Component	T_0	$v:1$	r/T_0^2	V
N-S	4.9	2.7:1	0.016	62
E-W	4.9	2.8:1	0.018	65

Hiller-Stuttgart, vertical component Z with galvanometrical
recording; $T_0=1.5$ sec, $T_g=1.5$ sec, $D_1=D_2=1$,
 $V_{max}=10\ 150$ x, velocity of registration: 60 mm/min.

Note: Periods of seismic waves are given in seconds, the
amplitudes in microns; sign + means compression or
movement of ground towards north or east, sign -
means dilatation or movement towards south or west.
All times given are in G.M.T. Time signals are
received one or two times daily from Pontoise,
Potsdam or Moscow and are registered on a chrono-
graph. Wherever possible time readings up to one
tenth of a second are given.

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- 1 eiZ P or PKP 10 46 43.9, traces.
1 Z! P 11 52 (00) in minute interruption, eiZ 11 52 26.6,
USCGS:H= 11 46 29.8, 40.8 N, 49.9 E, h about 46 km,

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- 1 (cont.) Off coast of Azerbaidjan S.S.R.
1 eiZ PKP 13 54 54.4, USCGS: H= 13 35 05.1, 15.7 S, 172.6 W, h about 65 km, Tonga Islands region.
1 eiZ P 14 46 37.2, eiZ! 14 46 45.0, eZ 14 48 15;
1 (ei)Z Pn 20 40 10.4, eiZ Pn 20 40 14.2, iZ Pg 20 40 18.4, eZ Sn 20 40 46.6, iZ Sg 20 41 (00), D= about 320 km.
1 eiZ+ P 21 31 48.6, Z 21 32 (00), eiZ 21 32 15.7, USCGS: H= 21 23 41.7, 40.0 N, 75.4 E, h about 25 km, Sinkiang Province, China.
2 eiZ PKP 08 51 50.7, iZ! 08 51 58.9, eiZ 08 52 25.9, eZ PP 08 54 39, eiZ SKP 08 55 25.3, USCGS: H= 08 32 37.9, 10.3 S, 165.9 E, h about 50 km, Santa Cruz Island, Mag.= 6 1/4 (Berk), D= about 15 150 km.
2 iZ P or PKP 18 01 32.4, traces.
3 eiZ PKP 18 33 35.8, eZ 18 33 44.4, eZ (PKP₂) 18 34 27, obscured by microseisms, USCGS: H= 18 13 35.6, 56.3 S, 142.5 W, h about 25 km, about 600 miles W of Macquarie Island. D= about 15 400 km.
4 eiZ Pn 14 20 39.6, Z! 14 21 (00), eZ Sn 14 21 49, eiZ (SgSg) 14 22 25.0, (D= about 650 km), weak.
6 eiZ- P 02 21 05.3, iZ 02 21 08.2, iZ! 02 21 18.5, iZ! 02 21 36.4, eZ PP 02 23 04, eiZ 02 23 33.9, USCGS: H= 02 12 19.9, 13.3 N, 58.0 E, h about 30 km, Arabian Sea, east of Socotra. D= about 5400 km.
6 iZ- Pn 09 18 26.0, iZ! 09 18 29.7, iZ! 09 18 36.8, eZ Sn 09 20 02, eE 09 20 15, eiZ! 09 20 24, eiZNE! 09 21 44.5, BCIS: H= 09 16 19, 38 N, 20 1/4 E, Ionian Sea, off coast of Cephalonia Isl.-USCGS; H= 09 16 15.0, 38.0 N, 20.2 E, h about 30 km, Ionian Sea, Mag.= 5 (Pal), D= about 1000 km.
6 Z 09 31-36 near traces, disturbed by microseisms, aftershock Ionian Sea?
6 Z 09 40 -42, near traces. Aftershock Ionian Sea ?
6 eZ (Pn) 13 28 02, eiZ 13 29 57.0, eiZ 13 31 29.2, weak traces.
6 iZ-Pn 14 21 45.9, eiZ 14 22 04.2, eiZ 14 22 33.7, eZ Sn 14 23 29, eiZ! 14 23 43.7, D= about 1000 km.
6 eiZ Pn 15 56 34.4, eiZ 15 56 47.0, eZ(Sn) 15 58 20, eiZ! 15 58 43.0, USCGS: H= 15 54 20.5, 37.2 N, 19.4 E, h about 25 km, Ionian Sea, D= 1000 km.
6 Z 16 10-12, obscured by microseisms.
6 eiZ Pn 17 02 11.5, eiZ 17 02 35.6, eiZ Sn 17 03 51.2, eiZ 17 04 12.9, D= about 1000 km, weak.
6 eiZNE P 23 13 06.8, iZ! pP 23 13 50.8, iZ! 23 14 20.5, iZ PP 23 14 44.3, (ei)Z PPP 23 15 21, eiZ! 23 15 36- partly underexposed, eiN S 23 19 15, eiNE 23 20 26,

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- 6 (cont.) eiNE (SS) 23 20 43, USCGS: H= 23 05 32.2, 36.6 N, 70.4 E, h about 203 km, Hindu Kush. Felt: Afghanistan, Pakistan, Tadzik S.S.R. Minor damage. D= 4750 km.
7 eiZ P 06 25 05.7, eZ 06 25 18, eiZ 06 25 22.9, eZ PP 06 27 58.4, USCGS: H= 06 12 48.9, 51.3 N, 178.6 E, h about 60 km, Rat Islands, Aleutian Islands. D= ca 9000 km.
7 (e)Z 12 23 (25), eZ 12 25 09, eZ 12 26 42.
7 eiZ P 12 49 23.6, Z 12 50 (00), eZ S 12 51 09, eZ 12 51 37.4, eZ! 12 52 54. USCGS: H= 12 46 58.7, 36.8 N, 18.5 E, h about 25 km, Ionian Sea. D= about 1100 km.
7 eZ 23 12 32.2, eiZ 23 14 08.8, eiZ 23 15 33.8, traces, weak.
8 eZ Pg 01 28 12.5, iZ Sg 01 28 27.2, weak, D= 115 km.
8 eiZ+ P 07 40 48.2, eiZ! 07 40 55.0, USCGS: H= 07 30 49.7, 8.1 N, 38.0 W, h about 25 km, Mid Atlantic Ocean.
8 iZ Pg 10 44 31.8, iZ! Sg 10 44 36.7, D= 45 km, very weak, not felt.
8 eiZ P or PKP 17 59 52.6, eiZ 18 00 00.3.
9 eiZ 04 50 18.0, eiZ! 04 52 03.8, traces, weak.
9 eZ- P 16 47 48.3, eiZ 16 49 04.6.
9 eiZ Pn 17 40 35.8, eiZ (PgPg) 17 41 12.1, eZ Sn 17 42 08.5, eiZ! 17 42 21.2, iZ SgSg 17 42 59.1, D= about 900 km.
9 eiZ Pn 18 02 24.0, iZ PgPg 18 03 (00), eiZ! Sn 18 03 54.3, eiZ! 18 04 12.1, D= about 900 km.
10 eZ PKP₁ 05 30 50.3, eZ! 05 30 57.1, eiZ PKP₂ 05 31 11.0, eZ 05 33 21.1, eZ (PP) 05 33 59, USCGS: H= 05 12 06.4, 20.8 S, 178.7 W, h about 584 km, Fiji Islands. D= about 16 200 km.
10 eiZ- P 10 08 42.4, eiZ 10 09 03.2, eZ!(Q) 10 12 32, USCGS: H= 10 06 02.9, 38.4 N, 25.9 E, h about 25 km, Aegean Sea.
11 eiZ P 01 11 56.3, eZ 01 12 11, eiZ 01 13 49.7, traces, USCGS: H= 01 03 59.3, 31.8 N, 66.9 E, h about 25 km, Afghanistan.
11 eiZ+ P 07 29 14.0, eiZ 07 29 35.0, USCGS: H= 07 17 27.4, 53.2 N, 159.6 E, h about 69 km, Kamchatka.
11 (e)Z P 12 53 46, eiZ PP 12 57 39.6, USCGS: H= 12 40 30.7, 11.9 N, 122.1 E, h about 25 km, Panay, Philippine Islands. D= 10 550 km.
12 iZ Pn 02 13 43.0, eZ 02 14 51.4, iZ (Sn) 02 15 34.7, (D= appr. 1050 km).
12 eiZ 21 13 20.7, eiZ 21 14 10.9, traces, weak.
13 eiZ- P 03 45 16.8, eiZ! 03 45 27.4, eZ PP 03 49 09.7, USCGS: H= 03 32 00.5, 10.4 N, 122.6 E, h about 66 km,

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- 13 (cont.) Panay, Philippine Islands. D= about 10 600 km
- 14 eiZ P 06 51 46.1 eZ 06 52 06, USCGS: H= 06 44 26.5, 27.3 N, 56.7 E, h about 30 km, Iran.
- 14 Z P 16 08 (00), eiZ 16 08 09.4, USCGS: H= 15 58 53.7, 30.4 N, 79.5 E, h about 40 km, Tibet-India border.
- 14 eiZ+ P 20 49 57.1, eiZ 20 50 08.2, USCGS: H= 20 38 03, 50.2 N, 155.8 E, h about 60 km, Kurile Islands.
- 15 iZ- P 06 59 32.6, iZ pP 06 59 56.4, eiZ! 07 00 05.3, eiZ PP 07 02 45.4, eiZ 07 03 22.0, USCGS: H= 06 47 22.5, 39.8 N, 140.9 E, h about 103 km, Honshu, Japan.
- 15 eiZ P 15 25 02.0, iZ 15 25 14.5, USCGS: H= 15 12 44.1, 40.2 N, 142.4 E, h about 55 km, Honshu, Japan.
- 15 eiZ P or PKP 18 09 51.2, traces.
- 15 iZ+ PKP 19 53 49.3, eiZ 19 53 58.5, USCGS: H= 19 34 09.4, 20.3 S, 169.2 E, h about 24 km, Loyalty Islands.
- 16 eiZ Pn 07 06 02.1, iZ 07 06 06.5, iZ! 07 06 20.3, eiZ Sn 07 07 38.9, iZ! 07 07 52.7, eiZ! 07 08 12.4, D= about 930 km.
- 16 Z! P 13 06 01.9 (begin disturbed by minute interruption), iZ! 13 06 04.4, USCGS: H= 12 54 40.6, 62.3 N, 153.1 W, h about 39 km, Alaska.
- 17 iZ Pn 03 03 24.3, eiZ Sn 03 05 04.3, D= about 950 km, very weak, disturbed by microseisms.
- 17 eiZ PP 01 52 22.3, eZ 01 52 29, traces. USCGS: H= 05 32 08.8, 43.0 S, 74.9 W, h about 26 km, Near coast of Chile.
- 17 iZ-! P 17 32 36.1, eiZ 17 32 47.9, eiZ 17 33 02.7, eZ! 17 33 32, USCGS: H= 17 20 22.9, 43.1 N, 144.5 E, h about 30 km, Hokkaido, Japan, weak.
- 18 eiZ Pn 16 23 23.2, eZ (Sn) 16 26 59.3, eZ 16 25 29, (D= about 920 km).
- 18 iZ P or PKP 14 58 25.3, very weak traces.
- 19 eiZ P or PKP 19 11 43.9, iZ 19 11 51.8, traces.
- 20 Z (P) 22 28 (00), eZ! 22 29 04, traces.
- 20 iZ Pn 22 31 56.4, iZ Pg 22 32 05.2, eZ(Sg) 22 32 44.2, eiZ! 22 32 57.7, (D= about 320 km), weak.
- 21 eZ Pn 08 16 49, eiZ Pg 08 17 05.0, (e)Z Sn 08 17 (37.5), Z! Sg 08 18 (00), (D= about 440 km).
- 21 eiZ P or PKP 14 40 13.2, traces.
- 21 eiZ+ P 17 36 35.1, iZ! 17 37 12.0, USCGS: H= 17 28 34.7, 37.0 N, 71.9 E, h about 38 km, Hindu Kush region.
- 22 eiZ PKP 13 55 53.4, eZ 13 56 33.8, USCGS: H= 13 36 49.7, 8.4 S, 158.8 E, h about 107 km, Solomon Islands.
- 22 eZ+ 13 59 07.4, eZ 14 00 02.
- 22 eiZ Pn 14 59 04.4, eiZ(Sn) 14 59 52.7, (D= ab.440 km), weak.



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- 24 eZ P 16 36 32.5, eiZ! (PP) 16 39 56.3, iZ! 16 40 02.5, USCGS: H= 16 23 10.8, 10.3 N, 121.5 E, h about 21 km, Sulu Sea. D= 10 450 km.
- 24 eZ 21 21 38, eZ! 21 21 54.5, eZ 21 22 10.6, eiZ! 21 22 22.8, eZ PP 21 24 31, USCGS: H= 21 08 22.6, 15.5 N, 92.5 W, h about 129 km, Mexico-Guatemala border region. Mag.= 5.6 (Berk), 5 1/2 (Pal).
- 25 eiZ P 04 49 57.0, iZ 04 50 04.6, eZ! 04 50 34.4, eZ PP 04 52 55.7, USCGS: H= 04 37 50.7, 18.9 N, 81.1 W, h about 64 km, West of Jamaica. Mag.= 6 (Pas), 5 1/2 (Berk), 6 (Pal), D= about 8 900 km.
- 26 eiZ P 04 35 25.3, eiZ 04 35 31.2, USCGS: H= 04 23 11.9, 47.1 N, 153.9 E, h about 35 km, Kurile Islands.
- 26 iZ- P 08 27 42.3, eiNE P 08 27 45, iZ! 08 27 48.9, iZ! 08 28 02.8!, iZ! PP 08 31 14.6, eNE! PP 08 31 15, eZ! PPP 08 33 15.5, eNE SKS 08 38 18, eZNE S 08 38 34, eZ M 08 39 52, eNE LR 08 56 - ; USCGS: H= 08 14 41.8, 7.5 N, 82.7 W, h about 21 km, South of Panama. Felt: Balboa Heights. Mag.= 6 3/4 (Pas), 7 (Berk), D= 9950 km.
- 26 (ei)Z P or PKP 12 11 58.5, eZ 12 12 06.8.
- 26 iZ Pg 12 13 30.8, iZ! Sg 12 13 35.6, D= 30 km, weak, not felt.
- 26 Z 17 59 - 18 02, traces.
- 26 eiZ P or PKP 18 12 44.5.
- 26 eiZ Pn 22 36 26.0, eiZ 22 36 52.2, eZ (Sn) 22 37 39.3, eZ! 22 38 31.3, weak, D= about 720 km.
- 27 eiZ Pg 13 35 16.4, iZ 13 35 27.0, iZ Sg 13 35 32.9, iZ! 13 35 35.8, D= 135 km.
- 27 From July 27, 14^h42^m to July 27, 19^h59^m no Z records.
- 27 eiZ Pn 20 24 26.1, iZ Pg 20 24 37.0, eZ (Sn) 20 25 07.8, iZ Sg 20 25 25.5, iZ (SgSg) 20 25 37.6, D= 390 km.
- 27 Z 23 00 -02 traces, weak.
- 28 eZ+ PKP₁ 00 24 54.3, eiZ! PKP₂ 00 25 01.7, iZ pPKP₁ 00 25 11.2, iZ pPKP₂ 00 25 17.2, USCGS: H= 00 05 10.8, 16.2 S, 173.2 W, h about 40 km, Samoa Islands region, felt: Apia. D= about 16 550 km.
- 28 eiZ Pn 12 19 42.2, Z 12 20 (00), eZ (Sn) 12 21 23, eiZ! 12 21 58.3, (D= about 980 km), weak.
- 28 From July 28, 20^h45^m to July 29, 05^h15^m no Z records.
- 30 eZ(P) 17 31 55, eiZ PKP 17 35 33.3, iZ! 17 35 42.1, eZ PP 17 36 54.5, eiZ! 17 38 48.0, eiZ PPP 17 39 28.2, eZ 17 44 48, USCGS: H= 17 16 44.4, 3.3 S, 143.9 E, h about 25 km, Near north coast of New Guinea. Felt. Mag.= 6 3/4-7 (Pas), 7 (Berk), 7 (Pal), D= 13 200 km.
- 30 eiZ P 20 31 30.1, iZ! 20 31 33.0!, iZ! 20 32 14.6, eiZ PP 20 34 49.1, eZ S 20 41 45, eNE 20 41 50, eiZ! 20 42 10.6, eiZ SPP 20 43 37, USCGS: H= 20 18 49.3, 5.0 N, 76.3 W,

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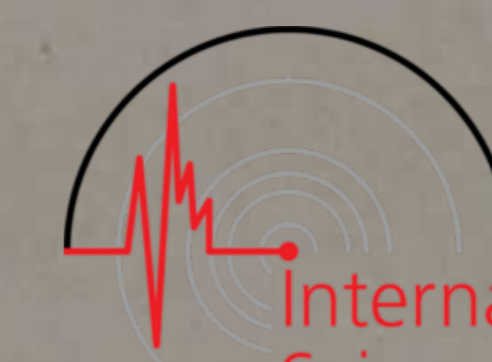
- 30 (cont.) h about 45 km, Western Colombia. 47 killed, 300 injured in Caldas Province. Property damage over 400 000 square mile area. Felt at Balboa Heights, C.Z. Mag.=6 3/4 (Pas), 6 3/4 (Berk), 6 (Pal). D= appr. 9550 km.
- 31 eiZ- P 01 28 06.9, eiZ S 01 30 07.0, iZ 01 30 55.4, eiZ! 01 31 12.3, traces, USCGS: H= 01 25 32.7, 36.5 N, 22.7 E, h about 109 km, Near south coast of Greece. D= 1220 km, weak.
- 31 eiZ+ P 05 21 44.2, eiZ 05 21 51.4, USCGS: H= 05 09 17.5, 32.5 N, 132.1 E, h about 33 km, Near coast of Shikoku, Japan.
- 31 eiZ+ P 05 25 51.2, eiZ! 05 26 08.6, obscured by microseisms, USCGS: H= 05 13 04.1, 18.8 N, 120.8 E, h about 39 km, Near north coast of Luzon, P.I.
- 31 eiZ (Pn) 21 57 34.2, iZ Sg 21 58 29.7, D= about 370 km, very weak.
- 31 iZ! Pg 23 03 19.7, iZ!! Sg 23 03 23.1, iZ! 23 03 26.0! eiZ! 23 03 31.1, local. D= 25 km, not felt.

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- 1 From 04^h 36^m to 06^h 30^m Z component not operating.
- 1 eiZ+ P 15 57 49.4, eiZ 15 57 54.5, traces, USCGS: H= 15 47 45.5, 39.1 N, 98.6 E, h about 25 km, Kansu Province, China.
- 2 eZ+ P 15 40 44.1, eiZ 15 40 49.4, eZ 15 42 35, USCGS: H= 15 32 20.9, 33.4 N, 73.5 E, h about 33 km, West Pakistan. Felt: Rawalpindi.
- 3 eiZ- P 09 09 58.7, eiZ 09 10 32.1, eiZ! PP 09 14 07.1, eZ 09 14 36, eZ PPP 09 16 20.7, iZ 09 16 43.9, eZ! 09 18 10.3, eZ! SKS 09 20 22, eiZ! S 09 21 21, eiZ! 09 26 28.2, eZ SS 09 28 26, eZ! 09 30 28.1, eZ! 09 34 15.4, eiZ! 09 34 25.3, USCGS: H= 08 56 12.1, 23.2 S, 67.5 W, h about 71 km, Northern Chile-Argentina border. Felt. Mag.= 7-7 1/4 (Pas), 6.8 (Berk), D= 11200 km.
- 3 eiZ PKP 10 36 10.4, eiZ! 10 36 16.6, eiZ 10 36 26.6, USCGS: H= 10 16 26.7, 23.3 S, 171.2 E, h about 39 km, Loyalty Islands region.
- 3 eiZ P 11 11 55.7, eZ 11 13 49.8, USCGS: H= 11 04 03.6, 40.9 N, 73.3 E, h about 25 km, Kirghiz S.S.R.
- 3 eZ P 18 10 24.9, eZ 18 11 31.7, eZ 18 13 07, USCGS: H= 18 02 45.8, 36.6 N, 71.1 E, h about 209 km, Hindu-Kush.
- 4 eiZ P 03 02 53.0, weak traces, USCGS: H= 02 49 44.7, 14.1 N, 93.0 W, h about 30 km, Near coast of Guatemala. Mag.= 4 1/2 (Berk).
- 4 eiZ Pn 17 16 11.6, eiZ Sg 17 17 10.8, D= 390 km, weak.

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- 5 eiZ+ P 09 15 23.8, Tz=1.1, Az=0.03, eiZ 09 16 31.6, eZ 09 27 09, USCGS: H= 09 08 45.8, 74.2 N, 52.5 E, h about 0 km, Novaya Zemlya. BCIS: H= 09 08 46, 74 1/2 N, 52 E, Atomic explosion at Novaya Zemlya (30 MT).
- 6 eiZ P 01 43 40.8, iZ! 01 43 46.0, eiZ! 01 43 54.3, eiZ 01 44 12.6, eiZ 01 45 30.3, USCGS: H= 01 35 30.5, 32.0 N, 40.8 W, h about 48 km, North Atlantic Ocean, Mag.= 6 1/4 (Pas), 5 1/2 (Pal).
- 6 eiZ Pn 04 25 34.0, iZ 04 25 50.6, iZ Pg 04 25 54.5, eiZ 04 26 21.1, iZ Sn 04 26 32.8, iZ 04 26 40.8, eiZ! 04 26 47.3, eiZ Sg 04 26 56.9, iZ! 04 27 (00), eiZ! 04 27 15.3, BCIS: H= 04 24 20.5, 46.3 N, 7.5 E, Valais, Switzerland, D= about 550 km, weak.
- 6 eiZ P or PKP 21 12 49.0, eZ 21 13 04.2, eiZ! 21 13 25.4, eZ 21 16 05.
- 7 Z 18 03-04 traces.
- 7 eiZ Pn 23 37 51.5, iZ! 23 37 55.4, iZ Sg 23 38 26.8, eiZ! 23 38 32.9!, iZ! 23 38 43.2!, D= 250 km.
- 8 iZ PKP 12 19 49.5, traces, USCGS: H= 12 00 15.1, 17.8 S, 168.0 E, h about 30 km, New Hebrides Islands, Felt: Port-Vila.
- 8 eiZ+ P or PKP 12 31 55.8.
- 8 eiZ PKP 13 54 44.1, iZ! 13 54 54.0, USCGS: H= 13 35 11.2, 18.0 S, 168.1 E, h about 33 km, New Hebrides Islands, Felt: Port Vila.
- 8 iZ Pn 19 54 29.2, eiZ 19 54 33.8, iZ! Pg 19 54 42.2, eiZ Sn 19 55 10.6, iZ! Sg 19 55 26.8, iZ! 19 55 31.1, D= 380 km, weak.
- 8 eiZ P 18 08 06.8, weak traces, USCGS: H= 17 55 37.9, 37.0 N, 141.5 E, h about 53 km, Near east coast of Honshu, Japan.
- 9 eiZ P 04 34 04.6, iZ 04 34 45.4, USCGS: H= 04 21 55.4, 6.7 N, 73.1 W, h about 180 km, Colombia. Felt.
- 9 iZ Pn 23 32 29.2, eiZ 23 33 13.8, eiZ! 23 34 24.5, weak, obscured by microseisms.
- 10 iZ+ P 21 09 53.3, iZ 21 09 58.6, eiZ 21 10 13.8, eiZ PP 21 10 43.3, eiZ! 21 13 05.0, USCGS: H= 21 03 59.2, 27.9 W, h about 33 km, North Atlantic Ocean, Mag.= 4 1/2 (Pal), D= 3150 km.
- 11 iZ PKP 02 06 17.6, iZ! PKIKP 02 06 24.8, iZ 02 06 32.8, eiZ! 02 06 37.7, eiZ pPKP 02 08 48.2, Z 02 10 (00), USCGS: H= 01 47 39.6, 20.0 S, 178.8 W, h about 638 km, Fiji Islands. D= about 16 900 km.
- 11 iZ Pn 06 52 08.5, iZ Pg 06 52 11.5, iZ Sn 06 52 31.9, iZ! Sg 06 52 34.6, D= 195 km, weak.
- 11 Z P 08 28 (00), iZ! 08 28 02.2, iZpP 08 28 39.0, eiZ PP 08 31 17.1, eZ PPP 08 33 10.0, eZ SP 08 39 04, USCGS: H= 08 15 43.7, 25.2 N, 123.3 E, h about 140 km, Off NE

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- 11 (cont.) coast of Formosa. Mag.=6 (Pas), 5-5 1/2 (Pal), D= about 9400 km.
- 12 eZ P or PKP 04 53 06.3, traces.
- 12 eiZ P or PKP 17 58 32.7, eiZ 17 58 45.0, traces, seismic?
- 12 eiZ P or PKP 22 17 18.0, traces.
- 13 eiZ Pn 04 50 13.0, iZ X 04 50 18.9, iZ Sg 04 50 38.6, D= 190 km, weak.
- 13 eiZ P 06 49 14.0, eiZ 06 50 25.4, eiZ PP 06 53 03.7, USCGS: H= 06 35 56.0, 2.1 N, 83.5 W, h about 33 km, About 300 miles NW of Ecuador. Mag.=6 1/2-6 3/4 (Pas), 5.4 (Berk), 5 1/2-5 3/4 (Pal). D= 10 500 km.
- 13 (e)Z 10 47 30, traces.
- 13 eiZ Pn 16 29 46.4, eiZ 16 30 06.7, eZ 16 32 13.
- 13 iZ! Pg 20 02 45.4, iZ! 20 02 47.8!, iZ 20 02 51.7, iZ! Sg 20 03 02.1, iZ! 20 03 10.9, iZ! 20 03 19.6, F 20 07 -; BCIS: H= 20 02 33, 46.7 N, 13.0 E, Carnian Alps. Wien: felt in upper Gailtal. Remarkable. D= 130 km.
- 14 eZ PKP 01 30 40.8, eiZ 01 31 21.7, USCGS: H= 01 10 50.5, 49.9 S, 163.0 E, h about 43 km, About 300 miles north of Macquarie Islands.
- 14 eZ- P 07 34 51.4, eiZ 07 35 05.9, USCGS: H= 07 27 44.8, 28.0 N, 55.6 E, h about 43 km, Iran.
- 15 eiZ+ P 08 31 20.0, USCGS: H= 08 19 37.8, 54.6 N, 161.5 E, h about 52 km, Near east coast of Kamchatka.
- 15 eiZ+ P 10 18 27.1, eiZ 10 18 37.0, USCGS: H= 10 06 53.6, 45.2 N, 132.6 E, h about 37 km, Mandchuria, China.
- 15 eiZ- P 13 17 11.2, iZ 13 17 19.1, USCGS: H= 13 08 42.0, 14.5 N, 55.3 E, h about 33 km, Socotra Island region.
- 17 eZ+ PKP 00 52 13.0, eiZ 00 52 31.6, traces. USCGS: H= 00 32 26.9, 15.8 S, 172.9 W, h about 33 km, Samoa Islands region.
- 17 From 04^h 15^m to 05^h 41^m no Z records.
- 17 eiZ- P or PKP 16 38 41.9, iZ 16 38 52.2.
- 17 eZ(Pn) 21 18 37, eiZ 21 19 07.9, weak.
- 17 eiZ PKP 23 15 43.7, eZ 23 15 54.2, USCGS: H= 22 55 55.4, 15.4 S, 172.7 W, h about 33 km, Samoa Island region.
- 18 eiZ P 04 32 47.2, traces. USCGS: H= 04 28 56.1, 37.0 N, 32.5 E, h about 33 km, Turkey.
- 18 eiZ Pn 09 15 23.8, eiZ (Sn) 09 16 07.8, iZ! 09 16 37.4, (D= about 400 km).
- 18 eiZ Pn 16 09 05.7, eiZ! 16 09 48.4, traces.
- 18 eiZ P 16 55 13.7, USCGS: H= 16 43 54.3, 62.3 N, 152.5 W, h about 32 km, Central Alaska. Felt. Mag.= 6-6 1/4 (Pas), 5 1/4-5 1/2 (Pal).
- 18 eiZ P 17 57 34.5, eiZ! 17 57 39.3, eZ PP 18 00 18.3,

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- 18 (cont.) USCGS: H= 17 46 14.9, 62.3 N, 152.5 W, h about 32 km, Central Alaska. Mag.= 6-6 1/4 (Pas), 5 1/4-5 1/2 (Pal).
- 19 eiZ Pn 00 54 29.4, iZ 00 55 05.0, iZ (Sg) 00 55 13.8, (D= about 305 km).
- 19 iZ Pg 06 27 09.0, iZ Sg 06 27 24.1, D= 125 km, weak.
- 19 From 14^h 01^m to 19^h 31^m no Z records.
- 20 (i)Z P or PKP 02 46 03.0, iZ 02 46 06.2, traces.
- 20 eiZ+ P 09 08 48.4, eZ 09 09 11, very weak traces, USCGS: H= 09 02 14.5, 74.4 N, 51.2 E, h =0 km, Novaya Zemlya (Nuclear explosion). BCIS: H= 09 02 14. Nuclear blast (10 MT) in Novaya Zemlya.
- 20 iZ PKP 11 41 29.8, traces, USCGS: H= 11 22 39.8, 20.9 S, 178.8 W, h about 605 km, Tonga Islands region.
- 20 eiZ Pn 20 12 53.4, Z (Pg) 20 13 (00), eiZ Sn 20 13 26.1, eiZ! Sg 20 13 38.5, iZ! 20 13 49.4, D= 295 km.
- 20 eiZ Pn 21 30 06.9, iZ Sg 21 30 53.7, weak, D= 315 km.
- 20 iZ PKP 23 38 07.0, eiZ! 23 38 09.2, USCGS: H= 23 18 39.8, 14.7 S, 166.6 E, h about 52 km, New Hebrides Islands. Felt at Santo.
- 21 iZ P or PKP 01 48 39.6, weak.
- 21 eiZ Pn 15 56 56.1, eiZ! 15 57 15.1, eiZ! Sn 15 57 55.3, iZ! 15 58 40.5, foreshock southern Italy?
- 21 From 18^h 02^m to 19^h 03^m no Z records, N, E no time marks.
- 21 eiZ Pn 20 09 27.5, iZ Pb 20 09 36.0, iZ! Pg 20 09 49.3, iZ! PgPg 20 09 52.5, iZ! X₁ 20 09 59.6, iZ Sn 20 10 23.1, iZ Sb 20 10 38.0, iZ! Sg 20 10 56.0, iZ! 20 11 18.9, D= 560 km, South Italy-Campania?
- 21 (e)Z PKP 21 26 30 (obscured by microseisms), eZ 21 27 06, Z 21 29 (00), eiZ 21 29 18.9, iZ PP 21 30 29.3, iZ! 21 31 04.7!, USCGS: H= 21 06 00.1, 28.7 S, 176.8 W, h about 55 km, Kermadec Islands region.
- 21 eiZ Pn 23 37 13.2, iZ Pg 23 37 35.2, iZ Sn 23 38 09.3, eiZ 23 38 32.9, eiZ (Sg) 23 38 37.6, iZ! 23 38 57.1, D= about 560 km.
- 21 iZ Pn 23 41 41.6, iZ Sn 23 42 38.6, weak, D= about 550 km.
- 22 Z 02 01-03 traces, obscured by microseisms.
- 22 iZ Pn 02 05 43.0, iZ Pg 02 06 04.4, eiZ Sn 02 06 41.7, iZ 02 06 52.9, iZ (Sg) 02 07 09.9, eiZ! 02 07 30.7, D= about 560 km, weak.
- 22 eZ P or PKP 09 06 43.7, very weak traces.
- 22 iZ Pn 17 23 55.5, eiZ Sn 17 24 52.6, eiZ Sg 17 25 19.5, D= about 550 km.
- From August 23, 00^h 46^m to August 27, 09^h 17^m no Z records.
- 27 eiZ P or PKP 14 33 05.1, traces.

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- 27 eiZ+ P 16 32 31.6, iZ! 16 32 43.4, eZ 16 33 26.6, eiZ PP 16 35 41.5, USCGS: H= 16 20 04.7, 38.3 N, 142.4 E, h about 40 km, Off east coast of Honshu, Japan. D= 9275 km.
- 27 eiZ P 19 20 22.9, traces, USCGS: H= 19 12 48.9, 36.6 N, 70.2 E, h about 210 km, Hindu Kush.
- 27 eZ PKP 22 32 31.5, iZ 22 32 34.0, USCGS: H= 22 13 29.6, 12.3 S, 167.1 E, h about 220 km, Santa Cruz Islands.
- 27 eZ PKP 23 49 46.2, eiZ! PKIKP 23 49 51.1, eiZ 23 49 56.0, USCGS: H= 23 30 10.4, 21.6 S, 171.5 E, h about 69 km, Loyalty Islands region.
- 28 eiZ PKP 00 59 52.1, eiZ 01 00 03.9, USCGS: H= 00 40 04.9, 15.7 S, 173.1 W, h about 33 km, Samoa Islands region.
- 28 iZ!!- NE Pn 11 02 20.0, iZ! 11 02 32.5!, cont. Z under-exposed, iZ! 11 03 08.0, iNE! S 11 04 04, iN M 11 04 47!, M 11 06 09 -D= about 1220 km. BCIS: H= 10 59 48.5, 37 N, 22 3/4 E, h appr. 150 km, Mag.= 6.9 (Collm), 6 3/4-7 (Strasbourg). Southeastern Peloponnesos, Greece. Press: felt at Athenes. (5 dead, several buildings damaged). Felt in Rome, Naples, Bari, Malta till Egypt. USCGS: H= 10 59 58.5, 38.0 N, 23.1 E, h about 120 km, Greece. 1 killed, 11 injured and moderate property damage. Felt: southern Italy, Sicily, Crete, Malta, southern Yugoslavia. Mag.= 6 3/4 (Pas).
- 28 eiZ 12 44 09.9, weak traces, near.
- 28 iZ Pn 13 01 39.4, iZ Sg 13 02 09.8, D= 220 km, weak.
- 28 eZ P or PKP 15 29 11.3, eiZ 15 29 16.6.
- 29 eZ P 22 56 52.5, iZ! 22 57 00.4, USCGS: H= 22 46 00.8, 02.2 S, 67.8 E, h about 33 km, Northwest of Chagos Islands region.
- 29 eZ P 09 22 50.4, iZ 09 22 58.7, eZ PP 09 25 20, USCGS: H= 09 12 00.4, 01.9 S, 67.9 E, h about 53 km, Northwest of Chagos Islands region. D= about 7 350 km.
- 29 eiZ P 22 49 34.3, eiZ 22 49 46.5, eiZ 22 51 23.3, USCGS: H= 22 36 53.9, 34.1 N, 139.1 E, h about 33 km, Near east coast of Honshu, Japan.
- 30 eiZ Pn 02 16 59.7, iZ Pg 02 17 12.3, eiZ Sn 02 17 44.5, iZ! Sg 02 17 53.0, D= 360 km, weak.
- 30 eiZ (Pn) 05 12 42.1, eZ 05 14 40, traces, obscured by microseisms.
- 30 iZ+ Pn 06 27 47.7, eiZ Pg 06 27 54.3, iZ PgPg 06 27 57.0, iZ X₁ 06 28 03.8, iZ Sn 06 28 16.6, eiZ Sg 06 28 24.4, iZ! SgSg 06 28 32.8, D= 265 km, USCGS: H= 06 27 07.4, 44.1 N, 12.3 E, h about 33 km, Italy.
- 30 eiZ P 07 48 28.2, eZ 07 48 39.4, disturbed by microseisms, USCGS: H= 07 46 25.2, 45.5 N, 26.7 E, h about 100 km, Romania.
- 30 eiZ Pn 08 49 21.4, iZ Pg 08 49 29.2, iZ PgPg 08 49 31.9, iZ X₂ 08 49 47.9, eiZ Sn 08 49 57.0, iZ! Sg 08 50 05.7, D= 325 km, weak.



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- 30 eiZ Pn 09 03 44.1, eiZ Pg 09 03 51.2, eiZ (Sn) 09 04 15.8, iZ Sg 09 04 28.2, D= 300 km, weak.
- 30 eZ Pn 12 11 22.6, iZ Pb 12 11 28.8, iZ! Px 12 11 33.4, eiZ Pg 12 11 37.1, iZ PgPg 12 11 40.0, iZ X 12 11 49.9, eiZ Sn 12 12 05.8, iZ Sg 12 12 24.4, iZ! M 12 12 44.4, D= about 420 km, USCGS: H= 12 10 23.8, 42.2 N, 14.3 E, h about 33 km, Italy.
- 30 eZ- P 13 47 38.1, eiZ 13 47 42.6, USCGS: H= 13 35 28.7, 41.8 N, 111.8 W, h about 37 km, Utah-Idaho border. Minor damage in Logan, Utah area. Felt in four states. Mag.= 5 3/4-6 (Pas), 5.8 (Pal).
- 30 eZ 13 11 55, eiZ 13 12 37.4, weak traces.
- 30 Z 14 08-10 traces, disturbed by microseisms.
- 30 eiZ Pn 16 58 44.4, eiZ 16 59 46.4, eiZ 17 00 17.5, obscured by microseisms.
- 30 eiZ PKP₁ 17 37 42.7, eiZ PKP₂ 17 38 14.1, USCGS: H= 17 17 51.9, 21.2 S, 174.4 W, h about 33 km, Tonga Islands, Mag.= 5 1/2 (Berk).
- 30 eiZ Pn 17 52 30.2, iZ 17 52 38.1, iZ Sg 17 53 14.5, iZ! 17 53 28.0!, eiZ! 17 53 50.5, D= about 300 km, weak.
- 31 eiZ 09 01 39.0, eiZ 09 02 08.5, traces.
- 31 eiZ+ PKP 09 19 50.6, eZ 09 20 07.2, USCGS: H= 09 00 04.8, 15.3 S, 177.2 W, h about 59 km, Fiji Islands region.
- 31 eiZ PKP 10 53 12.3, eiZ 10 53 17.0, eiZ 10 53 32.7, USCGS: H= 10 33 30.2, 15.4 S, 177.3 W, h about 60 km, Fiji Islands region.
- 31 iZ Pn 12 07 42.6, iZ! Pg 12 07 49.4, iZ 12 08 07.4, eiZ (Sn) 12 08 14.3, eiZ! Sg 12 08 25.0, iZ!! 12 08 38.1!, iZ!! 12 08 46.2, iZ! 12 09 (00), D= 290 km, remarkable phases after Sg!
- 31 Z 13 02-03 traces.
- 31 eiZ Pg 13 28 58.6, eiZ! Sg 13 29 24.7, iZ! 13 29 27.0, iZ! 13 29 33.1, D= about 220 km, weak.
- 31 eiZ Pn 15 39 21.3, eZ (Sn) 15 40 21.0, (D=about 550 km).
- 31 eiZ+ P 17 15 04.5, eiZ 17 15 18.3, eiZ PP 17 18 10.7, USCGS: H= 17 02 43.4, 51.3 N, 179.7 W, h about 26 km, Rat Islands, Aleutian Islands. Mag.= 6 3/4 (Pas), 6-6 1/4 (Pal), D= 9 150 km.
- 31 Z 23 09-14, traces, weak.

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- 1 eZ 00 46 22, weak.
- 1 Z 01 33-35, traces.

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- 1 eiZ+ P 03 58 26.0, Z! 03 59 (00), eZ PP 04 01 33.8, USCGS: H= 03 46 05.0, 51.3 N, 179.7 W, h about 25 km, Rat Islands, Aleutian Islands, Mag.=6 1/2 (Pas), 6 (Pal), D= 9 150 km.
- 1 iZ+ P 04 54 00.3, USCGS: H= 04 41 41.5, 51.3 N, 179.9 W, h about 37 km, Rat Islands, Aleutian Islands.
- 1 iZ! PKP 05 11 16.1, iZ 05 11 19.1, eiZ 05 11 33.6, eiZ pPKP 05 12 20.9, iZ!! PP 05 14 34.8, eZ 05 15 (00), USCGS: H= 04 52 14.5, 15.9 S, 168.2 E, h about 244 km, New Hebrides Islands. D= 15 900 km.
- 1 eiZ+ P 08 03 26.1, Z 08 04 (00), USCGS: H= 07 51 08.2, 51.3 N, 179.9 W, h about 42 km, Rat Islands, Aleutian Islands. Mag.= 6 1/2 (Pas), 6 (Pal).
- 1 eiZ 09 58 28.9, traces, obscured by microseisms.
- 1 eiZ P 15 09 16.3, eiZ 15 09 23.2, eZ PP 15 10 51.2, eiZ 15 10 59.5, USCGS: H= 15 01 04.6, 25.8 N, 65.3 E, h about 46 km, Near coast of west Pakistan. D= about 4 900 km.
- 1 iZ+ NE P 19 26 35.0: Tz=3.0, Az=3.0 ; iZ!!E 19 26 43.7!, iZ! PP 19 27 34.8!, iZ! 19 28 09.8, eiZ (S) 19 31 18, e!EN S 19 31 28, eiZ! 19 32 21.2, eiZ! M 19 38 45: Tz= 15, Az=150, eNE M 19 39 - ; USCGS: H= 19 20 38.5, 35.6 N, 50.0 E, h about 21 km, Northwest Iran. Over 10 000 killed, many injured and extensive property damage. Mag.= 7 1/4 (Pas), 7 3/4 (Berk), 7 (Pal). BCIS: H= 19 20 40, 36 1/2 N, 49 1/2 E, Iran. Destructive earthquake in whole region of Kazvin. About 20 000 dead. Macroseismic surface about 65 000 km². Athens: Mag.=7.3, Strasbourg: Mag.=7.0, Istanbul: Mag.= 6-6.25, D= 3 150 km.
- 2 eiZ Pn 13 36 33.8, eiZ 13 37 40.5.
- 2 eiZ Pn 22 20 07.3, eZ 22 21 17.
- 3 eZ P or PKP 01 17 33, eiZ 01 17 48.9.
- 3 eiZ P or PKP 04 49 35.8, weak trace.
- 3 Z 11 18 30-20, traces.
- 3 (e)Z Pn 15 18 13.
- 3 eiZ P 17 03 19.2, USCGS: H= 16 50 38.2, 34.5 N, 139.4 E, h about 33 km, Near east coast of Honshu, Japan.
- 4 eiZ P or PKP 06 22 33.7.
- 4 eZ P 13 36 08.2, iZ 13 36 49.0, eiZ! PP 13 37 08.4!, USCGS: H= 13 30 10.9, 35.6 N, 49.7 E, h about 24 km, Northwest Iran. BCIS: H= 13 30 18, 36 1/2 N, 49 E, Aftershock of 1st September. D= about 3200 km.
- 4 eiZ+ P 15 16 15.3, eiZ! 15 16 19.2, USCGS: H= 15 11 44.1, 36.5 N, 9.0 W, h about 33 km, Near coast of Portugal.
- 4 eiZ P 15 31 05.3, eZ 15 31 25, USCGS: H= 15 17 42.4, 15.0 N, 91.7 W, h about 217 km, Mexico-Guatemala border.

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- 4 eiZ P 17 30 04.7, eZ 17 30 34.2, USCGS: H= 17 17 27.6, 41.0 N, 124.0 W, h about 48 km, Near coast of northern California. Felt: Eureka, California. Mag.= 4 3/4-5 (Pas), 4 3/4 (Berk).
- 4 eiZ P or PKP 18 44 43.8, eiZ 18 44 56.5.
- 4 eiZ PKP 19 47 55.9, USCGS: H= 19 28 37.0, 15.5 S, 167.7 E, h about 133 km, New Hebrides Islands. Felt: Santo.
- 4 Z Pg 20 23 (00), iZ Sg 20 23 16.3, eiZ! 20 23 33.7, D= about 135 km, weak.
- 4 eiZ+ P 21 55 15.7, eiZ 21 55 40.3, USCGS: H= 21 46 00.7, 24.0 N, 46.4 W, h about 39 km, North Atlantic Ocean.
- 4 eiZ- P 23 04 17.0, iZ! 23 04 20.4, eiZ PP 23 04 44.6, eiZ (PPP) 23 04 55.5, eiZ 23 05 45.0, eiZ 23 06 27.2, USCGS: H= 22 59 19.4, 39.9 N, 44.2 E, h about 33 km, Turkey-Armenia S.S.R. border. Felt: Diyadin and Dogu-bayazit. BCIS: H= 22 59 17, 40 N, 44 E; Istanbul: SW of Erewan, Turkey-Russian border. Heavy damage at Igdir (39°55.6'N, 44° 01'E) and its environs. 1 killed, 22 injured. Forcibly felt at Diyadin (39.5°N, 44.1°E). Ksara: Mag.= 5.3, D= 2480 km.
- 6 eZ PKP₁ 11 08 38.6, eiZ PKP₂ 11 08 59.7, USCGS: H= 10 49 00.7, 21.2 S, 174.5 W, h about 110 km. Tonga Islands.
- 10 eiZ P 09 39 47.9, iZ 09 39 55.6, eiZ 09 41 24.3, eiZ S 09 42 35.3, eiZ! 09 43 14.4, eiZ SgSgSg 09 44 39.9, USCGS: H= 09 36 24.3, 35.0 N, 27.1 E, h about 33 km, Dodecanese Islands. BCIS: H= 09 36 28, 35.6 N, 27.5 E, E off Creta Island. D= 1640 km.
- 10 eiZ- PKP₁ 16 02 38.3, iZ!! PKIKP 16 02 47.2!, iZ! 16 02 53.9, iZ PKP₂ 16 03 03.4, iZ pPKP₁ 16 05 13.6, eiZ PP 16 06 40. USCGS: H= 15 43 59.4, 21.1 S, 179.2 W, Fiji Islands. Mag.= 6 1/2 (Pas), D= about 16 950 km.
- 10 eiZ PKP 18 09 04.4, iZ! 18 09 10.2, eiZ 18 09 46.6, USCGS: H= 17 49 16.1, 17.5 S, 173.6 W, h about 33 km, Tonga Islands region.
- 10 eiZ Pg 21 31 33.6, iZ Sg 21 31 50.4, D= 130 km, very weak.
- 10 (e)Z 22 38 06, eiZ 22 38 21.0, weak traces, near.
- 10 eiZ P 22 57 28.7, weak trace, USCGS: H= 22 47 07.6, 30.5 N, 94.6 E, h about 33 km, Sinkiang Province, China.
- 11 eiZ P 00 22 36.8, eZ 00 22 43.5, iZ 00 22 54.3, USCGS: H= 00 17 37.2, 39.9 N, 43.9 E, h about 33 km, Eastern Turkey. Moderate damage at Igdir.
- 11 eZ PKP 02 44 09, eiZ 02 44 20.1, USCGS: H= 02 24 22.9, 15.2 S, 173.4 W, h about 33 km, Samoa Islands region.
- 11 Z P or PKP 11 21 (00), eiZ 11 21 20.8.
- 11 Z 14 57.5- 14 59 -; traces.
- 11 eiZ P 18 04 28.1, eiZ 18 04 50.1, USCGS: H= 17 51 11.1, 26.9 N, 142.7 E, h about 33 km, Bonin Islands region.

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- 12 eiZ 03 58 50.4, eiZ! (Sg) 03 59 40.2, iZ! 03 59 52.9. weak.
- 12 iZ- P 21 04 43.4, iZ! pP 21 04 54.1, iZ 21 05 18.1, eiZ! PP 21 06 27.4, eiZ PPP 21 07 14.9, eZ!X 21 10 25.3!, eiZ S 21 10 59.8, USCGS: H= 20 57 00.4, 36.5 N, 69.2 E, h about 50 km, Hindu-Kush. Mag.= 6 1/2-6 3/4 (Pas), 6 (Pal), D= 4 650 km.
- 13 eiZ P 00 08 34.2, eiZ! 00 08 43.6, iZ! 00 08 50.0, USCGS: H= 23 58 46.8, 7.3 S, 13.3 W, h about 33 km, Ascension Island region.
- 13 eiZ- P 14 46 17.8, iZ 14 46 33.8, USCGS: H= 14 35 02.0, 11.6 N, 61.3 W, h about 73 km, North of Trinidad. Felt.
- 14 eiZ P 00 36 14.3, obscured by microseisms. USCGS: H= 00 33 25.8, 39.6 N, 28.6 E, h about 69 km, Western Turkey. Slight damage at Balikesir and Bursa.
- 14 eiZ PKP 18 37 06.5, iZ 18 37 18.0, USCGS: H= 18 17 52.1, 19.9 S, 177.6 W, h about 350 km, Fiji Islands.
- 15 iZ Pg 03 30 27.7, eiZ 03 30 29.4, iZ! Sg 03 30 34.1, iZ! 03 30 37.5, iZ 03 30 39.7, D= 55 km, weak, not felt.
- 15 eiZ P 23 02 57.3, iZ! 23 03 00, eiZ 23 03 15.0, iZ! 23 03 22.8, eZ! 23 03 45.4, eiZ PP 23 06 00.5, eiZ 23 06 20.9, USCGS: H= 22 50 46.3, 48.5 N, 156.8 E, h about 33 km, Kurile Islands. Mag.= 6 1/2 (Pas), 6 (Pal), D= 8 900 km.
- 16 eZ 03 22 48, weak traces.
- 16 iZ P or PKP 08 06 19.3, weak trace.
- 16 iZ Pn 14 50 36.9, iZ Pb 14 50 39.5, iZ Px 14 50 42.7, iZ Pg 14 50 47.7, iZ PgPg 14 50 51.9, iZNE Sn 14 51 16.9, iZ! Sb 14 51 22.1, iZ Sg 14 51 38.5, iZ! M 14 51 42.3, F: 14 58 -; BCIS: H= 14 49 45, 43.6 N, 11.3 E, Italy. Firenze region. Slight damage at Greve. D= 360 km.
- 16 (e)Z 18 01 (56), eiZ 18 02 11.0.
- 16 eiZ P 19 17 46.5, eiZ 19 17 53.6, USCGS: H= 19 06 29.2, 16.7 N, 94.2 E, h about 33 km, Near coast of Burma.
- 17 eZ Pn 09 14 57, eiZ Sg 09 16 00.6, D= 415 km, weak, obscured by microseisms.
- 17 iZ P 16 43 49.0, USCGS: H= 16 31 17.9, 23.5 N, 121.7 E, h about 33 km, Off east coast of Formosa.
- 17 eiZ+ PKP 18 14 24.4, iZ-! 18 14 34.8, iZ 18 14 48.6, eiZ pPKP 18 16 31.5, iZ! (PP) 18 17 (OO), USCGS: H= 17 55 45.4, 21.0 S, 179.1 W, h about 601 km, Fiji Islands. D= about 16 100 km.
- 17 eiZ Pn 19 46 26.2, iZ Pb 19 46 39.1, iZ! Px 19 46 49.1, eiZ! PgPg 19 46 55.4, iZ₁X 19 47 15.5, iZ Sn 19 47 42.8, iZ Sb 19 48 05.0, iZNE Sg 19 48 21.7, iZNE SgSg 19 48 26.5, iZNE SgSgSg 19 48 32.3, iZ M 19 48 40.2, F: 19 54 -; USCGS: H= 19 44 47.8, 41.3 N, 20.8 E, h about 33 km, Southern Yugoslavia. Felt: Bitola and Ohrid.

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- 17 (cont.) BCIS: H= 19 44 41, 41.0 N, 20.7 E, Border region Albania-Yugoslavia. Felt at Bitola and Ohrid. D= 740 km.
- 18 eZ P 00 42 03, iZ 00 42 11.2, eZ PP 00 45 40, eZ S 00 52 34, obscured by microseisms, USCGS: H= 00 29 05.2, 7.5 N, 83.2 W, h about 33 km, South of Panama. Felt: Chiriqui Province. Mag.= 7 (Pas), 7 (Berk), 6 1/2-6 3/4 (Pal), D= about 9 850 km.
- 18 eZ- PKP 20 31 23.2, iZ! 20 31 24.5, eiZ 20 31 39.5, USCGS: H= 20 11 47.5, 21.0 S, 169.9 E, h about 81 km, New Hebrides Islands.
- 18 (ei)Z PKP 22 06 23.5, eZ 22 06 28.3, eiZ 22 07 06.8, USCGS: H= 21 47 30.9, 14.8 S, 178.1 W, h about 526 km, Fiji Islands.
- 19 eZ+ P 07 35 06.2, eZ 07 35 11.5, USCGS: H= 07 28 43.2, 29.9 N, 50.4 E, h about 66 km, Western Iran.
- 19 iZ Pn 19 25 09.8, iZ Pg 19 25 19.3, eiZ Sn 19 25 46.7, eiZ! Sg 19 25 58.2, iZ M 19 26 04.6, D= appr. 330 km, weak.
- 19 eiZ P or PKP 23 18 30.4, eiZ 23 18 42.2.
- 21 eiZ PKP 09 02 59.2, eZ 09 03 12.8, USCGS: H= 08 44 11.0, 21.2 S, 179.0 W, h about 624 km, Tonga Islands region.
- 21 iZ+ PKP 15 13 40.7, eiZ 15 13 47.9, USCGS: H= 14 54 51.0, 17.7 S, 178.7 W, h about 536 km, Fiji Islands region.
- 22 eiZ P 07 02 21.0, iZ 07 02 21.6, iZ! 07 02 28.2, Z 07 04 (OO), eiZ PP 07 05 05.4, eZ! S 07 11 06, eZ SP 07 11 29.6, USCGS: H= 06 51 32.3, 26.5 N, 97.0 E, h about 33 km, Northern Burma. D= about 7 350 km.
- 22 eiZ P or PKP 08 14 13.7, eZ 08 14 23.2.
- 22 iZ P 08 16 10.2, eiZ 08 16 26.1, USCGS: H= 08 06 28.2, 36.4 N, 69.0 E, h about 33 km, Hindu-Kush.
- 22 Z P or PKP 15 29 (02) in minute interruption.
- 22 iZ P or PKP 21 16 27.4, very weak.
- 23 September 23 05^h 43^m to Sept. 23 17^h 35^m no Z records.
- 23 eiZ Pn 20 44 23.2, eZ! 20 46 37.6, weak traces.
- 24 eiZ Sg 03 34 34.3, weak traces.
- 24 eiZ P 14 50 37.0, eiZ 14 50 56.8, eZ 14 51 14.6, USCGS: H= 14 38 21.7, 42.8 N, 145.3 E, Near east coast of Hokkaido, Japan.
- 24 (e)Z 23 32 33, eZ SgSg 23 34 07.6, weak, obscured by microseisms.
- 27 eZ P or PKP 11 34 13.4, eiZ! 11 34 27.1.
- 27 eiZ 11 36 28.4.
- 27 eiZ P 13 09 19.3, iZ 13 09 52.2, USCGS: H= 12 56 18.6,

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- 27 (cont.) 4.6 S, 104.4 E, h about 144 km, Southern Sumatra.
- 27 eZ P 13 20 43, eiZ 13 21 (00), USCGS: H= 13 07 57.8, 18.6 N, 121.8 E, h about 30 km, Near northern coast of Luzon, P.I.
- 27 eZ PKP₁ 13 43 56.4, iZ! PKIKP 13 43 57.5!, iZ! 13 44 (00), USCGS: H= 13 25 05.6, 17.6 S, 178.9 W, h about 507 km, Fiji Islands.
- 27 eiZ Pn 15 14 12.6, iZ Sg 15 15 01.2, iZ! 15 15 12.8, weak, D= 325 km.
- 27 (e)Z 21 33 20, eiZ 21 33 56.2 .
- 28 (e)Z 02 21 (12) obscured by microseisms, eiZ 02 21 47.6, eiZ 02 22 21.2.
- 28 (e)Z Pn 15 21 55, eiZ SgSg 15 23 53.0, iZ 15 24 09.4, D= about 700 km.
- 28 iZ+ P 19 08 41.6, iZ 19 08 48.4, iZ 19 09 (00), USCGS: H= 18 56 08.7, 5.2 N, 76.2 W, h about 127 km, Western Colombia. Felt.
- 29 eZ 05 29 19, eZ 05 30 12.
- 29 iZ+ Pn 06 23 09.1, iZ 06 23 13.9, eiZ 06 24 34.4, eiZ Sn 06 24 40.2, eiZ SgSg 06 25 30.7, eiZ 06 25 40.6, eiZ 06 26 08.1, USCGS: H= 06 21 20.5, 40.1 N, 21.0 E, h about 33 km, Greece-Albania border region. D= 840 km.
- 29 eiZ P 08 25 35.5, eZ 08 28 44, eZ 08 29 11.
- 29 eiZ P 15 30 37.8, eiZ 15 31 05.9, eiZ PP 15 34 53.0, eZ! 15 37 39, eZ SKS 15 40 28, USCGS: H= 15 17 47.7, 27.0 S, 63.6 W, h about 575 km, Santiago del Estero Province, Argentina. Mag.= 6 1/2 (Pas), 6 1/4 (Pal), D= 11 250 km.
- 29 eiZ 18 35 28.6, weak traces.
- 29 eiZ PKP 21 01 43.0, USCGS: H= 20 42 24.8, 14.2 S, 168.2 E, h about 198 km, New Hebrides Islands.
- 30 eiZ+ PKP 11 07 09.8, eiZ 11 07 14.8, USCGS: H= 10 48 10.3, 5.2 S, 152.7 E, h about 33 km, New Britain region. Felt: Rabaul, Doilene and Karlai.
- 30 eiZ (Pn) 16 22 00.1, iZ 16 22 10.7, Z 16 23 (00), weak.
- 30 iZ Pn 16 52 56.2, iZ! Pg 16 53 06.8, iZ X₁ 16 53 17.6, iZ X₂ 16 53 27.6, eiZ Sn 16 53 34.4, eiZ 16 53 41.3, iZ Sg 16 53 48.1, iZ! 16 53 57.9, iZ! M 16 54 12.0, D= 350 km.
- 30 (e)Z (Pn) 21 07 19, eiZ 21 08 15.5, eiZ 21 09 08.8, weak.
- 30 eiZ+ P 22 10 09.5, eZ 22 10 55.7, USCGS: H= 21 57 24.8, 18.6 N, 120.9 E, h ab. 51 km, Near north coast of Luzon, Philippine Islands. Felt: Vigan, Aparri and Ladag.
- 30 eZ P or PKP 22 42 14.6.

Ljubljana, January 15, 1963

V. Ribarič