



1963

University of Ljubljana  
Astronomical and Geophysical  
Observatory  
L j u b l j a n a  
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 1963 - September 1963)





University of Ljubljana  
 Astronomical and Geophysical  
 Observatory  
 Ljubljana, Trg revolucije 11  
 P.O.B. 20- Yugoslavia

PRELIMINARY SEISMOLOGICAL BULLETIN  
 from July 1, to September 30, 1963

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.VIII.1963):

Component	$T_0$	$v:l$	$r/T_0^2$	$V$
N-S	4.9	2.7:1	0.020	59
E-W	4.9	2.8:1	0.019	61

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, movement of  
 ground towards north or east, sign - means dilatation or  
 movement towards south or west. All times are given in GMT.  
 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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- 2 eiZ P or PKP 18 53 47.2, weak trace.
- 3 iZ Pg 20 47 22.6, iZ Sg 20 47 24.6, D= about 20 km,  
 Litija region aftershock, weak.
- 3 iZ P or PKP 23 04 13.0, very weak.
- 4 eiZ Pn 03 11 45.5, eiZ 03 13 34.8, weak.
- 4 eiZ P or PKP 04 18 14.9
- 4 iZ-PKP<sub>1</sub> 11 17 51.1, iZ 11 17 56.8, iZ!pPKP<sub>1</sub> 11 18 25.7,  
 Z! 11 19 (00), Z! 11 20 (00), eiZ! PP 11 22 02.0, eZ  
 (PPP) 11 25 33, D= about 17.500 km. USCGS: H= 10 58  
 13.2, 26.3 S, 177.7 W, h about 158 km, Tonga Islands  
 region.  $M=6 \frac{3}{4}$  (Pas),  $6 \frac{3}{4}-7$  (Bks), 6.5 SD 0.3 (CGS).
- 4 eiZ P 23 07 18.3, eiZ 23 07 25.4, USCGS: H= 22 56 15.7



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- 4 (cont.) 18.5 S, 12.6 W, h about 33 km, St. Helena Islands region. M=5 1/4-5 1/2 (Pal), 5.6 (CGS).
- 5 iZ Pg 04 26 07.8, iZ! Sg 04 26 10.0, D= 22 km, Litija region aftershock.
- 5 eiZ Pn 14 23 42.2, eiZ 14 24 30.8, eiZ Sn 14 25 43.7, eiZ SgSgSg 14 26 48.5, USCGS: H= 14 21 28.5, 39.1 N, 22.9 E, h about 33 km, Greece. M=4.2 (CGS).
- 5 eiZ Pn 15 19 15.1, Z 15 21 (00), eZ 15 22 06, weak.
- 6 eiZ P or PKP 13 07 52.0, iZ 13 07 53.5.
- 6 eiZ P or PKP 17 25 36.8, iZ 17 25 38.4, eiZ! 17 25 43.2.
- 7 iZ Pn 02 53 28.6, iZ (Pg) 02 53 37.2, iZ 02 54 09.6, weak traces.
- 7 Z 17 00-01, weak traces.
- 8 eiZ+ P 09 05 20.4, eiZ 09 05 29.0, USCGS: H= 08 58 04.8, 26.7 N, 55.7 E, h about 33 km, Near south coast of Iran. M=4.8 (CGS).
- 8 eiZ+ P 11 14 28.9, eiZ! 11 14 41.8, USCGS: H= 11 05 07.5, 0.3 N, 17.8 W, h about 33 km, Mid Atlantic Ocean. M=4.9 SD 0.3 (CGS).
- 8 iZ P 16 05 44.3, iZ 16 05 55.5, USCGS: H= 16 02 26.8, 36.6 N, 28.0 E, h about 30 km, Near south coast of Turkey. M=4.7 SD 0.2 (CGS).
- 8 iZ 16 25 55.6, eiZ 16 26 10.6, weak trace.
- 9 Z(Pg) 12 52 (02) in minute interruption, iZ Sg 11 52 16.2, iZ! 12 52 23.5, (D= approx. 110 km), weak.
- 9 Z 18 43-45 traces.
- 9 eiZ P 17 47 04.2, USCGS: H= 17 34 33.2, 24.2 N, 122.4 E, h about 33 km, Near east coast of Formosa. M=4.8 (CGS).
- 9 eZ PKP 19 14 44, USCGS: H= 18 56 12.6, 29.1 S, 68.1 W, h about 33 km, La Rioja Province, Argentina. M=4.8 (CGS).
- 10 eiZ P 02 19 58.3, eiZ 02 20 34.0, USCGS: H= 02 11 58.3, 36.5 N, 71.8 E, h about 33 km, Hindu Kush. M=4.9 (CGS).
- 10 iZ P 05 35 11.5, iZ! 05 35 17.2, eiZ 05 35 52.6, USCGS: H= 05 22 57.1, 46.3 N, 152.9 E, h about 33 km, Kurile Islands region. M=5.6 SD 0.5 (CGS).
- 10 eiZ Pn 07 21 52, eiZ 07 22 23.5, eiZ Sn 07 23 32.2, eiZ (SgSgSg) 07 24 44, USCGS: H= 07 19 41, 39.8 N, 23.9 E, h about 127 km, Aegean Sea. M=4.2 SD 0.2 (CGS).
- 10 eiZ Pn 07 32 15.3, eZ 07 32 34.3, weak trace.
- 10 eZ(Pn) 08 09 11, eiZ 08 10 22.5, eiZ! 08 11 25.4.
- 10 eiZ 09 00 31.3.
- 10 eiZ- P 09 59 29.9, iZ 09 59 37.2, USCGS: H= 09 49 29.6

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- 10 (cont.) 13.4 N, 44.9 W, h about 37 km, North Atlantic Ocean, M=4.9 SD 0.2 (CGS).
- 10 eiZ (Pn) 17 19 51.5, eiZ 17 20 42.6, eZ 17 21 50.
- 12 eiZ P 15 40 20.9, eiZ! 15 40 23.5, eZ 15 40 37, USCGS: H= 15 28 08.5, 46.8 N, 153.6 E, h about 33 km, Kurile Islands region. M=5 -5 1/4 (Pal), 4.8 SD 0.2 (CGS).
- 13 (e)Z 02 56 (40), iZ Sg 02 57 09.6.
- 13 iZ- Pn 07 41 00.9, iZ 07 41 12.0, eiZ Sn 07 42 35.8, Z 07 43 (00) in minute interruption, eiZ SgSg 07 43 31.0, eiZ SgSgSg 07 43 40.1, D= about 900 km, remarkable.
- 13 eiZ+ P 14 18 54.6, USCGS: H= 14 06 23.7, 24.3 N, 122.3 E, h about 33 km, M=4.9 (CGS).
- 13 eiZ (Pn) 21 02 21.5, eiZ Sg 21 03 05.6, weak.
- 14 eZ PKP 00 22 21, eZ 00 22 30.2, USCGS: H= 00 02 22.8, 30.5 S, 177.2 W, h about 33 km, Kermadec Islands region, M=5.5 SD 0.4 (CGS).
- 14 eiZ- P 05 53 16.5, eiZ! 05 53 23.4, iZ 05 53 51.7, Z! 05 56 (02). USCGS: H= 05 41 43.0, 10.4 N, 62.6 W, h about 24 km, Off coast of northern Venezuela. Felt: Trinidad, West Indies. M=5 3/4 (Berk), 5 3/4-6 (Pal), 5.5 SD 0.4 (CGS).
- 15 eiZ 17 35 38.7, eiZ 17 36 26.0, weak traces.
- 16 iZ-Pg 12 37 50.7, iZ! 12 37 53.1, D= 22 km, Litija region aftershock.
- 16 eiZ+NE P 18 31 43.3, iZ! 18 31 51.1, iZ!! NE PP 18 32 01.1, iZ 18 32 13.0, eiZ 18 32 30.0, eiZ 18 33 54.8, eNE S 18 35 30, eiZ! S 18 35 34.5, iZ 18 36 08.5, eiZ M 18 41 06, USCGS: H= 18 27 18.4, 43.5 N, 41.5 E, h about 33 km, Georgia SSR, M=5.8 SD 0.3 (CGS), D= 2.150 km.
- 16 eiZ 19 45 53, weak traces.
- 17 eZ+ P 12 01 31.8, eiZ PP 12 01 52.1, USCGS: H= 11 57 06.7, 43.1 N, 41.5 E, h about 33 km, Georgia SSR, M=5.3 SD 0.3 (CGS).
- 19 eiZ- Pn 05 46 43.4, iZ! NE 05 46 49.5, iZ! 05 46 57.4, iZ!! Pg 05 47 08.2, iZ!! 05 47 20.4, cont. Z underexposed, iNE Sn 05 47 47.5, iN! SgSg 05 48 26, D= 580 km, BCIS: H= 05 45 26, 43.3 N, 8.2 E, h about 33 km, M=6 1/4 (Uppsala). Mediterranean Sea, SE from Monaco. Felt in the whole region of Costa Azzurra (Menton 6-7° MCS, Monaco, Antibes: 6° MCS, Nice, Beaulieu 5-6° MCS). Felt in Marseilles, Corsica (Ajaccio, Calvi, Corté, Bastia) and in Italy. USCGS: H= 05 45 28.0, 43.4 N, 8.2 E, h about 33 km, Ligurian Sea, M=5 1/4 (Pal), 5.5 SD 0.3 (CGS).
- 19 eiZ (Pn) 06 01 43.5, obscured by previous shock.
- 19 eiZ Pn 06 32 56.7, iZ Pg 06 33 19.4, iZ 06 33 32.5, iZ Sn 06 33 58.7, Z! 06 34 (00), iZ Sg 06 34 29.6.

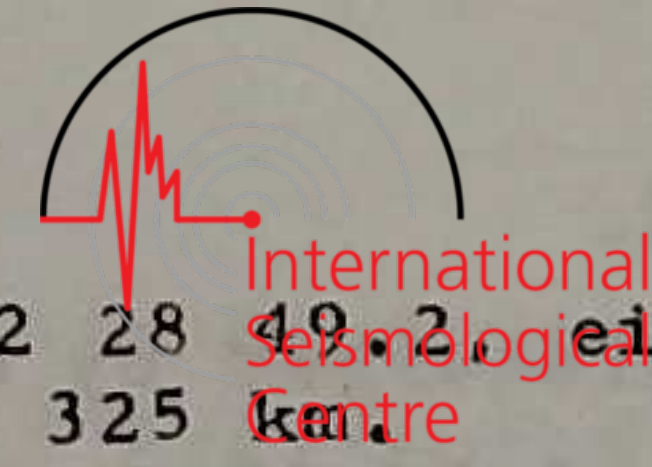


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- 19 (cont.) D=580 km. Mediterranean Sea, aftershock.
- 19 eiZ Pn 07 02 53.3, iZ Pg 07 03 15.6, iZ Sn 07 03 54.3, eiZ 07 04 04.3, iZ! Sg 07 04 21.7, D= 570 km, BCIS: H= 07 01 35, Mediterranean Sea aftershock. Felt 3<sup>o</sup> MCS. in Monaco.
- 19 Z 07 07-08 traces, obscured by previous shock.
- 19 eiZ Pn 08 03 54.4, iZ 08 04 47.5, iZ Sn 08 04 53.8, weak traces. BCIS: H= 08 02 30, Mediterranean Sea, felt in Monaco.
- 19 eiZ (Pn) 11 19 31.7, iZ! 11 20 20.4.
- 19 iZ Pn 11 44 47.6, eiZ (Pg) 11 45 04.9, eiZ Sn 11 45 46.7, eiZ Sg 11 46 17.1, D= 570 km, BCIS: H= 11 43 14, Mediterranean Sea, aftershock.
- 19 eiZ P or PKP 12 32 45.3, traces.
- 19 eiZ Pn 13 13 30.8, eiZ Pg 13 13 54.1, iZ! 13 14 16.7, iZ Sn 13 14 31.0, eiZ 13 15 01.2, D= 580 km, Mediterranean Sea, aftershock.
- 20 eiZ P 00 22 22.3, USCGS: H= 00 11 35.0, 65.2 N, 133.7 W, h about 33 km, Yukon. M=4.6 SD 0.4 (CGS).
- 20 eZ P 00 56 19, eiZ 00 56 22.9, USCGS: H= 00 51 55.7, 43.4 N, 41.2 E, h about 33 km, Georgia. M=4.8 SD 0.2 (CGS). SSR.
- 20 iZ Pn 01 18 29.2, iZ Pg 01 18 41.1, iZ Sn 01 19 09.9, iZ! Sg 01 19 26.5, D= 380 km. (sharp phases).
- 20 iZ Pn 03 55 52.2, iZ Pg 03 56 07.6, eiZ Sn 03 56 39.8, eiZ Sg 03 56 59.0, D= 440 km.
- 20 eZ PKP<sub>1</sub> 06 55 57.8, eiZ PKP<sub>2</sub> 06 56 08.0, iZ 06 56 22.6, iZ 06 56 37.7, eZ 06 56 58.6, eZ PP 06 59 29, USCGS: H= 06 36 10.8, 57.6 S, 148.5 E, h about 33 km, Macquarie Islands region, M=6 (Pal), 5.6 (CGS). D= about 16.500 km.
- 20 eiZ P 15 13 19.4, eiZ 15 13 38.6, USCGS: H= 15 07 58.2, 68.8 N, 4.6 W, h about 49 km, Jan Mayen Island region. M=4.8 SD 0.3 (CGS).
- 21 eiZ P 06 10 25.8, eiZ! 06 10 31.7, eiZ 06 10 37.0, eiZ 06 10 49.1, USCGS: H= 06 01 57.3, 14.8 N, 56.1 E, h about 33 km, Arabian Sea.
- 21 iZ Pn 11 09 20.1, iZ! 11 09 21.7, iZ! Pb 11 09 26.4, iZ! Pg 11 09 33.1, iZ Sn 11 10 03.4, iZ Sg 11 10 21.6, D= 400 km, remarkable.
- 21 eiZ 11 23 16.2, weak traces.
- 21 iZ 17 41 16.4, weak trace.
- 22 iZ Pn 03 00 07.0, iZ Sg 03 00 30.7, D= about 300 km.
- 22 iZ Pn 07 24 51.3, iZ 07 25 28.2, eiZ (Sg) 07 25 39.2, (D=about 320 km).
- 24 iZ Pn 00 11 08.2 iZ! 00 11 09.8, eiZ Sn 00 11 36.0, iZ Sg 00 11 58.5, D= about 330 km.

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- 24 eiZ Pn 02 28 49.2, eiZ Sg 02 29 37.7, eiZ 02 29 55.8, D= about 325 km.
- 24 eiZ P 11 44 45.5, eiZ 11 44 49.7, eiZ 11 45 06.0, USCGS: H= 11 32 17.7, 24.6 N, 122.0 E, h about 33 km, Near east coast of Formosa. M=5.3 SD 0.3 (CGS).
- 25 eiZ- Pn 03 41 06.2, iZ! 03 41 07.4, iZ! Pg 03 41 16.1, iZ X<sub>1</sub> 03 41 24.1, iZ X<sub>2</sub> 03 41 33.4, eiZ Sn 03 41 42.5, iZ! Sg 03 41 56.0, iZ! SgSg 03 42 04.3, iZ! M 03 42 10.8, EN 03 42-43 weak traces. D=340 km.
- 26 iZ!- NE Pn 04 18 50.4, iZ! 04 18 53.7, iZ! 04 18 57.6, iZ!!NE Pg 04 19 18.0, iZ!! NE 04 19 34.2, iZ! Sn 04 20 06.2, iEN 04 20 38, iE! Sg 04 20 42, iZ!! Sg 04 20 42.9, Z!! M 04 21.0 (appr.). D= 720 km. BCIS: H= 04 17 11, 42.1 N, 21.5 E, h=0 km. M=6.0 (Athens, Uppsala)-Yugoslavia-near Skopje. Press: destructive at Skopje, about 1000 killed, several thousands injured. Destroyed buildings: 80%. USCGS: H= 04 17 16.7, 42.1 N, 21.5 E, h about 33 km, Southern Yugoslavia. Estimated about 2000 killed and 3000-4000 injured in Skopje, 80% of buildings destroyed and 5-10% additional buildings damaged. M=5 1/2-5 3/4 (Brk), 5 1/2 (Pal), 5.4 SD 0.3 (CGS).
- 26 iZ Pn 04 34 20.5, iZ Pg 04 34 51.2, eiZ Sn 04 35 46.7, eiZ Sg 04 36 17.3, iZ 04 36 33.0, aftershock Skopje.
- 26 eiZ (Pg) 04 38 12.1, eiZ Sg 04 39 40.8, aftershock Skopje.
- 26 iZ Pn 04 54 46.9, iZ 04 55 12.9, iZ Pg 04 55 18.8, iZ! Sg 04 56 43.0, D=720 km, Skopje aftershock. USCGS: H= 04 53 13.8, 42.1 N, 21.6 E, h about 33 km, Southern Yugoslavia, M=4.2 (CGS).
- 26 Z 0900-02 weak traces.
- 26 eiZ P 09 28 21.5, eiZ! S 09 29 40.4, USCGS: H= 09 26 46.4, 39.6 N, 15.2 E, h about 337 km, Mediterranean Sea, M=4.2 SD 0.1 (CGS).
- 26 iZ Pn 16 01 40.6, iZ Pg 16 01 53.1, eiZ 16 02 06.0, iZ Sg 16 02 49.2, iZ! 16 03 07.2, D= about 420 km.
- 27 iZ+ Pn 05 59 38.1, iZ 05 59 44.8, iZ 05 59 54.9, iZ! Pg 06 00 02.5, iZ! Sn 06 00 37.1, iZ(Sb) 06 00 54.1, iZ Sg 06 01 12.9, D= 590 km. BCIS: H= 05 58 20, 43.3 N, 8.2 E, h about 33 km, Mediterranean Sea, SE of Monaco. Aftershock of July 19, 1963 at 05<sup>h</sup> 45<sup>m</sup>. Felt 4<sup>o</sup> MCS at Monaco.
- 28 eiZ Pg 05 13 45.0, iZ Sg 05 14 03.5, D= 150 km, weak.
- 28 eiZ 13 15 43.2, iZ(Sg) 13 16 29.0.
- 29 iZ! Pg 02 15 38.6, iZ!NE Sg 02 15 41.4, D= 22 km, Litija region aftershock. Not felt.
- 29 eiZ+ P 06 17 32.5, iZ 06 17 36.2, eiZ 06 17 52.9, eiZ PP 06 18 57.0, eiZ! 06 19 54.5, eZ S 06 23 20. USCGS: H=06 10 22.6, 27.8 N, 55.6 E, h about 37 km, Southern Iran. M=5.2 (CGS). D= 4.130 km.





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- 29 Z 09 48-49, weak traces, disturbed by microseisms.
- 29 iZ Pn 09 53 27.7, eiZ Sg 09 54 07.4, D= 275 km.
- 29 eiZ+ PKP<sub>1</sub> 20 34 03.7, eiZ 20 34 23.2, eiZ 20 35 01.7, eiZ 20 36 36.4, eiZ 20 36 07.7, USCGS: H= 20 14 07.3, 30.2 S, 177.3 W, h about 39 km, Kermadec Islands. M= 6 1/2-6 3/4 (Berk), 5.7 SD 0.3 (CGS).
- 30 eZ PKP1 06 05 49.4, eZ PKP2 06 06 35.6, USCGS: H= 05 45 53.3, 29.6 S, 177.3 W, h about 33 km, Kermadec Islands region, M=5.3 SD 0.2 (CGS).
- 30 eZ 14 10 27.4, eiZ 14 10 42.0, USCGS: H= 13 51 57.8, 55.9 S, 27.5 W, h about 33 km, Sandwich Islands, M= 5.2 (CGS).
- 30 eiZ PKP1 15 24 32.3, eiZ 15 25 13.8, USCGS: H= 15 04 38.7, 29.9 S, 177.4 W, h about 76 km, Kermadec Islands, M=5.2 SD 0.3 (CGS).
- 31 eZ PKP 02 04 43 USCGS: H= 01 44 18.8, 29.8 S, 177.2 W, h about 65 km, Kermadec Islands region, M=4.8 SD 0.2 (CGS).
- 31 iZ 22 02 01.8, traces.

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- 2 eZ P 09 13 39.7, USCGS: H= 09 07 18.0, 56.2 N, 34.1 W, h about 41 km, North Atlantic Ocean. M=4.6 SD 0.2 (CGS).
- 2 eZ P 09 20 08.1, USCGS: H= 09 13 46.8, 56.3 N, 34.5 W, h about 33 km, North Atlantic Ocean, M=4.2 SD 0.2 (CGS).
- 2 Z 10 54 (01), eiZ 10 54 09.0, weak traces, near.
- 2 iZ 20 13 30.6, eiZ 20 14 19.5, weak traces, near.
- 3 eiZ PKP 04 06 29.4, eZ 04 06 47.5, USCGS: H= 03 48 06.4, 7.6 S, 156.8 E, h about 402 km, Solomon Islands, M=5.1 (CGS).
- 3 iZ+ P 10 31 25.5, eiNE 10 31 26.7, iZ! 10 31 28.8, iZ! 10 31 33.9, eiZ! (PP) 10 33 28, eNE! S 10 39 26, eZ! S 10 39 27.5, USCGS: H= 10 21 36.6, 7.7 N, 35.8 W, h about 33 km, Mid Atlantic Ocean, M=6.1 SD 0.4 (CGS). D=about 6.400 km.
- 3 iZ P 10 45 14.7, obscured by previous shock. USCGS: H= 10 34 25.7, 7.8 N, 35.9 W, h about 33 km, Mid Atlantic Ocean, M=4.9 SD 0.4 (CGS).
- 3 Z 13 01-03, weak traces.
- 3 eiZ PKP1 20 46 01.7, USCGS: H= 20 26 04.1, 30.7 S, 178.3 W, h about 37 km, Kermadec Islands. M=5.2 SD 0.2 (CGS).
- 3 iZ Pn 21 17 20.3, iZ 21 17 29.9, iZ (Sg) 21 18 16.7, weak, D=370 km.
- 4 iZ- Pg 08 28 56.6, iZ!NE Sg 08 28 59.0, D= 22 km, Litija region aftershock.

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- 4 eiZ P 11 55 49.9, weak trace, USCGS: H= 11 43 20.3, 35.7 N, 140.1 E, h about 68 km, Honshu, Japan, M=4.7 SD 0.1 (CGS).
- 4 eiZ Pn 14 37 57.2, iZ 14 38 08.0, eiZ 14 38 40.3, weak trace.
- 4 eiZ 14 46 15.1, weak trace.
- 5 Z! PKP1 00 13 (00), iZ! PKP2 00 13 06.2, iZ 00 13 12.0, eiZ 00 15 07.7, USCGS: H= 23 54 14.0, 17.5 S, 179.1 W, h about 515 km, Fiji Islands region. M=5.2 (CGS).
- 5 eZ PKP 15 59 07.7, USCGS: H= 15 39 07.0, 60.7 S, 154.3 E, h about 33 km, Macquarie Islands region, M= 5.2 (CGS).
- 6 iZ Pn 00 18 29.2, iZ 00 18 38.0, iZ Pg 00 18 40.0, iZ 00 19 13.6, iZ Sg 00 19 23.5, iZ 00 19 33.4, D= 355 km.
- 6 iZ Pn 01 58 04.7, iZ(Pg) 01 58 14.0, iZ Sn 01 58 40.3, eZ 01 58 43.7, iZ 01 59 (00). D= 320 km.
- 6 eZ P 13 42 54.5, eiZ 13 43 03.6, eiZ! PcP 13 45 47.5, USCGS: H= 13 36 35.6, 57.0 N, 33.6 W, h about 33 km, North Atlantic Ocean, M=5.1 SD 0.2 (CGS), D=3.500 km.
- 7 Z 01 35-36, weak traces.
- 7 eZ(P) 04 45 05, eiZ 04 46 11.6, USCGS: H= 04 33 42.7, 54.0 N, 142.1 E, h about 33 km, Sakhalin Island, USSR, M=5.1 SD 0.1 (CGS).
- 7 eiZ P 07 27 15.0, weak trace, USCGS: H= 07 17 25.8, 7.5 N, 37.2 W, h about 33 km, Atlantic Ocean, M=4.6 SD 0.3 (CGS).
- 7 iZ! Pg 09 23 (58), iZ 09 24 01.1, traces, near.
- 7 eiZ PKP 14 15 44.2, USCGS: H= 13 56 50, 18.2 S, 177.9 W, h about 508 km, Fiji Islands region. M=3.9 (CGS).
- 8 eZ P 02 26 49.2, iZ 02 26 58.5, iZ 02 27 16.2, eiZ PP 02 29 46.4, USCGS: H= 02 14 54.4, 54.2 N, 168.1 E, h about 33 km, Fox Islands, Aleutian Islands, M=5.5 SD 0.1 (CGS), D= about 8.600 km.
- 8 eiZ PKP 11 35 06.9, iZ 11 35 16.6, USCGS: H= 11 16 11.2, 5.8 S, 151.0 E, h about 48 km, New Britain. Felt: Palmalmal, Ponnio. M=5 (Bks), 5.6 SD 0.4 (CGS).
- 9 iZ+ Pn 06 06 08.9, iZ!! NE Pg 06 06 15.7, iZ Sg 06 06 49.4, eiNE! 06 06 53, D=290 km. BCIS: H= 06 05 29, 44.3 N, 12.2 E, M=5.2 (Roma), 5.3 (Collm), Roma: North Italy, SE of Bologna. Slight damage. Felt 7° MCS in the epicentral region. Trieste: felt 3-4° MCS.
- 9 iZ Pn 06 12 28.1, iZ Pg 06 12 35.3, iZ Sg 06 13 05.9, Italy aftershock? Partially obscured by the previous earthquake.
- 9 eiZ PKP1 14 56 29.4, iZ 14 56 34.6, eiZ 14 56 50.0, USCGS: H= 14 36 45.9, 15.3 S, 175.7 W, h about 33 km, Fiji Islands region. M=5.5 SD 0.3 (CGS).



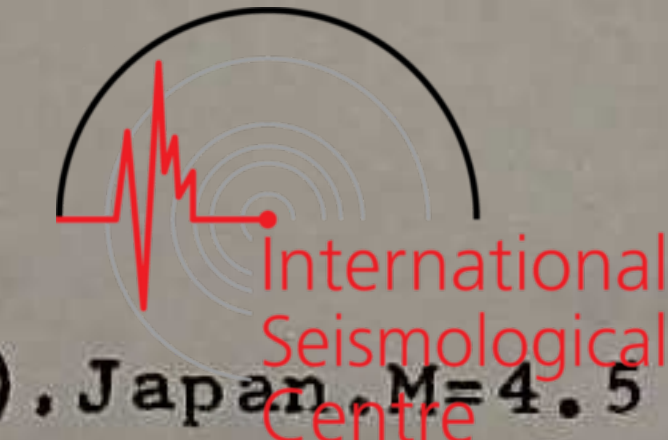
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- 9 eiZ (Sg) 22 40 31.8, weak traces.
- 10 iZ Pg 13 56 22.5, iZ Sg 13 56 26.2, D= 25 km, weak, Litija region aftershock.
- 10 iZ Pn 15 23 30.8, eiZ Pg 15 23 37.9, iZ! 15 23 49.0, Z! Sn 15 24 (00), iZ Sg 15 24 12.0, D= 285 km.
- 11 eiZ Pn 07 28 50.4, eiZ 07 28 54.8, eiZ 07 29 19.4, iZ Sg 07 29 26.1, D=250 km.
- 11 iZ(Pn) 07 36 20.0, eiZ Sg 07 36 34.9, (D=120 km) weak.
- 11 Z Pn 15 03 (01) in minute interruption, iZ Pg 15 03 10.8, eiZ Sn 15 03 40.2, eiZ Sg 15 03 54.9, (D=3.2<sup>0</sup>= 350 km ca.)
- 12 eiZ+ P 07 26 51.7, eZ 07 26 55.9, USCGS: H= 07 19 54.9, 27.7 N, 53.2 E, h about 33 km, Near southwest coast of Iran. M=5.0 (CGS).
- 12 eZ P 18 37 41, iZ 18 39 40.4, USCGS: H= 18 29 38.8, 25.3 N, 62.7 E, Near coast of west Pakistan. M=5.2 (CGS).
- 13 iZ PKP 06 48 12.5, USCGS: H= 06 29 19.1, 20.6 S, 178.5 W, h about 562 km, M=4.6 (CGS).
- 13 iZ PKP 07 11 26.3, eiZ 07 12 13.0, USCGS: H= 06 52 06.1, 19.1 S, 173.9 W, h about 28 km, Tonga Islands. M=4.7 SD 0.4 (CGS).
- 13 eZ PKP1 22 12 25.2, eiZ 22 12 31.5, eiZ 22 12 36.9, Z 22 13 (00), USCGS: H= 21 52 37.4, 19.3 S, 173.7 W, h about 33 km, Tonga Islands, M=5.1 SD 0.4 (CGS).
- 14 eiZ PKP 19 02 32.9, eZ 19 03 32, USCGS: H= 18 43 55.5, 3.4 S, 135.4 E, h about 33 km, West Irian, M=6.4 (CGS)
- 15 iZ+ P 06 23 59.5, iZ! 06 24 15.1, (ei)Z PP 06 27 17, eZNE S 06 34 25, USCGS: H= 06 11 34.6, 37.9 N, 141.6 E, h about 59 km, Near east coast of Honshu, Japan. D=9.350 km.
- 15 iZ- P 17 37 36.1, iZ! 17 37 51.7, eiNE 17 37 52.5, iZ! 17 41 (48), USCGS: H= 17 25 05.9, 13.8 S, 69.3 W, h about 543 km, Peru-Bolivia border. M=5.3 (CGS).
- 15 iZ Pn 19 18 54.9, iZ Pg 19 19 00.8, iZ Sg 19 19 33.5, D= about 260 km.
- 16 eiZ- P 23 16 58.7, iZ 23 17 05.5, USCGS: H= 23 06 24.6, 12.8 S, 14.5 W, h about 33 km, South Atlantic Ocean, M=5.1 (CGS).
- 17 iZ Pn 02 33 23.2, iZ 02 33 30.5, iZ X1 02 33 40.8, iZ 02 33 56.7, iZ Sn 02 34 04.2, iZ Sg 02 34 17.9, D=about 365 km.
- 17 iZ+ P 11 25 12.2, iZ 11 25 13.9, iZ 11 25 19.5, eiZ PP 11 28 27.5, USCGS: H= 11 12 41.2, 30.6 N, 130.9 E, h about 33 km, Ryukyu Islands region, M=5.6 SD 0.3 (CGS).
- 20 eiZ- P 16 00 25.9, eiZ 16 00 34.8, USCGS: H= 15 48 12.2 41.2 N, 142.7 E, h about 50 km, Off east coast of Honshu.

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- 20 (cont.), Japan. M=4.5 SD 0.2 (CGS).  
From August 22, 16<sup>h</sup> 15<sup>m</sup> to August 24, 05<sup>h</sup> 46<sup>m</sup> no Z records.
- 25 eiZ+ P 06 16 01.7, iZ 06 16 07.9, iZ 06 16 13.8, USCGS: H=06 11 43.3, 38.9 N, 38.4 E, h about 33 km, Central Turkey. M=4.8 (CGS).
- 25 eiZ- PKP1 12 36 53.8, iZ! 12 36 55.1, iZ! PKP2 12 37 01.8, iZ 12 37 09.3, iZ! PKP1 12 39 14.8, iZ! 12 39 21.0, iZ PP 12 40 32.3, USCGS: H= 12 18 12.5, 17.5 S, 178.8 W, h about 565 km, Fiji Islands region. M=6 1/2 (Pas), 6-6 1/4 (Berk), 6.1 (CGS), D= about 16.700 km.
- 25 eZ (Pn) 22 05 31, eiZ 22 06 41.3, Z 22 07 (03);
- 26 Z 10 58-11 00, weak traces.
- 26 eiZ+ PKP 12 39 14.5, USCGS: H= 12 19 27.6, 22.7 S, 171.7 E, h about 43 km, Loyalty Islands region. M=4.5 (CGS).
- 26 iZ Pn 21 41 55.1, iZ (SgSg) 21 43 49.6, very weak.
- 28 iZ Pg 21 25 35.7, iZ Sg 21 25 38.1, D= 22 km, Litija region aftershock, E from Ljubljana.
- 29 iZ+ P 09 01 49.5, eNE 09 01 51, iZ! 09 01 54.4, iZ 09 02 18.0, iZNE PP 09 03 30.4, iZ 09 04 21.9, D= 4.780 km. USCGS: H= 08 53 48.4, 39.6 N, 74.2 E, h about 31 km, Sinkiang Province, China. M=5.5 SD 0.4 (CGS).
- 29 iZ P 15 44 14.5, eiZ 15 44 28.4, iZ PP 15 48 09.7, USCGS: H= 15 30 31.4, 7.1 S, 81.6 W, h about 23 km, Off coast of Peru, M=6 1/2 (Pas), 6.1 SD 0.2 (CGS).
- 29 eZ PKP 21 17 17, obscured by microseisms, eiZ 21 17 26.1, USCGS: H= 20 57 31.5, 15.5 S, 172.9 W, h about 33 km, Tonga Islands region. M=4.9 SD 0.2 (CGS).
- 30 eiZ (P) 00 30 32.0, USCGS: H= 00 16 36.3, 8.7 S, 108.6 E, h about 33 km, Off south coast of Java. M=5.1 (CGS).
- 31 eiZ P 12 59 45.6, weak traces, USCGS: H= 12 47 11, 28.2 N, 129.3 E, h about 33 km, Ryukyu Islands. M=4.6 (CGS).
- 31 Z 20 17-19 weak traces.

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- 1 iZ Pg 17 57 53.4, iZ 17 57 56.6, iZ Sg 17 58 (02), (D= about 45 km).
- 2 eZ Pn 00 25 09, eiZ 00 25 19.0, eZ (Sn) 00 26 03, eiZ 00 26 30.0, (D=about 500 km).
- 2 eiZ P 01 42 57.9, iZ 01 43 06.8, iZ 01 43 10.7, eiZ PP 01 44 51.0, USCGS: H=01 34 30.3, 33.9 N, 74.7 E, h about 44 km, Northern India. M=5.1 (CGS). 79 killed 400 injured and major property damage in Kashmir.



- 2 (cont.) D=5.220 km.
- 2 iZ+ Pg 09 19 10.6, iZ 09 19 15.1, iZ Sg 09 19 23.4, eiZ 09 19 32.7, D= 105 km.
- 2 eiZ+ P 23 57 13.4, USCGS: H= 23 45 00.1, 45.4 N, 150.8 E, h about 33 km, Kurile Islands. M=4.9 SD 0.2 (CGS).
- 3 Z (Pn) 18 23 (02), eiZ 18 23 48.2
- 3 eiZ 20 30 14.1, weak traces.
- 4 eiZ+ P 05 09 42.0, iZ 05 09 45.9, iZ! 05 09 55.8, eiZ! 05 10 11.5, eZ S 05 11 50, eNE M 05 13 -; BCIS: H=05 06 41, 36.0 N, 5.4 E, M=5.1 (Collm). Algeria. About 20 km south of Setif. Damage at Bir Hadada. USCGS: H= 05 06 47.0, 36.1 N, 5.3 E, h about 38 km, Near coast of Algeria. Slight damage at Bir Hadada. M=5.2 SD 0.3 (CGS) D=1.350 km.
- 4 eiZ+ P 13 40 37.0, iZ 13 40 48.0, eiZ PP 13 42 30.7, eZ S 13 47 27.6, USCGS: H= 13 32 12.5, 71.4 N, 73.3 W, h about 33 km, Near east coast of Baffin Island. Felt: Clyde River, M=6 1/4-6 1/2 (Pas), 6 (Bks), M=5.9 SD 0.4 (CGS). D= about 5.150 km.
- 4 iZ Pg 19 00 40.6, iZ Sg 19 00 54.5, iZ 19 00 56.0, D= 110 km.
- 5 eiZ! PKP 01 14 45.8, USCGS: H= 00 55 59.1, 17.8 S, 178.5 W, h about 558 km, Fiji Islands. M=4.6 SD 0.3 (CGS).
- 5 eZ Pn 11 46 (05) obscured by microseisms, iZ Sg 11 46 52.9, weak, D= about 330 km.
- 6 iZ P 06 15 59.7, eiZ 06 16 08.4, eiZ 06 16 46.5, USCGS: 06 03 52.1, 36.4 N, 130.6 E, h about 33 km, Sea of Japan. M=5.4 SD 0.3 (CGS).
- 6 iZ PKP 10 36 02.4, eiZ 10 37 49.2, USCGS: H=10 16 38.9, 24.0 S, 179.9 E, h about 500 km, Kermadec Islands region. M=5.2 SD 0.4 (CGS).
- 7 eiZ P 01 29 02.6, iZ 01 29 14.3, eiZ 01 29 29.1, USCGS: H=01 16 55.1, 36.4 N, 130.6 E, h about 33 km, Off east coast of south Korea. Felt. M=5.3 SD 0.4 (CGS)
- 7 iZ PKP 08 46 16.3, very weak, USCGS: H=08 26 36, 18.9 S, 174.9 W, h about 131 km, Tonga Islands region, M=4.4 SD 0.3 (CGS).
- 7 eiZ P 09 01 20.7, eiZ 09 01 28.3, eiZ 09 02 42, USCGS: H=08 50 57.5, 11.7 S, 13.6 W, h about 33 km, Ascension Islands region. M=5.3 (CGS).
- 7 eZ+ P 12 55 39, USCGS: H= 12 44 01.1, 54.0 N, 160.3 E, h about 110 km, Kamchatka. M=5.4 SD 0.2 (CGS).
- 8 eiZ Pn 17 07 33.8, iZ! Pg 17 07 42.4, iZ! Sg 17 08 26.2, iZ! 17 08 30.1, D=345 km, weak.
- 8 eiZ+ PKP 20 09 20.1, iZ! 20 09 31.6, eZ 20 11 26, USCGS: H=19 50 29.8, 23.6 S, 179.8 E, h about 550 km, Fiji Islands region, M=5.7 SD 0.4 (CGS).

- 9 eiZ PKP 03 04 43.7, iZ! 03 04 56.5, eiZ PP 03 06 35, eZ! (SKP) 03 08 15, USCGS: H=02 45 45.5, 4.4 S, 152.7 E, h about 34 km, New Britain. Felt: Rabaul. M=5.6 SD 0.2 (CGS), D=13.900 km.
- 9 eiZ PKP 13 11 26.5, eiZ 13 12 30.3, USCGS: H=12 52 15.4, 14.7 S, 167.4 E, h about 182 km, New Hebrides Islands. Felt: Santo. M=4.4 SD 0.5 (CGS).
- 10 eiZ P 13 11 50.3, eZ 13 12 34, USCGS: H=13 09 13.1, 36.1 N, 27.3 E, h about 50 km, Dodecanese Islands. M=4.5 (CGS).
- 10 eiZ+ PKP1 19 34 08.2, eiZ- 19 34 11.8, iZ 19 34 21.7, eiZ PKP2 19 34 48.6, USCGS: H= 19 14 26.8, 19.0 S, 175.8 E, h about 33 km, Tonga Islands region. M=5.3 (CGS).
- 10 eiZ 20 00 15.4, weak trace.
- 12 eiZ PKP 03 31 38.7, iZ 03 31 44.3, iZ 03 31 46.2, eZ 03 33 38, USCGS: H=03 11 53.9, 22.5 S, 170.5 E, h about 54 km, Loyalty Islands region. M=4.9 SD 0.4 (CGS).
- 12 eiZ+ P 08 22 57.1, iZ 08 23 03.8, iZ! 08 23 15.6, USCGS: H= 08 18 57.9, 34.9 N, 32.2 E, h about 55 km, Cyprus. Felt: Nicosia, Papkos. M=5.0 SD 0.3 (CGS).
- 12 eiZ+ P 13 20 07.5, iZ 13 20 16.2, USCGS: H=13 10 17.9, 7.7 N, 35.9 W, h about 33 km, North Atlantic Ocean. M=5.9 SD 0.3 (CGS).
- 12 eiZ PKP 14 30 43.8, eiZ 14 30 45.3, USCGS: H= 14 10 58, 19.0 S, 175.9 E, h about 33 km, Fiji Islands region. M=4.6 SD 0.4 (CGS).
- 12 eiZ 18 31 33, eZ 18 32 39, eiZ 18 33 13.2, weak trace.
- 13 eZ 15 21 08, near trace.
- 14 eiZ Pg 00 02 41.6, iZ Sg 00 02 56.0, weak, D=about 115 km.
- 15 eiZNE PKP 01 06 12.4, iZ 01 06 23.0, iZ 01 06 30.6, eiZ 01 07 37, eiZ 01 08 42.5, eZINE PP 01 08 55, eNE 01 09 52, USCGS: H=00 46 54.1, 10.3 S, 165.6 E, h about 43 km, Santa Cruz Islands. M=7 1/4-7 1/2 (Pas), 6 3/4-7 (Pal), 6.3 SD 0.3 (CGS). Felt: Vanikoro.
- 15 eiZ PKP 02 17 02.0, iZ 02 17 08.6, USCGS: H=01 57 24, 9.4 S, 167.0 E, h about 33 km, Santa Cruz Islands. M=5.0 SD 0.4 (CGS).
- 15 eiZ PKP 11 19 26.4, eiZ 11 19 29.2, USCGS: H= 10 59 47.7, 17.1 S, 173.8 E, h about 33 km, Fiji Islands region. M=4.8 SD 0.2 (CGS).
- 15 eiZ P or PKP 13 58 05.5, eiZ 13 58 21.7, weak trace.
- 16 eZ P 16 21 25, USCGS: H=16 14 45.0, 78.6 N, 6.7 E, h about 33 km, Svalbard region. M=4.3 SD 0.3 (CGS).
- 16 eiZ PKP 20 24 46.8, eiZ 20 24 57.7, eZ 20 28 35, USCGS: H=20 05 21.9, 13.4 S, 166.5 E, h about 28 km, Santa Cruz Islands. M=5.0 SD 0.4 (CGS).

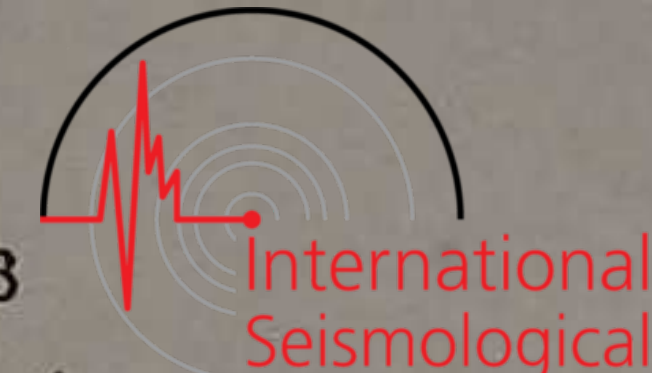


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- 17 eiZ P 06 08 11.4, eiZ 06 08 35.2, eZ 06 12 36, USCGS: H=05 54 33.7, 10.6 S, 78.2 W, h about 61 km, Central Peru. Slight damage at Huaraz. M=6 3/4 (Pas), 5.5 SD 0.3 (CGS).
- 17 eiZ(PKP) 19 39 21.4, eiZ! PKP 19 39 32.8, eiZ! PP 19 42 16.5, iZ!NE 19 42 33.9, USCGS: H= 19 20 08.2, 10.1 S, 165.3 E, h about 17 km, Santa Cruz Islands, M=7 1/4(Pas), 7 1/2 (Berk), 7 (Pal), 6.1 (CGS). D= about 15.150 km.
- 17 eZ PKP 22 47 49, eiZ 22 47 52.1, weak trace. USCGS: H= 22 28 29.6, 10.2 S, 165.1 E, h about 33 km, Santa Cruz Islands. M=5.2 SD 0.5 (CGS).
- 18 Z! Pn 17 00 (59), iZ- 17 01 05.8, eNE 17 01 08, iZ 17 01 28.7, iZ 17 02 04.1, eiZ Sn 17 03 04.7, iZ 17 03 38.7, eN! 17 03 38.7, eiZ (SgSg) 17 04 24.3, iZ! M 17 05 09.6, BCIS: H= 16 58 11, 40.8 N, 29.5 E, (by electronic calcul. machine), 40.8 N, 29.0 E, (graphic determination by near stations). M=6.2 (Strasbourg), 6.2 (Pruhonice), 5.8 (Ksara). UTI Istanbul: Turkey, vicinity of Izmid Gulf, forcibly felt in Istanbul, some damage, 156 aftershocks recorded at UTI Istanbul. Press: 1 dead, several injured. USCGS: H=16 58 12.5, 40.9 N, 29.2 E, h about 33 km, Turkey. 1 killed and several injured at Istanbul. M=6 1/4 (Pas), 5 3/4-6 (Pal), 5.2 SD 0.3 (CGS). D=1.350 km.
- 19 eiZ Pn 10 44 39.2, iZ 10 44 43.5, eiZ Sn 10 46 02.5, iZ Sb 10 46 25.6, iZ Sg 10 46 48.6, D=790 km.
- 19 eiZ P 16 55 27.7, weak trace, USCGS: H= 16 49 29.9, 47.1 N, 27.4 W, h about 33 km, North Atlantic Ocean.
- 19 eZ Pn 23 49 25, iZ Sn 23 50 52.0, eiZ 23 51 49.8, eiZ! 23 52 27.1, D=about 820 km.
- 22 eZ PKP1 03 16 06.3, iZ PKP2 03 16 11.6, iZ 03 16 29.3, USCGS: H= 02 56 24.3, 19.3 S, 175.9 E, h about 28 km, Fiji Islands region, M=5.8 SD 0.4 (CGS).
- 22 eiZ Pn 04 51 41.9, iZ Pg 04 51 54.2, iZ X1 04 52 04.5, eiZ 04 52 18.1, eiZ Sn 04 52 24.6, iZ! 04 52 29.5, iZ Sg 04 52 41.3, Z! 04 53 (00), D=395 km.
- 22 eiZ-PKP1 19 41 39.7, iZ-!PKIKP 19 41 44.5, eiZ 19 41 53.1, USCGS: H=19 21 57.1, 19.2 S, 175.9 E, h about 24 km, Tonga Islands region.
- 22 eiZ Pn 22 34 27.6, eiZ 22 34 56.2, eiZ Sn 22 36 03.9, eiZ! 22 36 27.5, USCGS: H= 22 32 10.0, 37.5 N, 20.6 E, h about 33 km, Ionian Sea, M=4.6 (CGS).
- 23 (ei)Z Pn 08 35 15.5, eiZ 08 35 50.2, eiZ Sg 08 36 12.2, D=about 375 km.
- 23 eiZ P 09 12 26.7, eiZ 09 12 30.6, eZ 09 13 15.7, USCGS: H=09 01 56.8, 16.6 S, 28.8 E, h about 33 km, Northern Rhodesia. M=5.8 (CGS).
- 24 eZ- Pn 02 13 30, eiZ 02 13 42.4, eiZ 02 15 27.5, eZ SgSg 02 17 25, BCIS: H=02 10 40, 40.8 N, 29.2 E,

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- 24 (cont.) (graphic determination). Aftershock of Sept. 18, 1963, 16<sup>h</sup> 58<sup>m</sup>, Turkey. In the vicinity of Izmid Gulf, felt forcibly at Istanbul. USCGS: H= 02 10 44.9, 41.0 N, 29.0 E, h about 33 km, Turkey. Felt: Istanbul. M=4.6 SD 0.3 (CGS).
- 24 eiZ P 08 06 29.2, eZ 08 06 54.6, USCGS: H=07 55 41.4, 15.8 S, 13.3 W, h about 33 km, Atlantic Ocean, south of Ascension Island. M=5.2 (CGS).
- 24 eiZ+ P 16 43 52.6, iZ- 16 43 56.0, iZ 16 44 03.1, eiZ pP 16 44 21.6, iZ PP 16 47 54.9, USCGS: H=16 30 16.0, 10.6 S, 78.0 W, h about 80 km, Near coast of Peru. M=7(Pas), 6 1/2 (Berk), 6.0 SD 0.5 (CGS).
- 25 eiZ P 07 14 25.4, iZ 07 15 16.8, USCGS: H= 07 03 54.6, 16.7 S, 28.7 E, h about 33 km, Northern Rhodesia. M=5.8 (CGS).
- 26 iZ P 05 40 35.9, obscured by microseisms, USCGS: H=05 28 07.3, 50.4 N, 176.9 W, h about 33 km, Andreanoff Islands, Aleutian Islands.
- 26 eiZ Pn 22 32 19.1, iZ Pg 22 32 23.7, eiZ (Sg) 22 32 49.4, eiZ! 22 32 58.9, obscured by microseisms. BCIS: H=22 31 39, 47.6 N, 12.3 E, Wien: 47,5° N, 12,3° E, Tyrol. Felt in Kufstein-Kitzbühel region. Io=5° MCS. D=235 km.
- 27 eiZ (Pn) 08 35 27.3, eZ 08 37 34, obscured by microseisms near.
- 27 eiZ PKP 11 45 32.2, iZ 11 45 41.1, eiZ 11 45 52.2, Z 11 46 (00), USCGS: H= 11 25 53.6, 17.2 S, 174.7 E, h about 33 km, Fiji Islands region. M=5.0 SD 0.4 (CGS).
- 27 eiZ+P 22 29 31.5, iZ 22 29 46.2, USCGS: H= 22 20 06.6, 0.1 S, 18.4 W, h about 33 km, Atlantic Ocean, northwest of Ascension Island. M=5.0 SD 0.3 (CGS).
- 28 eiZ P 03 41 29.4, obscured by microseisms, USCGS: H= 03 30 48.8, 14.3 S, 13.7 W, h about 33 km, Atlantic Ocean, south of Ascension Island. M=5.0 (CGS).
- 28 eiZ PKP 05 44 14.2, weak trace. USCGS: H= 05 25 25.9, 17.8 S, 178.6 W, h about 548 km, Fiji Islands. M=4.0 (CGS).
- 29 eiZ Pn 13 39 11.8, eiZ 13 39 31.6, USCGS: H=13 35 45.3, 36.6 N, 29.2 E, h about 33 km, Near north coast of Turkey. M=4.5 SD 0.3 (CGS).
- 29 iZ P 19 40 04.9, weak trace, USCGS: H=19 31 22.7, 13.5 N, 57.5 E, h about 33 km, Arabian Sea.
- 29 iZ-Pn 22 19 04.9, iZ! 22 19 05.3, iZ! 22 19 12.9, iZ! 22 19 22.0, iZ Sn 22 20 56.3, iZ! NE 22 21 20.2, BCIS: H= 22 16 41, 36.6 N, 18.3 E, h about 50 km, Ionian Sea. USCGS: H=22 16 38.6, 38.1 N, 18.0 E, h about 57 km, Ionian Sea, M=5.3 SD 0.4 (CGS), D=about 920 km.
- 30 eZ(Pn) 15 46 45, eZ 15 47 18.

Ljubljana, February 25, 1964

V. Ribarič