

23. 伊豆半島における爆破地震動の観測

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(昭和56年7月30日受理)

1. 序

最近、わが国の中国および東北地方において、陸地の下の地殻内に発生する地震は、その震源が P 波速度 6 km/s の花崗岩質層内に存在することが明らかにされた (HASHIZUME, 1969; 尾池, 1975; 海野他, 1975; TAKAGI *et al.*, 1977). 地殻構造と地震発生場所とのこの重要な関係は、中国、東北両地域では、爆破地震動観測資料から得られた地殻構造の知識が、秀れた微小地震観測網の観測資料による震源決定に活用された結果、得られたものである。日本の他の地域でも、この事実が認められるかどうかを調べることは、地震発生過程の考察、従って、地震予知研究の観点から極めて重要であり、詳細な地殻上部構造の研究の重要性が増加した。

また、1965年から発生した松代群発地震の震源域の詳細な地殻構造が1967年の爆破地震動観測資料より求められた。震源域には 6 km/s 層の上部境界に断層状の構造があること、震源域における速度および減衰異常の存在、地震が 6 km/s 層内に発生していることなど、興味ある結果が得られたが、精度のよい地殻構造の知識が地震発生現象の考察に重要であることを示した (ASANO *et al.*, 1969; SUZUKI, 1971; ASANO *et al.*, 1973).

上記のような最近までの結果によって、詳細な地殻上部構造の研究は、地震予知研究の観点からも重要視されるようになり、昭和54年度から第4次地震予知計画の一項目として「人工地震による変動帯深部構造の研究」が認められた。初年度の実験として、伊豆半島沖地震、伊豆大島近海地震が発生し、異常な地殻活動が持続している伊豆半島の詳細な地殻構造を求めるために、三島・下田間の測線で爆破地震動の観測を実施した。本報告ではこの実験の概要と、得られた記録、走時データなどの基礎的資料について述べる。

2. 実験の概要

詳細な構造を求めるためには、十分な密度の爆破点、観測点によって実験を行なうことが必要である。伊豆地域でこうした実験が可能な測線の1つとして、三島・下田を結ぶほぼ南北の線が選ばれた。この方向は、他の方向に比べて、測線が長くとれる利点もある。伊豆地域では、過去に爆破地震動研究グループによる紫雲寺・安中・河津測線による結果があり (RESEARCH GROUP FOR EXPLOSION SEISMOLOGY, 1964; HOTTA *et al.*, 1964), また、地震波速度変化研究のための伊豆大島、館山爆破による地震動観測資料から地殻構造が得られている (浅野他, 1979) が、いずれも爆破点、観測点密度が粗く、伊豆半島下の地殻構造の知識はきわめて不十分である。

Fig. 1 には1979年12月5、6日に行なわれた今回の実験の爆破点と観測点が示されてい

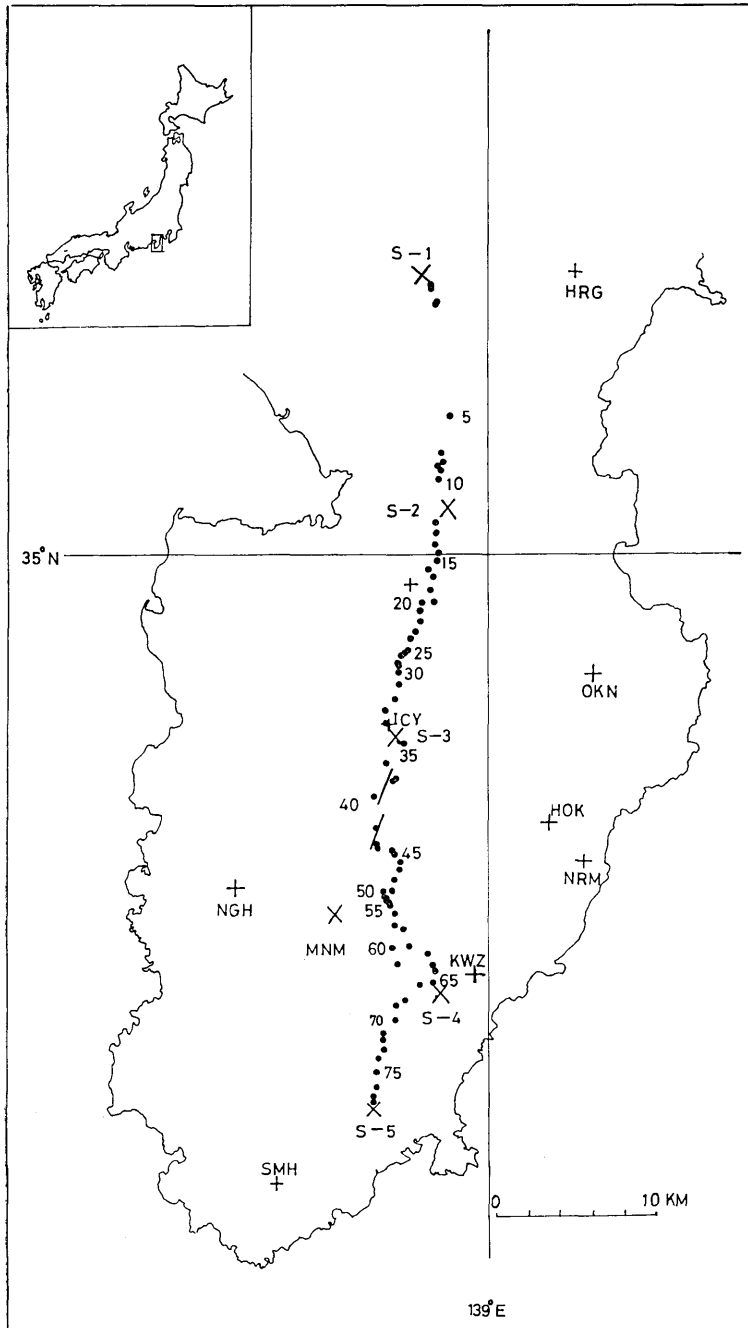


Fig. 1. Shot and observation sites.

Cross mark: shot point.

Solid circle: temporary observation site with 2 Hz geophone. Numerals give station numbers in Table 2.

Bar: 48 observation sites with a spacing about 100 m of 4.5Hz geophone (see Fig. 3 in detail).

Plus mark: microearthquake observation site.

Table 1. Location of shot point, depth of shot holes, charge size, charge length and shot time.

| Shot point | Latitude(N) | Longitude(E) | Height | Depth of shot hole* | Charge size | Charge length | Shot time |
|------------|-------------|--------------|--------|---------------------|-------------|---------------|---------------------|
| | | | | | | | 1979 |
| S-1 | 35°09'12.2" | 138°57'24.7" | 197m | 65m | 450kg | 38m | Dec. 6,2h 02m 0.16s |
| S-2 | 35 01 31.3 | 138 58 21.2 | 164 | 60 | 400 | 35 | Dec. 5,2 12 0.36 |
| S-3 | 34 53 45.6 | 138 56 16.6 | 227 | 50 | 250 | 23 | Dec. 5,1 12 0.00 |
| S-4 | 34 45 07.1 | 138 58 03.7 | 225 | 51 | 300 | 25 | Dec. 6,1 01 59.99 |
| S-5 | 34 41 11.8 | 138 55 16.9 | 128 | 62 | 400 | 33 | Dec. 6,1 12 2.36 |
| Minami-Izu | 34 47 51.9 | 138 53 44.2 | 471 | | 500 | | Dec. 5,2 02 0.65 |
| Ohshima | 34 41 45.1 | 139 22 39.2 | 18 | | 500 | | Dec. 5,1 02 0.17 |

* The inner diameter is 10 cm.

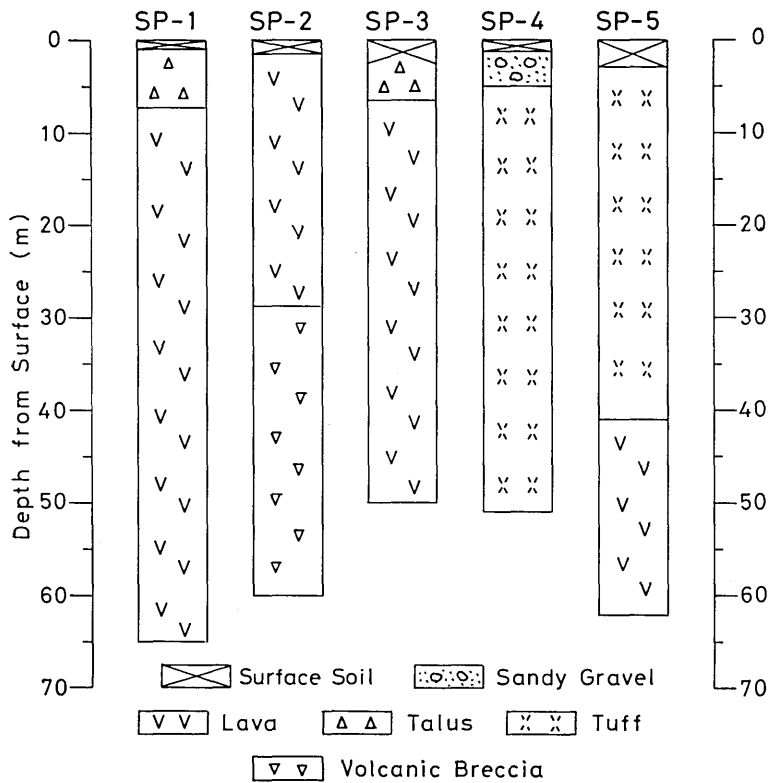


Fig. 2. Columnar sections of shot holes.

Table 2. Locations of observation sites and observers. H denotes elevation of observation site in meter. Station OYO 01 means No. 1 site of 48 observation sites with 4.5 Hz geophone. S1-1 means the location of No. 1 geophone near the shot point S-1.

| STATION | LATITUDE | LONGITUDE | H | OBSERVERS |
|-------------------------|------------|-------------|-----|---|
| 01 MOTOYAMANAKA (1) | 35- 9- 0.4 | 138-57-39.7 | 300 | S. KUBOTA, I. FURUYA (MET.-COLL., J.M.A.) |
| 02 MOTOYAMANAKA (2) | 35- 8-56.3 | 138-57-39.4 | 290 | = |
| 03 MITSUYA-SHINDEN (1) | 35- 8-25.8 | 138-57-54.4 | 200 | = |
| 04 MITSUYA-SHINDEN (2) | 35- 8-23.8 | 138-57-52.7 | 200 | = |
| 05 KANNAMI | 35- 4-41.1 | 138-58-27.3 | 44 | I. OGINO (U.TOKYO) |
| 06 NIRAYAMA (1) | 35- 3-24.5 | 138-58- 6.0 | 38 | K. MATSUHARA (KYOTO U.) |
| 07 NIRAYAMA (2) | 35- 3- 6.3 | 138-58- 9.8 | 48 | = |
| 08 NIRAYAMA (3) | 35- 2-59.1 | 138-57-58.6 | 38 | N. FURUKAWA, S. MATSUO (KYOTO U.) |
| 09 NIRAYAMA (4) | 35- 2-48.4 | 138-58- 4.8 | 53 | = |
| 10 NIRAYAMA (5) | 35- 2-31.5 | 138-58- 0.1 | 27 | K. HINO (KYOTO U.) |
| 11 MORIKIYAMADA | 35- 1- 4.1 | 138-57-49.0 | 90 | I. YAMADA (NAGOYA U.) |
| 12 ZOSHUNIN | 35- 0-41.0 | 138-57-52.9 | 100 | H. UKAWA (NAGOYA U.) |
| 13 KAWAHIRA | 35- 0-18.3 | 138-57-53.7 | 110 | H. INOUE (NAGOYA U.) |
| 14 OHITO-GOMISHORIJU | 35- 0- 0.0 | 138-57-55.8 | 190 | = T. IMAZATO (NAGOYA U.) |
| 15 NQJIRIGAWA-OKU | 34-59-45.4 | 138-57-54.0 | 100 | F. YAMAZAKI, H. NANJYO (NAGOYA U.) |
| 16 NQJIRIGAWA-SAISEKIJO | 34-59-26.8 | 138-57-30.9 | 50 | = N. SHIIHARA (NAGOYA U.) |
| 17 MAKINOGI | 34-59-13.4 | 138-57-46.9 | 80 | = |
| 18 SHUZENJI-KOGYO | 34-58-46.0 | 138-57-40.1 | 90 | T. OIDA (NAGOYA U.) |
| 19 SHUZENJI-GROUND | 34-58-19.7 | 138-57-46.8 | 110 | = N. SHIIHARA (NAGOYA U.) |
| 20 KASHIWAKUBO | 34-58-17.9 | 138-57-17.9 | 70 | = K. TAMURA (NAGOYA U.) |
| 21 KADONO | 34-58- 2.4 | 138-57-12.6 | 70 | = M. BANJI (NAGOYA U.) |
| 22 HINATA (N) | 34-57-40.1 | 138-57-11.0 | 120 | H. KAMEYAMA, M. SUZUKI (UTSUNOMIYA U.) |
| 23 HINATA (S) | 34-57-20.3 | 138-57- 3.1 | 120 | = |
| 24 SANDO (1) | 34-57- 6.5 | 138-56-49.8 | 90 | K. ITO (NAT.-RES.-CENT.-DISAST.-PREV.) |
| 25 SANDO (2) | 34-56-42.7 | 138-56-42.9 | 110 | K. KASAHARA (NAT.-RES.-CENT.-DESAST.-PREV.) |
| 26 SANDO (3) | 34-56-36.8 | 138-56-35.6 | 110 | = |
| 27 SANDO (4) | 34-56-31.0 | 138-56-27.4 | 110 | = |
| 28 KOTSUKA (2) | 34-56-16.2 | 138-56-20.1 | 120 | R. KUBOTA (TOKAI U.) |
| 29 KOTSUKA (1) | 34-56-13.5 | 138-56-21.0 | 120 | = |
| 30 TERANO | 34-55-59.3 | 138-56-19.9 | 120 | M. YANAGISAWA (U.TOKYO) |
| 31 BUTAI | 34-55-34.0 | 138-56-20.6 | 120 | = |
| 32 MINAZAWA | 34-55- 4.2 | 138-56-12.0 | 150 | K. KOKKETSU (U.TOKYO) |
| 33 TAZAWA | 34-54-41.2 | 138-55-47.9 | 150 | T. IWASAKI (U.TOKYO) |
| 34 KITA | 34-54-13.9 | 138-55-49.4 | 155 | S. ZAMA (U.TOKYO) |
| 35 HIGASHIHARA | 34-53-33.9 | 138-56-32.4 | 280 | T. SAITO (OKAYAMA U.) |
| 36 YUGASHIMA | 34-52-52.6 | 138-55-49.2 | 320 | H. ODA (OKAYAMA U.) |
| 37 YOICHIZAKA (1) | 34-52-22.2 | 138-56-11.9 | 340 | T. MASUDA (TOHOKU U.) |
| 38 YOICHIZAKA (2) | 34-52-19.7 | 138-56- 7.0 | 375 | = |
| 39 KIRIYANABASHI (1) | 34-51-45.3 | 138-55-15.7 | 370 | Y. MORITA (TOHOKU U.) |
| 40 KIRIYANABASHI (2) | 34-51-43.4 | 138-55-12.2 | 370 | = |

| STATION | LATITUDE | LONGITUDE | H | OBSERVERS |
|----------------------|------------|-------------|-----|--------------------------------------|
| 41 SUBERIZAMA | 34-50-42.8 | 138-55-25.0 | 470 | H. HAMAGUCHI (TCHOKU U.) |
| 42 AMAGI-TOGE 1-1 | 34-50- 9.9 | 138-55-25.7 | 535 | I. MATSUMOTO (GIFU U.) |
| 43 AMAGI-TOGE 1-2 | 34-50- 2.8 | 138-55-29.4 | 560 | = |
| 44 AMAGI-TOGE 2-1 | 34-49-58.5 | 138-56- 4.5 | 680 | K. WAKAZONO (GIFU U.) |
| 45 AMAGI-TOGE 2-2 | 34-49-49.1 | 138-56-11.1 | 710 | = |
| 46 AMAGI-TOGE 3 | 34-49-34.4 | 138-56-24.4 | 720 | Y. SASAKI (GIFU U.) |
| 47 AMAGI-TOGE 4 | 34-49-19.6 | 138-56-21.3 | 675 | = |
| 48 AMAGI-TOGE 5 | 34-49- 0.3 | 138-56-10.6 | 580 | = |
| 49 AMAGI-TOGE 6 | 34-48-36.6 | 138-56- 1.3 | 500 | = |
| 50 SOTARO (1) | 34-48-31.7 | 138-55-43.1 | 390 | S. SUZUKI, T. SASATANI (HOKKAIDO U.) |
| 51 SOTARO (2) | 34-48-23.6 | 138-55-44.1 | 350 | = |
| 52 SOTARO (3) | 34-48-20.2 | 138-55-48.7 | 350 | = |
| 53 SOTARO (4) | 34-48-16.4 | 138-55-53.0 | 350 | T. SASATANI, S. SUZUKI (HOKKAIDO U.) |
| 54 SOTARO (5) | 34-48-13.3 | 138-55-57.4 | 350 | = |
| 55 SOTARO (6) | 34-48- 9.8 | 138-55-56.4 | 350 | = |
| 56 KAMADARU | 34-47-49.9 | 138-56-10.9 | 310 | T. MORIYA (HOKKAIDO U.) |
| 57 TSURIBASHI-SO | 34-47-26.8 | 138-56- 9.1 | 170 | R. SEGAWA (U. TOKYO) |
| 58 NASHIMOTO | 34-47-19.8 | 138-56-32.5 | 220 | I. MIZUKOSHI (HOKKAIDO U.) |
| 59 KAWAYOKO | 34-46-42.4 | 138-56-47.2 | 100 | N. SAKATA (HOKKAIDO U.) |
| 60 OHNABE | 34-46-41.5 | 138-56- 2.9 | 120 | H. OKADA (HOKKAIDO U.) |
| 61 YUGANO | 34-46-27.5 | 138-57-32.5 | 80 | A. SEKI (HOKKAIDO U.) |
| 62 KONABE | 34-46- 6.5 | 138-56-18.6 | 172 | T. MORIYA (HOKKAIDO U.) |
| 63 AHAKAWA-JINJA (1) | 34-46- 4.1 | 138-57-42.4 | 60 | H. MURAKAMI (KYOTO U.) |
| 64 AHAKAWA-JINJA (2) | 34-45-53.3 | 138-57-46.3 | 80 | = |
| 65 SAKASHITA | 34-45-28.1 | 138-57-42.8 | 195 | H. INATANI (HOKKAIDO U.) |
| 66 SAKASAGAWA (1) | 34-45-22.7 | 138-57-11.1 | 140 | M. YOKOYAMA, J. ITO (U. TOKYO) |
| 67 SAKASAGAWA (2) | 34-45-21.7 | 138-57- 8.7 | 150 | = |
| 68 KITANOSAWA | 34-44-54.5 | 138-56-37.0 | 110 | M. KISHIO (J. M. A.) |
| 69 CHIHRANO | 34-44-41.1 | 138-56-13.1 | 100 | M. KOMIYA (J. M. A.) |
| 70 KUCHIMURA | 34-44-13.9 | 138-56-13.1 | 90 | N. NISHIDE (J. M. A.) |
| 71 UDOGANE | 34-43-42.7 | 138-55-43.2 | 90 | K. MIURA (U. TOKYO) |
| 72 HIE-JINJA | 34-43-28.4 | 138-55-43.4 | 65 | = |
| 73 SHIIBARA | 34-43- 9.0 | 138-55-41.2 | 55 | M. SAKA (U. TOKYO) |
| 74 AITAMA | 34-42-55.6 | 138-55-30.3 | 75 | = |
| 75 KYU-SHIMODAKAIDO | 34-42-25.1 | 138-55-23.4 | 190 | T. YOSHII (U. TOKYO) |
| 76 REMDAIJI | 34-41-51.7 | 138-55-23.3 | 145 | I. NAKANISHI (U. TOKYO) |
| 77 HINOKIZAWA-SHITA | 34-41-34.6 | 138-55-17.6 | 35 | M. SAKA (U. TOKYO) |
| 78 HINOKIZAWA-NAKA | 34-41-19.5 | 138-55-13.3 | 100 | S. SASANO (U. TOKYO) |
| NARAHOTO | 34-49-38.1 | 138- 3-48.6 | 270 | K. TSUMURA (U. TOKYO) |
| TATEYAMA | 34-57-12.3 | 139-50-56.1 | 0 | T. ASANUMA AND OTHERS (CHIBA U.) |
| HATSUSHIMA | 35- 2- 6.2 | 139-10-32.1 | 46 | K. ISHIBASHI (I. I. S. E. E.) |

| STATION | LATITUDE | LONGITUDE | H | STATION | LATITUDE | LONGITUDE | H |
|---------|------------|-------------|-----|---------|------------|-------------|-----|
| OYO 01 | 34-52-43.9 | 138-56-6.7 | 262 | OYO 41 | 34-50-23.2 | 138-55-29.6 | 510 |
| OYO 02 | 34-52-40.6 | 138-56-5.9 | 275 | OYO 42 | 34-50-19.9 | 138-55-28.0 | 522 |
| OYO 03 | 34-52-37.7 | 138-56-4.5 | 282 | OYO 43 | 34-50-17.0 | 138-55-25.1 | 522 |
| OYO 04 | 34-52-34.6 | 138-56-3.0 | 287 | OYO 44 | 34-50-14.0 | 138-55-23.5 | 520 |
| OYO 05 | 34-52-31.1 | 138-56-2.8 | 295 | OYO 45 | 34-50-10.1 | 138-55-24.5 | 530 |
| OYO 06 | 34-52-27.7 | 138-56-1.2 | 295 | OYO 46 | 34-50-7.3 | 138-55-22.5 | 522 |
| OYO 07 | 34-52-25.3 | 138-56-0.0 | 300 | OYO 47 | 34-50-3.9 | 138-55-21.7 | 528 |
| OYO 08 | 34-52-22.2 | 138-55-58.6 | 260 | OYO 48 | 34-50-1.1 | 138-55-19.7 | 535 |
| OYO 09 | 34-52-20.4 | 138-55-55.3 | 270 | S1-1 | 35-9-12.2 | 138-57-24.7 | 197 |
| OYO 10 | 34-52-17.6 | 138-55-52.5 | 285 | S1-2 | 35-9-10.7 | 138-57-21.2 | 186 |
| OYO 11 | 34-52-15.0 | 138-55-50.3 | 295 | S1-3 | 35-9-9.2 | 138-57-17.7 | 185 |
| OYO 12 | 34-52-12.2 | 138-55-49.3 | 310 | S1-4 | 35-9-8.1 | 138-57-14.0 | 178 |
| OYO 13 | 34-52-7.7 | 138-55-47.4 | 322 | S1-5 | 35-9-8.3 | 138-57-10.1 | 178 |
| OYO 14 | 34-52-5.2 | 138-55-45.0 | 340 | S1-6 | 35-9-5.6 | 138-57-7.5 | 173 |
| OYO 15 | 34-52-3.1 | 138-55-41.3 | 355 | S2-1 | 35-1-31.3 | 138-58-21.2 | 164 |
| OYO 16 | 34-52-1.0 | 138-55-38.7 | 360 | S2-2 | 35-1-32.4 | 138-58-17.5 | 175 |
| OYO 17 | 34-51-59.0 | 138-55-34.7 | 367 | S2-3 | 35-1-31.6 | 138-58-13.7 | 175 |
| OYO 18 | 34-51-56.1 | 138-55-33.6 | 376 | S2-4 | 35-1-30.8 | 138-58-10.1 | 180 |
| OYO 19 | 34-51-53.2 | 138-55-31.6 | 386 | S2-5 | 35-1-31.3 | 138-58-6.0 | 168 |
| OYO 20 | 34-51-50.4 | 138-55-30.6 | 395 | S2-6 | 35-1-31.9 | 138-58-1.9 | 160 |
| OYO 21 | 34-51-47.6 | 138-55-28.6 | 403 | S3-1 | 34-53-45.6 | 138-56-16.6 | 227 |
| OYO 22 | 34-51-44.5 | 138-55-27.8 | 408 | S3-2 | 34-53-46.2 | 138-56-12.7 | 220 |
| OYO 23 | 34-51-40.8 | 138-55-27.2 | 415 | S3-3 | 35-53-47.6 | 138-56-9.1 | 220 |
| OYO 24 | 34-51-37.5 | 138-55-26.8 | 422 | S3-4 | 34-53-48.6 | 138-56-5.4 | 210 |
| OYO 25 | 34-51-11.7 | 138-55-37.7 | 448 | S3-5 | 34-53-50.5 | 138-56-2.4 | 200 |
| OYO 26 | 34-51-9.8 | 138-55-35.5 | 448 | S3-6 | 34-53-52.9 | 138-55-59.9 | 190 |
| OYO 27 | 34-51-6.9 | 138-55-33.2 | 460 | S4-1 | 34-45-7.1 | 138-58-3.7 | 225 |
| OYO 28 | 34-51-4.1 | 138-55-30.6 | 460 | S4-2 | 34-45-10.2 | 138-58-2.6 | 223 |
| OYO 29 | 34-51-1.3 | 138-55-28.4 | 465 | S4-3 | 34-45-12.8 | 138-58-1.0 | 218 |
| OYO 30 | 34-50-59.2 | 138-55-26.3 | 465 | S4-4 | 34-45-15.5 | 138-57-58.3 | 208 |
| OYO 31 | 34-50-55.9 | 138-55-26.3 | 470 | S4-5 | 34-45-17.3 | 138-57-56.0 | 208 |
| OYO 32 | 34-50-52.7 | 138-55-26.1 | 470 | S4-6 | 34-45-20.3 | 138-57-53.7 | 205 |
| OYO 33 | 34-50-49.6 | 138-55-26.1 | 480 | S5-1 | 34-41-11.8 | 138-55-16.9 | 128 |
| OYO 34 | 34-50-46.0 | 138-55-28.2 | 480 | S5-2 | 34-41-14.4 | 138-55-16.8 | 117 |
| OYO 35 | 34-50-42.4 | 138-55-28.2 | 490 | S5-3 | 34-41-16.8 | 138-55-14.1 | 110 |
| OYO 36 | 34-50-39.3 | 138-55-29.2 | 490 | S5-4 | 34-41-17.3 | 138-55-11.4 | 100 |
| OYO 37 | 34-50-36.2 | 138-55-30.6 | 495 | S5-5 | 34-41-19.5 | 138-55-12.6 | 90 |
| OYO 38 | 34-50-32.9 | 138-55-32.4 | 500 | | | | |
| OYO 39 | 34-50-29.7 | 138-55-30.8 | 518 | | | | |
| OYO 40 | 34-50-26.4 | 138-55-30.2 | 512 | | | | |

る。爆破点は、静岡県三島市沢地、田方郡大仁町宗光寺、田方郡天城湯ヶ島町市山、賀茂郡河津町逆川、下田市大沢の5箇所に設けられた。Table 1には、爆破点の位置、爆破孔の深さ、薬量、爆破時刻などが与えられている。爆破孔には内径 100 mm のケーシング・パイプが入れられた。Fig. 2 には爆破孔の柱状図が示されている。各爆破点では、地表付近の速度の情報を得る目的で、爆破孔のごく近くからほぼ 100 m の間隔で 6 台の地震計を展開した。また、今回の実験は、通産省工業技術院地質調査所が他の機関の協力を得て行なっている地震波速度変化研究のための伊豆大島および南伊豆の爆破実施の時期にあわせて行なわれ、それらによる地震動も観測された。

観測点は Fig. 1 に示されるように、間隔 500~1000 m で約 78 点設けられた。記録器は主として FM アナログデータレコーダーが用いられ、一部では PCM デジタルレコ

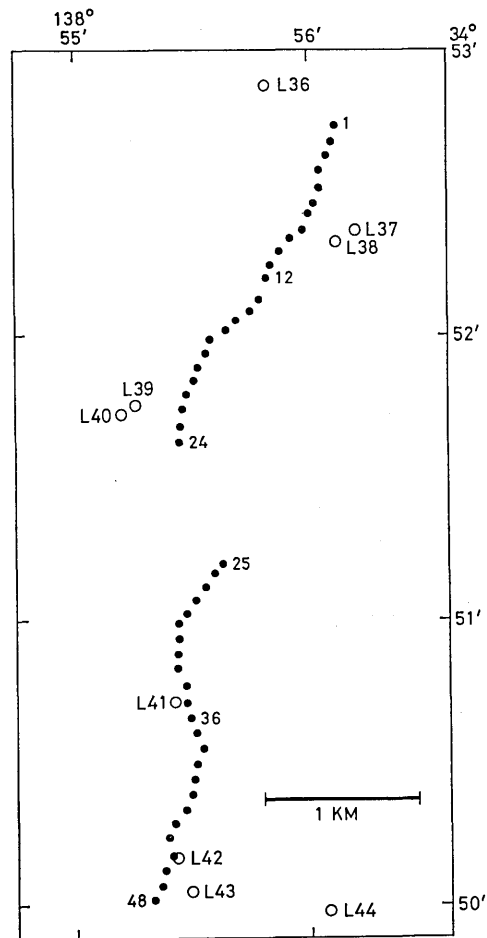


Fig. 3. 48 observation sites (solid circles).

Spacing: about 100 m.

Open circle: temporary observation sites with 2 Hz geophone near the spread.

Numerals: station numbers.

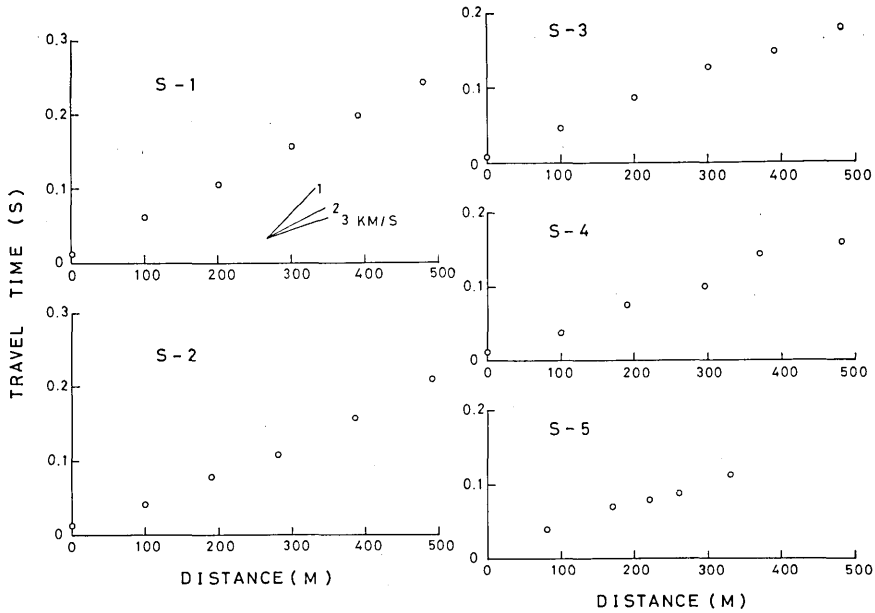


Fig. 4. Travel time graphs near the shot points.

ーダーが用いられた。大部分のデータレコーダーは電池電源で手製である（例えば、吉井他, 1979）。特性をそろえるために、地震計は Mark Products 社製の上下動地震計 L-22 D（固有振動数約 2.2 Hz）が用いられ、記録系の周波数特性も 0.5~30 Hz で平坦であるように注意が払われた。また、すべての地震計は一つの振動台で特性が検定された。上記の観測のほかに、応用地質調査事務所の請負で 12 成分の FM データレコーダ 4 台による観測（以下 OYO による観測と略す）が天城湯ヶ島町（Fig. 1 における観測点 No. 40 付近の 2 本の線）で行なわれた。地震計は固有振動数 4.5 Hz の SENSOR 社製 SM-6 の上下動地震計が用いられ、地震計間隔は約 100 m であった。Fig. 3 には、これら 48 台の地震計の配置が示されている。Table 2 には全観測点の位置、高度、観測者などが与えられている。

先に述べたように、地表付近の速度を求めるために、各爆破点近傍で 6 点の観測を行なった。得られた走時データは Table 3 に他の走時データとともに与えられており、走時図は Fig. 4 に示されているが、これより地表付近の P 波速度は 2~3 km/s であることがわかる。

Fig. 5 には約 78 点のデータレコーダーによる観測で得られた記録が示されている。この記録をみると、遠方の少数の記録を除いて、大部分の初動がきわめて明瞭であること、目立った後続波がほとんど認められないことなどがわかる。先に述べたように、伊豆大島の爆破による地震動も全観測点で観測したが、爆破の約 3 s 前に、房総半島・伊豆大島間に震央を持つ自然地震が発生し、観測点 No. 47 より北の観測点では、その地震動が爆破による地震動より早く到着してしまった。

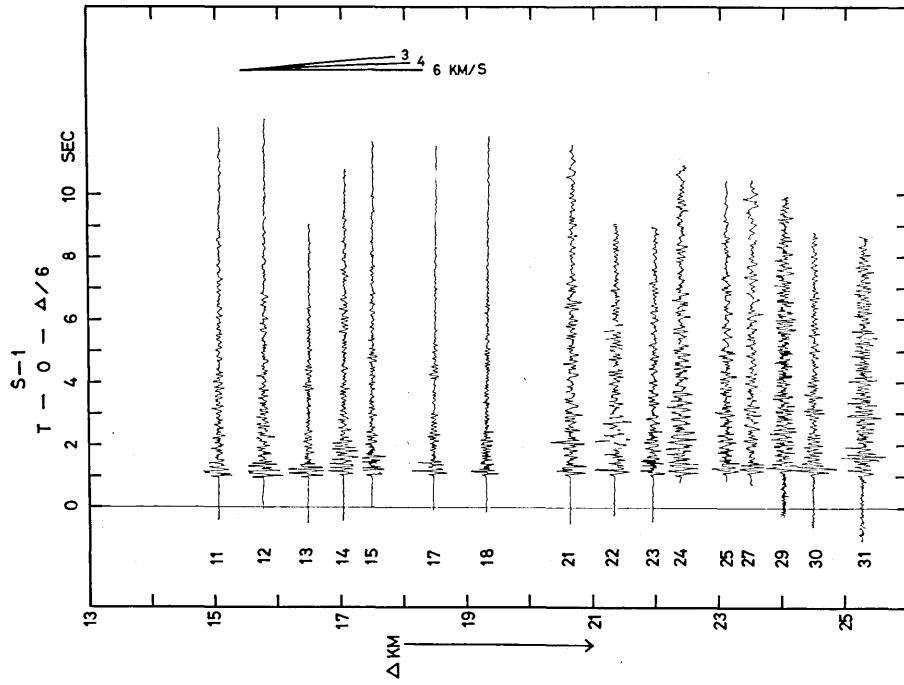


Fig. 5-1. Record section of temporary observation sites with 2 Hz geophone, No. 1-10 for the shot S-1. Numerals at the top of each trace show station numbers.

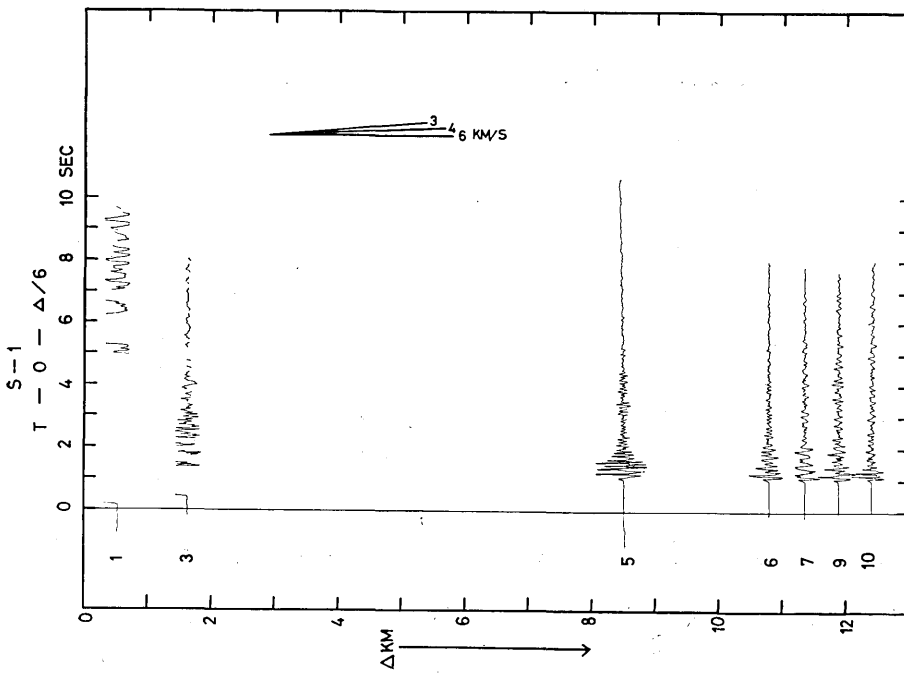


Fig. 5-2. No. 11-31 for the shot S-1.

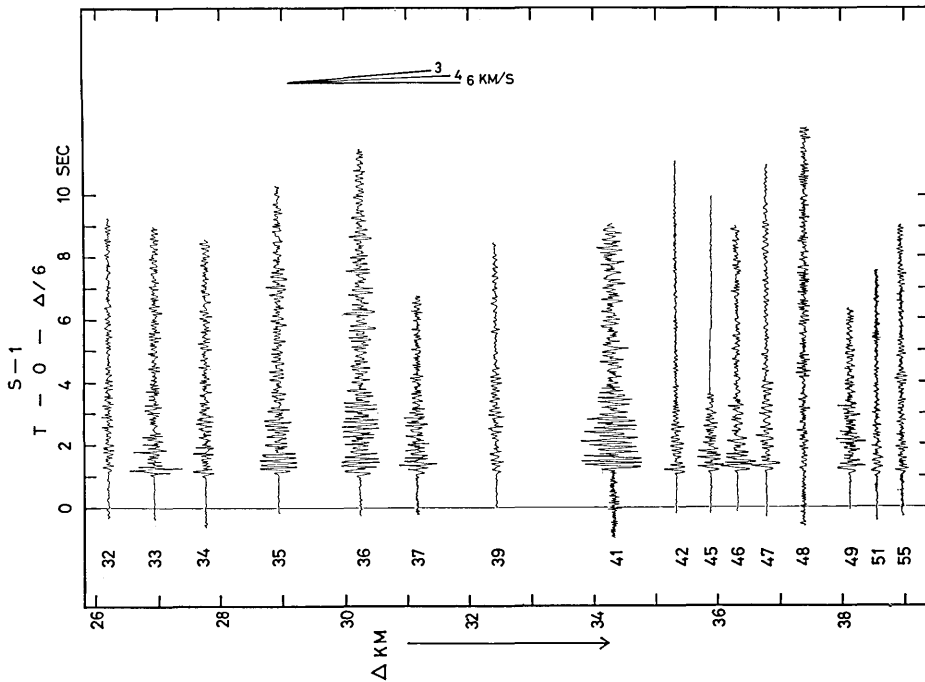


Fig. 5-3. No. 32-55 for the shot S-1.

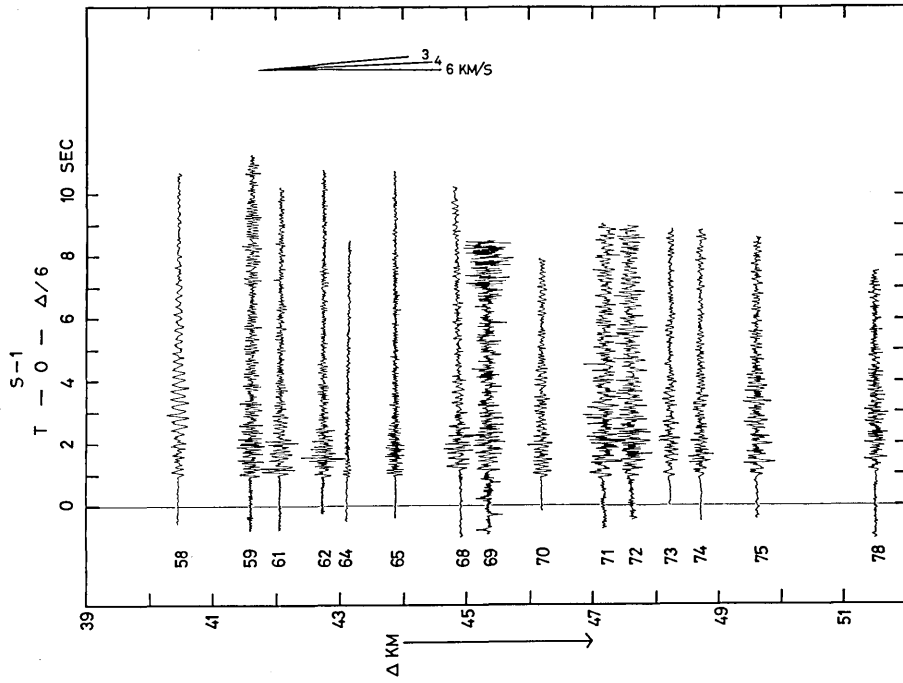


Fig. 5-4. No. 58-78 for the shot S-1.

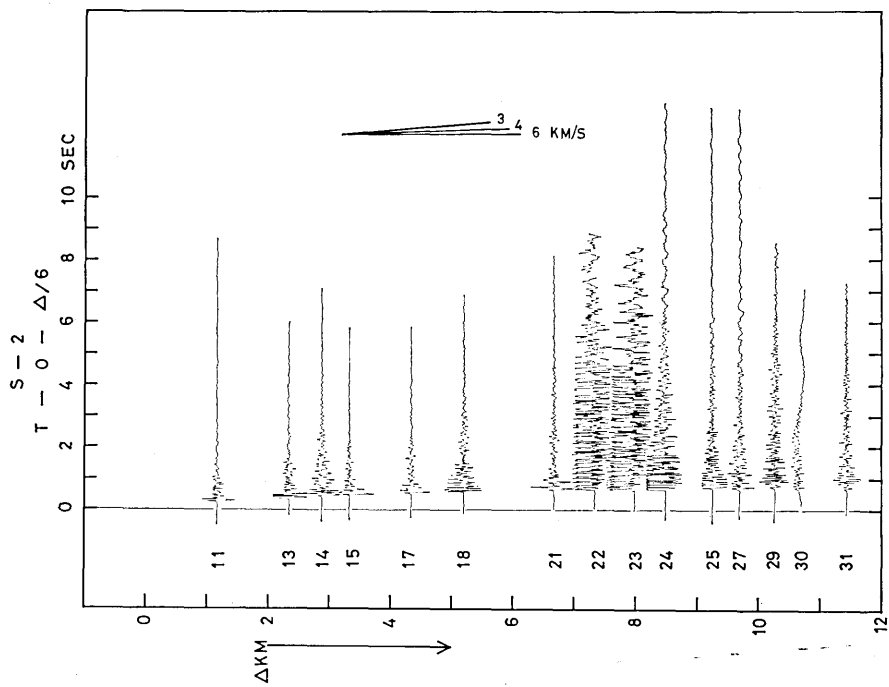


Fig. 5-6. No. 11-31 for the shot S-2.

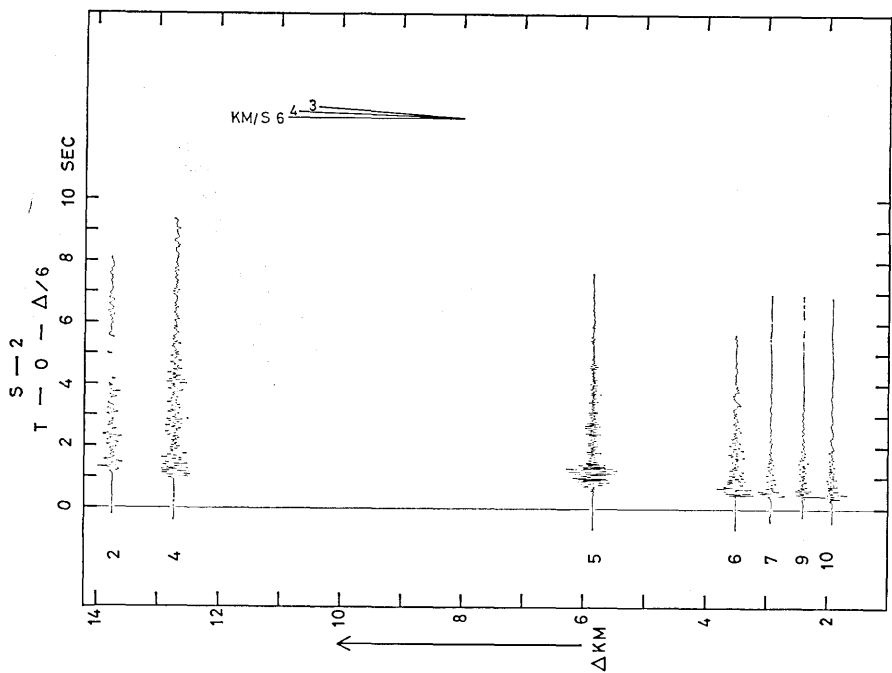


Fig. 5-5. No. 2-10 for the shot S-2.

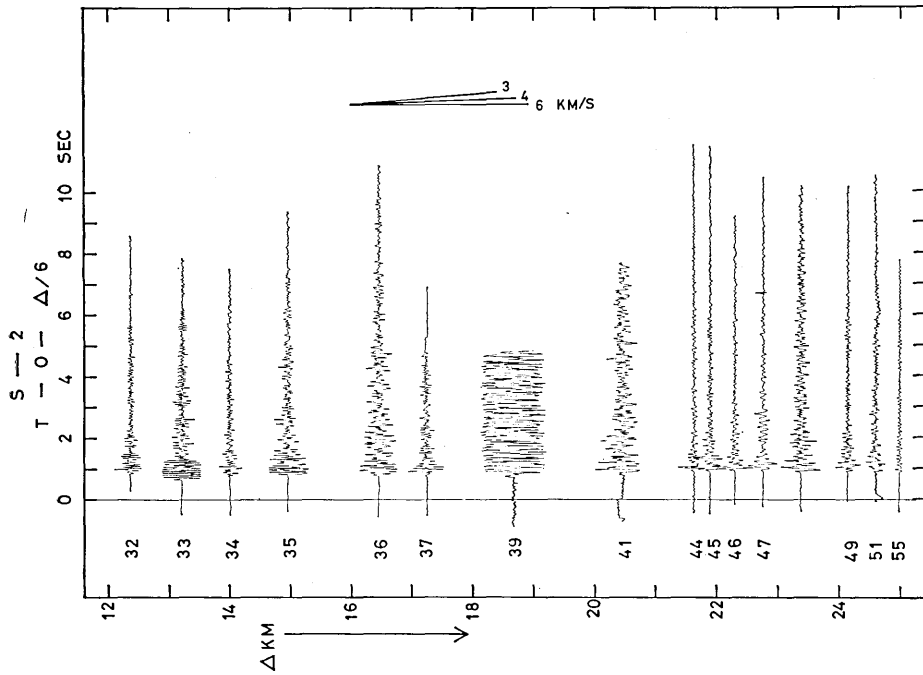


Fig. 5-7. No. 32-55 for the shot S-2.

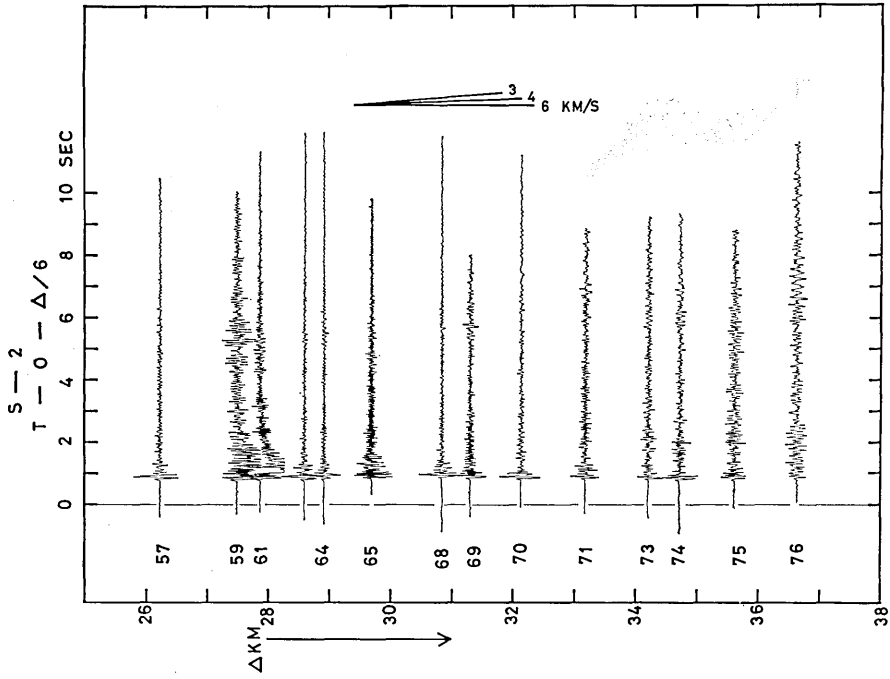


Fig. 5-8. No. 57-76 for the shot S-2.

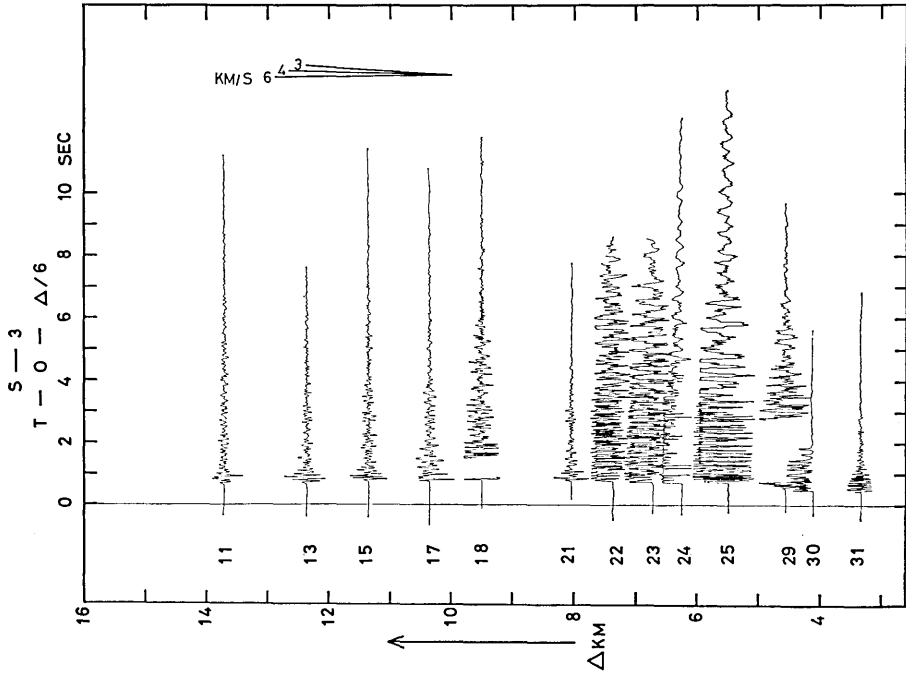


Fig. 5-10. No. 11-31 for the shot S-3.

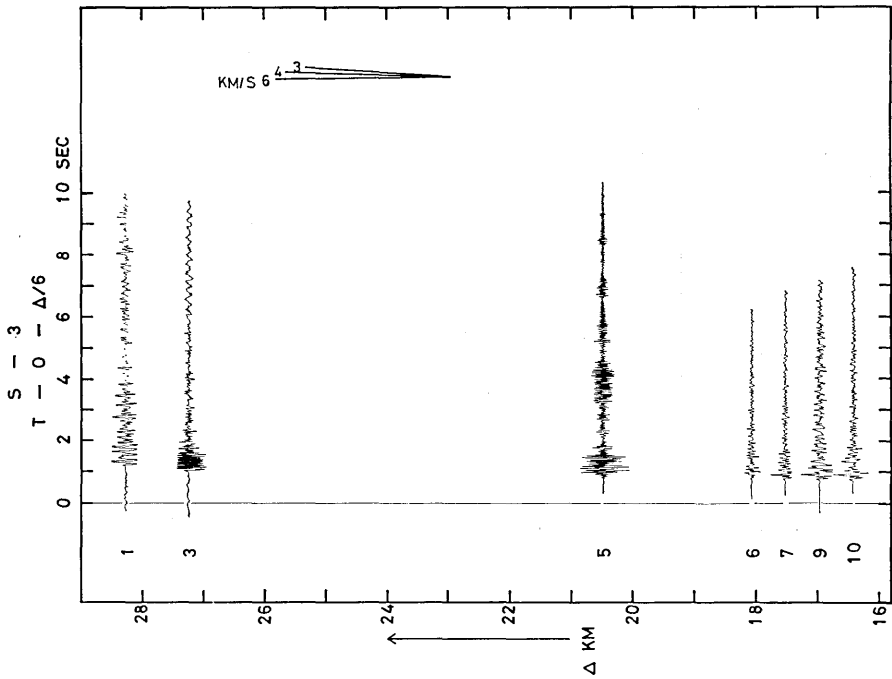


Fig. 5-9. No. 1-10 for the shot S-3.

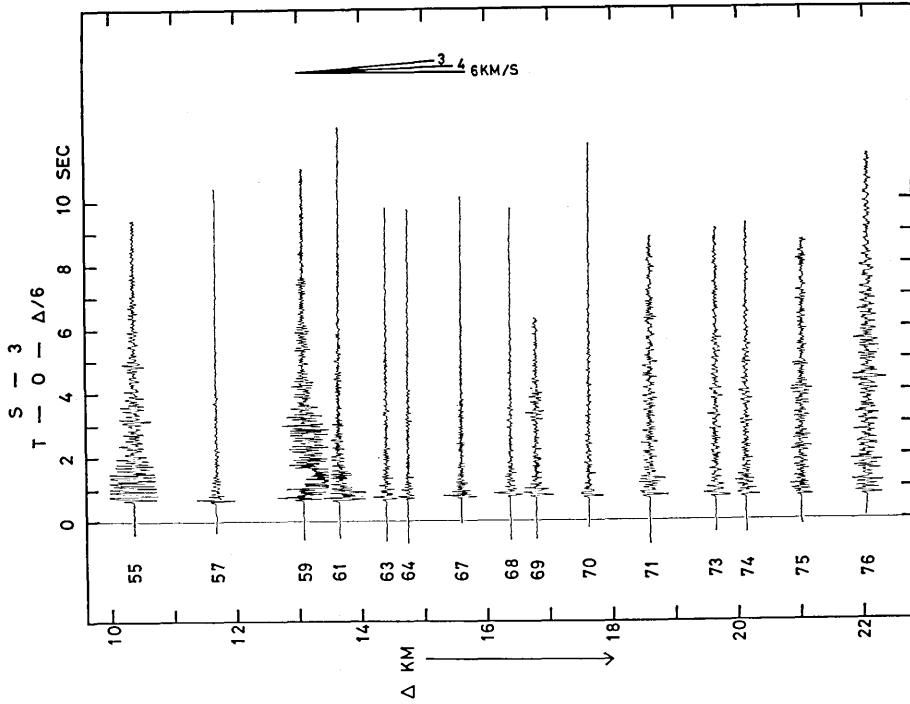


Fig. 5-12. No. 55-76 for the shot S-3.

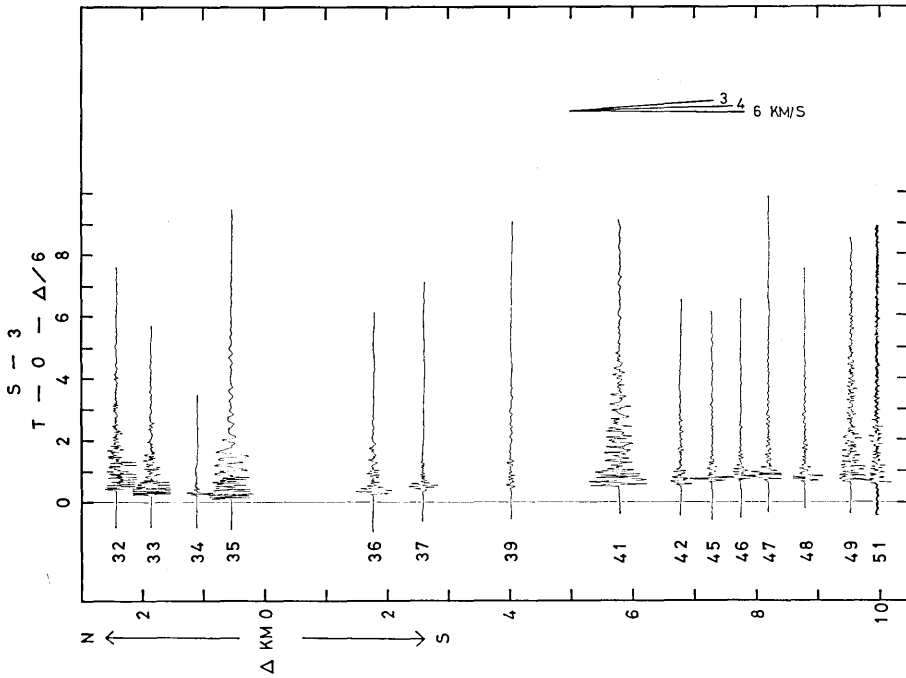


Fig. 5-11. No. 32-51 for the shot S-3.

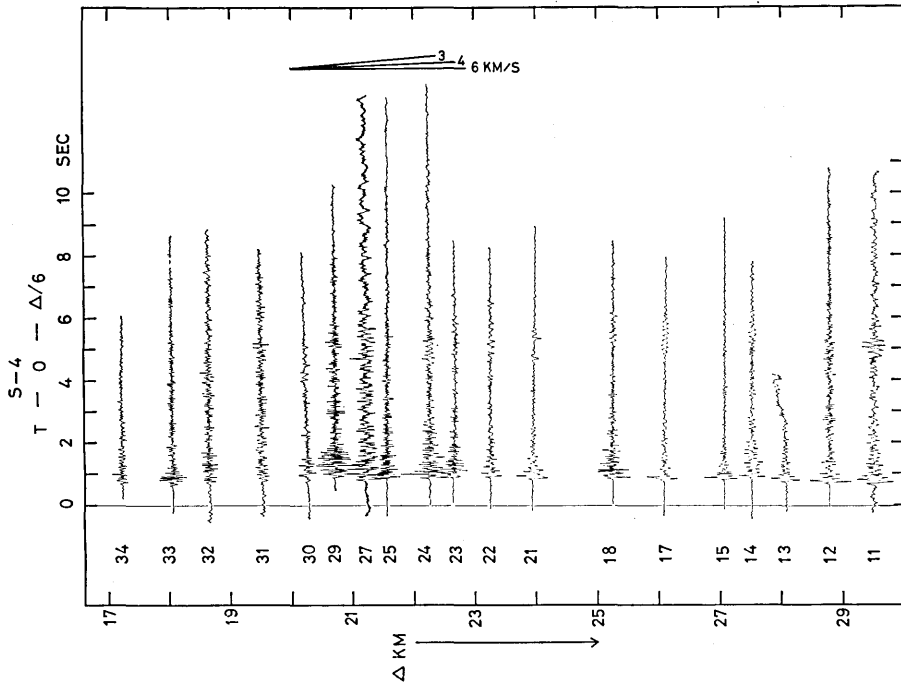


Fig. 5-14. No. 34-11 for the shot S-4.

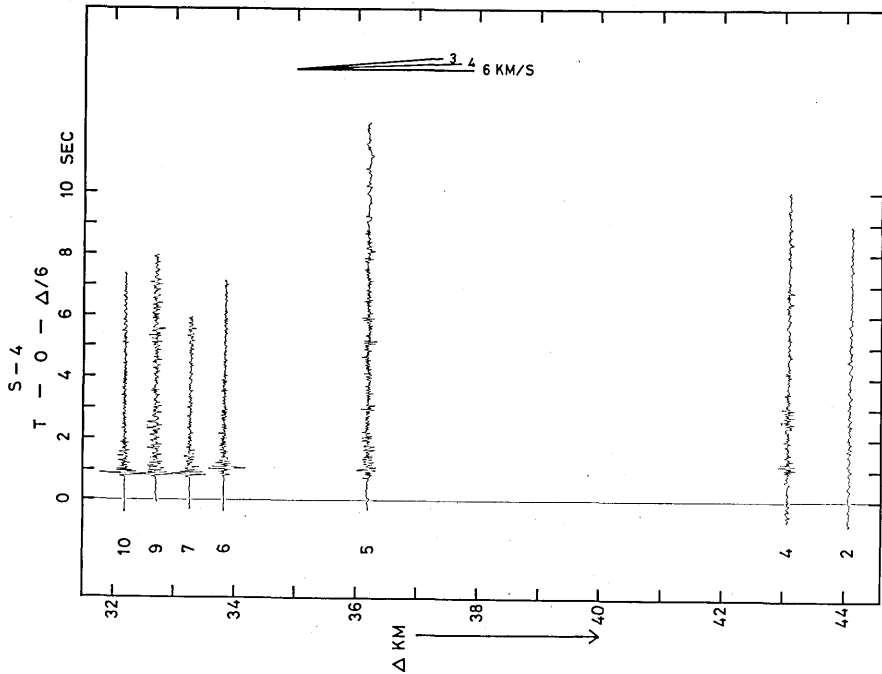


Fig. 5-13. No. 10-2 for the shot S-4.

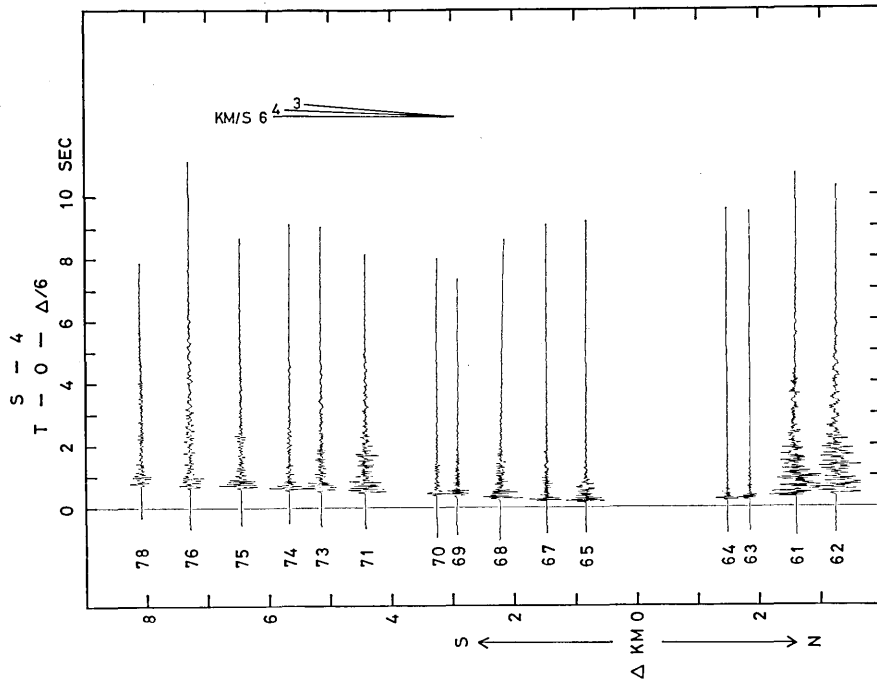


Fig. 5-16. No. 78-62 for the shot S-4.

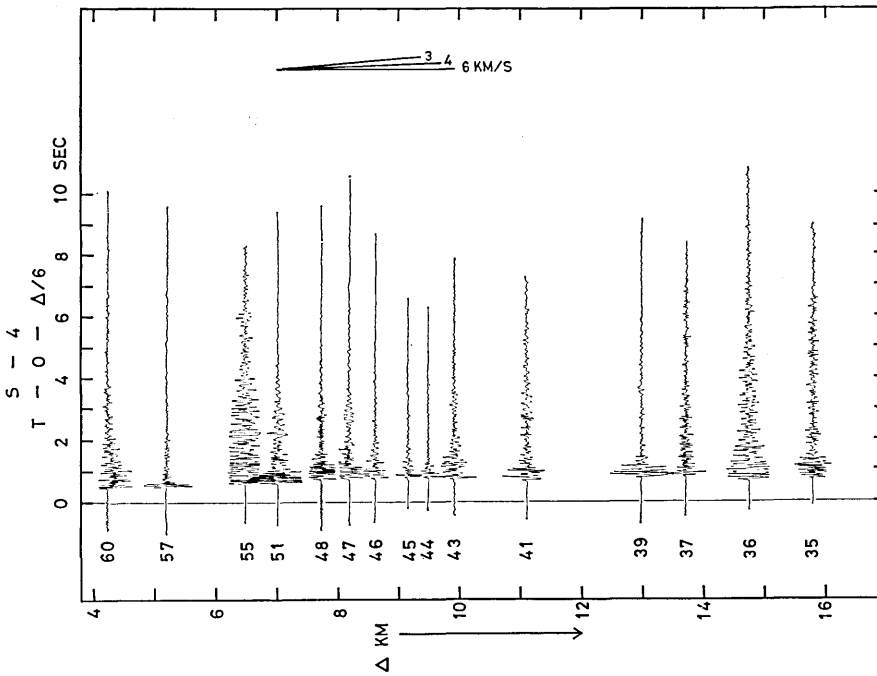


Fig. 5-15. No. 60-35 for the shot S-4.

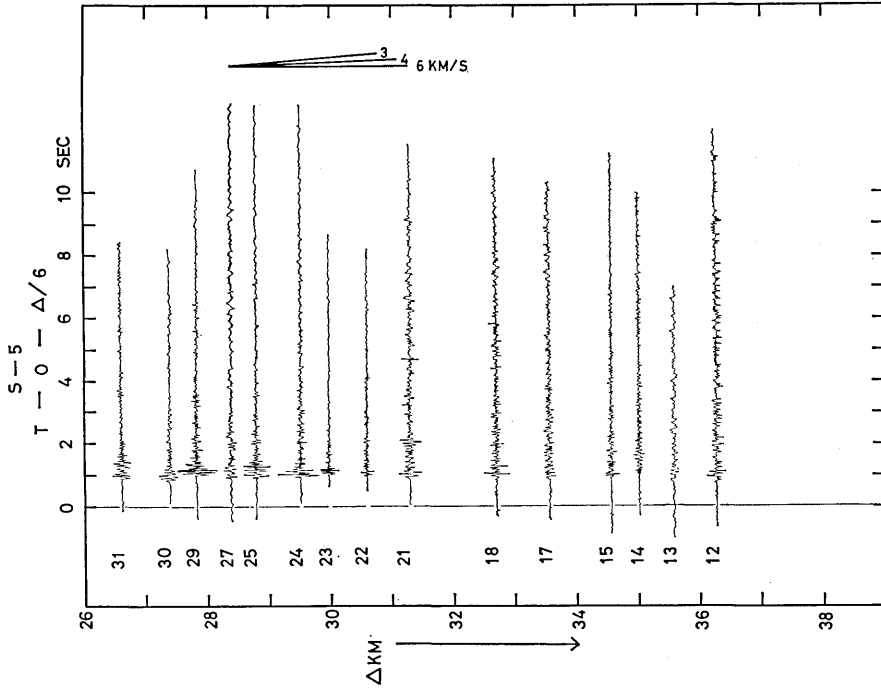


Fig. 5-18. No. 81-12 for the shot S-5.

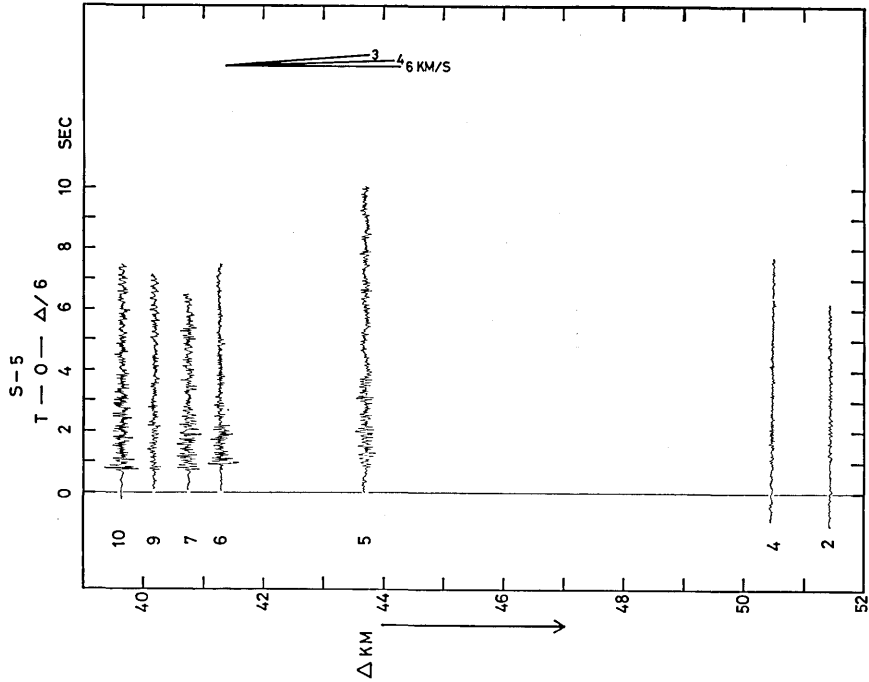


Fig. 5-17. No. 10-2 for the shot S-5.

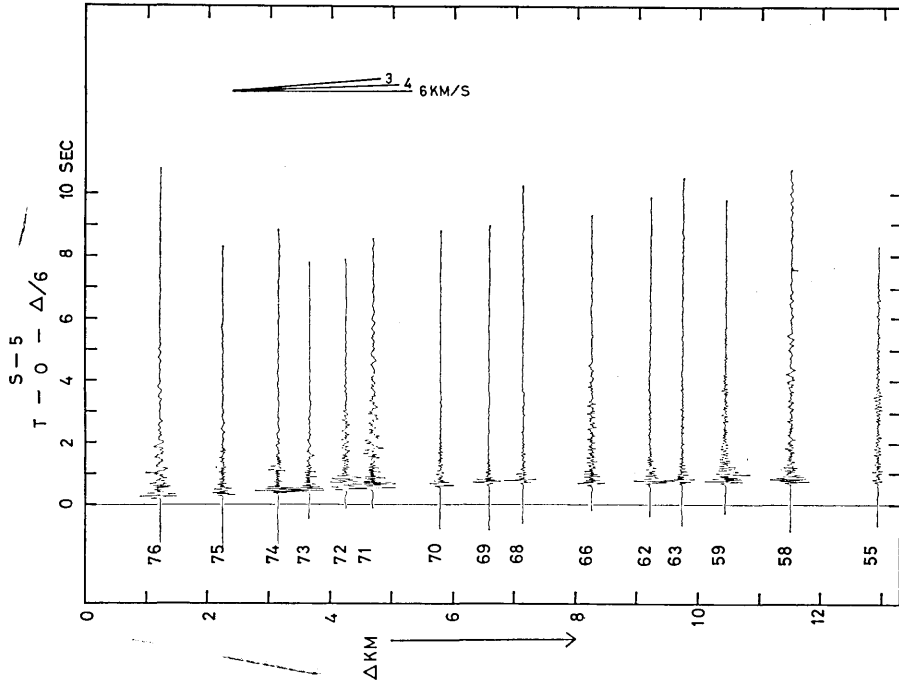


Fig. 5-20. No. 76-55 for the shot S-5.

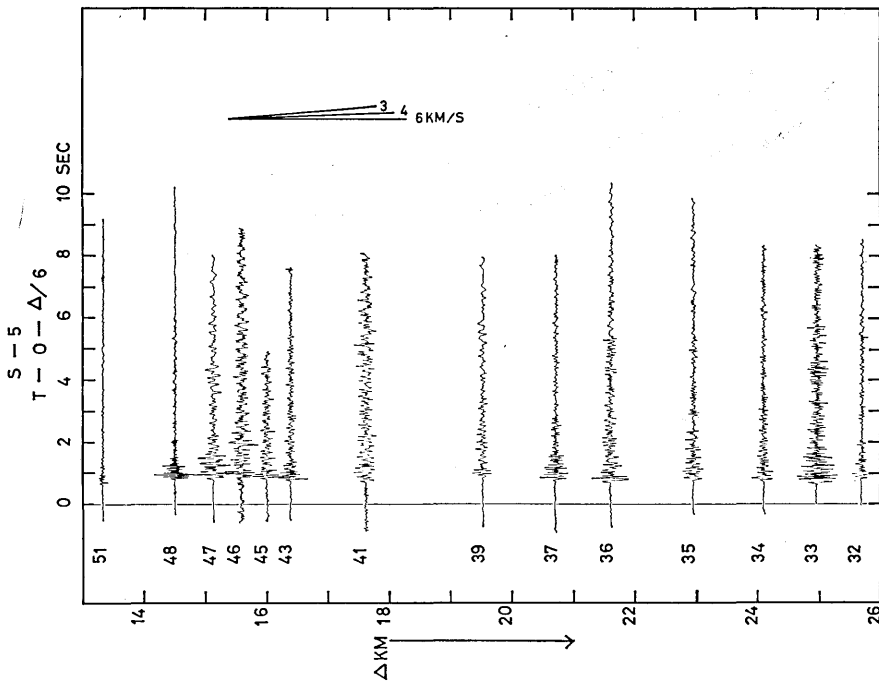


Fig. 5-19. No. 51-32 for the shot S-5.

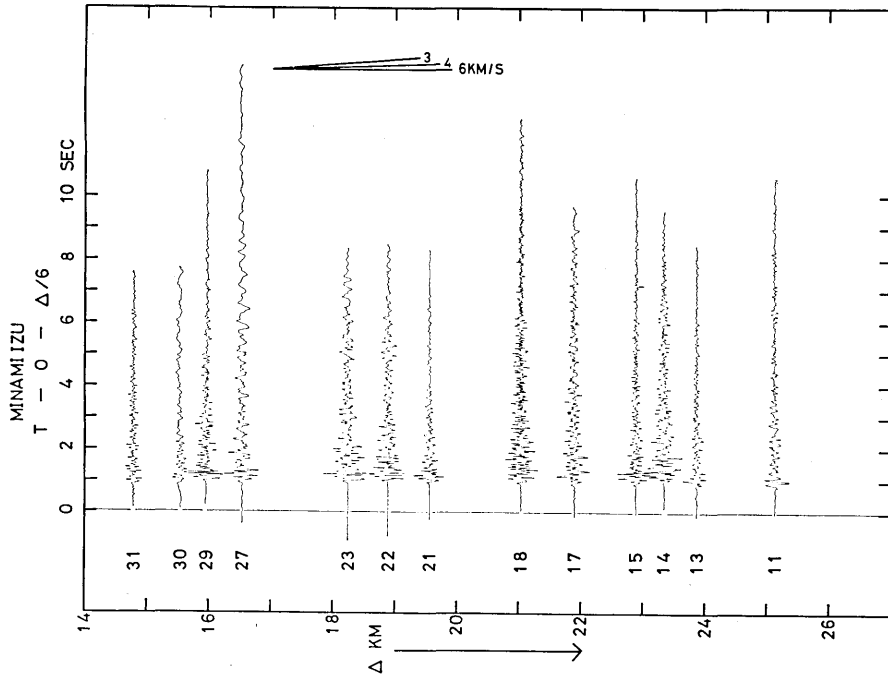


Fig. 5-22. No. 31-11 for the Minami Izu shot.

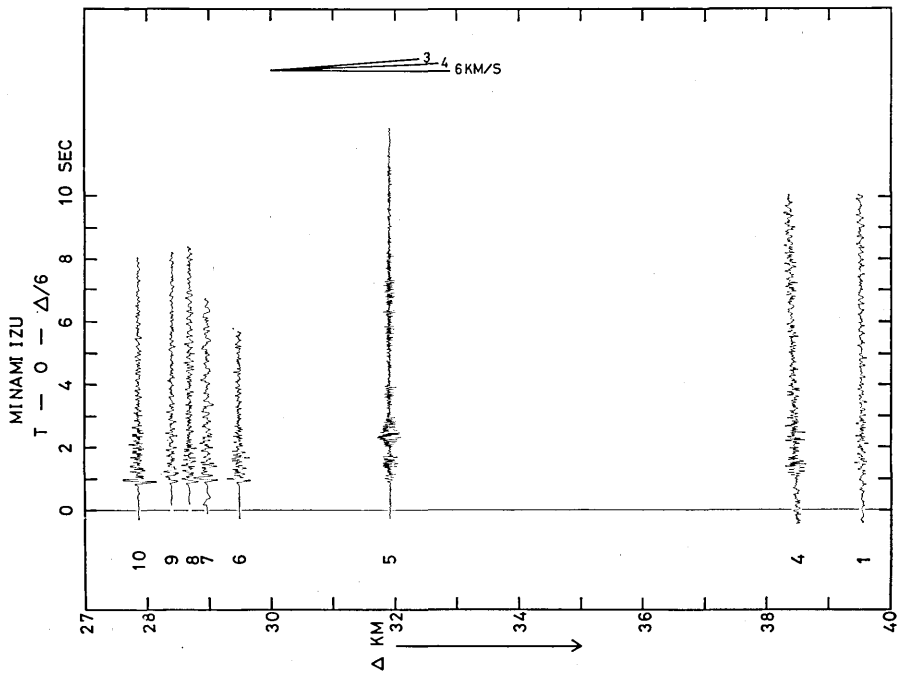


Fig. 5-21. No. 10-1 for the Minami Izu shot.

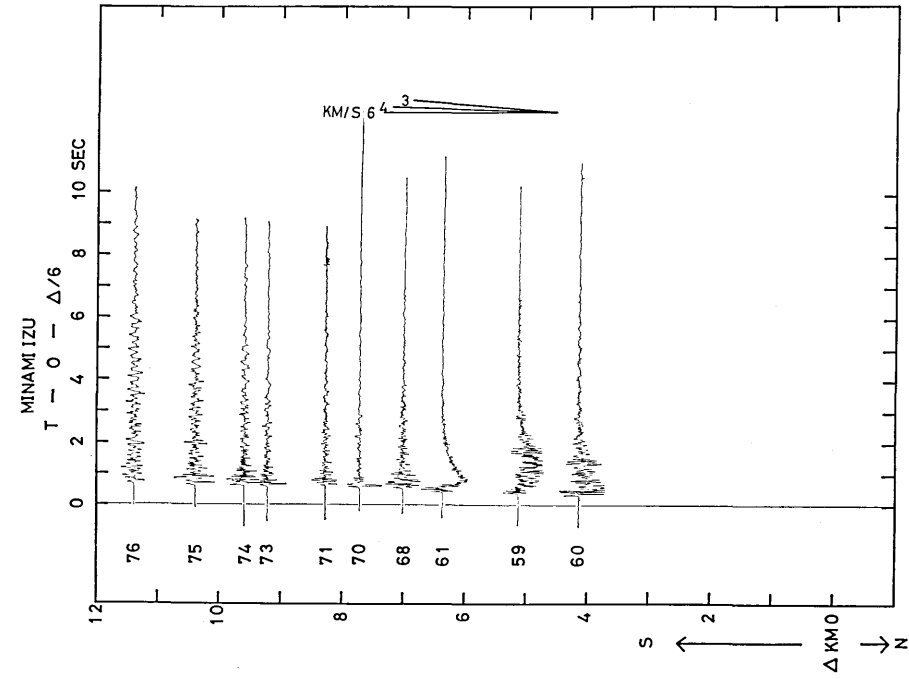


Fig. 5-24. No. 76-60 for the Minami Izu shot.

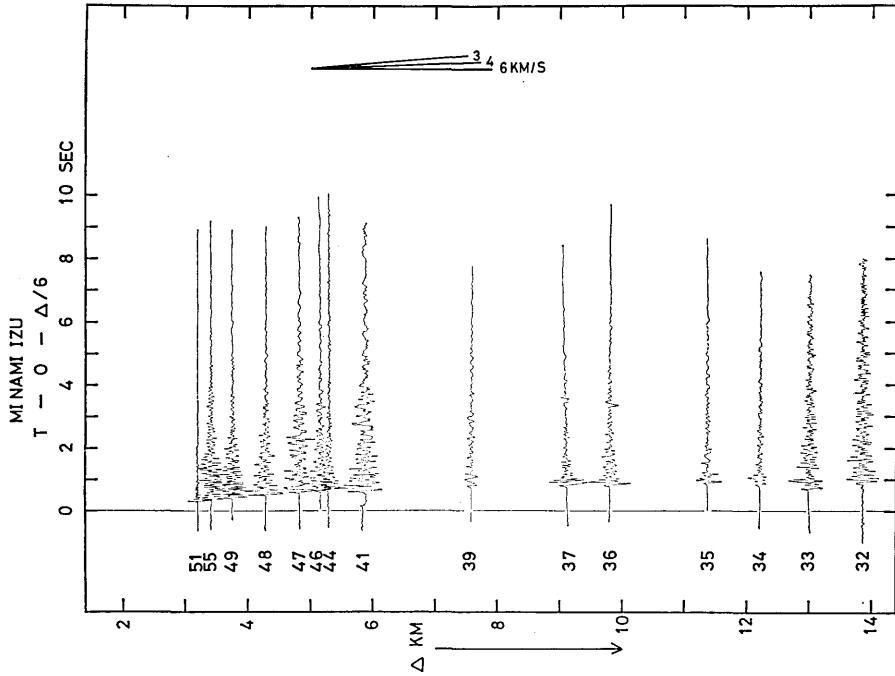


Fig. 5-23. No. 51-32 for the Minami Izu shot.

DEC 6 2^h 02^m S - 1

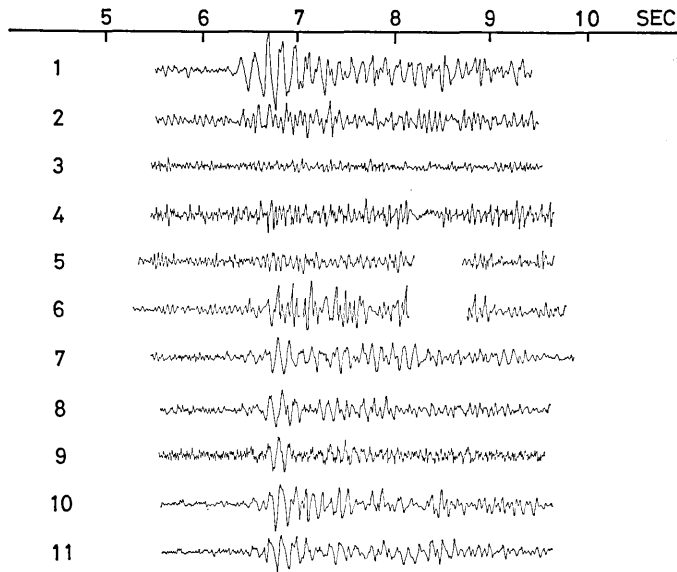


Fig. 6-1. Seismograms of No. 1-10 of 48 observation sites with 4.5 Hz geophone for the shot S-1. In all of Fig. 6, downward movement in each trace corresponds to upward ground movement.

S - 1

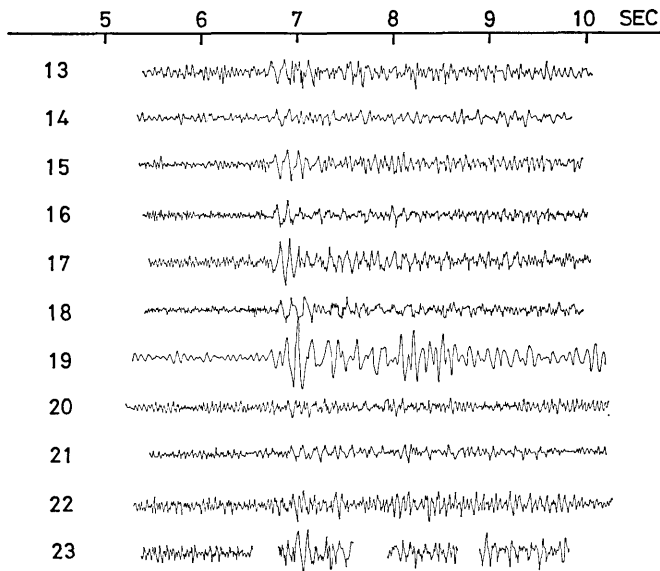


Fig. 6-2. No. 13-23 for the shot S-1.

S - 1

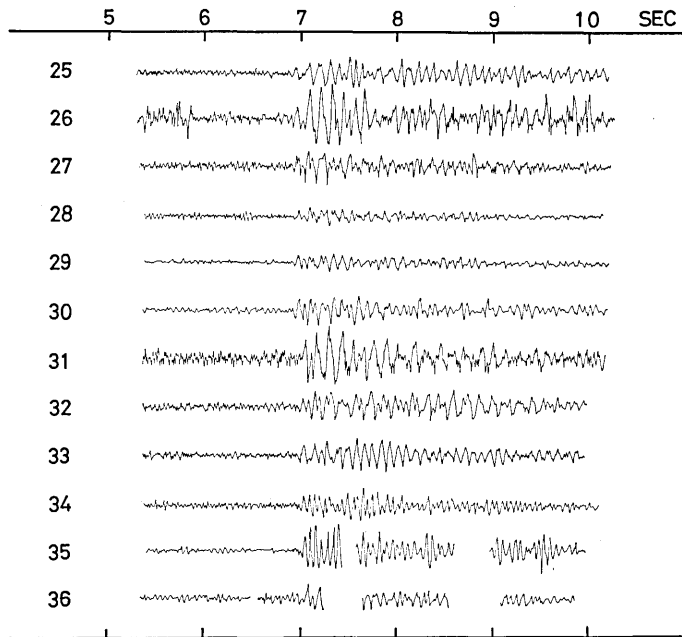


Fig. 6-3. No. 24-36 for the shot S-1.

S - 1

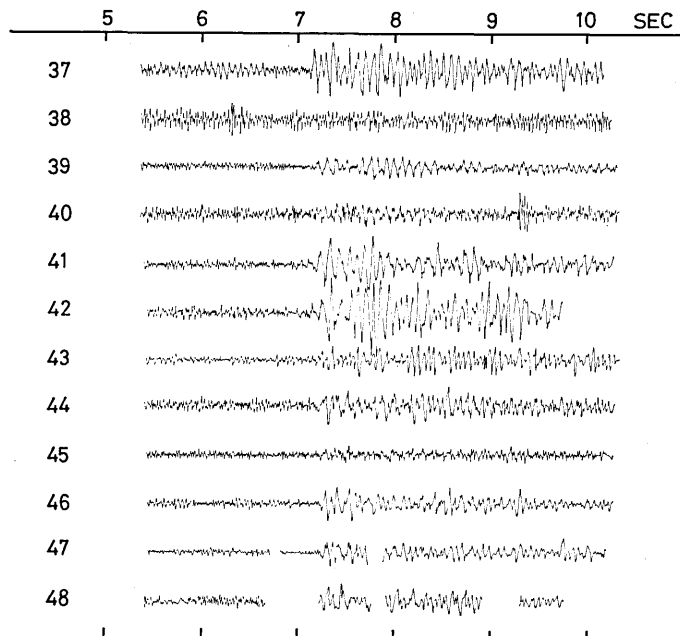


Fig. 6-4. No. 37-48 for the shot S-1.

DEC 5 2^h 12^m S - 2

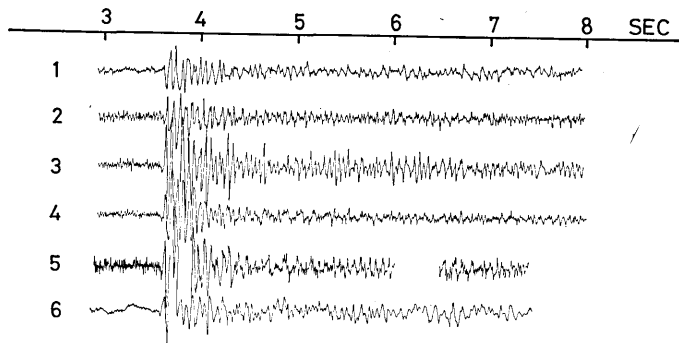


Fig. 6-5. No. 1-6 for the shot S-2.

S - 2

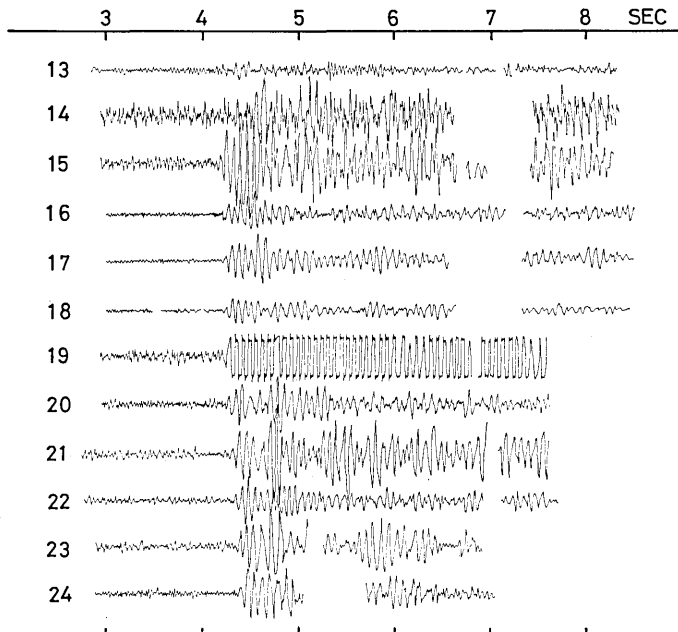


Fig. 6-6. No. 13-24 for the shot S-2.

S - 2

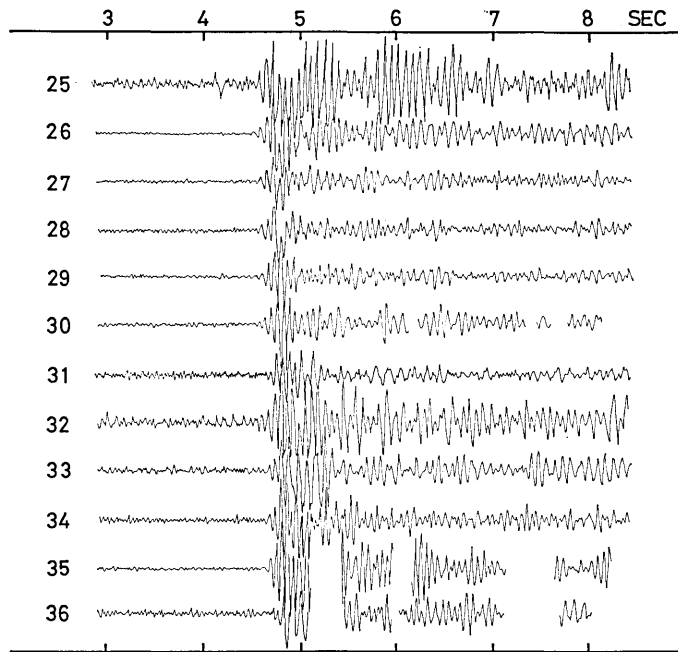


Fig. 6-7. No. 25-36 for the shot S-2.

S - 2

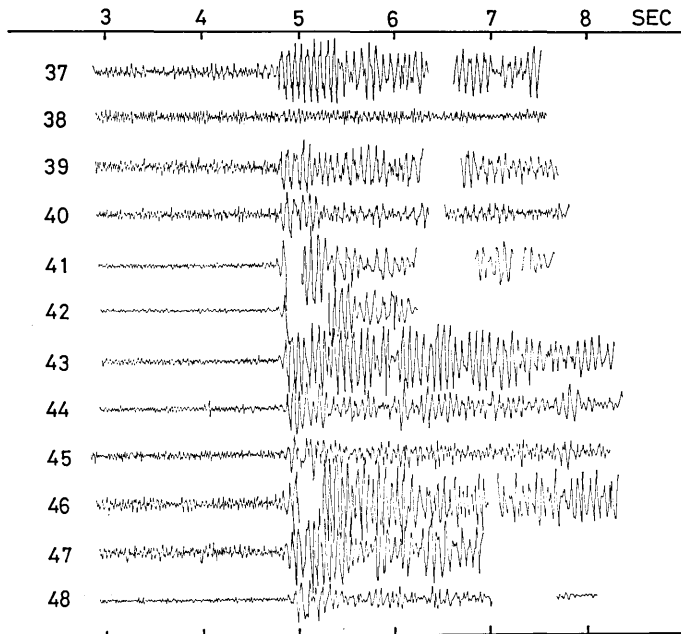


Fig. 6-8. No. 37-48 for the shot S-2.

DEC 5 1^h 12^m S - 3

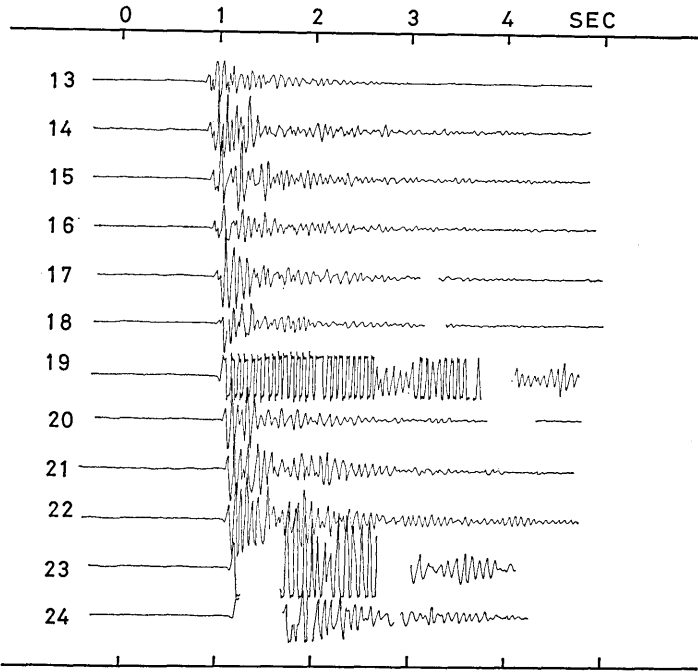


Fig. 6-9. No. 13-24 for the shot S-3.

S - 3

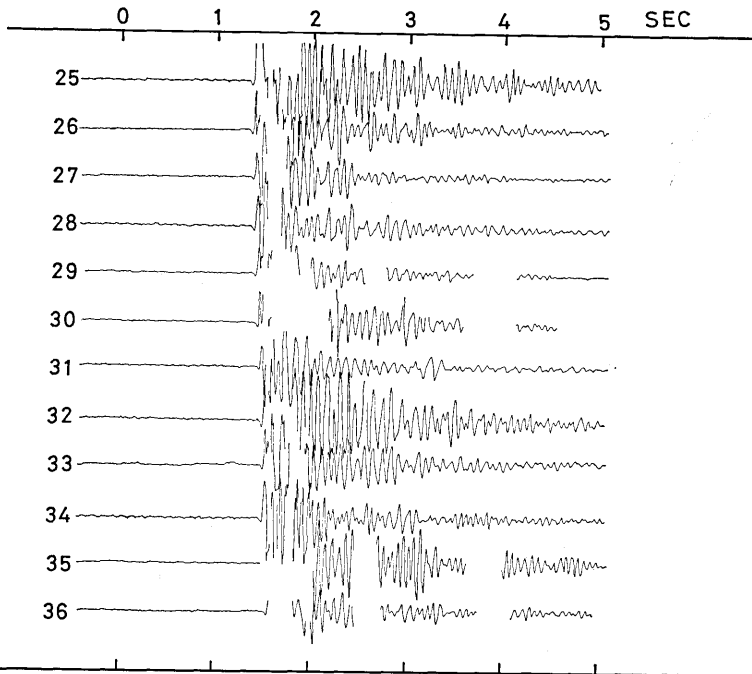


Fig. 6-10. No. 25-36 for the shot S-3.

S - 3

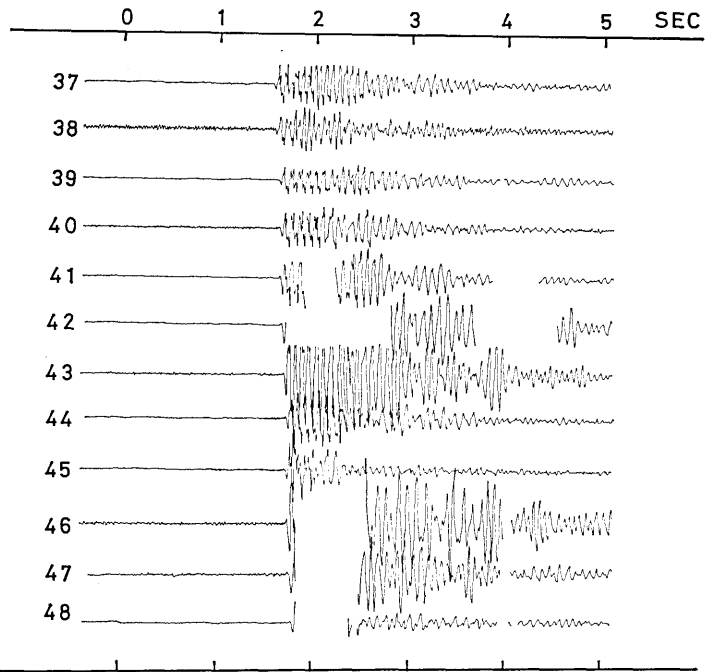


Fig. 6-11. No. 37-48 for the shot S-3.

DEC 5 1^h 02^m S - 4

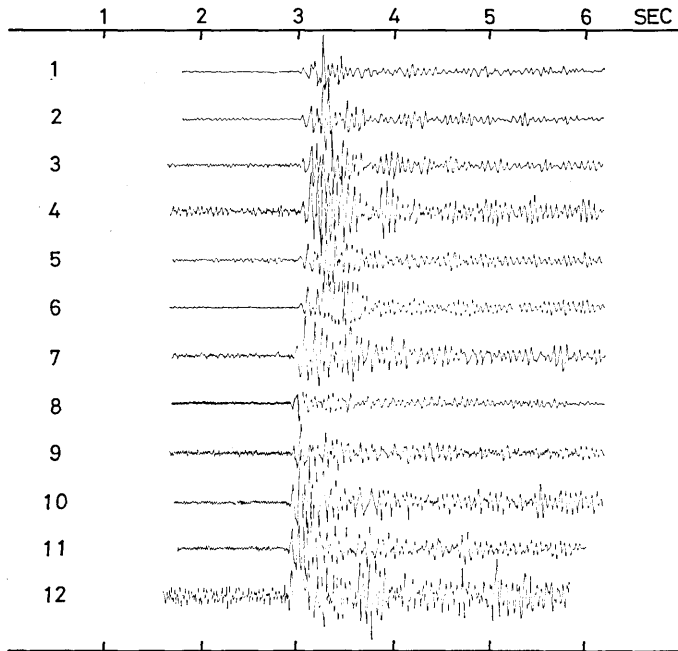


Fig. 6-12. No. 1-12 for the shot S-4.

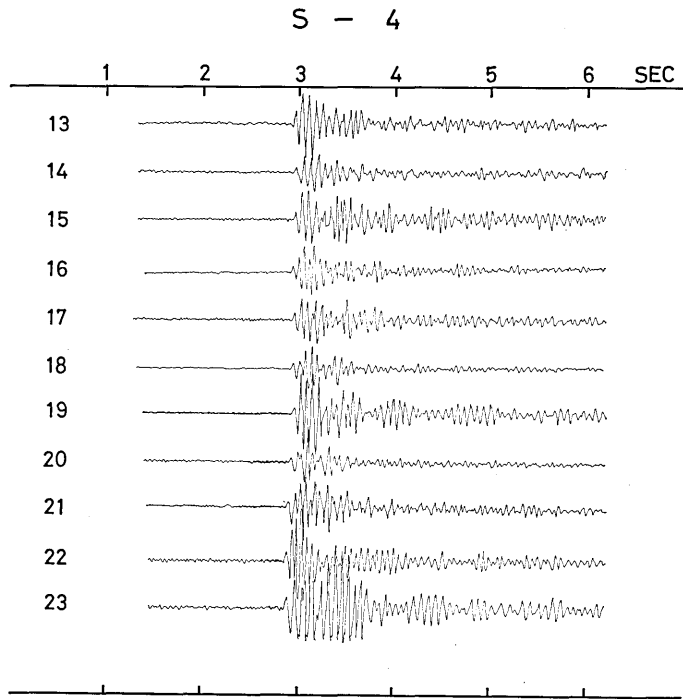


Fig. 6-13. No. 13-23 for the shot S-4.

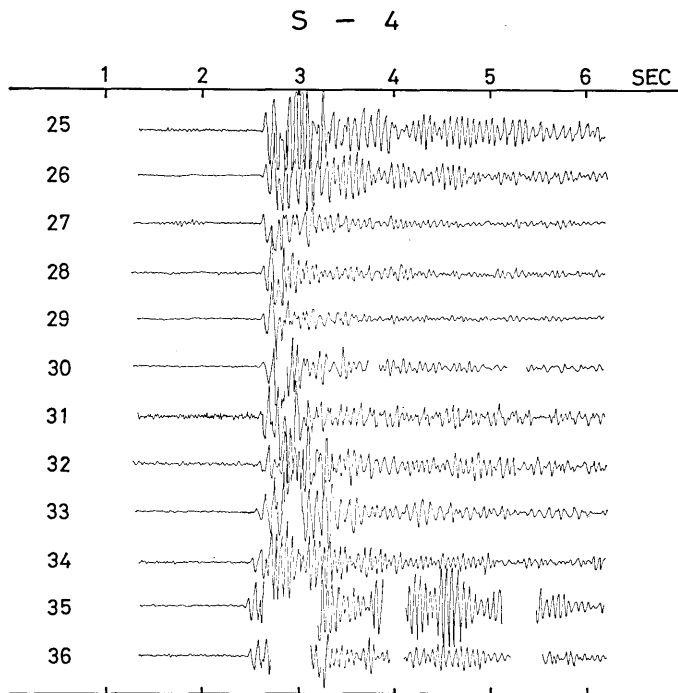


Fig. 6-14. No. 25-36 for the shot S-4.

S - 4

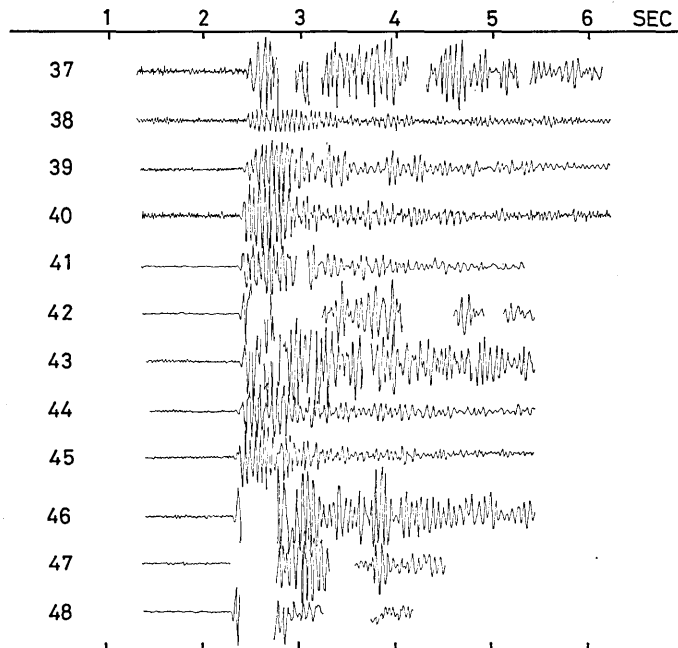


Fig. 6-15. No. 37-48 for the shot S-4.

DEC 6 1^h 12^m

S - 5

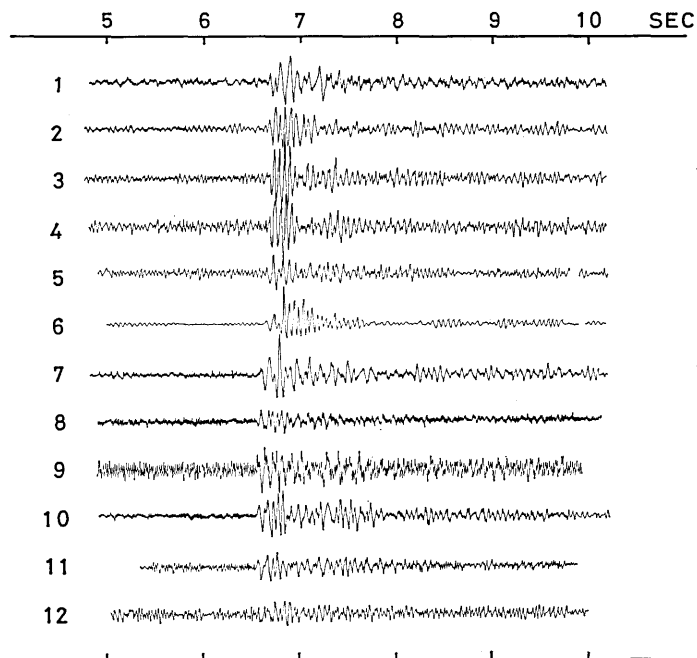


Fig. 6-16. No. 1-12 for the shot S-5.

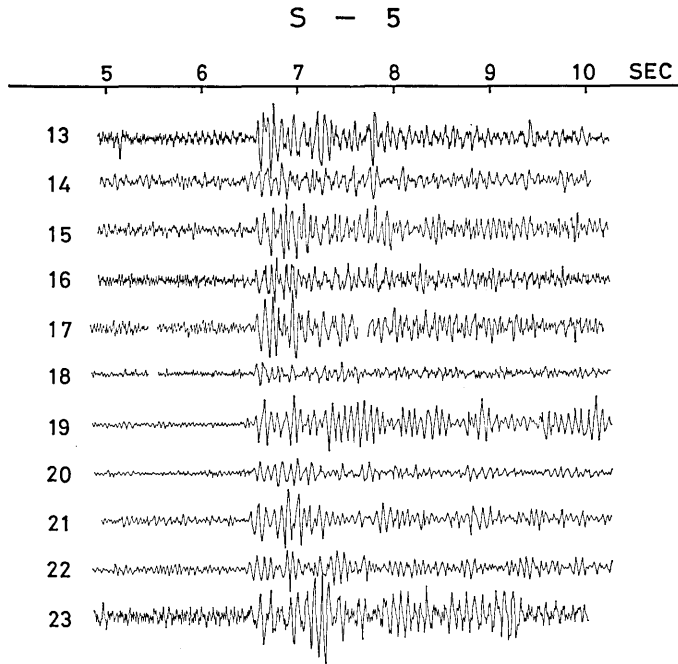


Fig. 6-17. No. 13-23 for the shot S-5.

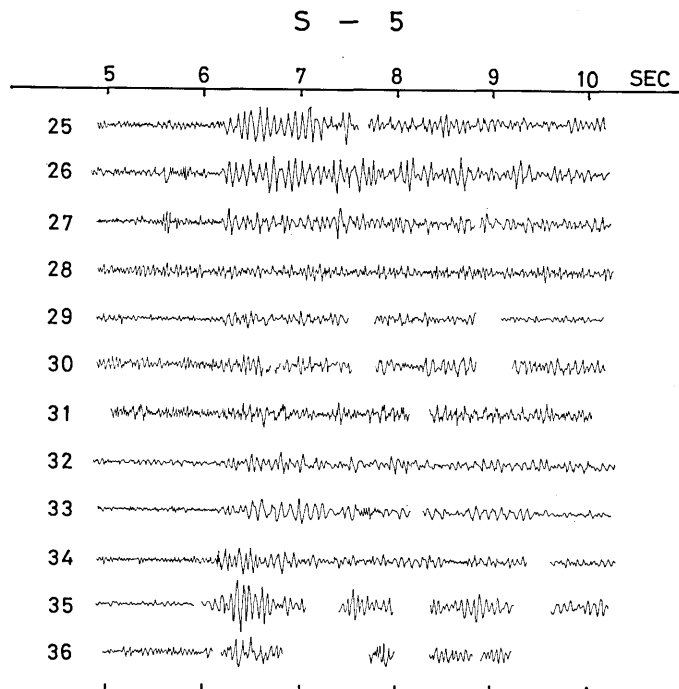


Fig. 6-18. No. 25-36 for the shot S-5.

S - 5

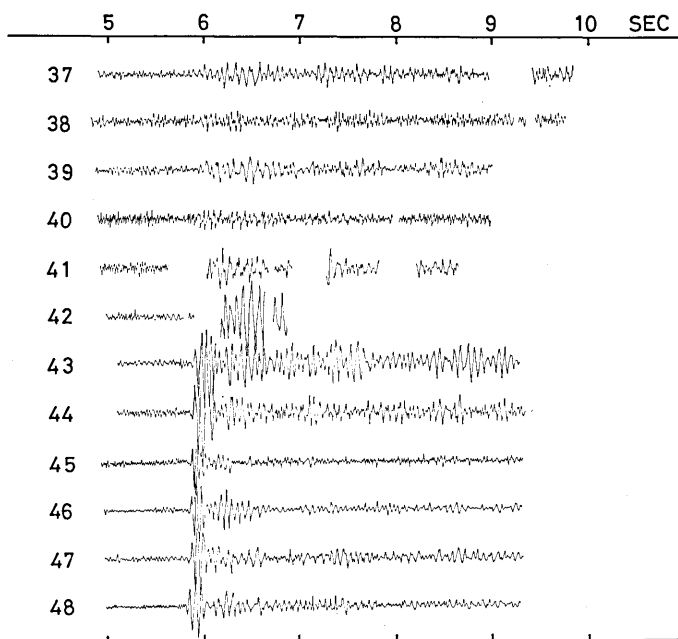


Fig. 6-19. No. 37-48 for the shot S-5.

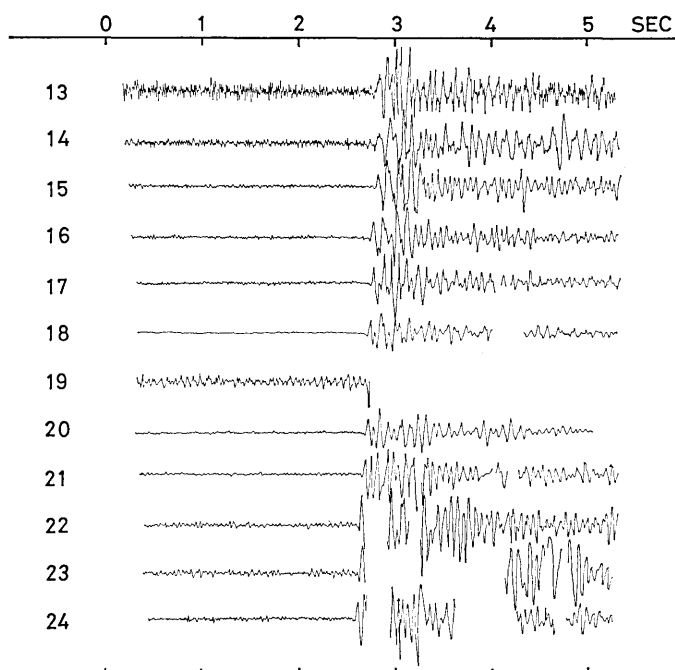
DEC 5 2^h 02^m MINAMIIZU

Fig. 6-20. No. 13-24 for the Minami Izu shot.

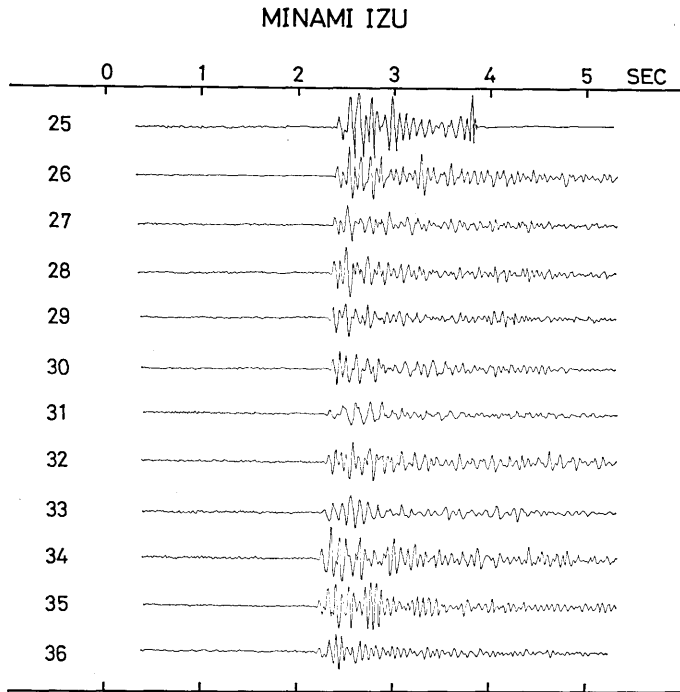


Fig. 6-21. No. 25-36 for the Minami Izu shot.

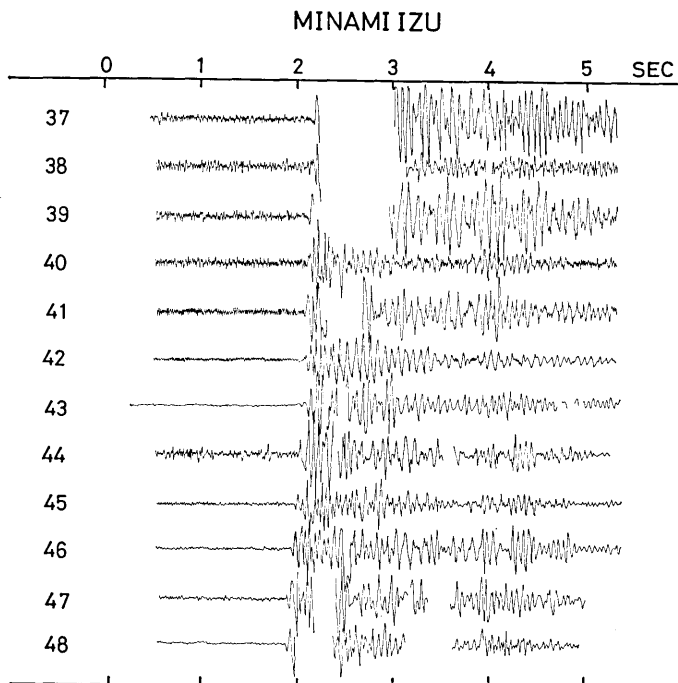


Fig. 6-22. No. 37-48 for the Minami Izu shot.

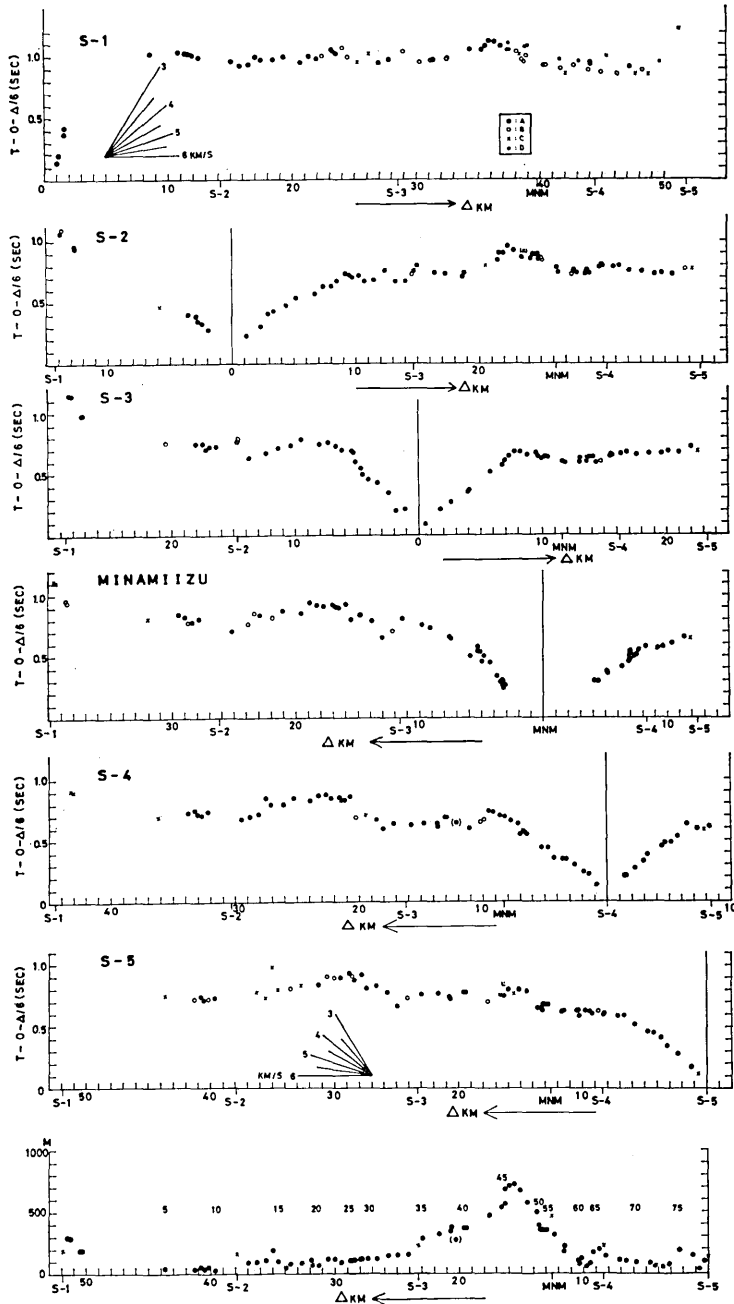


Fig. 7. Reduced travel time graphs derived from data at temporary observation sites with 2 Hz geophone (see Fig. 5 for the record section). Ranks of identification are; A: very good, B: good, C: fairly good, D: doubtful, and L: signals are recognized after the picked time. The bottom figure: topography along the profile. Numerals: station number, and Cross mark: shot point.

Table 3. Travel time data. Station number: L26, for example, means No. 26 of temporary observation sites with 2 Hz geophone.

| STATION | 1979-12-5 1-2-0.17 500 KG | | T | T-D/6 | STATION | D | AZM | D/6 | T | T-0/6 |
|----------------------|---------------------------|---------------|-------|-----------|-----------------------|-------|-------|------|----------|-------|
| | 34-41-45.1 N | 139-22-39.2 E | | | | | | | | |
| L01 MOTOYAMANAKA (1) | 63.14 | 322.9 | 10.52 | * 11.87C- | L41 SUBERIZAWA | 44.73 | 291.7 | 7.45 | | |
| L02 MOTOYAMANAKA (2) | 63.05 | 322.9 | 10.51 | * 11.83C+ | L42 AMAGI-TOGE 1-1 | 44.35 | 290.5 | 7.39 | | |
| L03 MITSUYA-SHINDEN | 62.07 | 322.6 | 10.35 | | L43 AMAGI-TOGE 1-2 | 44.19 | 290.3 | 7.36 | | |
| L04 MITSUYA-SHINDEN | 62.05 | 322.6 | 10.34 | | L44 AMAGI-TOGE 2-1 | 43.31 | 290.6 | 7.22 | * 8.70C+ | 1.48 |
| L05 KANNAMI | 56.18 | 319.0 | 9.36 | | L45 AMAGI-TOGE 2-2 | 43.05 | 290.3 | 7.18 | * 8.70C+ | 1.52 |
| L06 NIRAYAMA (1) | 54.79 | 316.9 | 9.13 | * 10.36C+ | L46 AMAGI-TOGE 3 | 42.58 | 289.9 | 7.10 | | |
| L07 NIRAYAMA (2) | 54.32 | 316.6 | 9.05 | | L47 AMAGI-TOGE 4 | 42.50 | 289.2 | 7.08 | | |
| L08 NIRAYAMA (3) | 54.36 | 316.2 | 9.06 | | L48 AMAGI-TOGE 5 | 42.57 | 288.4 | 7.10 | 8.298+ | 1.19 |
| L09 NIRAYAMA (4) | 54.01 | 316.1 | 9.00 | | L49 AMAGI-TOGE 6 | 42.57 | 287.3 | 7.10 | 8.358+ | 1.25 |
| L10 NIRAYAMA (5) | 53.72 | 315.6 | 8.95 | * 9.79C+ | L50 SOTARO (1) | 42.97 | 287.0 | 7.16 | 8.308+ | 1.14 |
| L11 MORIKIYANADA | 52.04 | 313.3 | 8.67 | | L51 SOTARO (2) | 42.87 | 286.6 | 7.14 | 8.298+ | 1.15 |
| L12 ZOSHUNIN | 51.48 | 312.8 | 8.58 | | L52 SOTARO (3) | 42.73 | 286.6 | 7.12 | 8.308+ | 1.18 |
| L13 KAHAHIRA | 50.99 | 312.3 | 8.50 | | L53 SOTARO (4) | 42.59 | 286.4 | 7.10 | 8.338+ | 1.23 |
| L14 OHITO-GOMISHORIJ | 50.58 | 311.8 | 8.43 | | L54 SOTARO (5) | 42.53 | 286.3 | 7.09 | 8.328+ | 1.23 |
| L15 NOJIRIGAWA-OKU | 50.31 | 311.4 | 8.38 | | L55 SOTARO (6) | 42.45 | 286.2 | 7.07 | 8.318+ | 1.24 |
| L16 NOJIRIGAWA-SAISE | 50.38 | 310.5 | 8.40 | | L56 KAMADARU | 41.93 | 285.6 | 6.99 | | |
| L17 MAKINDO | 49.80 | 310.4 | 8.30 | | L57 TSURIBASHI-SO | 41.79 | 284.6 | 6.96 | 8.06C+ | 1.10 |
| L18 SHUZENJI-KOGYO | 49.40 | 309.6 | 8.23 | | L58 NASHIMOTO | 41.16 | 284.5 | 6.86 | 8.078+ | 1.21 |
| L19 SHUZENJI-GROUND | 48.75 | 308.9 | 8.13 | | L59 KAWAYOKO | 40.53 | 283.1 | 6.75 | 7.97C+ | 1.22 |
| L20 KASHIWAKUBO | 49.29 | 308.4 | 8.21 | | L60 OHNABE | 41.62 | 282.7 | 6.94 | 8.12C+ | 1.18 |
| L21 KADONO | 49.10 | 307.8 | 8.18 | | L61 YUGANO | 39.30 | 282.8 | 6.55 | 7.81A+ | 1.26 |
| L22 HINATA (N) | 48.72 | 307.2 | 8.12 | | L62 KONABE | 41.01 | 281.3 | 6.83 | 8.058+ | 1.22 |
| L23 HINATA (S) | 48.51 | 306.4 | 8.08 | | L63 AMAKAWA-JINJA (1) | 38.90 | 281.8 | 6.48 | 7.68C+ | 1.20 |
| L24 SANO (1) | 48.54 | 305.8 | 8.09 | | L64 AMAKAWA-JINJA (2) | 38.69 | 281.4 | 6.45 | 7.708+ | 1.25 |
| L25 SANO (2) | 48.26 | 305.0 | 8.04 | | L65 SAKASHITA | 38.68 | 280.2 | 6.45 | 7.73A+ | 1.28 |
| L26 SANO (3) | 48.31 | 304.7 | 8.05 | | L66 SAKASAGAWA (1) | 39.45 | 279.8 | 6.57 | 7.86A+ | 1.29 |
| L27 SANO (4) | 48.38 | 304.4 | 8.06 | | L67 SAKASAGAWA (2) | 39.50 | 279.7 | 6.58 | 7.85A+ | 1.27 |
| L28 KOTSUKA (2) | 48.28 | 303.8 | 8.05 | | L68 KITANOSAKA | 40.17 | 278.4 | 6.69 | 7.96A+ | 1.28 |
| L29 KOTSUKA (1) | 48.21 | 303.7 | 8.04 | | L69 CHIHRANO | 40.71 | 277.7 | 6.79 | 8.078+ | 1.28 |
| L30 TERANO | 47.99 | 303.3 | 8.00 | | L70 KUCHIHURA | 40.61 | 276.5 | 6.77 | 8.07A+ | 1.30 |
| L31 BUTAI | 47.56 | 302.5 | 7.93 | | L71 UDOGANE | 41.28 | 275.0 | 6.88 | 8.20A+ | 1.32 |
| L32 MINAZAWA | 47.26 | 301.4 | 7.88 | | L72 HIE-JINJA | 41.24 | 274.4 | 6.87 | | |
| L33 TAZAWA | 47.42 | 300.3 | 7.90 | | L73 SHIBARA | 41.25 | 273.6 | 6.88 | 8.21A+ | 1.34 |
| L34 KITA | 46.97 | 299.4 | 7.83 | | L74 AITAMA | 41.50 | 272.9 | 6.92 | 8.20A+ | 1.28 |
| L35 HIGASHIHARA | 45.42 | 298.7 | 7.57 | | L75 KYU-SHIMODAKAIOO | 41.64 | 271.7 | 6.94 | 8.35A+ | 1.41 |
| L36 YUGASHIMA | 45.80 | 296.7 | 7.63 | * 8.70C- | L76 NENDAJI | 41.63 | 270.3 | 6.94 | 8.318+ | 1.37 |
| L37 YOICHIKAKA (1) | 44.87 | 295.9 | 7.48 | * 8.67C- | L77 HINDOKIZAWA-SHITA | 41.78 | 269.6 | 6.96 | 8.288+ | 1.32 |
| L38 YOICHIKAKA (2) | 44.95 | 295.8 | 7.49 | | L78 HINDOKIZAWA-NAKA | 41.89 | 269.1 | 6.98 | | |
| L39 KIRIYABASHI (1) | 45.69 | 293.9 | 7.61 | | | | | | | |
| L40 KIRIYABASHI (2) | 45.75 | 293.8 | 7.63 | | | | | | | |

| MINAMI-IZU | | 1979-12-5 2-2-0.65 500 KG | | 34-47-51.9 N 138-53-44.2 E | | 471M | | | | | |
|-----------------------|-------|---------------------------|------|----------------------------|-------|-----------------------|-------|-------|------|--------|-------|
| STATION | D | AZM | D/6 | T | T-D/6 | STATION | D | AZM | D/6 | T | T-D/6 |
| L01 MOTOYAMANAKA (1) | 39.54 | 8.7 | 6.59 | 7.71C+ | 1.12 | L41 SUBERIZAWA | 5.86 | 25.9 | 0.98 | 1.48A+ | 0.50 |
| L02 MOTOYAMANAKA (2) | 39.42 | 8.7 | 6.57 | 7.66C+ | 1.09 | L42 AMAGI-TOGE 1-1 | 4.97 | 31.2 | 0.81 | 1.29A+ | 0.46 |
| L03 MITSUYA-SHINDEN | 38.55 | 9.5 | 6.43 | 7.38B+ | 0.95 | L43 AMAGI-TOGE 1-2 | 4.84 | 33.5 | 0.80 | 1.45A+ | 0.57 |
| L04 MITSUYA-SHINDEN | 38.48 | 9.4 | 6.41 | 7.36B+ | 0.95 | L44 AMAGI-TOGE 2-1 | 5.28 | 42.4 | 0.88 | 1.41A+ | 0.54 |
| L05 KANNAMI | 31.92 | 13.0 | 5.32 | 6.13C- | 0.81 | L45 AMAGI-TOGE 2-2 | 5.19 | 45.9 | 0.86 | 1.40A+ | 0.54 |
| L06 NIRAYANA (1) | 29.49 | 13.0 | 4.92 | 5.76A+ | 0.84 | L46 AMAGI-TOGE 3 | 5.15 | 52.2 | 0.86 | 1.30A+ | 0.50 |
| L07 NIRAYANA (2) | 28.97 | 13.5 | 4.83 | 5.68A+ | 0.83 | L47 AMAGI-TOGE 4 | 4.82 | 55.9 | 0.80 | 1.16A+ | 0.45 |
| L08 NIRAYANA (3) | 28.69 | 13.0 | 4.78 | 5.56B+ | 0.78 | L48 AMAGI-TOGE 5 | 4.25 | 68.4 | 0.71 | 0.97A+ | 0.35 |
| L09 NIRAYANA (4) | 28.40 | 13.5 | 4.73 | 5.52A+ | 0.79 | L49 AMAGI-TOGE 6 | 3.75 | 68.5 | 0.63 | 0.80A+ | 0.26 |
| L10 NIRAYANA (5) | 27.87 | 13.5 | 4.64 | 5.45A+ | 0.81 | L50 SOTARO (1) | 3.26 | 67.9 | 0.54 | 0.79A+ | 0.26 |
| L11 MORIKIYAMADA | 25.19 | 14.3 | 4.20 | 4.91A+ | 0.71 | L51 SOTARO (2) | 3.20 | 72.2 | 0.53 | 0.79A+ | 0.26 |
| L12 ZOSHUNJI | 24.53 | 14.9 | 4.09 | 4.75B+ | 0.77 | L52 SOTARO (3) | 3.28 | 74.6 | 0.55 | 0.85A+ | 0.29 |
| L13 KAWAHIRA | 23.86 | 15.4 | 3.98 | 4.75B+ | 0.86 | L53 SOTARO (4) | 3.36 | 77.0 | 0.56 | 0.86A+ | 0.30 |
| L14 OHITO-GOMISHORIJI | 23.33 | 15.9 | 3.89 | 4.65A+ | 0.86 | L54 SOTARO (5) | 3.47 | 78.7 | 0.57 | 0.86A+ | 0.30 |
| L15 NOJIRIGAWA-OKU | 22.88 | 16.1 | 3.81 | 4.65A+ | 0.84 | L55 SOTARO (6) | 3.40 | 80.7 | 0.56 | 0.86A+ | 0.29 |
| L16 NOJIRIGAWA-SAISE | 22.17 | 15.0 | 3.69 | 4.47B+ | 0.82 | L56 KAMADARU | 3.73 | 90.9 | 0.62 | 1.03A+ | 0.30 |
| L17 MAKINOGI | 21.88 | 16.4 | 3.65 | 4.38A+ | 0.88 | L57 TSURIBASHI-SO | 3.76 | 101.9 | 0.63 | 1.21A+ | 0.36 |
| L18 SHUZENJI-KOGYO | 21.03 | 16.6 | 3.50 | 4.38A+ | 0.88 | L58 NASHIMOTO | 4.39 | 103.0 | 0.73 | 0.99A+ | 0.30 |
| L19 SHUZENJI-GROUND | 20.30 | 17.7 | 3.38 | 4.12A+ | 0.86 | L59 KAWAYOKO | 5.12 | 114.7 | 0.85 | 1.48A+ | 0.42 |
| L20 KASHIYAKUBO | 20.04 | 15.7 | 3.34 | 4.08A+ | 0.94 | L60 OHNABE | 4.14 | 121.6 | 0.69 | 1.22A+ | 0.37 |
| L21 KADONO | 19.54 | 15.7 | 3.26 | 3.96A+ | 0.92 | L61 YUSANO | 6.36 | 114.1 | 1.06 | 1.61A+ | 0.46 |
| L22 HINATA (N) | 18.87 | 16.2 | 3.14 | 3.86A+ | 0.91 | L62 KONABE | 5.09 | 129.6 | 0.85 | 1.70A+ | 0.50 |
| L23 HINATA (S) | 18.23 | 16.1 | 3.04 | 3.75A+ | 0.92 | L63 ANAKAWA-JINJA (1) | 6.99 | 131.1 | 1.16 | 1.77A+ | 0.52 |
| L24 SANO (1) | 17.73 | 15.4 | 2.95 | 3.70A+ | 0.91 | L64 ANAKAWA-JINJA (2) | 6.96 | 131.7 | 1.16 | 1.64A+ | 0.48 |
| L25 SANO (2) | 16.97 | 15.5 | 2.83 | 3.65A+ | 0.90 | L65 SAKASHITA | 7.51 | 126.1 | 1.25 | 1.65A+ | 0.49 |
| L26 SANO (3) | 16.75 | 15.1 | 2.79 | 3.65A+ | 0.90 | L66 SAKASAGAWA (1) | 6.99 | 131.1 | 1.16 | 1.68A+ | 0.51 |
| L27 SANO (4) | 16.52 | 14.5 | 2.75 | 3.60A+ | 0.93 | L67 SAKASAGAWA (2) | 7.01 | 141.2 | 1.17 | 1.71A+ | 0.55 |
| L28 KOTSUKA (2) | 16.03 | 14.3 | 2.67 | 3.40A+ | 0.81 | L68 KITANOSAWA | 6.99 | 147.2 | 1.16 | 1.84A+ | 0.56 |
| L29 KOTSUKA (1) | 15.96 | 14.4 | 2.66 | 3.30B+ | 0.84 | L69 CHI HARANO | 7.71 | 150.6 | 1.28 | 1.96A+ | 0.59 |
| L30 TERANO | 15.53 | 14.7 | 2.59 | 3.30B+ | 0.84 | L70 KUCHIMURA | 8.25 | 158.5 | 1.38 | 2.11A+ | 0.57 |
| L31 BUTAI | 14.78 | 15.6 | 2.46 | 3.26A+ | 0.86 | L71 UDOGANE | 9.21 | 161.2 | 1.44 | 2.18A+ | 0.58 |
| L32 HINAZAWA | 13.64 | 15.7 | 2.31 | 3.26A+ | 0.86 | L72 HIE-JINJA | 9.58 | 163.6 | 1.60 | 2.34A+ | 0.61 |
| L33 TAZAWA | 13.00 | 14.0 | 2.17 | 2.70A+ | 0.81 | L73 SHIBARA | 11.38 | 167.2 | 1.90 | 2.56A+ | 0.66 |
| L34 KITA | 12.19 | 15.1 | 2.03 | 2.66A+ | 0.74 | L74 AITAMA | 11.87 | 168.5 | 1.98 | 2.63C+ | 0.65 |
| L35 HIGASHIHARA | 11.37 | 22.1 | 1.89 | 2.66A+ | 0.74 | L75 KYU-SHIMODAKAIDO | 12.30 | 168.9 | 2.05 | 3.31C- | 0.69 |
| L36 YUGASHIMA | 9.79 | 18.9 | 1.63 | 1.92A+ | 0.66 | L76 RENDAIJI | 15.70 | 78.0 | 2.62 | | |
| L37 YOICHIKAZAKA (1) | 9.13 | 24.2 | 1.52 | 1.90A+ | 0.65 | L77 HINOKIZAWA-SHITA | | | | | |
| L38 YOICHIKAZAKA (2) | 9.01 | 23.7 | 1.50 | 1.80A+ | 0.65 | L78 HINOKIZAWA-NAKA | | | | | |
| L39 KIRIYANABASHI (1) | 7.56 | 17.9 | 1.26 | 1.80A+ | 0.65 | NARANO | | | | | |
| L40 KIRIYANABASHI (2) | 7.48 | 17.4 | 1.25 | 1.80A+ | 0.65 | | | | | | |

| STATION | D | AZM | D/6 | T | T-D/6 | STATION | D | AZM | D/6 | T | T-D/6 |
|---------|------|------|------|--------|-------|---------|------|------|------|--------|-------|
| OYO 01 | 9.70 | 21.9 | 1.62 | | | OYO 41 | 5.38 | 29.9 | 0.90 | 1.408+ | 0.50 |
| OYO 02 | 9.60 | 22.0 | 1.60 | | | OYO 42 | 5.27 | 30.0 | 0.88 | 1.378+ | 0.49 |
| OYO 03 | 9.50 | 22.0 | 1.58 | | | OYO 43 | 5.15 | 29.8 | 0.86 | 1.348+ | 0.51 |
| OYO 04 | 9.40 | 22.0 | 1.57 | | | OYO 44 | 5.05 | 29.9 | 0.84 | 1.318+ | 0.50 |
| OYO 05 | 9.29 | 22.3 | 1.55 | | | OYO 45 | 4.96 | 30.9 | 0.83 | 1.308+ | 0.47 |
| OYO 06 | 9.18 | 22.3 | 1.53 | | | OYO 46 | 4.86 | 30.9 | 0.81 | 1.308+ | 0.49 |
| OYO 07 | 9.10 | 22.3 | 1.52 | | | OYO 47 | 4.76 | 31.3 | 0.79 | 1.268+ | 0.47 |
| OYO 08 | 9.00 | 22.3 | 1.50 | | | OYO 48 | 4.66 | 31.4 | 0.78 | 1.244+ | 0.46 |
| OYO 09 | 8.92 | 21.9 | 1.49 | | | | | | | | |
| OYO 10 | 8.81 | 21.7 | 1.47 | | | | | | | | |
| OYO 11 | 8.72 | 21.6 | 1.45 | | | | | | | | |
| OYO 12 | 8.63 | 21.6 | 1.44 | | | | | | | | |
| OYO 13 | 8.48 | 21.7 | 1.41 | 2.14C+ | 0.73 | | | | | | |
| OYO 14 | 8.39 | 21.5 | 1.40 | 2.07C+ | 0.67 | | | | | | |
| OYO 15 | 8.29 | 21.0 | 1.38 | 2.07B+ | 0.69 | | | | | | |
| OYO 16 | 8.21 | 20.8 | 1.37 | 2.06B+ | 0.69 | | | | | | |
| OYO 17 | 8.11 | 20.2 | 1.35 | 2.05B+ | 0.70 | | | | | | |
| OYO 18 | 8.02 | 20.3 | 1.34 | 2.02B+ | 0.68 | | | | | | |
| OYO 19 | 7.92 | 20.1 | 1.32 | 2.04C+ | 0.72 | | | | | | |
| OYO 20 | 7.83 | 20.2 | 1.30 | 2.00B+ | 0.70 | | | | | | |
| OYO 21 | 7.73 | 20.1 | 1.29 | 1.99B+ | 0.70 | | | | | | |
| OYO 22 | 7.63 | 20.2 | 1.27 | 1.94B+ | 0.67 | | | | | | |
| OYO 23 | 7.52 | 20.4 | 1.25 | 1.94C+ | 0.69 | | | | | | |
| OYO 24 | 7.42 | 20.6 | 1.24 | 1.90B+ | 0.66 | | | | | | |
| OYO 25 | 6.80 | 25.1 | 1.13 | 1.73C+ | 0.60 | | | | | | |
| OYO 26 | 6.72 | 24.9 | 1.12 | 1.72B+ | 0.60 | | | | | | |
| OYO 27 | 6.62 | 24.7 | 1.10 | 1.69B+ | 0.59 | | | | | | |
| OYO 28 | 6.51 | 24.5 | 1.09 | 1.68B+ | 0.60 | | | | | | |
| OYO 29 | 6.41 | 24.4 | 1.07 | 1.67B+ | 0.60 | | | | | | |
| OYO 30 | 6.33 | 24.2 | 1.05 | 1.67B+ | 0.62 | | | | | | |
| OYO 31 | 6.23 | 24.6 | 1.04 | 1.62B+ | 0.58 | | | | | | |
| OYO 32 | 6.14 | 24.9 | 1.02 | 1.62B+ | 0.60 | | | | | | |
| OYO 33 | 6.06 | 25.3 | 1.01 | 1.58B+ | 0.57 | | | | | | |
| OYO 34 | 5.98 | 26.2 | 1.00 | 1.55B+ | 0.55 | | | | | | |
| OYO 35 | 5.88 | 26.7 | 0.98 | 1.53B+ | 0.55 | | | | | | |
| OYO 36 | 5.81 | 27.3 | 0.97 | 1.53B+ | 0.56 | | | | | | |
| OYO 37 | 5.74 | 28.1 | 0.96 | 1.50B+ | 0.54 | | | | | | |
| OYO 38 | 5.67 | 29.0 | 0.94 | 1.46C+ | 0.52 | | | | | | |
| OYO 39 | 5.57 | 29.1 | 0.93 | 1.45B+ | 0.52 | | | | | | |
| OYO 40 | 5.47 | 29.5 | 0.91 | 1.43B+ | 0.52 | | | | | | |

| SP-1 | 1979-12-6 2-2-0.16 450 KG | 35-9-12.2 N 138-57-24.7 E 197H | STATION | D | AZM | D/6 | T | T-D/6 | STATION | D | AZM | D/6 | T | T-D/6 | |
|------|---------------------------|--------------------------------|---------|------|--------|------|--------|-------|----------|-------------------|-------|-------|---------|---------|------|
| L01 | MOTOYAMANAKA (1) | 0.53 | 133.8 | 0.09 | 0.24A+ | 0.15 | 0.24A+ | 0.15 | L41 | SUBERIZAWA | 34.32 | 185.1 | 5.72 | 6.77A+ | 1.05 |
| L02 | MOTOYAMANAKA (2) | 0.61 | 142.8 | 0.10 | 0.31A+ | 0.21 | 0.31A+ | 0.21 | L42 | AMAGI-TOGE 1-1 | 35.33 | 184.9 | 5.89 | 6.94A+ | 1.05 |
| L03 | MITSUVA-SHINDEN | 1.62 | 152.3 | 0.27 | 0.65A+ | 0.38 | 0.65A+ | 0.38 | L43 | AMAGI-TOGE 1-2 | 35.54 | 184.7 | 5.92 | 7.00A+ | 1.08 |
| L04 | MITSUVA-SHINDEN | 1.65 | 154.6 | 0.27 | 0.70A+ | 0.43 | 0.70A+ | 0.43 | L44 | AMAGI-TOGE 2-1 | 35.61 | 183.3 | 5.93 | 7.10A+ | 1.08 |
| L05 | KANNAMI | 8.50 | 169.3 | 1.42 | 2.44A+ | 1.02 | 2.44A+ | 1.02 | L45 | AMAGI-TOGE 2-2 | 35.89 | 183.0 | 5.98 | 7.10A+ | 1.12 |
| L06 | NIRAYAMA (1) | 10.77 | 174.4 | 1.80 | 2.82A+ | 1.02 | 2.82A+ | 1.02 | L46 | AMAGI-TOGE 3 | 36.32 | 182.4 | 6.05 | 7.16A+ | 1.11 |
| L07 | NIRAYAMA (2) | 11.33 | 174.2 | 1.89 | 2.91A+ | 1.02 | 2.91A+ | 1.02 | L47 | AMAGI-TOGE 4 | 36.78 | 182.5 | 6.13 | 7.21A+ | 1.08 |
| L08 | NIRAYAMA (3) | 11.53 | 175.7 | 1.92 | 2.94A+ | 1.02 | 2.94A+ | 1.02 | L48 | AMAGI-TOGE 5 | 37.39 | 182.9 | 6.23 | 7.33D | 1.10 |
| L09 | NIRAYAMA (4) | 11.87 | 175.1 | 1.98 | 2.99A+ | 1.01 | 2.99A+ | 1.01 | L49 | AMAGI-TOGE 6 | 38.13 | 183.2 | 6.36 | 7.38B+ | 1.02 |
| L10 | NIRAYAMA (5) | 12.38 | 175.9 | 2.06 | 3.05A+ | 0.99 | 3.05A+ | 0.99 | L50 | SOTARO (1) | 38.31 | 183.9 | 6.38 | 7.39C+ | 1.01 |
| L11 | MORIKIYAMADA | 15.05 | 177.7 | 2.51 | 3.47A+ | 0.96 | 3.47A+ | 0.96 | L51 | SOTARO (2) | 38.56 | 183.8 | 6.43 | 7.39B+ | 0.96 |
| L12 | ZOSHUNIN | 15.77 | 177.4 | 2.63 | 3.55A+ | 0.92 | 3.55A+ | 0.92 | L52 | SOTARO (3) | 38.66 | 183.6 | 6.44 | 7.39B+ | 0.95 |
| L13 | KAWAHIRA | 16.47 | 177.4 | 2.74 | 3.67A+ | 0.93 | 3.67A+ | 0.93 | L53 | SOTARO (4) | 38.77 | 183.4 | 6.46 | 7.54D- | 1.08 |
| L14 | OHITO-GOMISHORIJ | 17.03 | 177.4 | 2.84 | 3.83A+ | 0.99 | 3.83A+ | 0.99 | L54 | SOTARO (5) | 38.86 | 183.4 | 6.48 | 7.48B+ | 1.00 |
| L15 | NOJIRIGAWA-OKU | 17.48 | 177.6 | 2.91 | 3.88A+ | 0.97 | 3.88A+ | 0.97 | L55 | SOTARO (6) | 38.96 | 183.3 | 6.49 | 7.57D- | 1.08 |
| L16 | NOJIRIGAWA-SAISE | 18.04 | 179.5 | 3.01 | 4.05A+ | 0.97 | 4.05A+ | 0.97 | L56 | KAMADARU | 39.56 | 182.7 | 6.59 | 7.63B+ | 0.92 |
| L17 | MAKINOGO | 18.46 | 178.3 | 3.08 | 4.21A+ | 0.99 | 4.21A+ | 0.99 | L57 | TSURI BASHI-SO | 40.27 | 182.7 | 6.71 | 7.66B+ | 0.92 |
| L18 | SHUZENJI-KOSYO | 19.30 | 178.8 | 3.22 | 4.21A+ | 0.99 | 4.21A+ | 0.99 | L58 | NASHI MOTO | 40.46 | 181.9 | 6.74 | 7.90D- | 0.97 |
| L19 | SHUZENJI-GROUND | 20.11 | 178.4 | 3.35 | 4.21A+ | 0.99 | 4.21A+ | 0.99 | L59 | KAWAYOKO | 41.60 | 181.3 | 6.93 | 7.90D- | 0.97 |
| L20 | KASHIMAKUBO | 20.16 | 180.5 | 3.36 | 4.21A+ | 0.99 | 4.21A+ | 0.99 | L60 | OHNABE | 41.67 | 182.9 | 6.94 | 7.83B+ | 0.89 |
| L21 | KADONO | 20.64 | 180.9 | 3.44 | 4.39A+ | 0.95 | 4.39A+ | 0.95 | L61 | YUGANO | 42.05 | 179.7 | 7.01 | 7.86C+ | 0.85 |
| L22 | HINATA (N) | 21.33 | 180.9 | 3.56 | 4.55A+ | 0.99 | 4.55A+ | 0.99 | L62 | KONABE | 42.73 | 182.3 | 7.12 | 8.04B+ | 0.92 |
| L23 | HINATA (S) | 21.94 | 181.4 | 3.66 | 4.64A+ | 0.98 | 4.64A+ | 0.98 | L63 | AMAKAWA-JINJA (1) | 42.77 | 179.4 | 7.13 | 8.06D- | 0.93 |
| L24 | SANO (1) | 22.38 | 182.3 | 3.73 | 4.73B+ | 1.00 | 4.73B+ | 1.00 | L64 | AMAKAWA-JINJA (2) | 43.11 | 179.2 | 7.18 | 8.13D- | 0.95 |
| L25 | SANO (2) | 23.12 | 182.6 | 3.85 | 4.90A+ | 1.05 | 4.90A+ | 1.05 | L65 | SAKASHITA | 43.88 | 179.4 | 7.31 | 8.19B+ | 0.88 |
| L26 | SANO (3) | 23.31 | 183.1 | 3.88 | 4.92A+ | 1.04 | 4.92A+ | 1.04 | L66 | SAKASAGAWA (1) | 44.05 | 180.4 | 7.34 | 8.28A+ | 0.94 |
| L27 | SANO (4) | 23.50 | 183.5 | 3.92 | 4.94A+ | 1.02 | 4.94A+ | 1.02 | L67 | SAKASAGAWA (2) | 44.08 | 180.5 | 7.35 | 8.27B+ | 0.92 |
| L28 | KOTSUKA (2) | 23.97 | 183.9 | 3.99 | 5.08B+ | 1.07 | 5.08B+ | 1.07 | L68 | KITANOSAWA | 44.93 | 181.5 | 7.49 | 8.35B+ | 0.86 |
| L29 | KOTSUKA (1) | 24.05 | 183.9 | 4.01 | 5.07B+ | 0.99 | 5.07B+ | 0.99 | L69 | CHIHRANO | 45.37 | 182.3 | 7.56 | 8.561- | 1.00 |
| L30 | TERANO | 24.49 | 183.8 | 4.08 | 5.07B+ | 0.99 | 5.07B+ | 0.99 | L70 | KUCHIHURA | 46.20 | 182.3 | 7.70 | 8.55B+ | 0.85 |
| L31 | BUTAI | 25.26 | 183.7 | 4.21 | 5.16C+ | 0.95 | 5.16C+ | 0.95 | L71 | UDOGANE | 47.20 | 183.1 | 7.87 | 8.78A+ | 0.91 |
| L32 | MINAZAWA | 26.20 | 184.0 | 4.37 | 5.39C+ | 1.02 | 5.39C+ | 1.02 | L72 | HIE-JINJA | 47.64 | 183.1 | 7.94 | 8.79C+ | 0.88 |
| L33 | TALAMA | 26.95 | 185.2 | 4.49 | 5.43A+ | 0.94 | 5.43A+ | 0.94 | L73 | SHIIBARA | 48.24 | 183.1 | 8.04 | 8.92B+ | 0.85 |
| L34 | KITA | 27.79 | 185.0 | 4.63 | 5.60A+ | 0.97 | 5.60A+ | 0.97 | L74 | AITAMA | 48.73 | 183.4 | 8.12 | 8.97C+ | 0.85 |
| L35 | HIGASHIHARA | 28.94 | 182.6 | 4.82 | 5.86B+ | 1.04 | 5.86B+ | 1.04 | L75 | KYU-SHIMODAKAIDO | 49.62 | 183.6 | 8.27 | 9.22D- | 0.95 |
| L36 | YUGASHIHA | 30.28 | 184.6 | 5.05 | 6.00B+ | 0.95 | 6.00B+ | 0.95 | L76 | RENDALJI | 50.64 | 183.5 | 8.44 | 9.76L+ | 1.23 |
| L37 | YOICHIYAKA (1) | 31.18 | 183.4 | 5.20 | 6.17B+ | 0.97 | 6.17B+ | 0.97 | L77 | HINOKIZAWA-SHITA | 51.18 | 183.6 | 8.53 | 7.31C+ | 1.07 |
| L38 | YOICHIYAKA (2) | 31.26 | 183.6 | 5.21 | 6.18A+ | 0.97 | 6.18A+ | 0.97 | L78 | HINOKIZAWA-NAKA | 51.65 | 183.6 | 8.61 | 16.66L+ | 2.60 |
| L39 | KIRIYAMABASHI (1) | 32.42 | 185.8 | 5.40 | 6.37B+ | 0.97 | 6.37B+ | 0.97 | NARAMOTO | 37.46 | 164.9 | 6.24 | 7.31C+ | 1.07 | |
| L40 | KIRIYAMABASHI (2) | 32.49 | 185.9 | 5.42 | 6.39B+ | 0.97 | 6.39B+ | 0.97 | TATEYAMA | 84.54 | 105.2 | 14.06 | 16.66L+ | 2.60 | |

| STATION | D | AZM | D/6 | T | T-0/6 | STATION | D | AZM | D/6 | T | T-0/6 |
|---------|-------|-------|------|---------|-------|---------|-------|-------|-------|---------|-------|
| OYO 01 | 30.52 | 183.7 | 5.09 | 6.078L | 0.98 | OYO 41 | 34.91 | 184.8 | 5.82 | 7.018+ | 1.19 |
| OYO 02 | 30.62 | 183.7 | 5.10 | | | OYO 42 | 35.02 | 184.8 | 5.84 | 6.98C- | 1.14 |
| OYO 03 | 30.71 | 183.8 | 5.12 | | | OYO 43 | 35.11 | 185.0 | 5.85 | 7.048+ | 1.19 |
| OYO 04 | 30.81 | 183.9 | 5.13 | | | OYO 44 | 35.21 | 185.0 | 5.87 | 7.068+ | 1.19 |
| OYO 05 | 30.92 | 183.9 | 5.15 | | | OYO 45 | 35.32 | 185.0 | 5.89 | 7.078+ | 1.18 |
| OYO 06 | 31.03 | 183.9 | 5.17 | 6.311L- | 1.14 | OYO 46 | 35.41 | 185.0 | 5.90 | 7.088+ | 1.18 |
| OYO 07 | 31.10 | 184.0 | 5.18 | 6.248+ | 1.06 | OYO 47 | 35.52 | 185.0 | 5.92 | 7.088+ | 1.16 |
| OYO 08 | 31.20 | 184.0 | 5.20 | 6.30L+ | 1.10 | OYO 48 | 35.61 | 185.1 | 5.93 | 7.098+ | 1.16 |
| OYO 09 | 31.26 | 184.2 | 5.21 | | | S1-1 | 0.0 | 0.0 | 0.0 | 0.012A+ | 0.012 |
| OYO 10 | 31.35 | 184.3 | 5.23 | 6.30C+ | 1.07 | S1-2 | 0.100 | 242.0 | 0.017 | 0.062A+ | 0.045 |
| OYO 11 | 31.44 | 184.4 | 5.24 | 6.29C+ | 1.05 | S1-3 | 0.200 | 242.0 | 0.033 | 0.105A+ | 0.072 |
| OYO 12 | 31.52 | 184.4 | 5.25 | | | S1-4 | 0.300 | 245.0 | 0.050 | 0.156A+ | 0.106 |
| OYO 13 | 31.67 | 184.5 | 5.28 | 6.53C+ | 1.25 | S1-5 | 0.390 | 252.0 | 0.065 | 0.199A+ | 0.134 |
| OYO 14 | 31.75 | 184.6 | 5.29 | 6.558+ | 1.26 | S1-6 | 0.480 | 245.0 | 0.080 | 0.243A+ | 0.163 |
| OYO 15 | 31.82 | 184.7 | 5.30 | 6.56C+ | 1.26 | | | | | | |
| OYO 16 | 31.89 | 184.8 | 5.31 | 6.58C+ | 1.27 | | | | | | |
| OYO 17 | 31.96 | 185.0 | 5.33 | 6.618+ | 1.28 | | | | | | |
| OYO 18 | 32.05 | 185.0 | 5.34 | 6.62C+ | 1.28 | | | | | | |
| OYO 19 | 32.14 | 185.1 | 5.36 | | | | | | | | |
| OYO 20 | 32.23 | 185.2 | 5.37 | 6.66C+ | 1.29 | | | | | | |
| OYO 21 | 32.32 | 185.2 | 5.39 | | | | | | | | |
| OYO 22 | 32.42 | 185.2 | 5.40 | | | | | | | | |
| OYO 23 | 32.53 | 185.3 | 5.42 | 6.69C+ | 1.27 | | | | | | |
| OYO 24 | 32.64 | 185.3 | 5.44 | | | | | | | | |
| OYO 25 | 33.40 | 184.7 | 5.57 | 6.75B+ | 1.18 | | | | | | |
| OYO 26 | 33.47 | 184.7 | 5.58 | | | | | | | | |
| OYO 27 | 33.56 | 184.8 | 5.59 | 6.76B+ | 1.17 | | | | | | |
| OYO 28 | 33.65 | 184.9 | 5.61 | 6.76A+ | 1.15 | | | | | | |
| OYO 29 | 33.74 | 185.0 | 5.62 | 6.77A+ | 1.15 | | | | | | |
| OYO 30 | 33.81 | 185.1 | 5.63 | 6.79B+ | 1.16 | | | | | | |
| OYO 31 | 33.91 | 185.1 | 5.65 | 6.89L- | 1.24 | | | | | | |
| OYO 32 | 34.01 | 185.1 | 5.67 | 6.84B+ | 1.17 | | | | | | |
| OYO 33 | 34.11 | 185.1 | 5.68 | 6.85A+ | 1.17 | | | | | | |
| OYO 34 | 34.21 | 185.0 | 5.70 | 6.84B+ | 1.14 | | | | | | |
| OYO 35 | 34.32 | 184.9 | 5.72 | 6.87B+ | 1.15 | | | | | | |
| OYO 36 | 34.42 | 184.9 | 5.74 | 6.87C+ | 1.13 | | | | | | |
| OYO 37 | 34.51 | 184.8 | 5.75 | 6.97B+ | 1.22 | | | | | | |
| OYO 38 | 34.61 | 184.7 | 5.77 | | | | | | | | |
| OYO 39 | 34.71 | 184.8 | 5.79 | 6.98C+ | 1.19 | | | | | | |
| OYO 40 | 34.81 | 184.8 | 5.80 | 6.98C+ | 1.18 | | | | | | |

| STATION | 0 | AZM | D/6 | T | T-D/6 | 164M | STATION | D | AZM | D/6 | T | T-D/6 |
|-----------------------|-------|-------|------|--------|-------|------|-----------------------|-------|-------|-------|---------|-------|
| L01 MOTUYANAKA (1) | 13.88 | 355.7 | 2.31 | 3.39A+ | 1.08 | | L41 SUBERIZAMA | 20.48 | 192.6 | 3.41 | 4.21C+ | 0.80 |
| L02 MOTUYANAKA (2) | 13.75 | 355.6 | 2.29 | 3.39B+ | 1.10 | | L42 AMAGI-TOGE 1-1 | 21.46 | 192.0 | 3.58 | 4.42A+ | 0.84 |
| L03 MITSUYA-SHINDEN | 12.79 | 357.0 | 2.13 | 3.07A+ | 0.94 | | L43 AMAGI-TOGE 1-2 | 21.66 | 191.6 | 3.61 | | |
| L04 MITSUYA-SHINDEN | 12.73 | 356.8 | 2.12 | 3.07A+ | 0.95 | | L44 AMAGI-TOGE 2-1 | 21.63 | 189.2 | 3.61 | 4.50A+ | 0.89 |
| L05 KANNAMI | 5.85 | 1.5 | 0.98 | 1.45C- | 0.47 | | L45 AMAGI-TOGE 2-2 | 21.89 | 188.7 | 3.65 | 4.55A+ | 0.90 |
| L06 NIRAYANA (1) | 3.51 | 353.7 | 0.59 | 0.98A+ | 0.39 | | L46 AMAGI-TOGE 3 | 22.29 | 187.6 | 3.71 | 4.67A+ | 0.96 |
| L07 NIRAYANA (2) | 2.94 | 354.4 | 0.49 | 0.88A+ | 0.39 | | L47 AMAGI-TOGE 4 | 22.75 | 187.7 | 3.79 | 4.72A+ | 0.93 |
| L08 NIRAYANA (3) | 2.76 | 348.1 | 0.46 | 0.81A+ | 0.35 | | L48 AMAGI-TOGE 5 | 23.38 | 188.2 | 3.90 | 4.77A+ | 0.87 |
| L09 NIRAYANA (4) | 2.41 | 350.1 | 0.40 | 0.73A+ | 0.33 | | L49 AMAGI-TOGE 6 | 24.13 | 188.5 | 4.02 | 4.88A+ | 0.86 |
| L10 NIRAYANA (5) | 1.93 | 343.9 | 0.32 | 0.60A+ | 0.28 | | L50 SOTARO (1) | 24.36 | 189.5 | 4.06 | 4.95B+ | 0.89 |
| L11 MORIKIYAMADA | 1.17 | 224.2 | 0.19 | 0.42A+ | 0.23 | | L51 SOTARO (2) | 24.60 | 189.3 | 4.10 | 4.99B+ | 0.89 |
| L12 ZOSHUNIN | 1.71 | 204.8 | 0.28 | | | | L52 SOTARO (3) | 24.68 | 189.0 | 4.11 | 5.00C+ | 0.89 |
| L13 KAWAHIRA | 2.35 | 197.2 | 0.39 | 0.70A+ | 0.31 | | L53 SOTARO (4) | 24.78 | 188.7 | 4.13 | 4.98A+ | 0.85 |
| L14 OHITO-GOMISHORIJ | 2.89 | 192.9 | 0.48 | 0.89A+ | 0.41 | | L54 SOTARO (5) | 24.87 | 188.6 | 4.15 | 5.00B+ | 0.86 |
| L15 NOJIRIGAWA-OKU | 3.34 | 191.9 | 0.56 | 0.99A+ | 0.43 | | L55 SOTARO (6) | 24.97 | 188.5 | 4.16 | 5.01B+ | 0.85 |
| L16 NOJIRIGAWA-SAISE | 4.04 | 198.4 | 0.67 | | | | L56 KANADARU | 25.53 | 187.4 | 4.25 | | |
| L17 HAKINOGI | 4.34 | 191.6 | 0.72 | 1.20A+ | 0.48 | | L57 TSURIBASHI-SO | 26.24 | 187.3 | 4.37 | 5.15A+ | 0.78 |
| L18 SHUZENJI-KOGYO | 5.20 | 191.6 | 0.87 | 1.41A+ | 0.54 | | L58 NASHIMOTO | 26.58 | 186.0 | 4.40 | 5.14A+ | 0.74 |
| L19 SHUZENJI-GROUND | 5.97 | 188.4 | 1.00 | | | | L59 KAHAYOKO | 27.49 | 185.0 | 4.58 | 5.31B+ | 0.73 |
| L20 KASHIYAKUBO | 6.17 | 195.1 | 1.03 | | | | L60 OHNABE | 27.64 | 187.3 | 4.61 | 5.37A+ | 0.76 |
| L21 KADONO | 6.67 | 195.1 | 1.11 | 1.68A+ | 0.57 | | L61 YUGANO | 27.88 | 182.5 | 4.65 | 5.39A+ | 0.74 |
| L22 HINATA (N) | 7.34 | 194.0 | 1.22 | 1.85A+ | 0.63 | | L62 KONABE | 28.67 | 186.2 | 4.78 | 5.54A+ | 0.76 |
| L23 HINATA (S) | 7.98 | 194.4 | 1.33 | 1.96A+ | 0.63 | | L63 AMAKAWA-JINJA (1) | 28.59 | 182.0 | 4.76 | 5.51A+ | 0.75 |
| L24 SAND (1) | 8.48 | 195.9 | 1.41 | 2.08A+ | 0.67 | | L64 AMAKAWA-JINJA (2) | 28.91 | 181.7 | 4.82 | 5.56A+ | 0.74 |
| L25 SAND (2) | 9.24 | 195.7 | 1.54 | 2.27A+ | 0.73 | | L65 SAKASHITA | 29.69 | 181.9 | 4.95 | 5.74A+ | 0.79 |
| L26 SAND (3) | 9.46 | 196.4 | 1.58 | 2.30A+ | 0.72 | | L66 SAKASAGAWA (1) | 29.90 | 183.4 | 4.98 | 5.79A+ | 0.81 |
| L27 SAND (4) | 9.69 | 197.3 | 1.61 | 2.32A+ | 0.70 | | L67 SAKASAGAWA (2) | 29.93 | 183.5 | 4.99 | 5.79A+ | 0.80 |
| L28 KOTSUKA (2) | 10.18 | 197.6 | 1.70 | 2.43A+ | 0.72 | | L68 KITANOSAWA | 30.83 | 184.9 | 5.14 | 5.93A+ | 0.79 |
| L29 KOTSUKA (1) | 10.26 | 197.3 | 1.71 | 2.43A+ | 0.72 | | L69 CHIHARANO | 31.30 | 186.0 | 5.22 | 6.02A+ | 0.80 |
| L30 TERANO | 10.68 | 196.7 | 1.78 | 2.45A+ | 0.67 | | L70 KUCHIMURA | 32.13 | 185.8 | 5.36 | 6.11A+ | 0.75 |
| L31 BUTAI | 11.43 | 195.5 | 1.90 | 2.58A+ | 0.68 | | L71 UDOSANE | 33.17 | 186.9 | 5.53 | 6.28A+ | 0.75 |
| L32 MINAZAWA | 12.37 | 195.4 | 2.06 | 2.82A+ | 0.76 | | L72 HIE-JINJA | 33.61 | 186.8 | 5.60 | | |
| L33 TAZAWA | 13.22 | 197.1 | 2.20 | 2.87A+ | 0.67 | | L73 SHIBARA | 34.21 | 186.8 | 5.70 | 6.43A+ | 0.73 |
| L34 KITA | 14.02 | 195.9 | 2.34 | 3.01A+ | 0.67 | | L74 AITAMA | 34.71 | 187.2 | 5.79 | 6.52A+ | 0.73 |
| L35 HIGASHIHARA | 14.97 | 190.6 | 2.49 | 3.30A+ | 0.81 | | L75 KYU-SHIHODAKAI00 | 35.61 | 187.3 | 5.93 | 6.66A+ | 0.73 |
| L36 YUGASHIMA | 16.44 | 193.6 | 2.74 | 3.48A+ | 0.74 | | L76 RENDAIJI | 36.63 | 187.1 | 6.11 | 6.87B+ | 0.76 |
| L37 YOICHIKAZAKA (1) | 17.24 | 191.0 | 2.87 | 3.60A+ | 0.73 | | L77 HINOKIZAWA-SHITA | 37.17 | 187.2 | 6.19 | 6.97C+ | 0.78 |
| L38 YOICHIKAZAKA (2) | 17.34 | 191.3 | 2.89 | | | | L78 HINOKIZAWA-NAKA | 37.64 | 187.2 | 6.27 | | |
| L39 KIRIYANABASHI (1) | 18.66 | 194.6 | 3.11 | 3.82A+ | 0.71 | | NARAMOTO | 23.49 | 189.3 | 3.92 | 4.81C+ | 0.89 |
| L40 KIRIYANABASHI (2) | 18.74 | 194.8 | 3.12 | 3.86C+ | 0.74 | | TATEYAMA | 80.40 | 95.7 | 13.40 | 14.55C- | 1.15 |
| | | | | | | | HATSUSHIMA | 18.56 | 86.6 | 3.09 | 4.24C+ | 1.15 |

| STATION | D | AZM | D/6 | T | T-D/6 | STATION | D | AZM | D/6 | T | T-D/6 |
|---------|-------|-------|------|--------|-------|---------------|-------|-------|-------|--------|-------|
| OYO 01 | 16.61 | 191.9 | 2.77 | | | OYO 41 | 21.04 | 191.9 | 3.51 | 4.388- | 0.87 |
| OYO 02 | 16.71 | 191.9 | 2.79 | | | OYO 42 | 21.15 | 192.0 | 3.52 | 4.398- | 0.87 |
| OYO 03 | 16.80 | 191.9 | 2.80 | | | OYO 43 | 21.25 | 192.1 | 3.54 | 4.428- | 0.88 |
| OYO 04 | 16.91 | 192.0 | 2.82 | | | (LATER PHASE) | | | | | |
| OYO 05 | 17.01 | 191.9 | 2.83 | | | OYO 44 | 21.35 | 192.2 | 3.56 | 4.448+ | 0.90 |
| OYO 06 | 17.12 | 192.0 | 2.85 | | | (LATER PHASE) | | | | | |
| OYO 07 | 17.20 | 192.0 | 2.87 | | | OYO 45 | 21.46 | 192.1 | 3.58 | 4.458+ | 0.89 |
| OYO 08 | 17.30 | 192.1 | 2.88 | | | (LATER PHASE) | | | | | |
| OYO 09 | 17.38 | 192.3 | 2.90 | | | OYO 46 | 21.56 | 192.1 | 3.59 | 4.468+ | 0.89 |
| OYO 10 | 17.47 | 192.5 | 2.91 | | | (LATER PHASE) | | | | | |
| OYO 11 | 17.56 | 192.6 | 2.93 | | | OYO 47 | 21.67 | 192.1 | 3.61 | 4.475+ | 0.89 |
| OYO 12 | 17.65 | 192.6 | 2.94 | | | (LATER PHASE) | | | | | |
| OYO 13 | 17.80 | 192.7 | 2.97 | 3.700+ | 0.73 | OYO 48 | 21.76 | 192.2 | 3.63 | 4.481- | 0.86 |
| OYO 14 | 17.89 | 192.8 | 2.98 | 3.740+ | 0.76 | (LATER PHASE) | | | | | |
| OYO 15 | 17.97 | 193.0 | 2.99 | 3.768+ | 0.77 | S2-1 | 0.0 | 0.0 | 0.0 | 0.014+ | 0.014 |
| OYO 16 | 18.05 | 193.2 | 3.01 | 3.798+ | 0.78 | S2-2 | 0.100 | 290.0 | 0.017 | 0.041+ | 0.024 |
| OYO 17 | 18.13 | 193.5 | 3.02 | 3.82+ | 0.80 | S2-3 | 0.190 | 273.0 | 0.032 | 0.078+ | 0.046 |
| OYO 18 | 18.23 | 193.5 | 3.04 | 3.83+ | 0.79 | S2-4 | 0.280 | 267.0 | 0.047 | 0.108+ | 0.061 |
| OYO 19 | 18.33 | 193.6 | 3.06 | 3.868+ | 0.80 | S2-5 | 0.385 | 270.0 | 0.064 | 0.158+ | 0.094 |
| OYO 20 | 18.42 | 193.6 | 3.07 | 3.87+ | 0.80 | S2-6 | 0.490 | 272.0 | 0.082 | 0.209+ | 0.127 |
| OYO 21 | 18.51 | 193.7 | 3.08 | 3.898+ | 0.81 | S3-1 | 14.59 | 192.4 | 2.45 | 3.21+ | 0.76 |
| OYO 22 | 18.61 | 193.7 | 3.10 | 3.918+ | 0.81 | S3-2 | 14.70 | 192.8 | 2.45 | 3.20+ | 0.75 |
| OYO 23 | 18.72 | 193.6 | 3.12 | 3.958+ | 0.83 | S3-3 | 14.68 | 193.2 | 2.45 | 3.19+ | 0.74 |
| OYO 24 | 18.83 | 193.6 | 3.14 | 3.988+ | 0.84 | S3-4 | 14.67 | 193.6 | 2.44 | 3.188+ | 0.74 |
| OYO 25 | 19.54 | 192.3 | 3.26 | 4.148+ | 0.88 | S3-5 | 14.63 | 193.9 | 2.44 | 3.16+ | 0.72 |
| OYO 26 | 19.61 | 192.4 | 3.27 | 4.16+ | 0.89 | S3-6 | 14.57 | 194.2 | 2.43 | 3.168+ | 0.73 |
| OYO 27 | 19.71 | 192.5 | 3.29 | 4.16+ | 0.87 | | | | | | |
| OYO 28 | 19.81 | 192.6 | 3.30 | 4.17+ | 0.87 | | | | | | |
| OYO 29 | 19.90 | 192.7 | 3.32 | 4.18+ | 0.86 | | | | | | |
| OYO 30 | 19.98 | 192.8 | 3.33 | 4.218+ | 0.88 | | | | | | |
| OYO 31 | 20.08 | 192.8 | 3.35 | 4.28+ | 0.93 | | | | | | |
| OYO 32 | 20.17 | 192.7 | 3.36 | 4.24+ | 0.88 | | | | | | |
| OYO 33 | 20.27 | 192.7 | 3.38 | 4.25+ | 0.87 | | | | | | |
| OYO 34 | 20.36 | 192.5 | 3.39 | 4.26+ | 0.87 | | | | | | |
| OYO 35 | 20.47 | 192.4 | 3.41 | 4.28+ | 0.87 | | | | | | |
| OYO 36 | 20.56 | 192.3 | 3.43 | 4.37+ | 0.94 | | | | | | |
| OYO 37 | 20.64 | 192.1 | 3.44 | 4.42+ | 0.98 | | | | | | |
| OYO 38 | 20.73 | 191.9 | 3.45 | 4.41+ | 0.96 | | | | | | |
| OYO 39 | 20.84 | 192.0 | 3.47 | 4.36+ | 0.89 | | | | | | |
| OYO 40 | 20.94 | 192.0 | 3.49 | 4.37+ | 0.88 | | | | | | |

| STATION | D | AZM | D/6 | T | T-D/6 | 227M | STATION | D | AZM | D/6 | T | T-D/6 |
|------------------------|-------|-------|------|--------|-------|------|-----------------------|-------|-------|------|--------|-------|
| L01 MOTYAMANAKA (1) | 28.27 | 4.3 | 4.71 | 5.86A+ | 1.15 | | L41 SUBERIZAMA | 5.78 | 193.1 | 0.96 | 1.48A+ | 0.52 |
| L02 MOTYAMANAKA (2) | 28.14 | 4.3 | 4.69 | 5.83A+ | 1.14 | | L42 AMAGI-TOGE 1-1 | 6.77 | 191.0 | 1.13 | 1.70A+ | 0.57 |
| L03 MITUYA-SHINDEN | 27.24 | 5.2 | 4.54 | 5.53A+ | 0.99 | | L43 AMAGI-TOGE 1-2 | 6.97 | 189.9 | 1.16 | | |
| L04 MITUYA-SHINDEN | 27.17 | 5.1 | 4.53 | 5.52A+ | 0.99 | | L44 AMAGI-TOGE 2-1 | 7.00 | 182.5 | 1.17 | 1.78A+ | 0.61 |
| L05 KANNAMI | 20.47 | 9.3 | 3.41 | 4.17B- | 0.76 | | L45 AMAGI-TOGE 2-2 | 7.29 | 181.1 | 1.21 | 1.86A+ | 0.65 |
| L06 NIRAYANA (1) | 18.05 | 8.8 | 3.01 | 3.76A+ | 0.75 | | L46 AMAGI-TOGE 3 | 7.74 | 178.5 | 1.29 | 1.97A+ | 0.68 |
| L07 NIRAYANA (2) | 17.51 | 9.4 | 2.92 | 3.67A+ | 0.75 | | L47 AMAGI-TOGE 4 | 8.20 | 179.2 | 1.37 | 2.05A+ | 0.68 |
| L08 NIRAYANA (3) | 17.25 | 8.6 | 2.88 | 3.59A+ | 0.72 | | L48 AMAGI-TOGE 5 | 8.79 | 181.0 | 1.46 | 2.12A+ | 0.66 |
| L09 NIRAYANA (4) | 16.95 | 9.3 | 2.82 | 3.55A+ | 0.73 | | L49 AMAGI-TOGE 6 | 9.53 | 182.3 | 1.56 | 2.26A+ | 0.67 |
| L10 NIRAYANA (5) | 16.42 | 9.2 | 2.74 | 3.47A+ | 0.73 | | L50 SOTARO (1) | 9.71 | 185.0 | 1.62 | 2.26A+ | 0.64 |
| L11 MORIKIYAMADA | 13.71 | 9.8 | 2.28 | 2.93A+ | 0.65 | | L51 SOTARO (2) | 9.96 | 184.8 | 1.66 | 2.28B+ | 0.62 |
| L12 ZOSHUNJI | 13.03 | 10.8 | 2.17 | 2.80A+ | 0.67 | | L52 SOTARO (3) | 10.05 | 184.0 | 1.67 | 2.30B+ | 0.63 |
| L13 KAWAHIRA | 12.35 | 11.5 | 2.06 | 2.74A+ | 0.68 | | L53 SOTARO (4) | 10.16 | 183.4 | 1.69 | 2.33A+ | 0.64 |
| L14 DHI TO-GOMISHORIJI | 11.81 | 12.3 | 1.97 | 2.61A+ | 0.72 | | L54 SOTARO (5) | 10.26 | 183.2 | 1.71 | 2.35A+ | 0.64 |
| L15 NOJIRIGAWA-OKU | 11.36 | 12.6 | 1.89 | 2.61A+ | 0.72 | | L55 SOTARO (6) | 10.36 | 182.8 | 1.73 | 2.37A+ | 0.64 |
| L16 NOJIRIGAWA-SAISE | 10.68 | 10.2 | 1.78 | 2.47A+ | 0.74 | | L56 KAMADARU | 10.96 | 180.8 | 1.83 | | |
| L17 WAKINOGO | 10.36 | 12.8 | 1.73 | 2.37A+ | 0.79 | | L57 TSURIBASHI-SO | 11.67 | 180.9 | 1.94 | 2.54A+ | 0.60 |
| L18 SHUZENJI-KOGYO | 9.50 | 12.9 | 1.58 | 2.37A+ | 0.79 | | L58 NASHIMOTO | 11.90 | 178.1 | 1.98 | 2.57A+ | 0.59 |
| L19 SHUZENJI-GROUND | 8.75 | 15.2 | 1.46 | | | | L59 KAWAYOKO | 13.06 | 176.6 | 2.18 | 2.78A+ | 0.60 |
| L20 KASHIWAKUBO | 8.53 | 10.5 | 1.42 | | | | L60 OHNABE | 13.07 | 181.5 | 2.18 | 2.81A+ | 0.63 |
| L21 KADONO | 8.04 | 10.2 | 1.34 | 2.09A+ | 0.75 | | L61 YUGANO | 13.64 | 171.9 | 2.27 | 2.88A+ | 0.61 |
| L22 HINATA (N) | 7.36 | 10.8 | 1.23 | 1.99A+ | 0.76 | | L62 KONABE | 14.15 | 179.8 | 2.36 | 3.00A+ | 0.64 |
| L23 HINATA (S) | 6.72 | 10.1 | 1.12 | 1.85A+ | 0.73 | | L63 ANAKAWA-JINJA (1) | 14.39 | 171.3 | 2.40 | 2.99A+ | 0.59 |
| L24 SANO (1) | 6.25 | 7.8 | 1.04 | 1.74A+ | 0.70 | | L64 ANAKAWA-JINJA (2) | 14.74 | 170.9 | 2.46 | 3.06B+ | 0.60 |
| L25 SANO (2) | 5.50 | 7.0 | 0.92 | 1.61A+ | 0.69 | | L65 SAKASHITA | 15.48 | 171.9 | 2.58 | 3.23A+ | 0.65 |
| L26 SANO (3) | 5.30 | 5.2 | 0.88 | 1.56A+ | 0.68 | | L66 SAKASAGAWA (1) | 15.56 | 174.9 | 2.59 | 3.25A+ | 0.66 |
| L27 SANO (4) | 5.10 | 3.1 | 0.85 | 1.45A+ | 0.60 | | L67 SAKASAGAWA (2) | 15.58 | 175.1 | 2.60 | 3.25A+ | 0.65 |
| L28 KOTSUKA (2) | 4.64 | 1.1 | 0.77 | 1.32A+ | 0.55 | | L68 KITAGSAWA | 16.37 | 178.2 | 2.73 | 3.40A+ | 0.67 |
| L29 KOTSUKA (1) | 4.56 | 1.4 | 0.76 | 1.26A+ | 0.50 | | L69 CHIHARANO | 16.78 | 180.3 | 2.80 | 3.48A+ | 0.68 |
| L30 TERANO | 4.12 | 1.2 | 0.69 | 1.15A+ | 0.46 | | L70 KUCHIMURA | 17.62 | 180.3 | 2.94 | 3.60A+ | 0.66 |
| L31 BUTAI | 3.34 | 1.7 | 0.56 | 0.99A+ | 0.43 | | L71 UDOGANE | 18.60 | 182.6 | 3.10 | 3.77A+ | 0.67 |
| L32 HINAZAWA | 2.42 | 357.2 | 0.40 | 0.75A+ | 0.35 | | L72 HIE-JINJA | 19.04 | 182.5 | 3.17 | | |
| L33 TAZAWA | 1.86 | 337.0 | 0.31 | 0.51A+ | 0.20 | | L73 SHIIGARA | 19.64 | 182.6 | 3.27 | 3.94A+ | 0.67 |
| L34 KITA | 1.11 | 321.6 | 0.18 | 0.39A+ | 0.21 | | L74 AIYAMA | 20.12 | 183.7 | 3.35 | 4.04A+ | 0.69 |
| L35 HIGASHIHARA | 0.54 | 131.9 | 0.09 | 0.19A+ | 0.09 | | L75 KYU-SHIWODAKAIDO | 21.01 | 183.7 | 3.50 | 4.18A+ | 0.68 |
| L36 YUGASHIMA | 1.78 | 203.0 | 0.30 | 0.51A+ | 0.21 | | L76 RENDAIJI | 22.04 | 183.5 | 3.67 | 4.39A+ | 0.72 |
| L37 YOICHIKAZAKA (1) | 2.57 | 182.7 | 0.43 | 0.70A+ | 0.27 | | L77 HINOKIZAWA-SHITA | 22.58 | 183.8 | 3.76 | 4.45C+ | 0.69 |
| L38 YOICHIKAZAKA (2) | 2.66 | 185.3 | 0.44 | | | | L78 HINOKIZAWA-NAKA | 23.05 | 183.8 | 3.84 | | |
| L39 KIRIYAMABASHI (1) | 4.02 | 202.6 | 0.67 | 1.03A+ | 0.36 | | NARAMOTO | 13.78 | 123.6 | 2.30 | 2.93A+ | 0.63 |
| L40 KIRIYAMABASHI (2) | 4.11 | 203.5 | 0.68 | 1.06A+ | 0.38 | | HATSUSHIMA | 26.62 | 54.5 | 4.44 | 5.70B+ | 1.26 |

| STATION | D | AZM | D/6.0 | T | T-D/6 | STATION | D | AZM | D/6 | T | T-D/6 |
|---------|------|-------|-------|--------|-------|---------------|-------|-------|-------|---------|-------|
| OYO 01 | 1.92 | 187.5 | 0.32 | | | OYO 40 | 6.25 | 190.9 | 1.04 | 1.598- | 0.55 |
| OYO 02 | 2.02 | 187.7 | 0.34 | | | (LATER PHASE) | | | | 1.628+ | 0.58 |
| OYO 03 | 2.12 | 188.3 | 0.35 | | | OYO 41 | 6.35 | 190.8 | 1.06 | 1.624- | 0.56 |
| OYO 04 | 2.22 | 189.0 | 0.37 | | | (LATER PHASE) | | | | 1.648+ | 0.58 |
| OYO 05 | 2.32 | 188.7 | 0.39 | | | OYO 42 | 6.46 | 191.0 | 1.08 | 1.644- | 0.56 |
| OYO 06 | 2.43 | 189.2 | 0.41 | | | (LATER PHASE) | | | | 1.668+ | 0.58 |
| OYO 07 | 2.51 | 189.7 | 0.42 | | | OYO 43 | 6.56 | 191.5 | 1.09 | 1.684- | 0.59 |
| OYO 08 | 2.61 | 190.1 | 0.43 | | | (LATER PHASE) | | | | 1.708+ | 0.61 |
| OYO 09 | 2.68 | 191.6 | 0.45 | | | OYO 44 | 6.66 | 191.7 | 1.11 | 1.698- | 0.58 |
| OYO 10 | 2.78 | 192.7 | 0.46 | | | (LATER PHASE) | | | | 1.718+ | 0.60 |
| OYO 11 | 2.87 | 193.4 | 0.48 | | | OYO 45 | 6.77 | 191.3 | 1.13 | 1.708- | 0.57 |
| OYO 12 | 2.96 | 193.5 | 0.49 | | | (LATER PHASE) | | | | 1.728+ | 0.59 |
| OYO 13 | 3.11 | 193.8 | 0.52 | 0.82A+ | 0.30 | OYO 46 | 6.87 | 191.5 | 1.14 | 1.724- | 0.58 |
| OYO 14 | 3.20 | 194.5 | 0.53 | 0.86A+ | 0.33 | (LATER PHASE) | | | | 1.748+ | 0.60 |
| OYO 15 | 3.28 | 195.8 | 0.55 | 0.88A+ | 0.33 | OYO 47 | 6.97 | 191.5 | 1.16 | 1.738- | 0.57 |
| OYO 16 | 3.36 | 196.6 | 0.56 | 0.89A+ | 0.33 | (LATER PHASE) | | | | 1.778+ | 0.61 |
| OYO 17 | 3.45 | 197.9 | 0.57 | 0.92A+ | 0.35 | OYO 48 | 7.07 | 191.8 | 1.18 | 1.764- | 0.58 |
| OYO 18 | 3.55 | 197.9 | 0.59 | 0.95A+ | 0.36 | (LATER PHASE) | | | | 1.788+ | 0.60 |
| OYO 19 | 3.65 | 198.3 | 0.61 | 0.99A+ | 0.38 | S3-1 | 0.0 | 0.0 | 0.0 | 0.008A+ | 0.008 |
| OYO 20 | 3.74 | 198.2 | 0.62 | 1.00B+ | 0.38 | S3-2 | 0.100 | 280.0 | 0.017 | 0.046A+ | 0.029 |
| OYO 21 | 3.84 | 198.5 | 0.64 | 1.04A+ | 0.40 | S3-3 | 0.200 | 288.0 | 0.033 | 0.087A+ | 0.054 |
| OYO 22 | 3.93 | 198.4 | 0.66 | 1.05A+ | 0.40 | S3-4 | 0.300 | 288.0 | 0.050 | 0.128A+ | 0.078 |
| OYO 23 | 4.05 | 198.1 | 0.68 | 1.12A+ | 0.44 | S3-5 | 0.390 | 293.0 | 0.065 | 0.148A+ | 0.084 |
| OYO 24 | 4.15 | 197.8 | 0.69 | 1.14A+ | 0.45 | S3-6 | 0.480 | 298.0 | 0.080 | 0.181A+ | 0.101 |
| OYO 25 | 4.84 | 191.8 | 0.81 | 1.33A+ | 0.52 | S2-1 | 14.69 | 12.4 | 2.45 | 3.228+ | 0.77 |
| OYO 26 | 4.91 | 192.3 | 0.82 | 1.34A+ | 0.52 | S2-2 | 14.71 | 12.0 | 2.45 | 3.24C+ | 0.79 |
| OYO 27 | 5.01 | 192.7 | 0.84 | 1.36A+ | 0.52 | S2-3 | 14.66 | 11.7 | 2.44 | | |
| OYO 28 | 5.11 | 193.2 | 0.85 | 1.36A+ | 0.51 | S2-4 | 14.62 | 11.4 | 2.44 | 3.23B+ | 0.79 |
| OYO 29 | 5.21 | 193.6 | 0.87 | 1.37A+ | 0.50 | S2-5 | 14.62 | 10.9 | 2.44 | | |
| OYO 30 | 5.28 | 194.0 | 0.88 | 1.41A+ | 0.53 | S2-6 | 14.61 | 10.5 | 2.43 | 3.22B- | 0.79 |
| OYO 31 | 5.38 | 193.7 | 0.90 | 1.43A+ | 0.53 | | | | | | |
| OYO 32 | 5.48 | 193.5 | 0.91 | 1.46A+ | 0.55 | | | | | | |
| OYO 33 | 5.57 | 193.3 | 0.93 | 1.48A+ | 0.55 | | | | | | |
| OYO 34 | 5.67 | 192.5 | 0.94 | 1.49B+ | 0.54 | | | | | | |
| OYO 35 | 5.78 | 192.3 | 0.96 | 1.49B+ | 0.53 | | | | | | |
| OYO 36 | 5.87 | 191.8 | 0.98 | 1.53A+ | 0.55 | | | | | | |
| OYO 37 | 5.95 | 191.3 | 0.99 | 1.52C- | 0.53 | | | | | | |
| OYO 38 | 6.04 | 190.7 | 1.01 | 1.56B+ | 0.57 | | | | | | |
| OYO 39 | 6.15 | 190.9 | 1.02 | 1.58A+ | 0.57 | | | | | | |
| | | | | 1.62A+ | 0.60 | | | | | | |

| STATION | D | AZM | D/6 | T | T-D/6 | STATION | D | AZM | D/6 | T | T-D/6 |
|---------|-------|-------|------|--------|-------|---------|-------|-------|-------|---------|-------|
| OYO 01 | 14.38 | 348.1 | 2.40 | 3.018+ | 0.61 | OYO 41 | 10.50 | 338.1 | 1.75 | 2.39A+ | 0.64 |
| OYO 02 | 14.29 | 347.9 | 2.38 | 3.008+ | 0.62 | OYO 42 | 10.42 | 337.7 | 1.74 | 2.38A+ | 0.64 |
| OYO 03 | 14.21 | 347.7 | 2.37 | 3.01C+ | 0.64 | OYO 43 | 10.36 | 337.1 | 1.73 | 2.37A+ | 0.64 |
| OYO 04 | 14.12 | 347.5 | 2.35 | 2.99C+ | 0.64 | OYO 44 | 10.30 | 336.7 | 1.72 | 2.36A+ | 0.64 |
| OYO 05 | 14.02 | 347.3 | 2.34 | 2.98C+ | 0.64 | OYO 45 | 10.18 | 336.6 | 1.70 | 2.34A+ | 0.64 |
| OYO 06 | 13.93 | 347.1 | 2.32 | 2.978+ | 0.65 | OYO 46 | 10.12 | 336.1 | 1.69 | 2.34A+ | 0.65 |
| OYO 07 | 13.86 | 346.9 | 2.31 | 2.958+ | 0.64 | OYO 47 | 10.03 | 335.8 | 1.67 | 2.33A+ | 0.66 |
| OYO 08 | 13.78 | 346.7 | 2.30 | 2.94A+ | 0.64 | OYO 48 | 9.97 | 335.3 | 1.66 | 2.33A+ | 0.67 |
| OYO 09 | 13.74 | 346.3 | 2.29 | 2.92A+ | 0.63 | S4-1 | 0.0 | 0.0 | 0.0 | 0.011A+ | 0.011 |
| OYO 10 | 13.68 | 345.9 | 2.28 | 2.90A+ | 0.62 | S4-2 | 0.100 | 343.0 | 0.017 | 0.037A+ | 0.020 |
| OYO 11 | 13.61 | 345.6 | 2.27 | 2.918+ | 0.64 | S4-3 | 0.190 | 339.0 | 0.032 | 0.075A+ | 0.043 |
| OYO 12 | 13.54 | 345.4 | 2.26 | 2.91C+ | 0.65 | S4-4 | 0.295 | 332.0 | 0.049 | 0.100A+ | 0.051 |
| OYO 13 | 13.41 | 345.0 | 2.23 | 2.918+ | 0.68 | S4-5 | 0.370 | 328.0 | 0.062 | 0.144A+ | 0.082 |
| OYO 14 | 13.36 | 344.7 | 2.23 | 2.90A+ | 0.67 | S4-6 | 0.480 | 328.0 | 0.080 | 0.159A+ | 0.079 |
| OYO 15 | 13.32 | 344.2 | 2.22 | 2.908+ | 0.68 | S5-1 | 8.40 | 210.3 | 1.40 | | |
| OYO 16 | 13.27 | 343.9 | 2.21 | 2.908+ | 0.69 | S5-2 | 8.33 | 210.6 | 1.39 | 1.98A+ | 0.59 |
| OYO 17 | 13.24 | 343.4 | 2.21 | 2.908+ | 0.69 | S5-3 | 8.31 | 211.3 | 1.38 | 1.968+ | 0.58 |
| OYO 18 | 13.17 | 343.2 | 2.19 | 2.908+ | 0.70 | S5-4 | 8.33 | 211.8 | 1.39 | | |
| OYO 19 | 13.10 | 342.8 | 2.18 | 2.908+ | 0.72 | S5-5 | 8.26 | 211.8 | 1.38 | 1.94A+ | 0.56 |
| OYO 20 | 13.02 | 342.6 | 2.17 | 2.91C- | 0.74 | S5-6 | 8.15 | 211.8 | 1.36 | 1.928+ | 0.56 |
| OYO 21 | 12.95 | 342.3 | 2.16 | 2.878+ | 0.71 | | | | | | |
| OYO 22 | 12.87 | 342.1 | 2.14 | 2.858+ | 0.71 | | | | | | |
| OYO 23 | 12.77 | 341.8 | 2.13 | 2.86C+ | 0.73 | | | | | | |
| OYO 24 | 12.67 | 341.7 | 2.11 | | | | | | | | |
| OYO 25 | 11.83 | 341.7 | 1.97 | 2.60C+ | 0.63 | | | | | | |
| OYO 26 | 11.79 | 341.4 | 1.96 | 2.608+ | 0.64 | | | | | | |
| OYO 27 | 11.73 | 341.0 | 1.95 | 2.598+ | 0.64 | | | | | | |
| OYO 28 | 11.67 | 340.5 | 1.94 | 2.588+ | 0.64 | | | | | | |
| OYO 29 | 11.60 | 340.1 | 1.93 | 2.568+ | 0.63 | | | | | | |
| OYO 30 | 11.56 | 339.8 | 1.93 | 2.568+ | 0.63 | | | | | | |
| OYO 31 | 11.47 | 339.6 | 1.91 | 2.55C+ | 0.64 | | | | | | |
| OYO 32 | 11.38 | 339.4 | 1.90 | 2.58C- | 0.68 | | | | | | |
| OYO 33 | 11.29 | 339.2 | 1.88 | 2.49C+ | 0.61 | | | | | | |
| OYO 34 | 11.16 | 339.3 | 1.86 | 2.47C+ | 0.61 | | | | | | |
| OYO 35 | 11.06 | 339.1 | 1.84 | 2.45C+ | 0.61 | | | | | | |
| OYO 36 | 10.96 | 339.0 | 1.83 | 2.458+ | 0.62 | | | | | | |
| OYO 37 | 10.86 | 339.0 | 1.81 | 2.458+ | 0.64 | | | | | | |
| OYO 38 | 10.75 | 339.0 | 1.79 | 2.45C- | 0.66 | | | | | | |
| OYO 39 | 10.67 | 338.6 | 1.78 | 2.428+ | 0.64 | | | | | | |
| OYO 40 | 10.58 | 338.4 | 1.76 | 2.398+ | 0.63 | | | | | | |

| SP-5 | | 1979-12-6 | | 1-12-2.36 | | 400 KG | | 128H | |
|---------|------------------|--------------|-------|---------------|-------|---------|-------------------|-------|------|
| | | 34-41-11.8 N | | 138-55-16.9 E | | | | | |
| STATION | D | AZM | D/6 | T | T-D/6 | STATION | D | AZM | D/6 |
| L01 | MOTOYAMANAKA (1) | 51.54 | 4.0 | 8.59 | 0.75 | L41 | SUBERIZAWA | 17.60 | 2.93 |
| L02 | MOTOYAMANAKA (2) | 51.42 | 4.0 | 8.57 | | L42 | AMAGI-TOGE 1-1 | 16.58 | 2.76 |
| L03 | HITSUYA-SHINDEN | 50.51 | 4.5 | 8.42 | | L43 | AMAGI-TOGE 1-2 | 16.37 | 2.73 |
| L04 | HITSUYA-SHINDEN | 50.44 | 4.5 | 8.41 | | L44 | AMAGI-TOGE 2-1 | 16.28 | 2.71 |
| L05 | KANNAHI | 43.69 | 6.4 | 7.28 | 0.75 | L45 | AMAGI-TOGE 2-2 | 16.00 | 2.67 |
| L06 | NIRAYAMA (1) | 41.29 | 6.0 | 6.88 | | L46 | AMAGI-TOGE 3 | 15.58 | 2.60 |
| L07 | NIRAYAMA (2) | 40.74 | 6.2 | 6.79 | 0.72 | L47 | AMAGI-TOGE 4 | 15.12 | 2.52 |
| L08 | NIRAYAMA (3) | 40.49 | 6.1 | 6.75 | 0.71 | L48 | AMAGI-TOGE 5 | 14.50 | 2.42 |
| L09 | NIRAYAMA (4) | 40.18 | 6.8 | 6.70 | 0.72 | L49 | AMAGI-TOGE 6 | 13.75 | 2.29 |
| L10 | NIRAYAMA (5) | 39.65 | 6.0 | 6.61 | 0.73 | L50 | SOTARO (1) | 13.57 | 2.26 |
| L11 | MORIKIYAMADA | 36.94 | 6.0 | 6.16 | | L51 | SOTARO (2) | 13.32 | 2.22 |
| L12 | ZOSHUNIN | 36.25 | 6.3 | 6.04 | 0.78 | L52 | SOTARO (3) | 13.23 | 2.20 |
| L13 | KAWAHIRA | 35.55 | 6.4 | 5.93 | 0.72 | L53 | SOTARO (4) | 13.12 | 2.19 |
| L14 | OHITO-GOMISHORIJ | 35.00 | 6.6 | 5.83 | 0.98 | L54 | SOTARO (5) | 13.02 | 2.17 |
| L15 | NOJIRIGAWA-OKU | 34.54 | 6.6 | 5.76 | 0.80 | L55 | SOTARO (6) | 12.92 | 2.15 |
| L16 | NOJIRIGAWA-SAISE | 33.91 | 5.8 | 5.65 | | L56 | KAMADARU | 12.34 | 2.06 |
| L17 | MAKINDO | 33.54 | 6.5 | 5.59 | 0.81 | L57 | TSURIBASHI-50 | 11.63 | 1.94 |
| L18 | SHUZENJI-KOCHO | 32.69 | 6.4 | 5.45 | 0.84 | L58 | NASHIMOTO | 11.50 | 1.92 |
| L19 | SHUZENJI-GROUND | 31.90 | 6.9 | 5.32 | | L59 | KAWAYOKO | 10.54 | 1.74 |
| L20 | KASHIMAKUBO | 31.77 | 5.6 | 5.30 | | L60 | OHNAE | 10.23 | 1.70 |
| L21 | KADONO | 31.28 | 5.4 | 5.21 | 0.84 | L61 | YUGANO | 10.32 | 1.72 |
| L22 | HINATA (N) | 30.59 | 5.4 | 5.10 | 0.91 | L62 | KONAE | 9.22 | 1.54 |
| L23 | HINATA (S) | 29.97 | 5.2 | 4.99 | 0.90 | L63 | AKAKAMA-JINJA (1) | 9.74 | 1.62 |
| L24 | SANO (1) | 29.51 | 4.6 | 4.92 | 0.90 | L64 | AKAKAMA-JINJA (2) | 9.59 | 1.58 |
| L25 | SANO (2) | 28.77 | 4.4 | 4.80 | 0.93 | L65 | SAKASHITA | 8.73 | 1.45 |
| L26 | SANO (3) | 28.57 | 4.0 | 4.76 | 0.91 | L66 | SAKASAGAWA (1) | 8.26 | 1.38 |
| L27 | SANO (4) | 28.38 | 3.6 | 4.73 | 0.88 | L67 | SAKASAGAWA (2) | 8.21 | 1.37 |
| L28 | KOTSUKA (2) | 27.91 | 3.3 | 4.65 | | L68 | KITANOSAWA | 7.16 | 1.19 |
| L29 | KOTSUKA (1) | 27.83 | 3.4 | 4.64 | | L69 | CHIHRANO | 6.61 | 1.05 |
| L30 | TERANO | 27.39 | 3.4 | 4.56 | 0.81 | L70 | KUCHIMURA | 5.79 | 0.96 |
| L31 | BUTAI | 26.62 | 3.5 | 4.44 | 0.83 | L71 | UDDANE | 4.70 | 0.78 |
| L32 | MINAZAWA | 25.69 | 3.1 | 4.28 | 0.78 | L72 | HIE-JINJA | 4.26 | 0.71 |
| L33 | TAZAWA | 24.95 | 1.8 | 4.16 | 0.67 | L73 | SHIIBARA | 3.66 | 0.61 |
| L34 | KITA | 24.11 | 2.0 | 4.02 | 0.73 | L74 | AITAMA | 3.16 | 0.53 |
| L35 | HIGASHIHARA | 22.95 | 4.8 | 3.82 | 0.76 | L75 | KYU-SHIMODAKAIDO | 2.27 | 0.38 |
| L36 | YUGASHIMA | 21.61 | 2.2 | 3.60 | 0.77 | L76 | RENDAIJI | 1.24 | 0.21 |
| L37 | YOICHIKAZAKA (1) | 20.70 | 3.9 | 3.45 | 0.74 | L77 | HINOKIZAWA-SHITA | 0.70 | 0.12 |
| L38 | YOICHIKAZAKA (2) | 20.62 | 3.5 | 3.44 | 0.73 | L78 | HINOKIZAWA-NAKA | 0.25 | 0.04 |
| L39 | KIRIYABASHI (1) | 19.52 | 359.9 | 3.25 | 0.78 | | | | |
| L40 | KIRIYABASHI (2) | 19.46 | 359.6 | 3.24 | 0.78 | | | | |

| STATION | D | AZM | D/6 | T | T-0/6 | STATION | D | AZM | D/6 | T | T-0/6 |
|---------|-------|-----|------|--------|-------|---------|-------|-------|-------|---------|-------|
| OYO 01 | 21.36 | 3.4 | 3.56 | 4.32L- | 0.76 | OYO 41 | 16.99 | 1.1 | 2.83 | 3.61C+ | 0.78 |
| OYO 02 | 21.26 | 3.4 | 3.54 | 4.32L- | 0.78 | OYO 42 | 16.89 | 1.0 | 2.81 | 3.59C+ | 0.78 |
| OYO 03 | 21.17 | 3.3 | 3.53 | 4.31L- | 0.78 | OYO 43 | 16.80 | 0.7 | 2.80 | 3.58C+ | 0.78 |
| OYO 04 | 21.07 | 3.2 | 3.51 | 4.33L- | 0.82 | OYO 44 | 16.71 | 0.6 | 2.79 | 3.56B+ | 0.77 |
| OYO 05 | 20.96 | 3.2 | 3.49 | 4.29L- | 0.80 | OYO 45 | 16.59 | 0.7 | 2.76 | 3.52B+ | 0.76 |
| OYO 06 | 20.86 | 3.1 | 3.48 | 4.29L- | 0.81 | OYO 46 | 16.50 | 0.5 | 2.75 | 3.52A+ | 0.77 |
| OYO 07 | 20.78 | 3.0 | 3.46 | 4.25L- | 0.79 | OYO 47 | 16.40 | 0.4 | 2.73 | 3.51B+ | 0.78 |
| OYO 08 | 20.68 | 2.9 | 3.45 | 4.20L+ | 0.75 | OYO 48 | 16.31 | 0.3 | 2.72 | 3.50A+ | 0.78 |
| OYO 09 | 20.62 | 2.7 | 3.44 | 4.20L- | 0.76 | S5-1 | 0.0 | 0.0 | 0.0 | | |
| OYO 10 | 20.54 | 2.5 | 3.42 | 4.18L- | 0.76 | S5-2 | 0.080 | 358.0 | 0.013 | 0.046A+ | 0.027 |
| OYO 11 | 20.45 | 2.4 | 3.41 | 4.18L- | 0.77 | S5-3 | 0.170 | 335.0 | 0.028 | 0.070A+ | 0.042 |
| OYO 12 | 20.37 | 2.3 | 3.39 | | | S5-4 | 0.220 | 320.0 | 0.037 | 0.079A+ | 0.042 |
| OYO 13 | 20.22 | 2.2 | 3.37 | 4.18L+ | 0.81 | S5-5 | 0.260 | 335.0 | 0.083 | 0.089A+ | 0.046 |
| OYO 14 | 20.15 | 2.0 | 3.36 | | | S5-6 | 0.330 | 351.0 | 0.055 | 0.114A+ | 0.059 |
| OYO 15 | 20.08 | 1.8 | 3.35 | 4.17L- | 0.82 | S4-1 | 8.40 | 30.3 | 1.40 | 2.00B+ | 0.60 |
| OYO 16 | 20.01 | 1.6 | 3.33 | 4.15L- | 0.82 | S4-2 | 8.47 | 29.8 | 1.41 | 2.03B+ | 0.62 |
| OYO 17 | 19.95 | 1.3 | 3.32 | 4.15L- | 0.83 | S4-3 | 8.52 | 29.3 | 1.42 | 2.03B+ | 0.61 |
| OYO 18 | 19.86 | 1.2 | 3.31 | 4.14L- | 0.83 | S4-4 | 8.56 | 28.7 | 1.43 | 2.03A+ | 0.60 |
| OYO 19 | 19.77 | 1.1 | 3.30 | 4.14L- | 0.85 | S4-5 | 8.58 | 28.2 | 1.43 | 2.08B+ | 0.65 |
| OYO 20 | 19.68 | 1.0 | 3.28 | 4.11L- | 0.83 | S4-6 | 8.64 | 27.5 | 1.44 | 2.10C+ | 0.66 |
| OYO 21 | 19.59 | 0.9 | 3.26 | 4.09L+ | 0.83 | | | | | | |
| OYO 22 | 19.50 | 0.8 | 3.25 | 4.07L- | 0.82 | | | | | | |
| OYO 23 | 19.38 | 0.8 | 3.23 | 4.06L- | 0.83 | | | | | | |
| OYO 24 | 19.28 | 0.7 | 3.21 | | | | | | | | |
| OYO 25 | 18.49 | 1.6 | 3.08 | 3.83L- | 0.75 | | | | | | |
| OYO 26 | 18.43 | 1.5 | 3.07 | 3.82L- | 0.75 | | | | | | |
| OYO 27 | 18.34 | 1.3 | 3.06 | 3.81L- | 0.75 | | | | | | |
| OYO 28 | 18.25 | 1.1 | 3.04 | | | | | | | | |
| OYO 29 | 18.17 | 0.9 | 3.03 | 3.79L- | 0.76 | | | | | | |
| OYO 30 | 18.10 | 0.8 | 3.02 | | | | | | | | |
| OYO 31 | 18.00 | 0.8 | 3.00 | 3.79L- | 0.79 | | | | | | |
| OYO 32 | 17.90 | 0.7 | 2.98 | 3.83L+ | 0.85 | | | | | | |
| OYO 33 | 17.81 | 0.8 | 2.97 | 3.76L+ | 0.79 | | | | | | |
| OYO 34 | 17.70 | 0.9 | 2.95 | 3.72L- | 0.77 | | | | | | |
| OYO 35 | 17.58 | 0.9 | 2.93 | 3.61C+ | 0.68 | | | | | | |
| OYO 36 | 17.49 | 1.0 | 2.92 | | | | | | | | |
| OYO 37 | 17.40 | 1.1 | 2.90 | | | | | | | | |
| OYO 38 | 17.29 | 1.3 | 2.88 | | | | | | | | |
| OYO 39 | 17.19 | 1.2 | 2.86 | 3.62C+ | 0.76 | | | | | | |
| OYO 40 | 17.09 | 1.1 | 2.85 | 3.62L- | 0.77 | | | | | | |

| EARTHQUAKE | | 1979-12-5 1-1-56.58 M=2.5 | | 34-53-59.0 N 139-41-10.0 E 30 KM | | | | | | | |
|-----------------------|-------|---------------------------|-------|----------------------------------|-------|-----------------------|-------|-------|-------|----------|-------|
| STATION | D | AZM | D/6 | T | T-D/6 | STATION | D | AZM | D/6 | T | T-D/6 |
| L01 MOTOYANAKA (1) | 71.76 | 293.0 | 11.96 | 9.04C- | -2.92 | L41 SUBERIZAWA | 69.97 | 265.3 | 11.66 | 8.68B+ | -2.98 |
| L02 MOTOYANAKA (2) | 71.72 | 292.9 | 11.95 | 8.84C+ | -2.99 | L42 AMAGI-TOGE 1-1 | 70.05 | 264.4 | 11.68 | 8.66A+ | -3.02 |
| L03 MITSUYA-SHINDEN | 71.01 | 292.3 | 11.83 | 8.75C+ | -3.09 | L43 AMAGI-TOGE 1-2 | 69.98 | 264.2 | 11.66 | 8.64A+ | -2.88 |
| L04 MITSUYA-SHINDEN | 71.03 | 292.2 | 11.84 | 8.30C- | -3.02 | L44 AMAGI-TOGE 2-1 | 69.11 | 264.1 | 11.52 | 8.63A+ | -2.86 |
| L05 KANNAMI | 67.93 | 287.1 | 11.32 | 8.25B+ | -3.05 | L45 AMAGI-TOGE 2-2 | 68.97 | 263.8 | 11.49 | 8.61A+ | -2.84 |
| L06 NIRAYAMA (1) | 67.81 | 285.1 | 11.30 | 8.25A+ | -3.01 | L46 AMAGI-TOGE 3 | 68.69 | 263.4 | 11.45 | 8.64C- | -2.92 |
| L07 NIRAYAMA (2) | 67.58 | 284.7 | 11.26 | 8.27A+ | -3.03 | L47 AMAGI-TOGE 4 | 69.18 | 262.6 | 11.53 | * 8.61B- | -2.93 |
| L08 NIRAYAMA (3) | 67.80 | 284.4 | 11.30 | 8.25A+ | -3.01 | L48 AMAGI-TOGE 5 | 69.51 | 262.0 | 11.58 | * 8.68B- | -2.90 |
| L09 NIRAYAMA (4) | 67.57 | 284.2 | 11.26 | 8.25A+ | -3.01 | L49 AMAGI-TOGE 6 | 69.59 | 261.9 | 11.67 | | |
| L10 NIRAYAMA (5) | 67.56 | 283.7 | 11.26 | 8.25A+ | -3.01 | L50 SOTARO (1) | 70.00 | 261.7 | 11.67 | * 8.70B+ | -2.95 |
| L11 MORIKIYANADA | 67.27 | 281.4 | 11.21 | 8.20A+ | -3.01 | L51 SOTARO (2) | 69.50 | 260.8 | 11.58 | * 8.67B- | -2.94 |
| L12 ZOSHRIN | 67.04 | 280.9 | 11.17 | 8.16A+ | -2.99 | L52 SOTARO (3) | 69.67 | 260.2 | 11.61 | * 8.53B+ | -2.99 |
| L13 KAWAHIRA | 66.90 | 280.3 | 11.15 | 8.17A+ | -2.99 | L53 SOTARO (4) | 69.82 | 261.5 | 11.64 | | |
| L14 OHITO-GOMISHORIJI | 66.75 | 279.8 | 11.13 | 8.17A+ | -2.95 | L54 SOTARO (5) | 69.80 | 261.4 | 11.63 | | |
| L15 NOJIRIGAWA-OKU | 66.72 | 279.4 | 11.12 | 8.17A+ | -2.95 | L55 SOTARO (6) | 69.76 | 261.3 | 11.63 | | |
| L16 NOJIRIGAWA-SAISE | 67.21 | 278.9 | 11.20 | 8.23A+ | -2.90 | L56 KAMADARU | 69.50 | 260.8 | 11.58 | * 8.67B- | -2.94 |
| L17 MAKINOGO | 66.75 | 278.6 | 11.13 | 8.28A+ | -2.85 | L57 TSURIBASHI-50 | 69.12 | 260.0 | 11.52 | * 8.53B+ | -2.99 |
| L18 SHUZENJI-KOGYO | 66.81 | 277.8 | 11.13 | 8.36C+ | -2.85 | L58 NASHIMOTO | 68.97 | 259.0 | 11.49 | | |
| L19 SHUZENJI-GROUND | 66.54 | 277.1 | 11.09 | 8.37B+ | -2.85 | L59 KAHAYOKO | 70.08 | 259.1 | 11.68 | | |
| L20 KASHIWAKUBO | 67.26 | 277.0 | 11.21 | 8.37B+ | -2.85 | L60 OHNABE | 67.94 | 258.4 | 11.32 | | |
| L21 KADONO | 67.34 | 276.6 | 11.22 | 8.40A+ | -2.82 | L61 YUGANO | 69.91 | 258.2 | 11.55 | * 8.39C+ | -2.92 |
| L22 HINATA (N) | 67.31 | 276.0 | 11.22 | 8.44A+ | -2.80 | L62 KONABE | 67.95 | 257.8 | 11.51 | * 8.40C+ | -2.90 |
| L23 HINATA (S) | 67.46 | 275.5 | 11.24 | 8.46A+ | -2.83 | L63 AMAKAWA-JINJA (1) | 68.09 | 256.8 | 11.35 | * 8.38B+ | -2.91 |
| L24 SANDO (1) | 67.76 | 275.1 | 11.29 | 8.56C+ | -2.75 | L64 AMAKAWA-JINJA (2) | 68.91 | 256.9 | 11.49 | * 8.68C+ | -2.81 |
| L25 SANDO (2) | 67.88 | 274.5 | 11.31 | 8.58B+ | -2.76 | L65 SAKASHITA | 68.98 | 256.8 | 11.50 | * 8.70C+ | -2.80 |
| L26 SANDO (3) | 68.05 | 274.3 | 11.34 | 8.58B+ | -2.79 | L66 SAKASAGAWA (1) | 69.96 | 256.3 | 11.66 | * 8.72B+ | -2.94 |
| L27 SANDO (4) | 68.24 | 274.1 | 11.37 | 8.58B+ | -2.82 | L67 SAKASAGAWA (2) | 70.65 | 255.1 | 11.77 | * 8.79B+ | -2.98 |
| L28 KOTSUKA (1) | 68.40 | 273.8 | 11.40 | 8.60B+ | -2.79 | L68 KITANOSAWA | 70.86 | 255.5 | 11.81 | * 8.82C- | -2.99 |
| L29 KOTSUKA (2) | 68.37 | 273.7 | 11.39 | 8.58B+ | -2.79 | L69 CHIHRANO | 71.85 | 254.9 | 11.98 | * 8.96C- | -3.02 |
| L30 TERANO | 68.38 | 273.3 | 11.40 | 8.58C+ | -2.84 | L70 KUCHIMURA | 71.96 | 254.6 | 11.99 | * 9.10C+ | -2.93 |
| L31 BUTAI | 68.32 | 272.7 | 11.39 | 8.50C+ | -3.01 | L71 UDOGANE | 72.18 | 254.1 | 12.03 | * 9.11C+ | -2.99 |
| L32 MINAZAWA | 68.51 | 271.9 | 11.42 | 8.37A+ | -2.96 | L72 HIE-JINJA | 72.58 | 253.8 | 12.10 | * 9.11C+ | -2.99 |
| L33 TAZAWA | 69.11 | 271.3 | 11.52 | 8.51B+ | -3.01 | L73 SHIBARA | 73.01 | 253.2 | 12.17 | | |
| L34 KITA | 69.06 | 270.6 | 11.51 | 8.46A+ | -2.97 | L74 AITAMA | 73.32 | 252.4 | 12.22 | | |
| L35 HIGASHIHARA | 67.98 | 269.6 | 11.33 | 8.46A+ | -2.97 | L75 KYU-SHIMODAKAIDU | 73.62 | 252.1 | 12.27 | | |
| L36 YUGASHIMA | 69.11 | 268.5 | 11.52 | 8.75A+ | -2.93 | L76 RENDAIJI | 73.87 | 251.8 | 12.31 | | |
| L37 YOICHIKAZA (1) | 68.57 | 267.7 | 11.43 | 8.72A+ | -2.93 | L77 HINGOKIYAWA-SHITA | 57.49 | 262.1 | 9.58 | 6.97C+ | -2.61 |
| L38 YOICHIKAZA (2) | 68.70 | 267.7 | 11.43 | 8.72A+ | -2.93 | L78 HINGOKIYAWA-NAKA | 48.98 | 268.0 | 8.16 | 6.00C- | -2.16 |
| L39 KIRIYAHABASHI (1) | 70.06 | 266.8 | 11.68 | | | NARAHOTO | | | | | |
| L40 KIRIYAHABASHI (2) | 70.15 | 266.8 | 11.69 | | | HATSUSHIMA | | | | | |

D: distance in km.

AZM: azimuth in degree from the shot point to observation site measured clockwise from the north.

T: travel time in sec with rank of identification and direction of ground motion; for example, 8.29B+ means that travel time is 8.29 sec with rank B and ground motion at identified instant is upward.

T-D/6: reduced travel time in sec.

Asterisk denotes late arrivals.

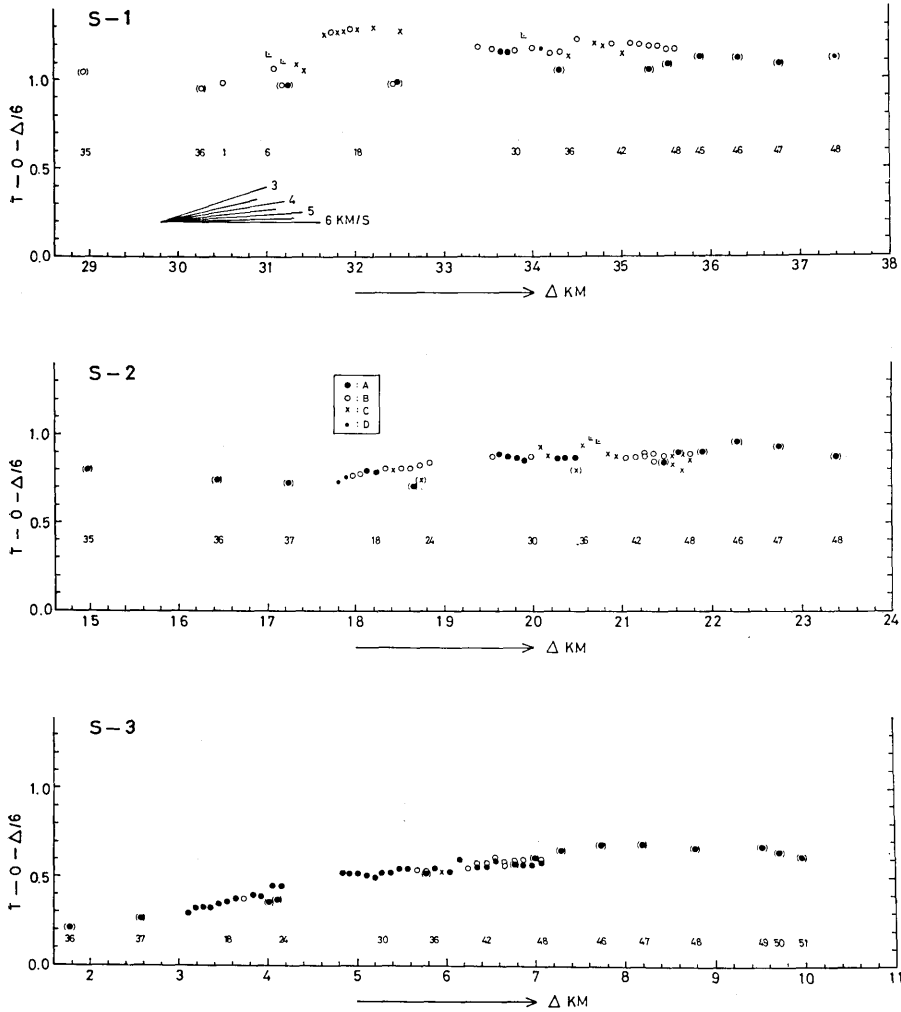


Fig. 8-1. Reduced travel time graphs for S-1, S-2 and S-3 explosions derived from data at 48 observation sites (see Fig. 6 for the record section). Rank of identification: see the caption for Fig. 7. Some data from temporary observation sites with 2 Hz geophone are inserted with parentheses for reference. Numerals show station numbers.

Fig. 6 には OYO による観測で得られた記録が示されている。この図は時間軸はあわせてあるが、記録間隔は任意になっている。この観測では地震計間隔を約 100 m としたため、良好な地震計設置点を選ぶ余地が少なくなり、Fig. 5 に示された記録に比べると S/N 比は少し劣っている。したがって遠い爆破による地震動の観測記録では初動を逃している可能性がある。

得られたすべての記録からよみとった走時には、時刻精度、初動の立上りのよさなどを

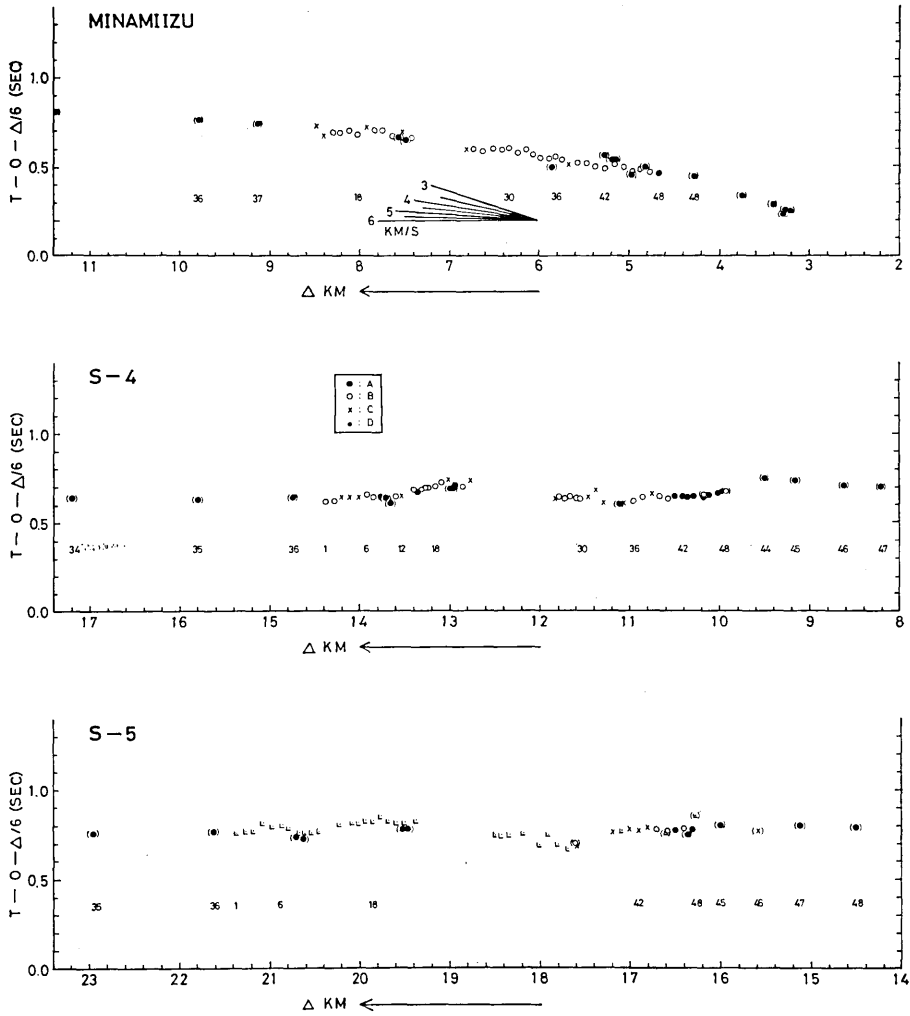


Fig. 8-2. Reduced travel time graphs for Minami Izu, S-4 and S-5 explosions derived from data at 48 observation sites (see Fig. 6 for the record section). Rank of identification: see the caption for Fig. 7. Some data from temporary observation sites with 2 Hz geophone are inserted with parentheses for reference. Numerals show station numbers.

含めた不確かさ Δt により

A: $|\Delta t| \leq 0.01$ s

B: $0.01 \text{ s} < |\Delta t| \leq 0.03$ s

C: $0.03 \text{ s} < |\Delta t| \leq 0.05$ s

D: 初動または後続波として疑わしいもの

のランクを付けた。また、S/N 比が悪くて初動のよみとりがむずかしい場合は、L によ

って初動がその時刻より前であることを示した。データレコーダーによる初動のランクは、大部分が A または B であった。先に述べたように、後続波は目立ったものがないので、OYO による記録の一部を除いてよみとっていない。得られた走時データは、すべて（伊豆大島爆破直前の自然地震の走時データも含めて）、Table 3 に示されている。Fig. 7 にはデータレコーダーの観測から得られた走時図、Fig. 8 には OYO による観測から得られた走時図が与えられている。Fig. 8 には Fig. 7 に示されたデータレコーダーによる走時も一部プロット（括弧内に図示）してあるが、遠い爆破の走時は OYO によるものに比べて早いことがわかる。

3. 結 び

第 4 次地震予知計画により、地殻活動が活発に持続している伊豆半島の詳細な地殻上部の構造を得るために、1979 年 12 月 5 日および 6 日、静岡県三島市・下田市を結ぶ測線上に、爆破点 5 箇所、臨時観測点約 126 点を設けて爆破地震動の観測を行なった。同じ時期に、通産省工業技術院地質調査所が他機関の協力を得て行なっている地震波速度変化の研究のための伊豆大島、南伊豆の爆破が行なわれたが、それらによる地震動も、上記の観測点で観測した。伊豆大島の爆破による地震動の観測の際には、大部分の観測点へ、直前の自然地震による地震動が、爆破による地震動より早く到着した。この実験により得られた記録の大部分は非常に良好であり、精度の高い走時データを得ることに成功した。これらの精度のよい観測資料を用いて解析した結果については別に発表する。

謝 辞

この実験は下記の多数の機関、または個人の絶大なる協力を得て成功することができた。記して深く感謝の意を表する。

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静岡県総務部地震対策課

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故金崎仲男氏

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23. *Explosion Seismic Observations in Izu Peninsula, Central Japan.*
I. *Mishima-Shimoda Profile.*

Research Group for Explosion Seismology

To study a detailed structure of the upper crust in Izu Peninsula, Central Japan, explosion seismic observations were conducted in Mishima-Shimoda profile in December 1979. Seismic waves generated from explosions at five shot points were observed at about 126 temporary observation stations spaced 500-1000m apart. Furthermore, seismic waves generated from explosions on Izu Ohshima and Minami-Izu fired by the Geological Survey of Japan for the study of change in velocity of seismic waves in the southern Kanto and Tokai Districts were also observed at the same stations. Most of the seismograms obtained by these observations were very good. Fundamental data such as seismograms, travel times, etc. are presented.