

MONTHLY TELESEISMIC BULLETIN of SZGRF-ERLANGEN - April 1998

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date distance backazimut
 station time phase comp per[s] ampl[nm] magn

 SZGRF or NEIC-QED LOCATION

1998-04-01 D 17.9
 GRA1 01:17:25.0 e P Z T1.5 A14 mb3.9
 GRA1 01:17:33.1 e (pP) Z
 NEIC: OT 01:13:14.3 35.9N 27.3E dep 33km mb4.1
 DODECANESE ISLANDS

1998-04-01 D 89.2 AZ 92
 GRA1 18:09:15.3 i P c Z mb6.8
 ALIGN 18:09:15.3 T1.9 A1157
 GRA1 18:12:25.4 e Z
 GRA1 18:12:55.2 e PP Z
 GRA1 18:57:18.6 e L Z T20.4 A22007 MS6.6
 NEIC: OT 17:56:20.7 .5S 99.3E dep 33km mb6.2
 SOUTHERN SUMATERA, INDONESIA

1998-04-01 D 5.0
 GRA1 19:10:05.1 e Pn Z M13.8
 GRA1 19:11:18.7 e Sg Z
 NEIC: OT 19:08:23.9 44.5N 10.8E dep 10km
 NORTHERN ITALY

1998-04-01 D145.3
 GRA1 21:27:52.5 i PKPdf d Z
 GRA1 21:28:06.7 e pPKPdf Z
 GRA1 21:28:11.1 e sPKPdf Z
 NEIC: OT 21:08:15.5 15.2S 173.5W dep 33km mb4.7
 TONGA ISLANDS

1998-04-01 D 36.8 AZ267
 GRA1 21:45:00.9 e P Z MS5.0
 GRA1 21:56:47.9 e L Z T21.9 A3041
 NEIC: OT 21:37:51.2 35.6N 35.9W dep 10km mb5.1
 NORTHERN MID-ATLANTIC RIDGE

1998-04-01 D116.7
GRA1 23:01:43.5 e PKPdf Z
GRA1 23:02:57.1 e PP Z
GRA1 23:05:20.1 e SKP Z
GRA1 23:12:07.4 e (PKKPab) Z
GRA1 23:50:34.5 e L Z T21.9 A12688 MS6.5

1998-04-02 D 79.3 AZ 9
GRA1 00:54:55.4 e P Z mb4.4
BEAM 00:54:55.4 T1.2 A5
GRA1 00:55:09.1 e pP Z

1998-04-02 D161.9
GRA1 01:29:07.6 e PKPdf Z
GRA1 01:29:55.2 e PKPab Z
GRA1 02:48:48.8 e L Z T18.5 A1360 MS5.8

1998-04-02 D 77.9
GRA1 19:52:11.3 i P d Z mb5.1
ALIGN 19:52:11.3 T0.8 A12

1998-04-02
GRA1 21:55:01.3 e PKPab Z

1998-04-03 D 86.3 AZ 37
GRA1 04:55:12.1 e P Z mb5.0
BEAM 04:55:12.1 T1.1 A13
SZGRF: OT 04:42:34.5
OFF EAST COAST OF HONSHU, JAPAN

1998-04-03 D113.4
GRA1 05:42:25.0 e PKPdf Z
NEIC: OT 05:23:55.0 7.2S 129.6E dep100km mb5.2
BANDA SEA

1998-04-03
GRA1 07:09:54.5 e PKPab Z

1998-04-03 D 6.6
GRA1 07:28:15.5 e Pn Z
GRA1 07:29:26.0 e Sn Z
GRA1 07:30:03.6 e Sg Z M15.9
GRA1 07:31:33.0 e L Z T15.8 A9520 MS4.4

 1998-04-03 D 6.5
 GRA1 08:01:38.4 e Pn Z
 GRA1 08:02:47.2 e Sn Z
 GRA1 08:03:27.5 e Sg Z M14.7

1998-04-03 D 6.7
 GRA1 08:22:41.9 e Pn Z
 GRA1 08:23:35.3 e Sn Z M14.4
 GRA1 08:24:01.7 e Sg Z

1998-04-03 D 45.9 AZ 85
 GRA1 13:04:56.9 e P Z mb5.0
 BEAM 13:04:56.9 T1.7 A26
 GRA1 13:05:01.5 e (pP) Z
 NEIC: OT 12:56:36.0 34.4N 70.8E dep 33km mb4.9
 AFGHANISTAN

1998-04-03
 GRA1 13:06:34.2 e PKPdf Z

1998-04-03 D 87.8 AZ128
 GRA1 15:35:56.3 e P Z mb5.6
 BEAM 15:35:56.3 T1.6 A51
 GRA1 16:27:06.9 e L Z T22.0 A389 MS4.8
 NEIC: OT 15:22:48.6 25.8S 69.5E dep 10km mb5.0
 SOUTH INDIAN OCEAN

1998-04-03 D 81.0 AZ 39
 GRA1 16:52:25.9 i P c Z T1.3 A71 mb5.5
 GRA1 16:52:33.4 e pP Z
 SZGRF: OT 16:40:14.5 38.4N 139.2E dep 26km
 NEAR WEST COAST OF HONSHU, JAPAN

1998-04-03 D 59.2 AZ207
 GRA1 18:02:46.2 e P Z
 GRA1 18:27:20.1 e L Z T20.6 A350 MS4.5

1998-04-03
 GRA1 19:20:12.5 e PKPab Z

1998-04-03 D 93.1
 GRA1 22:14:50.7 i Pdiff c Z

GRA1 22:15:29.3 e pPdiff Z
GRA1 22:18:32.7 e PP Z
GRA1 22:32:40.5 e (PKKPbc)Z
NEIC: OT 22:01:50.8 8.1S 74.8W dep165km mb6.2
PERU-BRAZIL BORDER REGION

1998-04-04

GRA1 07:31:39.6 e PKPbc Z
GRA1 07:31:47.1 e pPKPbc Z
GRA1 07:31:56.6 e PKPab Z
GRA1 07:32:05.7 e pPKPab Z

1998-04-04 D 18.3

GRA1 16:20:56.8 e P Z mb4.6
BEAM 16:20:56.8 T1.7 A81
GRA1 16:24:20.6 e S Z
GRA1 16:28:58.3 e L Z T15.6 A2552 MS4.6

1998-04-04

GRA1 19:35:13.4 e PKPdf Z

1998-04-04

GRA1 22:30:39.3 e PKPdf Z

1998-04-04 D 81.1 AZ 2

GRA1 23:04:43.8 i P d Z mb4.9
ALIGN 23:04:43.8 T1.2 A15
GRA1 23:05:00.4 e (pP) Z
SZGRF: OT 22:52:36.8 49.5N 172.6W dep 60km
ALEUTIAN ISLANDS REGION

1998-04-05

GRA1 03:34:48.2 e PKPdf Z
NEIC: OT 03:15:35.0 14.8S 167.4E dep150km mb4.6
VANUATU ISLANDS

1998-04-05

GRA1 04:19:51.5 e PKPdf Z
GRA1 04:20:01.1 e pPKPdf Z

1998-04-05 D 78.3

GRA1 10:29:12.5 e P Z mb4.9
BEAM 10:29:12.5 T2.2 A23

GRA1 10:29:18.3 e pP Z
GRA1 11:01:23.2 e L Z T20.3 A154 MS4.3
NEIC: OT 10:17:16.0 51.9N 175.0E dep 33km mb4.9
NEAR ISLANDS, ALEUTIAN ISLANDS

1998-04-05 D152.6
GRA1 15:32:30.6 e PKPdf Z
GRA1 15:32:47.2 e (PKPab) Z

1998-04-05 D 6.7
GRA1 15:53:58.3 e Pn Z
GRA1 15:55:14.8 e Sn Z
GRA1 15:55:45.2 e Sg Z M15.6
GRA1 15:57:05.2 e L Z T19.7 A1680 MS3.6
NEIC: OT 15:52:20.1 43.2N 12.7E dep 10km mb4.7
CENTRAL ITALY

1998-04-06 D 3.7 408km
GRA1 00:10:18.6 e Pn Z M14.0
GRA1 00:11:17.3 e Sg N
SZGRF: OT 00:09:20.8 51.5N 16.2E dep 1km
POLAND

1998-04-06 D 79.4 AZ 11
GRA1 02:46:55.5 e P Z mb4.9
ALIGN 02:46:55.5 T1.0 A12
GRA1 02:47:08.2 e pP Z
SZGRF: OT 02:34:56.0 50.3N 174.8E dep 44km
ALEUTIAN ISLANDS REGION

1998-04-06 D 92.2
GRA1 05:41:58.8 e Pdiff Z
GRA1 05:42:10.5 e pPdiff Z

1998-04-06
GRA1 07:47:15.0 e PKPdf Z
NEIC: OT 07:28:33.8 4.6S 143.0E dep100km mb4.9
NEW GUINEA, PAPUA NEW GUINEA

1998-04-06 D149.2
GRA1 13:07:28.3 e PKPdf Z
GRA1 13:07:30.7 e PKPbc Z
GRA1 13:07:36.0 e PKPab Z

1998-04-06
GRA1 19:14:59.9 e PKPdf Z

NEIC: OT 18:55:24.2 14.8S 173.6W dep 33km mb4.5
SAMOA ISLANDS REGION

1998-04-07 D 85.6 AZ 39
GRA1 00:39:41.8 i P c Z mb5.1
BEAM 00:39:41.8 T1.4 A23
GRA1 00:39:51.3 e pP Z
GRA1 01:25:56.5 e L Z T18.7 A183 MS4.5
SZGRF: OT 00:27:08.1 34.3N 141.7E dep 33km
OFF EAST COAST OF HONSHU, JAPAN

1998-04-07 D 3.6 403km
GRA1 01:00:25.5 e Pn Z M13.5
GRA1 01:01:23.3 e Sg E
SZGRF: OT 00:59:28.5 51.5N 16.2E dep 1km
POLAND

1998-04-07 D 87.3
GRA1 13:25:23.9 e P Z mb5.1
BEAM 13:25:23.9 T1.7 A27
GRA1 13:25:41.7 e (pP) Z
GRA1 13:56:36.8 e L Z T33.2 A743 MS4.9
NEIC: OT 13:12:42.6 14.3N 91.5W dep 67km mb5.1
GUATEMALA

1998-04-07 D 56.0 AZ 81
GRA1 13:47:31.9 e P Z mb4.8
BEAM 13:47:31.9 T1.8 A17
SZGRF: OT 13:37:57.6
TIBET

1998-04-07 D 7.0
GRA1 21:39:11.9 e Pn Z
GRA1 21:40:42.6 e Sn Z
GRA1 21:41:26.1 e Sg Z M14.2
NEIC: OT 21:36:54.7 41.1N 15.8E dep 10km
SOUTHERN ITALY

1998-04-08 D 76.3 AZ 39
GRA1 02:09:37.8 e P Z T1.1 A16 mb5.1
GRA1 02:09:57.3 e pP Z
SZGRF: OT 01:57:58.9 42.4N 135.8E dep 73km
SEA OF JAPAN

1998-04-08 D 88.5
GRA1 04:15:30.1 e P Z
GRA1 04:55:29.3 e L Z T20.9 A161 MS4.4
NEIC: OT 04:02:33.6 16.1N 95.5W dep 33km mb4.9
OAXACA, MEXICO

1998-04-08 D 82.2 AZ 38
GRA1 17:56:51.5 i P d Z mb5.3
ALIGN 17:56:51.5 T0.9 A22
GRA1 17:57:15.6 i pP c Z
GRA1 17:57:22.9 e (sP) Z
SZGRF: OT 17:44:41.9 37.6N 140.4E dep 88km
HONSHU, JAPAN

1998-04-08 D 28.7
GRA1 20:12:15.9 i P c Z mb4.5
BEAM 20:12:15.9 T1.2 A9

1998-04-08 D 28.8
GRA1 20:18:57.1 i P c Z mb4.9
BEAM 20:18:57.1 T1.5 A34
GRA1 20:19:07.7 e pP Z
GRA1 20:19:16.5 e (sP) Z

1998-04-09
GRA1 01:38:22.9 e PKP Z

1998-04-09
GRA1 04:21:49.0 e (P) Z

1998-04-09 D 81.6 AZ 31
GRA1 05:41:33.6 e P Z T1.1 A34 mb5.4
GRA1 05:41:45.6 e Z
SZGRF: OT 05:29:20.5 41.8N 148.7E dep 33km
OFF COAST OF HOKKAIDO, JAPAN

1998-04-09 D 83.6
GRA1 08:57:54.7 e P Z T0.8 A30 mb5.5
BEAM 08:57:54.9 e P Z
GRA1 08:58:18.8 e pP Z
GRA1 09:07:55.7 e S N
SZGRF: OT 08:45:06.8 36.9N 142.4E dep 89km
OFF EAST COAST OF HONSHU, JAPAN

1998-04-09
GRA1 12:03:04.3 e P Z T1.1 A13

1998-04-09
GRA1 22:31:58.4 e (P) Z

NEIC: OT 22:28:16.8 36.6N 21.5E dep 10km
SOUTHERN GREECE

1998-04-09 D 81.7 AZ128
GRA1 23:38:58.6 i P c Z T1.3 A69 mb5.6
GRA1 23:39:10.4 e Z
SZGRF: OT 23:26:42.0 16.6S 65.9E dep 33km
MID-INDIAN RISE

1998-04-10 D 40.4 AZ 98
GRA1 15:08:24.1 e P Z T0.8 A59 mb5.3
GRA1 15:08:27.5 e Z
GRA1 15:14:30.5 e S N
GRA1 15:27:35.9 e L Z T20.8 A4040 MS5.1
SZGRF: OT 15:00:49.9 31.7N 60.1E dep 33km
IRAN

1998-04-10 D 79.3 AZ 27
GRA1 15:55:19.0 e P Z
SZGRF: OT 15:43:18.5 45.6N 152.3E dep 33km
KURIL ISLANDS REGION

1998-04-10 AZ 20
GRA1 16:02:04.3 e P Z

1998-04-10
GRA1 16:31:30.6 e (P) Z

1998-04-10 D 56.6 AZ211
GRA1 16:50:16.6 e P Z T1.4 A60 mb5.4
GRA1 16:58:00.4 e S N
GRA1 17:15:56.0 e L Z T18.2 A11245 MS6.0
SZGRF: OT 16:40:35.6 2.5S 14.6W dep 33km
NORTH OF ASCENSION ISLAND

1998-04-10
GRA1 17:03:37.2 e PKP Z
GRA1 17:04:24.8 e Z
NEIC: OT 16:43:41.6 33.4S 179.6W dep 46km mb5.9
SOUTH OF KERMADEC ISLANDS

1998-04-11 D153.3
GRA1 01:04:23.9 e PKP Z
GRA1 01:04:31.6 e Z
GRA1 02:12:01.7 e L Z T21.0 A2503 MS6.0
NEIC: OT 00:44:35.5 23.6S 176.2W dep 33km mb5.7
SOUTH OF FIJI ISLANDS

1998-04-11

GRA1 01:30:48.3 e PKP Z

GRA1 01:30:58.8 e Z

NEIC: OT 01:10:52.1 23.6S 175.9W dep 33km mb5.3

TONGA ISLANDS REGION

1998-04-11 D 3.5 394km

GRA1 11:22:03.4 e Sg E

SZGRF: OT 11:20:11.3 51.5N 16.0E dep 1km

POLAND

1998-04-11 D 80.7 AZ 86

GRA1 12:42:49.3 e P Z

1998-04-11 D 15.0

GRA1 20:19:21.1 e P Z

1998-04-12

GRA1 00:38:35.7 e (P) Z

1998-04-12

GRA1 01:24:17.5 e PKP Z

1998-04-12 D 67.2

GRA1 04:20:21.6 i P Z T1.1 A36 mb5.5

GRA1 04:20:35.4 e PcP Z

SZGRF: OT 04:09:30.1 3.8N 47.4W dep 10km

NORTH ATLANTIC OCEAN

1998-04-12 D 3.9 434km

GRA1 10:56:32.8 i Pn d Z M16.4

GRA1 10:57:37.3 e Sg N

SZGRF: OT 10:55:33.4 46.2N 13.7E dep 10km

AUSTRIA

1998-04-12 D 3.0 328km

GRC1 11:15:07.1 e Sg N M13.2

GRA1 11:15:31.4 e Sg E

SZGRF: OT 11:13:34.2 46.5N 13.7E dep 10km

AUSTRIA

1998-04-12 D 3.0 333km

GRC1 12:30:18.0 e Pn Z M13.0

GRA1 12:30:40.9 e Pg Z M13.4
GRA1 12:31:29.2 e Sg N
SZGRF: OT 12:29:31.7 46.4N 13.6E dep 10km
AUSTRIA

1998-04-12 D 3.1 340km
GRC1 12:44:44.5 e Pn Z M13.5
GRA1 12:44:55.8 e Pn Z M13.6
GRA1 12:45:07.8 e Pg Z
GRA1 12:45:41.0 e Sn N
GRA1 12:45:57.4 e Sg N
SZGRF: OT 12:43:57.8 46.3N 13.6E dep 10km
AUSTRIA

1998-04-12 D 3.2 351km
GRC1 13:36:16.5 e Pn Z M13.7
GRA1 13:36:26.8 e Pn Z M13.9
GRA1 13:36:38.6 e Pg Z
GRA1 13:37:10.4 e Sn N
GRA1 13:37:32.3 e Sg N
SZGRF: OT 13:35:27.2 46.2N 13.7E dep 10km
AUSTRIA

1998-04-12 D 3.1 349km
GRC1 14:24:58.7 e Pn Z M13.5
GRA1 14:25:20.4 e Pg Z M13.8
GRA1 14:26:13.4 e Sg N
SZGRF: OT 14:24:10.0 46.2N 13.7E dep 10km
AUSTRIA

1998-04-12 D 3.0 334km
GRC1 16:16:29.4 e Pn Z M13.6
GRA1 16:16:39.3 e Pn Z M13.8
GRA1 16:16:51.3 e Pg Z
GRA1 16:17:40.8 e Sg N
SZGRF: OT 16:15:42.5 46.4N 13.7E dep 10km
AUSTRIA

1998-04-12 D 42.0
GRA1 16:55:37.6 e P Z
SZGRF: OT 16:47:50.7 62.3N 87.7E dep 33km
CENTRAL SIBERIA

1998-04-12 D 3.1 340km
GRC1 20:54:50.7 e Pn Z M13.5
GRA1 20:55:00.0 e Pn Z M13.7
GRA1 20:55:11.2 e Pg Z
GRA1 20:56:02.7 e Sg N
SZGRF: OT 20:54:03.2 46.3N 13.8E dep 10km

AUSTRIA

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1998-04-12      D  3.1  343km
  GRC1  22:14:38.1  i Pn      Z      M14.0
  GRA1  22:14:48.1  i Pn      Z      M14.1
  GRA1  22:14:58.7  e Pg      Z
  GRA1  22:15:50.6  e Sg      E
SZGRF: OT 22:13:50.0  46.3N  13.8E dep 10km
AUSTRIA

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1998-04-13      D 93.2  AZ254
  GRA1  00:03:08.1  e P      Z  T1.7  A40
  GRA1  00:45:00.3  e L      Z  T18.9 A1890  MS5.6
SZGRF: OT 23:49:56.4 12.5S  68.9W dep 33km
PERU-BOLIVIA BORDER REGION

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1998-04-13      D  3.0  331km
  GRC1  00:43:00.2  e Pn      Z      M12.8
  GRA1  00:43:20.3  e Pg      Z
  GRA1  00:44:10.7  e Sg      N
SZGRF: OT 00:42:13.3  46.4N  13.6E dep 10km
AUSTRIA

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1998-04-13
  GRA1  02:06:40.1  e PKP     Z
  GRA1  02:06:52.8  e         Z
NEIC:  OT 01:46:43.3 23.7S 176.1W dep 33km  mb5.1
SOUTH OF FIJI ISLANDS

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1998-04-13      D  3.1  340km
  GRC1  03:24:16.8  e Pn      Z      M13.4
  GRA1  03:24:26.9  e Pn      Z      M13.6
  GRA1  03:25:29.4  e Sg      E
SZGRF: OT 03:23:29.0  46.3N  13.8E dep 10km
AUSTRIA

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1998-04-13      D  3.0  336km
  GRC1  04:59:32.6  e Pn      Z      M13.1
  GRA1  04:59:52.6  e Pg      Z      M13.4
  GRA1  05:00:43.5  e Sg      E
SZGRF: OT 04:58:45.0  46.3N  13.6E dep 10km
AUSTRIA

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1998-04-13      D 53.6
  GRA1  08:49:53.9  e P      Z  T1.0  A18  mb5.0
SZGRF: OT 08:40:34.4  1.3N  16.3W dep 33km
NORTH OF ASCENSION ISLAND

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1998-04-13      D 23.0

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GRA1 15:19:42.3 e P Z T1.4 A221 mb5.5
GRA1 15:23:54.8 e S E
GRA1 15:32:35.7 e L Z T14.9 A3030 MS4.9
SZGRF: OT 15:14:40.3 39.2N 40.1E dep 33km
TURKEY

1998-04-14 D152.6
GRA1 04:00:15.4 e PKPdf Z
GRA1 04:00:23.3 e PKPbc Z
GRA1 04:00:37.4 e PKPab Z
GRA1 04:02:35.1 e pPKP Z
NEIC: OT 03:41:22.2 23.7S 179.9W dep494km mb5.4
SOUTH OF FIJI ISLANDS

1998-04-14 D 75.9
GRA1 07:57:37.8 i P d Z T0.8 A56
SZGRF: OT 07:45:56.0 45.4N 141.5E dep 33km
HOKKAIDO, JAPAN REGION

1998-04-14
GRA1 22:30:10.7 e PKP Z

1998-04-15 D 70.2
GRA1 15:34:16.2 e P Z T1.4 A321 mb6.2
GRA1 15:36:54.8 e PP Z
GRA1 15:43:28.1 e S E
GRA1 15:48:04.1 e SS N
GRA1 16:03:46.1 e L Z T24.4 A3177 MS5.5
NEIC: OT 15:23:07.0 58.5N 164.5E dep 33km mb5.5
KAMCHATKA

1998-04-15
GRA1 15:46:12.4 e PKP Z
NEIC: OT 15:27:22.7 20.5S 178.9W dep550km mb4.5
FIJI ISLANDS REGION

1998-04-15 D 3.1 347km
GRC1 19:41:21.7 e Pn Z M14.2
GRA1 19:41:33.0 e Pn Z M14.3
GRA1 19:42:35.3 e Sg E
SZGRF: OT 19:40:33.0 46.3N 13.8E dep 10km
AUSTRIA

1998-04-15 D 77.3 AZ 21
GRA1 20:18:37.9 i P c Z T1.0 A47 mb5.6
SZGRF: OT 20:06:48.5 49.6N 158.8E dep 33km
KURIL ISLANDS REGION

1998-04-15 D 3.1 345km
 GRC1 22:43:01.4 e Pn Z M13.9
 GRA1 22:43:10.3 e Pn Z M14.2
 GRA1 22:44:13.6 e Sg N
 SZGRF: OT 22:42:12.5 46.3N 13.9E dep 10km
 AUSTRIA

1998-04-16 D 3.1 341km
 GRC1 17:22:42.8 e Pg Z M13.2
 GRA1 17:22:57.4 e Pg Z
 GRA1 17:23:47.9 e Sg N
 SZGRF: OT 17:21:47.5 46.3N 13.6E dep 10km
 AUSTRIA

1998-04-16 D 3.9 429km
 GRA1 20:52:06.7 e Pg Z
 GRA1 20:52:59.0 e Sg N
 SZGRF: OT 20:50:56.2 46.3N 14.0E dep 10km
 AUSTRIA

1998-04-16
 GRA1 23:37:17.5 e PKP Z
 GRA1 23:37:24.5 e Z

1998-04-17 D 3.6 402km
 GRA1 03:22:14.2 e Pn Z M14.6
 GRA1 03:23:12.7 e Sg E
 SZGRF: OT 03:21:16.9 51.5N 16.2E dep 1km
 POLAND

1998-04-17
 GRA1 03:44:55.1 e PKPdf Z

1998-04-17
 GRA1 18:45:26.1 e PKPab Z
 GRA1 18:45:34.7 e pPKPab Z

1998-04-17 D 3.6 400km
 GRA1 22:00:44.8 e Pg Z
 GRA1 22:01:35.8 e Sg E
 SZGRF: OT 21:59:38.1 46.6N 14.0E dep 10km
 AUSTRIA

1998-04-18 D 21.0 AZ138
 GRA1 00:59:13.0 e P Z mb3.9
 BEAM 00:59:13.0 T1.1 A6

GRA1 01:10:50.3 e L Z T19.1 A78 MS3.1
NEIC: OT 00:54:18.1 34.3N 32.3E dep 10km mb4.3
CYPRUS REGION

1998-04-18 D152.4
GRA1 08:12:22.2 e PKPbc Z
GRA1 08:12:34.8 e PKPab Z
NEIC: OT 07:53:21.4 23.8S 179.8E dep500km mb4.6
SOUTH OF FIJI ISLANDS

1998-04-18 D 3.7 416km
GRA1 10:16:52.3 e Pg Z M13.6
GRA1 10:17:43.7 e Sg N
SZGRF: OT 10:15:43.8 46.4N 13.8E dep 10km
AUSTRIA

1998-04-18 D153.0
GRA1 10:24:20.3 e PKPdf Z
GRA1 10:24:29.4 e pPKPdf Z
GRA1 10:24:38.1 e PKPab Z
GRA1 10:24:45.3 e pPKPab Z
GRA1 11:53:04.9 e L Z T18.3 A399 MS5.3

1998-04-18 D 80.7
GRA1 11:39:47.7 e P Z

1998-04-18 D 71.2 AZ113
GRA1 16:30:06.9 e P Z

1998-04-18 D149.4
GRA1 19:39:21.4 e PKPbc Z
GRA1 19:39:26.0 e PKPab Z

1998-04-18 D 3.8 424km
GRA1 20:21:09.4 e Pg Z M13.2
GRA1 20:22:00.9 e Sg E
SZGRF: OT 20:19:58.6 46.3N 13.8E dep 10km
AUSTRIA

1998-04-18
GRA1 23:19:03.8 e Pn Z
GRA1 23:19:54.9 e Sg E
NEIC: OT 23:17:50.9 46.2N 13.8E dep 10km
AUSTRIA

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1998-04-19      D151.2
  GRA1 02:51:09.9 e PKPdf  Z
  GRA1 02:51:14.7 e PKPbc  Z
  GRA1 02:51:23.1 e PKPab  Z

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1998-04-19      D 54.3  AZ 77
  GRA1 03:29:14.2 e P      Z          mb4.3
  BEAM 03:29:14.2          T1.0    A3
SZGRF: OT 03:19:51.6
  TIBET

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1998-04-19      D 73.2  AZ352
  GRA1 04:00:45.9 e P      Z          mb4.7
  BEAM 04:00:45.9          T1.3    A8
  GRA1 04:00:56.5 e pP     Z
  GRA1 04:01:00.8 e sP     Z
SZGRF: OT 03:49:20.6 56.8N 154.2W dep 37km
  KODIAK ISLAND REGION

-----
1998-04-19      D 82.0  AZ 35
  GRA1 09:52:38.0 i P      c Z          mb5.1
  BEAM 09:52:38.0          T1.0    A15
SZGRF: OT 09:40:22.4 39.2N 143.6E dep 33km
  OFF EAST COAST OF HONSHU, JAPAN

-----
1998-04-19      D 22.0  AZ253
  GRA1 11:23:12.2 e P      Z          mb3.6
  BEAM 11:23:12.2          T0.9    A2
  GRA1 11:23:17.3 e pP     Z
SZGRF: OT 11:18:19.5 39.5N 16.3W dep 22km
  NORTH ATLANTIC OCEAN

-----
1998-04-19      D 6.9
  GRA1 11:29:25.0 e Pn     Z
  GRA1 11:30:41.5 e Sn     Z

-----
1998-04-19      D 85.6
  GRA1 12:34:00.1 e P      Z          mb5.0
  BEAM 12:34:00.1          T1.1    A15
  GRA1 13:16:53.3 e L      Z  T18.3  A274  MS4.7

-----
1998-04-19      D 85.2  AZ 51
  GRA1 14:03:47.0 e P      Z          mb4.6
  BEAM 14:03:47.0          T1.0    A4
SZGRF: OT 13:51:14.6
  RYUKYU ISLANDS
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1998-04-19

GRA1 15:20:10.6 i PKPab c Z

GRA1 15:20:20.6 e pPKPab Z

1998-04-19

GRA1 15:34:16.6 e (P) Z

1998-04-19 D 81.4 AZ329

GRA1 16:03:50.1 e P Z mb4.4

BEAM 16:03:50.1 T1.1 A5

GRA1 16:03:55.9 e pP Z

GRA1 16:41:24.2 e L Z T20.6 A76 MS4.0

NEIC: OT 15:51:32.2 42.5N 126.7W dep 10km mb4.5

OFF COAST OF OREGON

1998-04-19 D 81.4

GRA1 16:37:32.1 e P Z mb4.7

BEAM 16:37:32.1 T2.2 A18

GRA1 17:15:06.6 e L Z T18.7 A103 MS4.2

1998-04-19 D 3.1 347km

GRA1 18:21:20.1 e Pg Z

NEIC: OT 18:20:07.7 46.2N 13.7E dep 10km

AUSTRIA

1998-04-19 D 3.5 387km

GRA1 19:57:15.0 e Pg Z

GRA1 19:58:03.6 e Sg E

NEIC: OT 19:56:01.3 46.2N 13.7E dep 10km

AUSTRIA

1998-04-19 D 42.5 AZ101

GRA1 20:05:53.5 e P Z mb4.3

BEAM 20:05:53.5 T1.6 A12

GRA1 20:06:01.8 e Z

GRA1 20:06:09.9 e Z

SZGRF: OT 19:58:01.9 28.5N 60.0E dep 33km

SOUTHERN IRAN

1998-04-19

GRA1 20:32:48.6 e PKPab Z

GRA1 20:32:57.8 e pPKPab Z

1998-04-20 D 89.0 AZ 95

GRA1 00:14:48.2 i P c Z mb5.0
ALIGN 00:14:48.2 T1.2 A13
GRA1 00:15:01.9 e pP Z
NEIC: OT 00:02:01.4 .4S 99.4E dep100km mb4.9
SOUTHERN SUMATERA, INDONESIA

1998-04-20 D148.1
GRA1 11:13:54.6 e PKPdf Z
GRA1 12:26:60.0 e L Z T18.3 A391 MS5.2

1998-04-20 D 86.5
GRA1 11:29:39.2 e P Z mb4.7
BEAM 11:29:39.2 T1.3 A7
NEIC: OT 11:16:53.2 7.3N 82.2W dep 10km mb4.8
SOUTH OF PANAMA

1998-04-20 D 3.4 381km
GRA1 21:14:38.0 e Pn Z
GRA1 21:15:31.7 e Sg E
SZGRF: OT 21:13:36.7 46.7N 13.7E dep 10km
AUSTRIA

1998-04-20 D 89.7
GRA1 23:12:07.1 i P c Z mb6.0
ALIGN 23:12:07.1 T1.3 A143
GRA1 23:47:21.0 e L Z T29.6 A1917 MS5.4
NEIC: OT 22:59:15.2 18.6N 101.0W dep 67km mb5.9
GUERRERO, MEXICO

1998-04-20 D164.2
GRA1 23:54:01.4 e (PKPdf) Z
GRA1 23:54:45.8 e PKPab Z
GRA1 23:55:49.7 e pPKPab Z
GRA1 23:58:34.7 e PP Z
NEIC: OT 23:34:16.8 38.9S 174.8E dep243km mb5.0
NORTH ISLAND, NEW ZEALAND

1998-04-21 D 2.8 313km
GRA1 02:31:38.9 e Pn Z M13.9
GRA1 02:32:26.0 e Sg N
SZGRF: OT 02:30:56.2 47.2N 9.4E dep 10km
Vaduz/Liechtenstein, Swiss-Liechtenstein-Austrian borde

1998-04-21 D148.2
GRA1 03:37:23.9 e (PKPdf) Z
GRA1 03:37:25.6 e PKPbc Z
GRA1 03:37:28.9 e PKPab Z
NEIC: OT 03:18:37.8 18.0S 178.5W dep500km mb4.5

FIJI ISLANDS REGION

 1998-04-21 D 21.8
 GRA1 05:40:13.7 e P Z mb3.8
 BEAM 05:40:13.7 T1.1 A5
 GRA1 05:50:28.9 e L Z T20.7 A73 MS3.1

 1998-04-21 AZ130
 GRA1 05:42:20.2 e P Z
 NEIC: OT 05:37:29.4 34.9N 33.0E dep 33km mb4.3
 CYPRUS REGION

 1998-04-21 D 4.5 500km
 GRA1 10:52:37.3 e Sg E
 NEIC: OT 10:50:38.2 46.2N 13.5E dep 10km
 AUSTRIA

 1998-04-21
 GRA1 14:14:20.7 e PKPdf Z
 NEIC: OT 13:55:12.7 14.4S 167.2E dep200km mb4.8
 VANUATU ISLANDS

 1998-04-21 D 3.6 405km
 GRA1 17:28:07.9 e Pn Z M14.0
 GRA1 17:29:08.6 e Sg E
 SZGRF: OT 17:27:10.6 51.5N 16.2E dep 1km
 POLAND

 1998-04-21 D 3.6 402km
 GRA1 18:21:53.6 e Pn Z M13.3
 GRA1 18:22:52.1 e Sg E
 SZGRF: OT 18:20:56.4 51.5N 16.1E dep 1km
 POLAND

 1998-04-22 D 4.5 502km
 GRA1 06:57:40.0 e Pn Z
 GRA1 06:58:32.5 e Sg E
 SZGRF: OT 06:56:37.3 45.8N 14.6E dep 10km
 YUGOSLAVIA

 1998-04-22 D 85.7 AZ 40
 GRA1 11:45:12.3 i P c Z mb5.6
 ALIGN 11:45:12.3 T1.7 A83
 GRA1 11:45:39.2 e pP Z
 GRA1 11:45:46.8 e (sP) Z
 GRA1 12:24:12.9 e L Z T20.0 A327 MS4.7
 SZGRF: OT 11:32:45.8 33.5N 140.4E dep 98km
 SOUTH OF HONSHU, JAPAN

 1998-04-22 D 79.6 AZ 30
 GRA1 15:54:17.2 i P c Z mb5.5
 ALIGN 15:54:17.2 T1.2 A81
 GRA1 15:54:29.8 e pP Z
 GRA1 15:54:35.5 e sP Z
 GRA1 16:34:19.3 e L Z T19.6 A371 MS4.7
 SZGRF: OT 15:42:16.4 43.9N 148.4E dep 44km
 KURIL ISLANDS REGION

1998-04-23 D 3.7 407km
 GRA1 03:01:29.3 e Pn Z M14.0
 GRA1 03:02:28.7 e Sg N
 SZGRF: OT 03:00:31.3 51.5N 16.2E dep 1km
 POLAND

1998-04-23 D 29.9 AZ357
 GRA1 03:43:08.1 i P d Z mb4.8
 ALIGN 03:43:08.1 T1.3 A18
 GRA1 03:43:18.0 e (pP) Z
 GRA1 03:48:03.0 e S Z
 GRA1 03:54:34.8 e L Z T21.6 A251 MS3.8
 SZGRF: OT 03:36:54.3 79.4N 3.9E dep 38km
 GREENLAND SEA

1998-04-23
 GRA1 05:25:05.5 e PKPdf Z

1998-04-23 D147.8
 GRA1 09:12:57.4 e PKPdf Z
 GRA1 10:22:30.3 e L Z T20.7 A269 MS5.0

1998-04-23 D 15.0 AZ154
 GRA1 12:06:46.4 e P Z
 BEAM 12:06:46.4 T0.8 A4
 NEIC: OT 12:03:29.3 38.1N 20.3E dep 5km mb4.4
 GREECE

1998-04-23
 GRA1 16:12:57.3 e Pn Z
 GRA1 16:14:01.2 e Sn Z
 NEIC: OT 16:11:09.2 43.2N 12.9E dep 10km
 CENTRAL ITALY

1998-04-23 D 78.4 AZ 4
 GRA1 20:48:26.0 e P Z mb4.5
 BEAM 20:48:26.0 T0.8 A4

SZGRF: OT 20:36:30.6 52.2N 175.6W dep 33km
ANDREANOF ISLANDS, ALEUTIAN IS.

1998-04-23 D 43.5 AZ 84
GRA1 21:11:49.5 i P d Z mb5.0
ALIGN 21:11:49.5 T1.2 A37
GRA1 21:12:11.2 e pP Z
GRA1 21:13:33.2 e PP Z
GRA1 21:33:52.7 e L Z T21.3 A104 MS3.7
SZGRF: OT 21:03:56.5 36.9N 69.8E dep 92km
HINDU KUSH REGION

1998-04-23
GRA1 21:17:11.8 e PKPdf Z

1998-04-23 D140.2
GRA1 22:07:15.5 e PKPdf Z
GRA1 22:07:34.4 e Z
GRA1 23:11:08.5 e L Z T21.2 A1187 MS5.6

1998-04-24 D 43.0 AZ206
GRA1 01:58:58.5 e (P) Z

1998-04-24 D 41.1 AZ 81
GRA1 05:13:11.7 e P Z mb4.3
BEAM 05:13:11.7 T1.6 A11
SZGRF: OT 05:05:31.8 39.9N 68.8E dep 33km
TAJIK SSR

1998-04-24 D 15.0 AZ165
GRA1 14:30:58.7 e P c Z

1998-04-24
GRA1 16:24:49.9 e PKPdf Z
NEIC: OT 16:06:10.4 17.9S 178.6W dep600km mb4.8
FIJI ISLANDS REGION

1998-04-24
GRA1 17:46:56.6 e (PKPab) Z

1998-04-24 D147.8
GRA1 20:02:11.6 e PKPdf Z
GRA1 21:11:42.5 e L Z T21.4 A250 MS5.0

 1998-04-25 D 2.9 328km
 GRA1 04:18:16.6 e Pg Z M13.2
 GRA1 04:18:54.5 e Sg N
 SZGRF: OT 04:17:20.8 47.8N 7.8E dep 10km
 Freiburg i. Breisgau/Upper Rhine Graben

1998-04-25 D 81.7 AZ 30
 GRA1 04:47:11.7 i P c Z mb5.0
 ALIGN 04:47:11.7 T1.1 A13
 GRA1 04:47:21.4 e (pP) Z
 SZGRF: OT 04:34:57.9 42.0N 149.9E dep 34km
 OFF COAST OF HOKKAIDO, JAPAN

1998-04-25 D101.7 AZ 68
 GRA1 05:30:55.5 e Pdiff Z
 GRA1 05:31:54.4 e (pPdiff)Z
 GRA1 05:35:14.3 e PP Z
 NEIC: OT 05:17:36.0 4.3N 124.7E dep302km mb5.2
 CELEBES SEA

1998-04-25 D 87.9
 GRA1 06:20:24.2 e P Z mb5.7
 ALIGN 06:20:24.2 T1.6 A64
 GRA1 06:23:33.1 e PP Z
 GRA1 06:56:16.3 e L Z T21.3 A3472 MS5.7
 NEIC: OT 06:07:28.1 36.2S 18.2W dep 10km mb5.6
 SOUTHERN MID-ATLANTIC RIDGE

1998-04-25 D 87.6 AZ295
 GRA1 11:32:12.7 e P Z mb5.5
 ALIGN 11:32:12.7 T1.8 A46
 GRA1 11:32:29.5 e (pP) Z
 GRA1 12:10:57.6 e L Z T19.7 A195 MS4.5
 SZGRF: OT 11:19:31.8 17.9N 96.7W dep 60km
 OAXACA, MEXICO

1998-04-25 D149.0
 GRA1 16:02:60.0 e PKPdf Z
 GRA1 16:03:01.7 i PKPbc c Z
 GRA1 16:03:05.7 e PKPab Z
 GRA1 17:06:29.0 e L Z T21.1 A58 MS4.3

1998-04-25 D 83.0 AZ 40
 GRA1 22:50:06.5 i P c Z mb4.8
 ALIGN 22:50:06.5 T1.0 A7
 GRA1 23:26:28.6 e L Z T19.9 A247 MS4.6
 SZGRF: OT 22:37:45.8 36.2N 139.5E dep 33km

HONSHU, JAPAN

1998-04-25

GRA1 23:01:45.3 e (P) Z

1998-04-26

D159.8

GRA1 01:39:50.8 e PKPdf Z

GRA1 01:40:31.1 e PKPab Z

1998-04-26

D 84.4

GRA1 03:34:10.0 i P d Z

mb5.4

ALIGN 03:34:10.0 T1.0 A28

NEIC: OT 03:21:45.3 34.5N 140.1E dep104km mb4.9

NEAR EAST COAST OF HONSHU, JAPAN

1998-04-26

D 83.8 AZ 39

GRA1 06:16:18.7 e P Z

mb4.8

ALIGN 06:16:18.7 T1.1 A7

GRA1 06:16:29.9 e pP Z

SZGRF: OT 06:03:54.7 36.0N 141.0E dep 38km

NEAR EAST COAST OF HONSHU, JAPAN

1998-04-26

GRA1 07:36:57.6 e PKPdf Z

NEIC: OT 07:18:14.6 17.6S 179.0W dep550km mb4.3

FIJI ISLANDS REGION

1998-04-26

D 35.4 AZ 64

GRA1 08:48:51.7 e P Z

mb4.1

BEAM 08:48:51.7 T0.6 A1

SZGRF: OT 08:41:59.8

CENTRAL KAZAKH SSR

1998-04-26

D145.1

GRA1 10:18:28.3 e PKPdf Z

GRA1 11:17:04.4 e L Z T21.9 A80 MS4.5

1998-04-26

D 48.8

GRA1 14:25:40.2 i P c Z

mb6.0

ALIGN 14:25:40.2 T1.2 A186

GRA1 14:27:05.4 e PcP Z

GRA1 14:27:31.7 e PP Z

GRA1 14:49:17.3 e L Z T19.2 A279 MS4.3

1998-04-26

D 3.6 402km

GRA1 17:11:15.4 e Pn Z M13.6
 GRA1 17:12:12.3 e Sg E
 SZGRF: OT 17:10:18.0 51.4N 16.2E dep 1km
 POLAND

 1998-04-26 D 2.7 305km
 GRC1 21:03:30.3 e Pn Z M12.7
 GRA1 21:04:35.5 e Sg E M13.0
 SZGRF: OT 21:02:45.2 46.7N 13.6E dep 10km
 AUSTRIA

 1998-04-26 D 84.7 AZ 39
 GRA1 21:21:52.5 e P Z mb4.4
 BEAM 21:21:52.5 T1.4 A4
 GRA1 21:22:08.4 e pP Z
 GRA1 21:22:17.4 e sP Z
 GRA1 21:58:14.1 e L Z T19.3 A118 MS4.3
 SZGRF: OT 21:09:26.8 35.0N 141.1E dep 60km
 NEAR EAST COAST OF HONSHU, JAPAN

 1998-04-27 D 32.8 AZ106
 GRA1 02:54:30.1 e P Z mb4.4
 BEAM 02:54:30.1 T1.1 A6
 GRA1 02:54:38.1 e pP Z
 NEIC: OT 02:49:28.0 40.1N 40.2E dep 10km mb4.0
 TURKEY

 1998-04-27 D 80.3
 GRA1 12:05:22.9 i P d Z mb5.2
 ALIGN 12:05:22.9 T1.1 A31
 GRA1 12:05:27.9 e pP Z
 GRA1 12:05:30.2 e sP Z
 SZGRF: OT 11:53:14.8 50.4N 169.6W dep 18km
 ALEUTIAN ISLANDS REGION

 1998-04-27 D112.7
 GRA1 19:00:02.7 e PP Z
 GRA1 19:51:48.7 e L Z T20.5 A7374 MS6.3
 NEIC: OT 18:40:36.1 3.0S 136.3E dep 33km mb5.5
 IRIAN JAYA REGION, INDONESIA

 1998-04-27
 GRA1 20:17:57.6 e PKPdf Z
 NEIC: OT 20:00:40.2 30.8S 71.7W dep 51km
 NEAR COAST OF CENTRAL CHILE

 1998-04-28 D102.2
 GRA1 00:04:29.7 i P d Z mb5.3
 BEAM 00:04:29.7 T1.4 A10

NEIC: OT 23:51:35.9 6.1S 113.1E dep594km mb5.6
JAWA, INDONESIA

1998-04-28 D150.7
GRA1 16:02:45.5 i PKPdf d Z
GRA1 16:02:52.7 i PKPbc d Z
GRA1 16:03:03.5 e PKPab Z
GRA1 16:05:16.0 e pPKPbc Z
GRA1 16:05:22.3 e pPKPab Z

1998-04-28 D 79.8 AZ 30
GRA1 18:02:08.8 i P c Z mb5.0
ALIGN 18:02:08.8 T1.1 A22
GRA1 18:02:23.8 e pP Z
SZGRF: OT 17:50:07.8 43.4N 147.8E dep 53km
KURIL ISLANDS

1998-04-28 D 24.1 AZ104
GRA1 20:33:44.4 e P Z mb4.5
BEAM 20:33:44.4 T1.6 A26
GRA1 20:44:39.1 e L Z T19.6 A48 MS3.0
NEIC: OT 20:28:23.5 39.2N 42.5E dep 10km mb4.2
TURKEY

1998-04-28
GRA1 22:06:28.7 e Pn Z
GRA1 22:07:42.7 e Sg Z

1998-04-29 D 15.8
GRA1 03:34:15.9 e P Z
BEAM 03:34:15.9 T1.7 A
GRA1 03:37:12.0 e (S) Z
GRA1 03:41:45.9 e L Z T19.5 A10628 MS5.0
NEIC: OT 03:30:39.9 36.2N 21.9E dep 33km mb5.3
SOUTHERN GREECE

1998-04-29 D 61.0 AZ 97
GRA1 17:48:26.6 e P Z
NEIC: OT 17:39:57.5 29.9N 68.1E dep 33km mb4.5
PAKISTAN

1998-04-29 D 89.7 AZ 40
GRA1 23:45:32.2 i P c Z mb5.5
ALIGN 23:45:32.2 T1.3 A43
GRA1 23:45:45.0 e (pP) Z
GRA1 23:49:02.1 e PP Z
GRA1 00:34:42.4 e L Z T19.4 A1605 MS5.5

SZGRF: OT 23:32:38.3 30.0N 142.8E dep 33km
SOUTH OF HONSHU, JAPAN

GRA1 03:21:26.3 e Pn Z
GRA1 03:22:11.9 e (Sg) Z

1998-04-30 D148.9

GRA1 05:10:46.3 e (PKPdf) Z
GRA1 05:10:50.1 e PKPbc Z
GRA1 05:10:53.0 e PKPab Z

1998-04-30 D 15.8

GRA1 11:02:51.4 e Pn Z
GRA1 11:05:20.4 e Sn Z
GRA1 11:09:54.4 e L Z T19.9 A965 MS4.0
NEIC: OT 10:59:01.3 36.0N 21.9E dep 33km mb5.3
SOUTHERN GREECE
