

MONTHLY TELESEISMIC BULLETIN of SZGRF-ERLANGEN - March 1998

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

 SZGRF or NEIC-QED LOCATION

1998-03-01 D129.7
 GRA1 06:34:59.5 e PKPdf Z
 GRA1 06:35:16.6 e pPKPdf Z
 GRA1 07:25:52.5 e L Z T20.4 A271 MS4.9

1998-03-01 D 65.7
 GRA1 07:09:10.7 e P Z mb5.3
 ALIGN 07:09:10.7 T1.5 A29
 GRA1 07:09:18.8 e pP Z
 GRA1 07:09:25.0 e sP Z
 NEIC: OT 06:58:23.9 12.3S 14.8W dep 10km mb5.4
 SOUTHERN MID-ATLANTIC RIDGE

1998-03-01 D 7.7
 GRA1 07:24:36.7 e Pn Z
 GRA1 07:26:16.7 e Sn Z
 GRA1 07:26:55.9 e Sg Z M15.2

1998-03-01 D 2.9 322km
 GRA1 10:04:47.1 e Pn Z
 GRA1 10:05:22.7 e Sn Z
 NEIC: OT 10:02:48.6 44.7N 16.1E dep 10km
 NORTHWESTERN BALKAN REGION

1998-03-01 D 60.6 AZ207
 GRA1 12:41:30.4 e P Z

1998-03-02 D 84.4 AZ 52
 GRA1 03:51:10.8 e P Z mb5.4
 ALIGN 03:51:10.8 T0.9 A23
 NEIC: OT 03:38:33.4 27.9N 130.0E dep 33km mb5.2

RYUKYU ISLANDS

 1998-03-02 D 80.7 AZ 26
 GRA1 11:23:26.5 i P c Z mb5.2
 ALIGN 11:23:26.5 T1.2 A32
 GRA1 11:23:42.0 e pP Z
 NEIC: OT 11:11:20.3 43.3N 147.2E dep 33km mb5.0
 KURIL ISLANDS

 1998-03-02 D 54.2 AZ 98
 GRA1 17:58:54.7 e P Z mb4.5
 BEAM 17:58:54.7 T0.9 A5
 GRA1 17:59:10.9 e (pP) Z
 NEIC: OT 17:50:11.1 26.9N 67.4E dep 33km mb4.6
 PAKISTAN

 1998-03-03 D 86.4 AZ290
 GRA1 02:37:25.1 i P c Z mb6.0
 ALIGN 02:37:25.1 T1.3 A171
 GRA1 02:37:43.3 e Z
 GRA1 02:38:00.9 e pP Z
 GRA1 02:38:14.3 e sP Z
 GRA1 03:12:02.8 e L Z T21.5 A2893 MS5.6
 SZGRF: OT 02:24:59.3 15.6N 91.7W dep139km
 MEXICO-GUATEMALA BORDER REGION

 1998-03-03 D 87.5
 GRA1 04:30:18.1 e P Z mb5.1
 BEAM 04:30:18.1 T1.7 A16
 GRA1 04:30:32.5 e pP Z
 GRA1 04:30:45.9 e sP Z
 GRA1 05:04:36.9 e L Z T21.6 A270 MS4.6
 NEIC: OT 04:17:18.0 14.3N 91.6W dep 67km mb5.0
 GUATEMALA

 1998-03-03 D 55.5 AZ 68
 GRA1 07:08:26.9 e P Z mb4.6
 BEAM 07:08:26.9 T0.8 A5
 NEIC: OT 06:57:31.2 32.9N 104.4E dep 33km mb4.8
 SICHUAN, CHINA

 1998-03-03 D 3.7 408km
 GRA1 07:49:29.5 e Pn Z M13.9
 GRA1 07:50:27.1 e Sg E
 SZGRF: OT 07:48:31.6 51.6N 16.2E dep 1km
 POLAND

 1998-03-03
 GRA1 09:38:46.6 e (P) Z

 1998-03-03 D 4.7 523km
 GRA1 15:41:18.4 e Pn Z M13.8
 GRA1 15:41:49.4 e (Sn) Z

 1998-03-03 D103.5
 GRA1 17:39:46.3 e Pdiff Z
 GRA1 18:33:40.5 e L Z T19.5 A252 MS4.8
 NEIC: OT 17:25:45.7 3.6N 126.9E dep 33km mb5.0
 TALAUD ISLANDS, INDONESIA

 1998-03-04 D 75.2 AZ 19
 GRA1 14:04:05.3 i P c Z mb5.1
 ALIGN 14:04:05.3 T1.0 A19
 GRA1 14:04:13.3 e pP Z
 GRA1 14:04:19.4 e sP Z
 GRA1 14:51:19.5 e L Z T21.6 A227 MS4.4
 SZGRF: OT 13:52:27.7 52.2N 160.7E dep 33km
 OFF EAST COAST OF KAMCHATKA

 1998-03-04 D 97.2 AZ254
 GRA1 17:40:06.5 i P c Z mb5.8
 ALIGN 17:40:06.5 T1.7 A43
 NEIC: OT 17:26:47.4 17.5S 69.5W dep131km mb5.1
 PERU-BOLIVIA BORDER REGION

 1998-03-04
 GRA1 19:40:44.7 e PKPdf Z

 1998-03-05
 GRA1 00:08:13.2 e PKPdf Z

 1998-03-05 D 15.2
 GRA1 01:48:47.1 e P Z
 GRA1 01:48:53.1 e Z
 GRA1 01:55:26.5 e L Z T14.9 A3383 MS4.6

 1998-03-05 D 14.5
 GRA1 01:59:09.3 e P Z
 GRA1 01:59:17.1 e Z
 GRA1 02:05:49.5 e L Z T15.2 A1886 MS4.3

 1998-03-05 D 48.8

GRA1	03:08:31.8	i P	c Z			mb5.9
ALIGN	03:08:31.8			T1.2	A139	
GRA1	03:30:09.0	e L	Z	T20.5	A180	MS4.0

1998-03-05	D 90.0					
GRA1	04:28:24.2	e P	Z			mb5.0
BEAM	04:28:24.2			T2.0	A21	
GRA1	05:11:02.6	e L	Z	T18.5	A249	MS4.7

1998-03-05	D 66.9	AZ270				
GRA1	07:19:08.8	i P	d Z			mb5.4
ALIGN	07:19:08.8			T1.2	A32	
GRA1	07:45:56.1	e L	Z	T19.6	A146	MS4.2
SZGRF: OT	07:08:19.6	17.7N	63.7W	dep	33km	
LEEWARD ISLANDS						

1998-03-06	D 40.8	AZ 81				
GRA1	00:06:46.6	i P	Z	T0.9	A19	mb4.8
GRA1	00:06:50.1	e	Z			
GRA1	00:57:13.8	e L	Z	T20.8	A324	MS4.2
SZGRF: OT	23:59:09.2	40.1N	68.5E	dep	33km	
SOUTHEASTERN UZBEK SSR						

1998-03-06	D 78.8	AZ 90				
GRA1	00:20:47.0	e P	Z	T1.2	A34	mb5.3
SZGRF: OT	00:08:47.2	8.4N	93.8E	dep	33km	
NICOBAR ISLANDS REGION						

1998-03-06	D 83.3	AZ321				
GRA1	06:00:12.4	e P	Z	T1.1	A20	mb5.3
SZGRF: OT	05:47:50.2	36.2N	117.6W	dep	33km	
CALIFORNIA-NEVADA BORDER REGION						

1998-03-06	D 3.6	401km				
GRA1	09:42:18.4	e Sg	N			M13.5
SZGRF: OT	09:40:24.2	51.5N	16.1E	dep	1km	
POLAND						

1998-03-06	D 51.0	AZ 80				
GRA1	10:59:40.9	i P	Z	T1.3	A78	mb5.5
SZGRF: OT	10:50:43.0	34.8N	79.5E	dep	33km	
KASHMIR-TIBET BORDER REGION						

1998-03-06	D 72.7	AZ 79				
GRA1	13:01:19.9	e P	Z	T2.0	A121	mb5.7
SZGRF: OT	12:49:55.3	20.4N	98.1E	dep	33km	
BURMA						

1998-03-06GRA1 23:05:39.1 e PKP Z
GRA1 23:05:45.2 e Z

1998-03-07GRA1 02:59:40.5 e PKP Z
NEIC: OT 02:40:03.1 20.2S 168.9E dep 33km mb4.8
LOYALTY ISLANDS

1998-03-07

GRA1 03:48:31.9 e PKP Z

1998-03-07

GRA1 04:14:33.9 e PKP Z

1998-03-07GRA1 06:39:44.2 e PKP Z
GRA1 06:39:48.3 e Z

1998-03-07 D 19.7GRA1 11:11:38.1 e P Z T1.8 A115 mb4.8
SZGRF: OT 11:07:11.4 35.2N 29.4E dep 33km
EASTERN MEDITERRANEAN SEA

1998-03-07 D 3.7 410kmGRA1 20:27:19.7 e Pn Z
GRA1 20:28:18.0 e Sg N
SZGRF: OT 20:26:21.0 51.5N 16.2E dep 1km
POLAND

1998-03-08 AZ 34GRA1 00:14:20.1 e P Z
NEIC: OT 00:02:04.7 38.6N 141.7E dep 58km mb4.4
NEAR EAST COAST OF HONSHU, JAPAN

1998-03-08 D 87.8 AZ 61GRA1 00:48:12.1 e P Z T0.7 A22 mb5.6
GRA1 00:48:51.9 e pP Z
GRA1 00:49:07.4 e sP Z
SZGRF: OT 00:35:42.0 20.1N 122.5E dep156km
PHILIPPINE ISLANDS REGION

1998-03-08

AZ 40

GRA1 04:59:09.7 e P Z
 NEIC: OT 04:46:48.8 37.0N 139.8E dep 33km mb4.9
 EASTERN HONSHU, JAPAN

 1998-03-08

GRA1 05:11:36.2 e (P) Z
 NEIC: OT 04:59:07.8 6.1N 73.9W dep 33km mb5.1
 NORTHERN COLOMBIA

 1998-03-08 D 3.7 409km

GRA1 10:08:36.6 e Pn Z M13.9
 GRA1 10:09:35.8 e Sg E
 SZGRF: OT 10:07:38.8 51.6N 16.1E dep 1km
 POLAND

 1998-03-08

GRA1 11:54:17.6 e PKP Z
 GRA1 11:54:25.9 e Z

 1998-03-08

GRA1 14:21:31.1 e PKP Z

 1998-03-09 D 1.7 185km

GRC2 02:17:57.5 e Pn Z
 GRA1 02:18:08.6 e Pn Z M13.3
 GRA1 02:18:47.2 e Sg N
 SZGRF: OT 02:17:28.9 47.2N 11.4E dep 10km
 Innsbruck, Hall/A

 1998-03-09 D 1.8 205km

GRC1 02:50:02.7 e Pn Z M12.8
 GRA1 02:50:12.2 e Pn Z M13.0
 GRA1 02:50:51.2 e Sg N
 SZGRF: OT 02:49:31.5 47.2N 11.4E dep 10km
 Southern Tuxer Alps/A, S of Innsbruck

 1998-03-09 D 20.0

GRC3 11:25:24.8 e P Z
 GRA1 11:25:33.8 e P Z T2.0 A869 mb5.7
 GRA1 11:33:16.4 e L Z T21.9 A1201 MS4.2
 SZGRF: OT 11:20:56.5 34.4N 30.1E dep 33km
 EASTERN MEDITERRANEAN SEA

 1998-03-09 D 44.5 AZ 84

GRA1 23:29:26.1 e P Z T1.7 A75 mb5.3
 NEIC: OT 23:21:35.8 36.5N 71.1E dep239km mb4.6
 AFGHANISTAN-TAJIKISTAN BORD REG.

1998-03-10 D 15.0
GRA1 04:34:28.7 e P Z T0.8 A16
NEIC: OT 04:30:18.5 35.8N 26.8E dep 10km mb4.4
CRETE

1998-03-10 D 73.0
GRA1 14:18:02.6 e P Z T0.8 A17 mb5.2
NEIC: OT 14:06:34.4 54.8N 161.2E dep 33km mb4.8
NEAR EAST COAST OF KAMCHATKA

1998-03-10 D 95.6 AZ258
GRA1 21:11:08.3 e P Z T1.8 A32 mb5.6
GRA1 21:50:18.5 e L Z T22.0 A250 MS4.6
SZGRF: OT 20:57:45.5 12.4S 73.0W dep 33km
PERU

1998-03-10 D 83.4 AZ246
GRA1 23:45:22.6 i P Z T1.3 A57 mb5.6
SZGRF: OT 23:32:57.4 10.1S 56.0W dep 33km
BRAZIL

1998-03-11 D101.1
GRA1 00:51:33.6 e Pdiff Z
GRA1 01:40:00.5 e L Z T24.1 A561 MS5.0
NEIC: OT 00:37:37.7 6.3N 126.4E dep 33km mb5.4
MINDANAO, PHILIPPINE ISLANDS

1998-03-11 D 84.4 AZ 36
GRA1 19:39:30.7 i P Z T1.1 A49 mb5.7
GRA1 20:19:06.8 e L Z T19.6 A319 MS4.7
SZGRF: OT 19:27:03.0 36.8N 144.1E dep 33km
OFF EAST COAST OF HONSHU, JAPAN

1998-03-11 D146.7
GRA1 20:00:10.3 e PKP Z
GRA1 21:00:03.1 e L Z T24.9 A966 MS5.5
NEIC: OT 19:40:26.6 16.9S 177.0W dep 33km mb5.0
FIJI ISLANDS REGION

1998-03-11
GRA1 20:04:22.2 e (P) Z

1998-03-12 D 59.3 AZ244
GRA1 08:33:07.2 i P c Z mb5.4
ALIGN 08:33:07.2 T1.1 A49
GRA1 08:53:17.9 e L Z T21.8 A154 MS4.1
SZGRF: OT 08:23:04.7 8.2N 40.0W dep 10km

CENTRAL MID-ATLANTIC RIDGE

1998-03-12 D 88.1 AZ288
GRA1 15:36:46.8 e P Z mb4.9
BEAM 15:36:46.8 T0.9 A6
GRA1 15:36:54.1 e (pP) Z
GRA1 16:12:15.6 e L Z T21.1 A211 MS4.5

1998-03-12
GRA1 23:08:42.1 e PKPdf Z

1998-03-12
GRA1 23:32:35.3 e PKPdf Z
GRA1 23:32:38.5 e Z

1998-03-13 D 98.8
GRA1 00:57:34.6 e Pdiff Z

1998-03-13 D 88.1
GRA1 05:37:27.1 e P Z mb5.7
ALIGN 05:37:27.1 T2.2 A79
GRA1 06:13:19.8 e L Z T20.5 A791 MS5.1

1998-03-13
GRA1 06:38:49.2 e PKPdf Z

1998-03-13 D 45.0 AZ161
GRA1 11:15:50.1 e P Z
GRA1 11:16:00.5 e Z

1998-03-13 D 11.1
GRA1 13:17:11.9 e P Z
BEAM 13:17:11.9 T1.5 A28
GRA1 13:19:35.1 e L Z T18.1 A312 MS3.3

1998-03-13 D 55.2 AZ212
GRA1 13:35:14.9 e P Z mb4.5
BEAM 13:35:14.9 T0.9 A5
SZGRF: OT 13:25:43.4
NORTH OF ASCENSION ISLAND

1998-03-13 D 4.6 509km
 GRA1 15:16:09.1 e Pn Z
 GRA1 15:16:58.4 e Sn Z
 GRA1 15:17:21.0 e Sg Z M15.2

 1998-03-13 D 8.2
 GRA1 23:09:30.2 e Pn Z
 GRA1 23:11:14.9 e Sn Z
 GRA1 23:11:43.7 e (Sg) Z M14.8
 GRA1 23:12:56.5 e L Z T20.2 A196 MS2.8

 1998-03-14 D136.4
 GRA1 10:13:57.5 e PKPdf Z

 1998-03-14 D 82.5 AZ 36
 GRA1 11:59:27.5 i P c Z T1.4 A39 mb5.4
 GRA1 11:59:38.7 e pP Z
 GRA1 11:59:45.9 e (sP) Z
 GRA1 12:44:06.1 e L Z T18.2 A467 MS4.9
 SZGRF: OT 11:47:10.9 38.3N 142.7E dep 42km
 NEAR EAST COAST OF HONSHU, JAPAN

 1998-03-14
 GRA1 18:52:33.8 e PKP Z
 GRA1 18:52:42.0 e (pPKPdf)Z
 NEIC: OT 18:33:27.0 7.4S 156.1E dep 33km mb5.0
 SOLOMON ISLANDS

 1998-03-14 D 40.0 AZ100
 GRA1 19:48:02.2 e P Z mb6.1
 ALIGN 19:48:02.2 T1.6 A838
 GRA1 19:49:40.1 e PP Z
 GRA1 20:09:52.2 e L Z T20.1 A45008 MS6.3
 NEIC: OT 19:40:27.1 30.1N 57.6E dep 9km mb5.9
 NORTHERN IRAN

 1998-03-15 D 2.8 316km
 GRA1 00:01:25.2 e Pn Z M12.7
 GRA1 00:01:55.3 e Sn Z
 GRA1 00:02:13.3 e (Sg) Z
 NEIC: OT 00:00:12.9 46.1N 13.0E dep 5km
 AUSTRIA

 1998-03-15 D 40.9 AZ102
 GRA1 00:15:33.0 e P Z mb4.0
 BEAM 00:15:33.0 T0.9 A3

NEIC: OT 00:07:57.1 30.1N 57.6E dep 33km mb4.4
NORTHERN IRAN

1998-03-15 D 88.0 AZ 67
GRA1 16:56:15.7 e P Z mb4.9
BEAM 16:56:15.7 T1.6 A10
GRA1 17:41:07.5 e L Z T20.5 A398 MS4.8

NEIC: OT 16:42:53.3 10.3N 121.4E dep 33km mb4.6
PANAY, PHILIPPINE ISLANDS

1998-03-16 D 44.3 AZ182
GRA1 04:23:49.1 e (P) Z mb4.2
BEAM 04:23:49.1 T1.8 A10
NEIC: OT 04:16:17.1 30.3N 57.6E dep 33km mb4.2
NORTHERN IRAN

1998-03-16 D 77.2
GRA1 16:53:26.7 i P c Z
ALIGN 16:53:26.7 T1.2 A195
GRA1 17:29:36.3 e L Z T20.8 A701 MS5.0

1998-03-16
GRA1 17:17:35.9 e PKPab Z

1998-03-16 D 86.2 AZ 34
GRA1 23:15:58.9 i P c Z mb4.9
BEAM 23:15:58.9 T1.0 A10
NEIC: OT 23:03:35.3 37.1N 141.3E dep 33km mb4.8
NEAR EAST COAST OF HONSHU, JAPAN

1998-03-17
GRA1 03:17:10.1 e PKPdf Z

1998-03-17
GRA1 03:26:44.9 e PKPdf Z
NEIC: OT 03:07:41.3 52.8S 100.3E dep 10km
SOUTHEAST INDIAN RIDGE

1998-03-18 D 87.4
GRA1 03:08:04.8 e P Z mb4.5
BEAM 03:08:04.8 T1.0 A4
GRA1 03:08:15.6 e (pP) Z

1998-03-18
GRA1 08:18:04.1 e PKPab Z

NEIC: OT 07:58:08.1 22.9S 175.4W dep 38km mb5.0
TONGA ISLANDS REGION

1998-03-18 D145.5
GRA1 08:38:42.1 e PKPdf Z
GRA1 08:39:15.6 e pPKPdf Z
GRA1 09:34:34.8 e L Z T20.3 A361 MS5.1

1998-03-18
GRA1 19:29:12.4 e PKPdf Z

1998-03-18
GRA1 23:03:27.3 e PKPdf Z
GRA1 00:04:34.3 e L Z T20.1 A180

1998-03-19 D149.4
GRA1 05:12:27.1 e PKPdf Z
GRA1 05:12:30.5 e PKPbc Z
GRA1 05:12:34.9 e PKPab Z
GRA1 06:16:07.1 e L Z T22.0 A1074 MS5.6
NEIC: OT 04:52:40.7 19.4S 176.4W dep 33km mb4.9
FIJI ISLANDS REGION

1998-03-19 D 39.1
GRA1 08:40:58.2 e P Z mb4.4
BEAM 08:40:58.2 T1.1 A10
NEIC: OT 08:33:29.6 29.7N 56.0E dep 33km mb4.7
SOUTHERN IRAN

1998-03-19 D104.9
GRA1 08:50:01.1 i Pdiff c Z
GRA1 09:40:31.3 e L Z T22.0 A784 MS5.2
NEIC: OT 08:35:55.8 11.6N 141.8E dep 43km mb5.7
WESTERN CAROLINE ISLANDS

1998-03-19 D 46.2
GRA1 13:59:57.7 i P c Z mb5.8
ALIGN 13:59:57.7 T2.3 A254
GRA1 14:00:01.8 e pP Z
GRA1 14:01:43.3 e PP Z
GRA1 14:20:50.9 e L Z T16.5 A33367 MS6.4
NEIC: OT 13:51:33.9 40.0N 76.8E dep 33km mb5.4
KYRGYZSTAN-XINJIANG BORDER REG.

1998-03-19 D159.5
GRA1 20:41:04.1 e PKPab Z

GRA1 21:44:55.5 e L Z T19.2 A354 MS5.2
 NEIC: OT 20:20:28.2 29.9S 176.2W dep 33km mb5.1
 KERMADEC ISLANDS REGION

 1998-03-20 D 34.0 AZ237
 GRA1 00:19:48.5 e P Z mb4.5
 BEAM 00:19:48.5 T2.1 A12

 1998-03-20 D 2.7 305km
 GRA1 03:12:24.5 e Pn Z M13.3
 GRA1 03:12:57.8 e Sn N
 GRA1 03:13:09.2 e Sg N
 SZGRF: OT 03:11:42.1 47.2N 9.7E dep 10km
 Bludenz/A, Swiss-Austrian border region

 1998-03-20 D 3.6 400km
 GRA1 04:01:27.2 e Pn Z M14.4
 GRA1 04:01:39.2 e Pg Z
 GRA1 04:02:26.6 e Sg N
 SZGRF: OT 04:00:31.5 51.5N 16.1E dep 1km
 POLAND

 1998-03-20 D 3.2 354km
 GRA1 10:33:17.3 e (PnI) Z
 GRA1 10:34:42.5 e Sn Z

 1998-03-20 D161.7
 GRA1 21:28:17.7 e PKPdf Z
 GRA1 21:28:32.7 e PKPbc Z
 GRA1 21:29:05.3 e PKPab Z
 GRA1 21:31:58.9 e Z
 GRA1 21:32:44.0 e PP Z
 GRA1 21:33:19.1 e pPP Z
 GRA1 22:50:05.4 e L Z T20.5 A11565 MS6.7
 NEIC: OT 21:08:09.0 50.1S 163.0E dep 10km mb5.9
 AUCKLAND ISLANDS REGION

 1998-03-21 D158.5
 GRA1 01:49:11.2 e PKPdf Z
 GRA1 01:49:32.6 e pPKPdf Z
 GRA1 01:49:43.2 e sPKPdf Z
 GRA1 02:54:14.0 e L Z T20.3 A302 MS5.1

 1998-03-21 D 94.3
 GRA1 02:32:13.0 e P Z mb4.9
 ALIGN 02:32:13.0 T1.2 A8
 GRA1 02:32:24.8 e pP Z

GRA1 02:32:29.1 e sP Z

1998-03-21 D 40.8 AZ162

GRA1 07:12:27.4 e (P) Z

1998-03-21 D 30.5

GRA1 16:39:29.4 i P d Z mb5.8

ALIGN 16:39:29.4 T2.1 A245

GRA1 16:49:43.8 e L Z T21.3 A11306 MS5.5

1998-03-21 D 6.8

GRA1 16:46:54.1 e Pn Z

GRA1 16:48:12.5 e Sn Z

GRA1 16:48:52.0 e Sg Z M15.3

1998-03-21 D 6.8

GRA1 17:59:39.8 e Pn Z

GRA1 18:01:10.4 e (SnI) Z

GRA1 18:01:35.8 e (Sg) Z M14.7

1998-03-21 D 44.1

GRA1 18:30:15.6 i P c Z mb6.3

ALIGN 18:30:15.6 T1.5 A996

GRA1 18:31:04.1 e pP Z

GRA1 18:31:25.2 e sP Z

GRA1 18:31:56.1 e PP Z

GRA1 18:40:58.6 e L Z T19.1 A1441 MS4.9

NEIC: OT 18:22:28.1 36.4N 70.1E dep225km mb5.8

HINDU KUSH REGION, AFGHANISTAN

1998-03-22 D 79.4 AZ 37

GRA1 01:15:09.8 e P Z mb4.5

BEAM 01:15:09.8 T1.4 A7

GRA1 01:15:18.7 e pP Z

SZGRF: OT 01:03:08.2 40.8N 140.4E dep 31km

HONSHU, JAPAN

1998-03-22 D 77.5 AZ127

GRA1 01:20:55.2 i P d Z mb6.1

BEAM 01:20:55.2 T3.1 A548

GRA1 02:10:47.1 e L Z T20.7 A1430 MS5.3

1998-03-22 D 80.9 AZ 27

GRA1 03:32:02.8 e P Z mb4.6
BEAM 03:32:02.8 T1.7 A10
SZGRF: OT 03:19:53.1 43.8N 152.4E dep 33km
KURIL ISLANDS REGION

1998-03-22

GRA1 08:59:09.6 e (PKPab) Z

1998-03-22 D 15.0 AZ152

GRA1 12:52:52.6 e P Z

1998-03-22 D 6.2

GRA1 13:04:09.9 e Pn Z

GRA1 13:05:28.5 e (SnI) Z

GRA1 13:06:08.5 e Sg Z M14.1

1998-03-23 D 80.6

GRA1 02:40:24.4 e P Z mb4.5

BEAM 02:40:24.4 T1.5 A8

GRA1 02:40:49.3 e Z

GRA1 03:14:23.8 e L Z T21.7 A199 MS4.4

1998-03-23 D 86.8 AZ 59

GRA1 02:45:34.2 e P Z mb4.8

BEAM 02:45:34.2 T1.9 A14

GRA1 02:45:46.2 e pP Z

SZGRF: OT 02:32:55.2 22.1N 123.4E dep 41km

SOUTHEAST OF TAIWAN

1998-03-23 D 7.0

GRA1 04:32:47.5 e Pn Z

GRA1 04:33:54.3 e Sn Z

GRA1 04:34:42.9 e (Sg) Z M14.3

1998-03-23 D 89.0 AZ 42

GRA1 04:54:13.6 i P d Z mb5.2

ALIGN 04:54:13.6 T1.0 A15

SZGRF: OT 04:41:23.3 29.8N 140.6E dep 33km

SOUTH OF HONSHU, JAPAN

1998-03-23 D 83.4 AZ 39

GRA1 09:49:35.0 i P c Z mb5.7

ALIGN 09:49:35.0 T1.4 A69

GRA1 09:49:40.4 e Z

GRA1 09:49:47.5 e pP Z
 GRA1 09:49:54.8 e sP Z
 GRA1 10:30:29.2 e L Z T20.0 A1049 MS5.2
 SZGRF: OT 09:37:13.8 36.0N 140.1E dep 46km
 NEAR EAST COAST OF HONSHU, JAPAN

 1998-03-23 D 44.8 AZ 82
 GRA1 10:19:50.6 e P Z mb4.8
 BEAM 10:19:50.6 T2.0 A27
 SZGRF: OT 10:11:40.6
 TAJIK SSR

 1998-03-23
 GRA1 10:36:14.8 e PKPdf Z

 1998-03-23 D 2.8 313km
 GRA1 13:08:10.4 e Pn Z M13.4
 GRA1 13:08:15.2 e Pg Z
 GRA1 13:08:51.9 e Sg E
 SZGRF: OT 13:07:21.9 47.2N 9.1E dep 5km
 SW of St. Gallen/CH

 1998-03-23 D 23.3 AZ348
 GRA1 19:35:20.4 e P Z mb5.1
 ALIGN 19:35:20.4 T1.1 A76
 GRA1 19:35:26.2 e (pP) Z
 GRA1 19:43:41.5 e L Z T21.6 A734 MS4.1
 SZGRF: OT 19:30:14.8 71.8N 4.3W dep 24km
 JAN MAYEN ISLAND REGION

 1998-03-23 D 23.6 AZ348
 GRA1 20:24:34.3 e P Z mb5.2
 ALIGN 20:24:34.3 T1.3 A117
 GRA1 20:32:44.4 e L Z T21.6 A247 MS3.6
 SZGRF: OT 20:19:24.2 72.0N 4.9W dep 10km
 JAN MAYEN ISLAND REGION

 1998-03-23 D 23.4 AZ347
 GRA1 20:34:30.9 e P Z mb4.5
 ALIGN 20:34:30.9 T1.6 A26
 GRA1 20:34:36.2 e pP Z
 SZGRF: OT 20:29:23.6 71.8N 5.5W dep 22km
 JAN MAYEN ISLAND REGION

 1998-03-24
 GRA1 01:32:36.9 e (PKPab) Z

1998-03-24 D 17.1
GRA1 06:45:07.3 e P Z mb4.3
BEAM 06:45:07.3 T1.0 A22
GRA1 06:45:16.1 e pP Z
GRA1 06:52:47.2 e L Z T19.1 A349 MS3.6

1998-03-25 D113.2
GRA1 03:02:38.3 e PKPdf Z
GRA1 03:03:29.3 e PP Z
NEIC: OT 02:44:11.0 7.3S 128.7E dep100km mb5.2
BANDA SEA

1998-03-25 D154.1
GRA1 03:32:15.7 i PKPdf c Z
GRA1 04:38:48.8 e L Z T21.5 A230624 MS8.0
NEIC: OT 03:12:24.7 62.9S 149.7E dep 10km mb6.6
BALLENY ISLANDS REGION

1998-03-25
GRA1 05:26:26.2 e PKPdf Z
GRA1 05:26:33.2 e PKPbc Z

1998-03-25
GRA1 06:02:49.2 e (PKPbc) Z
GRA1 06:02:59.2 e (pPKPbc) Z

1998-03-25
GRA1 07:39:16.1 e (PKPdf) Z
GRA1 07:39:20.8 e PKPbc Z

1998-03-25
GRA1 07:51:57.4 e PKP Z

1998-03-25
GRA1 08:41:51.1 e PKPbc Z

1998-03-25 D146.5
GRA1 10:36:01.6 e PKP Z

1998-03-25 D153.1
GRA1 12:37:13.2 e PKPdf Z
GRA1 12:37:21.4 e PKPbc Z

NEIC: OT 12:17:22.7 63.6S 147.9E dep 10km mb5.8
SOUTH OF AUSTRALIA

1998-03-25 D152.7

GRA1 13:34:50.0 e PKPdf Z

GRA1 13:34:57.8 i PKPbc c Z

GRA1 13:35:05.7 i PKPab d Z

NEIC: OT 13:14:59.3 63.5S 147.7E dep 10km mb5.5
SOUTH OF AUSTRALIA

1998-03-25 D153.1

GRA1 14:41:06.9 i PKPbc c Z

GRA1 14:41:15.0 e PKPab Z

1998-03-25 D 85.8 AZ 60

GRA1 16:47:32.2 e P Z mb4.6

BEAM 16:47:32.2 T1.4 A7

SZGRF: OT 16:34:56.5
TAIWAN REGION

1998-03-25 D 56.6 AZ208

GRA1 18:55:48.1 i P d Z mb5.2

BEAM 18:55:48.1 T1.9 A51

GRA1 18:55:55.5 e pP Z

GRA1 19:19:60.0 e L Z T19.6 A1019 MS4.9

SZGRF: OT 18:46:05.7
NORTH OF ASCENSION ISLAND

1998-03-25

GRA1 19:56:35.6 e PKPab Z

1998-03-26

GRA1 01:13:40.3 e PKPdf Z

1998-03-26

GRA1 01:19:19.1 e PKPdf Z

1998-03-26 D 3.7 407km

GRA1 01:46:14.4 e Pn Z M14.0

GRA1 01:47:14.6 e Sg N

SZGRF: OT 01:45:16.6 51.5N 16.2E dep 1km
POLAND

1998-03-26 D 80.8 AZ 29

GRA1 02:55:44.4 i P c Z mb5.2

ALIGN 02:55:44.4 T0.9 A23
GRA1 02:56:04.6 e (pP) Z
GRA1 03:29:25.7 e L Z T19.9 A69 MS4.0
SZGRF: OT 02:43:41.1 43.3N 150.4E dep 75km
KURIL ISLANDS REGION

1998-03-26

GRA1 06:25:27.0 e (PKPdf) Z

1998-03-26

D152.2

GRA1 12:44:55.0 e PKPdf Z
GRA1 12:45:02.4 i PKPbc d Z
GRA1 12:45:09.4 i PKPab c Z
GRA1 14:00:26.5 e L Z T18.8 A202 MS5.0
NEIC: OT 12:25:12.7 62.8S 145.6E dep 10km mb5.3
SOUTH OF AUSTRALIA

1998-03-26

D 83.7 AZ 36

GRA1 13:20:11.3 e P c Z mb4.9
BEAM 13:20:11.3 T1.2 A9
NEIC: OT 13:07:21.3 32.5S 71.5W dep 27km
NEAR COAST OF CENTRAL CHILE

1998-03-26

GRA1 14:19:16.2 e (PKP) Z

1998-03-26

D 6.9

GRA1 16:27:50.1 e Pn Z M16.3
GRA1 16:28:59.7 e Sg N
GRA1 16:31:14.3 e L Z T19.5 A9600 MS4.4
NEIC: OT 16:26:10.7 43.1N 13.0E dep 10km mb5.4
CENTRAL ITALY

1998-03-26

D 27.7

GRA1 18:27:00.4 e P Z mb4.4
BEAM 18:27:00.4 T1.9 A12
GRA1 18:27:15.3 e (pP) Z
GRA1 18:36:32.4 e L Z T21.8 A296 MS3.8
NEIC: OT 18:21:15.9 44.0N 28.9W dep 10km mb4.5
NORTHERN MID-ATLANTIC RIDGE

1998-03-26

D117.1

GRA1 23:54:58.0 e PKPdf Z
GRA1 23:55:03.9 e pPKPdf Z
GRA1 00:46:57.0 e L Z T21.7 A1960 MS5.7

1998-03-27 D111.8
GRA1 00:50:07.3 e PP Z
GRA1 01:32:28.9 e L Z T20.6 A800 MS5.3
NEIC: OT 00:30:50.7 58.7S 25.4W dep 33km mb5.1
SOUTH SANDWICH ISLANDS REGION

1998-03-27 D153.5
GRA1 00:55:59.4 e (PKPdf) Z
GRA1 00:56:10.7 i PKPbc d Z
GRA1 00:56:18.5 i PKPab c Z

1998-03-27
GRA1 01:39:44.8 e PKPdf Z

1998-03-27
GRA1 02:02:13.7 e PKPab Z

1998-03-27
GRA1 02:14:59.6 e PKPdf Z

1998-03-27 D 38.8 AZ134
GRA1 02:24:02.4 e P Z mb4.2
BEAM 02:24:02.4 T1.5 A10
SZGRF: OT 02:16:40.4
RED SEA

1998-03-27 D 41.8 AZ104
GRA1 04:37:22.7 e P d Z mb4.7
ALIGN 04:37:22.7 T1.1 A18
GRA1 04:37:28.2 e pP Z
GRA1 04:37:30.9 e sP Z
GRA1 04:58:56.8 e L Z T20.9 A155 MS3.9
SZGRF: OT 04:29:34.9 27.9N 58.3E dep 21km
SOUTHERN IRAN

1998-03-27 D151.9
GRA1 11:07:12.2 e PKP Z
GRA1 11:07:15.8 e PKPbc Z
GRA1 11:07:25.1 e PKPab Z

1998-03-27 D 19.2 AZ138
GRA1 12:21:37.5 e P Z mb3.7
BEAM 12:21:37.5 T0.8 A4
GRA1 12:27:34.5 e L Z T18.3 A203 MS3.5

NEIC: OT 12:17:58.3 39.0N 25.9E dep 33km
AEGEAN SEA

1998-03-27 D 87.7 AZ 90
GRA1 16:44:00.5 e P Z mb5.0
BEAM 16:44:00.5 T0.9 A7

NEIC: OT 16:31:48.1 6.3N 94.1E dep 33km mb4.8
NICOBAR ISLANDS, INDIA

1998-03-27 D148.4
GRA1 19:55:52.9 e PKPdf Z
GRA1 19:55:55.1 e PKPbc Z
GRA1 19:55:58.6 e PKPab Z

1998-03-28 D 23.2 AZ111
GRA1 00:35:03.1 e P Z mb4.5
ALIGN 00:35:03.1 T1.6 A23
GRA1 00:35:08.1 e (pP) Z
GRA1 00:47:16.9 e L Z T18.1 A188 MS3.6
SZGRF: OT 00:29:58.2 37.5N 38.7E dep 21km
TURKEY

1998-03-28 D151.3
GRA1 06:54:43.3 e PKPdf Z
GRA1 06:54:48.6 e PKPbc Z
GRA1 06:54:56.3 e PKPab Z
GRA1 08:01:13.2 e L Z T18.3 A187 MS4.9

1998-03-28 D151.6
GRA1 13:42:22.1 e (PKPdf) Z
GRA1 13:42:27.7 e PKPbc Z
GRA1 13:42:35.8 e PKPab Z

1998-03-28 D149.5
GRA1 13:46:54.2 e PKPdf Z
GRA1 13:46:56.3 e PKPbc Z
GRA1 13:47:03.6 e PKPab Z

1998-03-28
GRA1 20:27:46.9 e PKPdf Z

1998-03-28 D 57.8
GRA1 22:09:49.1 i P d Z mb5.1

ALIGN 22:09:49.1 T0.8 A14
GRA1 22:09:54.3 e pP Z
GRA1 22:09:57.5 e (sP) Z
GRA1 22:35:03.6 e L Z T18.5 A441 MS4.6

1998-03-28 D 3.5 384km
GRC1 19:06:39.4 e Pg Z
GRA1 19:06:39.4 e Pg Z M12.9
GRA1 19:07:26.1 e Sg E
SZGRF: OT 19:05:35.3 48.2N 6.5E dep 10km
Gerardmer/F, NE of Remiremont, Vosges Mountains

1998-03-29
GRA1 04:09:17.7 e PKPdf Z

1998-03-29 D 55.5
GRA1 07:24:37.0 e P c Z mb5.8
ALIGN 07:24:37.0 T2.3 A212
GRA1 07:32:27.9 e S Z
GRA1 07:50:19.6 e L Z T18.0 A4148 MS5.6

1998-03-29
GRA1 09:47:21.9 e (PKPab) Z

1998-03-29 D151.3
GRA1 12:01:30.1 e PKPdf Z
GRA1 12:01:37.2 e PKPbc Z
GRA1 12:01:42.1 e PKPab Z
GRA1 12:01:47.5 e pPKPbc Z
GRA1 12:01:51.9 e pPKPab Z

1998-03-29 D111.5
GRA1 16:13:56.6 e PKPdf Z
GRA1 16:16:59.9 e pPKPdf Z
NEIC: OT 15:55:58.2 6.5S 128.1E dep330km mb5.1
BANDA SEA

1998-03-29 D146.8
GRA1 20:06:58.7 i PKPdf d Z
GRA1 20:09:04.0 e pPKPdf Z
GRA1 20:09:56.7 e sPKPdf Z
GRA1 20:10:19.0 e PP Z
GRA1 20:17:33.2 e Z
NEIC: OT 19:48:16.0 17.6S 179.1W dep537km mb6.5

FIJI ISLANDS REGION

1998-03-29 D146.9
GRA1 20:57:22.1 i PKPdf Z
GRA1 20:57:25.9 i PKPbc c Z
GRA1 20:57:29.1 e PKPab Z
NEIC: OT 20:38:40.9 17.6S 179.1W dep527km mb5.5
FIJI ISLANDS REGION

1998-03-29
GRA1 21:13:58.5 e PKPbc Z

1998-03-29
GRA1 21:36:43.5 e PKP Z

1998-03-29
GRA1 22:04:30.5 e PKPbc Z

1998-03-29
GRA1 22:09:52.3 e PKPbc Z

1998-03-29
GRA1 22:52:22.5 e Pn Z
GRA1 22:53:07.7 e Sg Z
NEIC: OT 22:51:13.6 46.3N 12.6E dep 10km
NORTHERN ITALY

1998-03-29 D148.7
GRA1 23:34:48.9 e PKPdf Z
GRA1 23:34:52.0 e PKPbc Z
GRA1 23:34:55.1 e PKPab Z
NEIC: OT 23:16:12.7 17.7S 179.1W dep600km mb4.7
FIJI ISLANDS REGION

1998-03-29 D148.9
GRA1 23:40:05.5 e PKPdf Z
GRA1 23:40:08.8 e PKPbc Z
GRA1 23:40:12.0 e PKPab Z
GRA1 23:42:13.2 e pPKPbc Z
NEIC: OT 23:21:23.9 17.6S 179.0W dep528km mb4.9
FIJI ISLANDS REGION

1998-03-30 D149.2
GRA1 00:02:51.8 e PKPdf Z

GRA1 00:02:55.5 e PKPbc Z
GRA1 00:02:59.1 e PKPab Z
NEIC: OT 23:44:14.8 17.9S 178.7W dep580km mb4.8
FIJI ISLANDS REGION

1998-03-30 D 83.5 AZ 37
GRA1 01:17:02.8 i P c Z mb5.1
BEAM 01:17:02.8 T1.4 A16
GRA1 01:17:12.9 e pP Z
SZGRF: OT 01:04:39.8 37.1N 142.7E dep 35km
OFF EAST COAST OF HONSHU, JAPAN

1998-03-30
GRA1 04:25:09.4 e PKPdf Z
GRA1 04:25:27.0 e pPKPdf Z
NEIC: OT 04:06:01.8 15.9S 168.0E dep178km mb4.8
VANUATU ISLANDS

1998-03-30
GRA1 04:28:18.4 e PKPdf Z
GRA1 04:28:33.8 e pPKPdf Z

1998-03-30 D 81.3 AZ266
GRA1 05:20:00.3 i P d Z mb4.5
BEAM 05:20:00.3 T1.0 A5
GRA1 05:20:06.8 e Z
GRA1 05:20:16.1 e Z
NEIC: OT 05:08:02.0 6.7N 72.9W dep175km mb4.5
NORTHERN COLOMBIA

1998-03-30 D146.0
GRA1 08:37:23.9 e PKPdf Z
GRA1 08:37:26.4 e PKPbc Z
GRA1 08:37:31.0 e PKPab Z
NEIC: OT 08:18:05.4 16.0S 175.1W dep200km mb4.5
TONGA ISLANDS

1998-03-30
GRA1 11:32:25.7 e PKP Z

1998-03-30
GRA1 17:40:11.4 e PKP Z

1998-03-30 D 4.1 451km
GRA1 20:50:15.3 e Pn Z
GRA1 20:51:10.1 e Sg Z

 1998-03-30 D 4.1 457km
 GRA1 20:50:13.3 e Pg Z M13.2
 GRA1 20:51:10.6 e Sg N
 SZGRF: OT 20:48:58.1 46.5N 7.3E dep 10km
 SWITZERLAND

 1998-03-30 D 2.3 261km
 GRC1 21:12:48.2 e Sg N
 GRA1 21:13:05.6 e Sg N M12.6
 SZGRF: OT 21:11:34.3 47.2N 9.4E dep 10km
 Vaduz/Liechtenstein, Swiss-Liechtenstein-Austrian borde

 1998-03-31 D 23.7 AZ332
 GRA1 00:04:49.7 e P Z mb4.2
 BEAM 00:04:49.7 T2.1 A19
 SZGRF: OT 23:59:41.3
 ICELAND REGION

 1998-03-31 D153.1
 GRA1 01:44:06.4 e PKPdf Z
 GRA1 01:44:08.5 e PKPbc Z
 GRA1 01:44:16.3 e PKPab Z
 GRA1 02:55:27.0 e L Z T21.9 A185 MS4.9

 1998-03-31
 GRA1 02:03:52.9 e PKPbc Z
 GRA1 02:04:03.4 e PKPab Z
 NEIC: OT 01:43:50.9 62.7S 148.2E dep 10km mb4.7
 BALLENY ISLANDS REGION

 1998-03-31 D 87.9 AZ 62
 GRA1 08:54:10.1 e P Z
 NEIC: OT 08:41:22.7 20.1N 121.4E dep 33km mb4.7
 PHILIPPINE ISLANDS REGION

 1998-03-31 D124.1
 GRA1 12:02:42.8 e PKPdf c Z
 NEIC: OT 11:44:03.8 5.0S 151.2E dep180km mb5.1
 NEW BRITAIN REGION, P.N.G.

 1998-03-31 D144.4
 GRA1 13:30:08.8 e PKPab Z
 GRA1 13:31:00.4 e pPKPab Z
 NEIC: OT 13:10:56.7 18.9S 168.9E dep209km mb5.1
 VANUATU ISLANDS

 1998-03-31 D 92.1

GRA1 16:25:38.3 e P Z
NEIC: OT 16:12:45.7 6.7S 74.4W dep166km mb4.8
PERU-BRAZIL BORDER REGION

1998-03-31 D 7.4
GRA1 22:35:06.5 e PKPdf Z

1998-03-31 D 5.1
GRA1 23:24:28.2 e Pn Z M13.6
GRA1 23:24:59.6 e Sn Z
GRA1 23:25:37.3 e Sg Z

1998-03-31 D 80.6 AZ 28
GRA1 23:28:40.9 i P c Z mb4.9
ALIGN 23:28:40.9 T1.1 A14
GRA1 23:28:53.2 e pP Z
SZGRF: OT 23:16:33.0 43.7N 151.0E dep 43km
KURIL ISLANDS REGION
