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Old seismologic reports

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SEISMIC OBSERVATIONS
AT FABRA OBSERVATORY IN 1994

by M^a TERESA SUSAGNA VIDAL
and RAMON SECANELL GALLART

The Observatory has now the following seismographs:

Station FONT (Coordinates 41° 45,7'N, 2° 26,0'E).

— Three short period «Teledyne Geotech» seismographs, vertical and horizontal components, with ink recording.

Station FBR (Coordinates 41° 25,0'N, 2° 07,5'E).

— Three short period «Mark-Lennartz» seismographs, vertical and horizontal components, with ink recording.

— Two long period «Mainka» seismographs, horizontal components, with mechanic recording.

— One short period «Vicentini» seismograph, vertical component, with mechanic recording.

We symbolize by ZT Teledyne Geotech vertical component, by NT and ET the Teledyne Geotech horizontal components, by ZL Mark-Lennartz vertical component, by NL and EL the Mark Lennartz horizontal components, by NM and EM the Mainka horizontal components and by ZV the Vicentini vertical component.

For the most outstanding earthquakes, we describe their epicentral characteristics, calculated by the Seismic Section of this Observatory, together with «Servei Geològic de Catalunya» (SGC) or provided by the United States Geological Survey (GS), by the «Centre Seismologique Europeo-Mediterranean» (CSEM), by the «Instituto Geográfico Nacional» (IGN) or by the «Laboratoire de Détection et de Déophysique» (LDG).

The average instrumental constants have been:

1) Electromagnetic seismograph (electronic and ink recording):

Type	Component	Mass (kg)	Period(s) To	Amplification m/ms ⁻¹	Damping
Teledyne Geotech	Z (ZT)	5	1	7200	0,7
	N-S (NT)	5	1	7200	0,7
	E-W (ET)	5	1	7200	0,7
Mark-Lennartz	Z (ZL)	1	1	510	0,7
	N-S (NL)	1	1	510	0,7
	E-W (EL)	1	1	510	0,7

2) Mechanical seismographs (recording on smoked paper):

Type	Component	Mass (kg)	Period(s) To	Damping	Friction	Amplification
Mainka	N-S (NM)	141	6,7	2	0,044	43,0
	E-W (EM)	144	6,4	2	0,043	59,2
Vicentini	Z (ZV)	56	0,9	—	—	125



SEISMIC OBSERVATIONS

1994

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
3 Jan	ZT	P	06	03		7.985	Ep.: 36,0 N; 100,1 E; H = 05:52:27,6 h = 8 Km; M = 5,8 (GS) Qinghai, China
4	ZT	Pn	08	04	52,3		Ep.: 36,6 N; 2,8 W; H = 08:03:15,2 h = 2 km; M = 5,0 (IGN) S. Adra
4	ZT	Pn	11	45	56,7		Ep.: Regional
5	ZT	P	13	26		1.115	Ep.: 39,1; 15,1 E; H = 13:24:09,9 h = 273 km; M = 5,7 (GS) Southern Italy
7	ZT NT	Pn Sn	21	41	05,7 22,9		Ep.: See pag. 102
9	ZT	Pn	04	43	00,3		Ep.: See pag. 102
10	ZT	Pg	01	01	16,7		Ep.: See pag. 102
10	ZT	P	16	05			Ep.: Regional
11	ZT ZT	Pg Sg	01	39	38,7 43,3		Ep.: Local
11	ZT ZT	Pg Sg	13	05	58,7 02,2		Ep.: Local
12	ZT	Pg	14	31	42,3		Ep.: See pag. 102
12	ZT ZT	Pg Sg	15	53	37,9 55,0		Ep.: See pag. 102
12	ZT ZT	Pg Sg	20	05	44,3 48,3		Ep.: See pag. 102
14	ZT ZT	Pg Sg	18	30	32,2 45,5		Ep.: See pag. 102
15	ZT	Pg	03	31	32,7		Ep.: Local
16	ZT ZT	Pg Sg	01	31	45,0 49,3		Ep.: Local
17	ZT ZT	Pg Sg	06	19	11,0 14,7		Ep.: Local



SEISMIC OBSERVATIONS

1994

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
17 Jan	ZT	Pn	11	39	-		Ep.: Regional
31	ZT	Pn	07	44	19,7		Ep.: See pag. 102
	ZT	Sn	07	44	34,0		
1 Feb	ZT	P	22	34		16.165	Ep.: 11,3 S; 163,9 E; H = 22:14:23,3 h = 38 km; M = 5,5 (GS) Solomon islands
2	ZT	P	03	13		16.740	Ep.: 14,1 S; 171,3 E; H = 02:54:20,9 h = 639 km; M = 4,9 (GS) Vanuatu islands
2	ZT	Pg	14	38	08,2		Ep.: Local
	NT	Pg	14	38	12,5		
3	ZT	Pg	08	48	38,5		Ep.: Local
	NT	Pg	08	48	48,6		
4	NT	Pg	12	18	24,6		Ep.: Local
	NT	Pg	12	18	26,8		
5	ZT	Pg	06	04	27,3		Ep.: See pag. 102
	ZT	Pg	06	04	39,3		
5	ZT	P	23	42		5.345	Ep.: 0,6 N; 30,0 E; H = 23:34:09,9 h = 14 km; M = 5,8 (GS) Uganda
7	NT	Pg	11	58	04,6		Ep.: Local
	NT	Sg	11	58	07,5		
8	ZT	Pg	18	34	20,0		Ep.: Local
	ZT	Sg	18	34	21,8		
11	ZT	P	21	36		17.155	Ep.: 18,8 S; 169,2 E; H = 21:17:31,1 h = 20 km; M = 6,4 (GS) Vanuatu islands
11	ZT	Pg	21	43	34,0		Ep.: See pag. 102
12	ZT	P	18	18		17.345	Ep.: 20,6 S; 169,4 E; H = 17:58:23,9 h = 28 km; M = 6,4 (GS) Vanuatu islands
13	ZT	Pn	10	28	56,6		Ep.: 43,1 N; 0,7 W; H = 10:28:11,6 h = 7 km; M = 4,0 (LDG) Pau
	NT	Sn	10	29	35,1		



SEISMIC OBSERVATIONS

1994

Date	Comp.	Phase	Time-TU			Δ Km	Remarks
			h	m	s		
13 Feb	ZT	Pn	18	42	37,1		Ep.: See pag. 102
	NT	Sn	18	42	51,7		
13	ZT	Pg	20	59	48,5		Ep.: See pag. 102
	NT	Sg	21	00	02,5		
15	ZT	Pg	01	35	39,7		Ep.: See pag. 102
	NT	Sg	01	35	48,8		
15	ZT	Pg	16	15	10,0		Ep.: See pag. 102
	NT	Sg	16	15	19,3		
16	ZT	Pn	15	51	12,5		Ep.: See pag. 103
	NT	Sn	15	51	30,0		
21	ZT	Pg	22	25	04,2		Ep.: See pag. 103
	NT	Sg	22	25	13,1		
22	NT	Pn	09	13	25,3		Ep.: See pag. 103
	NT	Sn	09	13	40,6		
23	ZT	P	08	10		5.245	Ep.: 30,8 N; 60,6 E; H = 08:02:04,7 h = 6 km; M = 6,1 (GS) Northern Iran
24	ZT	P	00	19		5.240	Ep.: 30,8 N; 60,5 E; H = 00:11:12,3 h = 10 km; M = 6,1 (GS) Northern Iran
25	ZT	P	02	34		1.565	Ep.: 38,8 N; 20,5 E; H = 02:30:51,5 h = 36 km; M = 5,1 (GS) Greece
26	ZT	P	02	39		5.240	Ep.: 30,9 N; 60,6 E; H = 02:31:11,0 h = 9 km; M = 5,8 (GS) Northern Iran
26	ZT	Pn	21	43	42,4		Ep.: 43,1 N; 0,4 W; H = 21:42:59,9 h = 6 km; M = 3,5 (LDG) Pau
	ZT	Sn	21	44	17,7		
1 Mar	ZT	P	03	56		4.685	Ep.: 29,1 N; 52,6 E; H = 03:49:00,8 h = 13 km; M = 5,8 (GS) Southern Iran
3	ZT	Pn	04	02	46,3		Ep.: See pag. 103
	NT	Sn	04	03	17,3		



SEISMIC OBSERVATIONS

1994

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
4 Mar	ZT	Pg	11	02	40,8		Ep.: Local
	ZT	Sg	11	02	42,6		
7	ZT	Pg	12	15	08,2		Ep.: Local
	ZT	Sg	12	15	11,2		
7	ZT	Pg	13	55	31,0		Ep.: Local
	ZT	Sg	13	55	33,3		
8	ZT	Pg	09	03	15,0		Ep.: Local
	ZT	Sg	09	03	18,8		
8	ZT	Pn	22	36	06,0		Ep.: See pag. 103
	ZT	Sn	22	36	23,1		
9	ZT	Pg	11	02	48,5		Ep.: See pag. 103
	ZT	Sg	11	02	59,7		
9	ZT	P	23	47		17.335	Ep.: 18,0 S; 178,4 W; H = 23:28:06,7 h = 563 km; M = 6,6 (GS) Fiji islands region
10	ZT	Pg	12	52	23,7		Ep.: Local
	ZT	Sg	12	52	25,5		
10	ZT	Pg	20	00	18,0		Ep.: See pag. 103
	ZT	Sg	20	00	30,0		
12	ZT	P	02	07		16.780	Ep.: 14,5 S; 171,1 E; H = 01:49:02,4 h = 61 km; M = 5,3 (GS) Vanuatu islands region
14	ZT	P	04	39		5.450	Ep.: 1,3 S; 23,6 W; H = 04:30:15,7 h = 10 km; M = 6,2 (GS) Central Mid-Atlantic Ridge
14	ZT	Pg	06	39	33,0		Ep.: See pag. 103
	ZT	Sg	06	39	45,7		
14	ZT	Pg	14	28	32,0		Ep.: Local
	ZT	Sg	14	28	34,1		
14	ZT	P	21	03		9.215	Ep.: 16,0 N; 92,4 W; H = 20:51:24,9 h = 164 km; M = 5,8 (GS) Mexico-Guatemala border region



SEISMIC OBSERVATIONS

1994

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
15 Mar	ZT	Pn	01	57	35,0	1.120	Ep.: See pag. 103
	ZT	Sn	01	57	56,5		
19	ZT	Pn	02	54	39,2	17.800	Ep.: See pag. 103
	NT	Sn	02	55	05,1		
19	ZT	Pg	11	23	41,8	870	Ep.: Local.
	NT	Sg	11	23	43,8		
21	ZT	P	21	43			Ep.: 39,7 N; 15,5 E; H = 21:41:01,9 h = 279 km; M = 5,1 (GS) Southern Italy
30	ZT	Pn	06	38	01,3		Ep.: See pag. 103
	NT	Sn	06	38	27,3		
30	ZT	Pn	05	01	16,6		Ep.: See pag. 103
	ET	Sn	05	01	31,3		
31	ZT	Pg	09	43	35,9		Ep.: 47,3 N; 210,3 E; H = 09:41:43,6 h = 3 km; M = 4,7 (LDG) Innsbruck
31	ZT	P	23	59			Ep.: 22,1 S; 179,5 W; H = 22:40:52,1 h = 580 km; M = 6,1 (GS) South of Fiji Islands
7 Apr	ZT	Pg	02	58	24,8		Ep.: Local
	ZT	Sg	02	58	27,7		
8	ZT	Pg	11	01	23,2		Ep.: Local
	ZT	Sg	11	01	36,3		
11	ZT	Pn	05	39	26,6		Ep.: See pag. 103
	ZT	Sn	05	39	47,5		
12	ZT	Pn	13	02	23,3		Ep.: Regional
	ZT	Sn	13	02	50,5		
12	ZT	Pg	18	37	51,3		Ep.: Local
	ZT	Sg	18	37	55,2		
13	ZT	Pn	03	34	05,3		Ep.: 41,6 N; 3,1 W; H = 03:33:03,6 h = 11 km; M = 3,4 (IGN) Burgo de Osma
	NT	Sn	03	34	50,0		



SEISMIC OBSERVATIONS

1994

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
13 Apr	ZT	Pg	11	00	58,1	13.705	Ep.: Local
	ZT	Sg	11	01	00,3		
13	ZT	Pn	18	12	51,3	13.705	Ep.: See pag. 103
	ZT	Sn	18	13	09,3		
13	ZT	P	22	41		13.705	Ep.: 3,1 S; 136,0 E; H = 22:22:29,9 h = 29 km; M = 6,0 (GS) Irian Jaya region
14	ZT	Pg	16	41	43,5	13.705	Ep.: See pag. 103
	ZT	Sg	16	41	55,2		
15	ZT	Pg	11	25	40,0	13.705	Ep.: Local
	ZT	Sg	11	25	50,9		
15	ZT	Pn	13	28	05,6	13.705	Ep.: 43,5N; 7,4 W; H = 13:26:19,8 h = 24 km; M = 4,2 (IGN) Mondoñedo
	NT	Sn	13	29	23,3		
17	ZT	Pg	17	52	40,0	13.705	Ep.: Local
	ZT	Sg	17	52	42,5		
18	ZT	Pn	04	58	51,6	13.705	Ep.: 43,2 N; 0,4 W; H = 04:58:10,0 h = 6 km; M = 3,1 (LDG) Pau
	NT	Sn	04	59	29,1		
18	ZT	P	17	59		15.230	Ep.: 6,5 S; 154,9 E; H = 17:39:54,1 h = 8 km; M = 5,8 (GS) Solomon islands
22	ZT	Pg	04	32	01,5	15.230	Ep.: See pag. 104
	ZT	Sg	04	32	12,8		
23	ZT	Pn	00	58	27,0	15.230	Ep.: See pag. 104
	ZT	Sn	00	58	46,9		
23	ZT	Pg	06	58	26,0	15.230	Ep.: See pag. 104
	ZT	Sg	06	58	43,2		
23	ZT	P	15	20		16.615	Ep.: 14,2 S; 167,5 E; H = 15:00:52,7 h = 11 km; M = 6,0 (GS) Vanuatu islands
23	ZT	P	15	28		16.620	Ep.: 14,2 S; 167,6 W; H = 15:09:09,0 h = 33 km; M = 5,5 (GS) Vanuatu islands
24	ZT	Pg	12	03	24,2	16.620	Ep.: See pag. 104
	ZT	Sg	12	03	36,4		



SEISMIC OBSERVATIONS

1994

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
26 Apr	ZT	P	23	56		16.820	Ep.: 16,0 S; 168,0 E; H = 23:26:45,1 h = 185 km; M = 5,8 (GS) Vanuatu islands
27	ZT	P	09	42		17.720	Ep.: 21,5 S; 173,7 W; H = 09:23:26,2 h = 28 km; M = 6,2 (GS) Tonga islands
28	ZT	P	02	12	30,3		Ep.: 36,9 N; 3,5 E; H = 02:11:19,2 h = — km; M = 3,7 (LDG)
29	ZT	P	07	23		10.290	Ep.: 28,3 S; 63,3 W; H = 07:11:29,6 h = 562 km; M = 6,3 (GS) Santiago del Estero
29	ZT	Pg	08	12	52,3		Ep.: See pag. 104
29	ZT ZT	Pg Sg	18 18	28 28	40,0 47,5		Ep.: See pag. 104
1 May	ZT	P	12	09		5.460	Ep.: 36,9 N; 67,2 E; H = 12:00:35,7 h = 19 km; M = 6,0 (GS) Hindu Kush region, Afghanistan
4	ZT	P	06	57		16.940	Ep.: 17,0 S; 168,3 E; H = 06:37:36,0 h = 206 km; M = 5,8 (GS) Vanuatu islands
5	ZT	P	05	20		2.835	Ep.: 64,6 N; 17,5 W; H = 05:14:49,7 h = 9 km; M = 5,7 (GS) Iceland
5	ZT ZT	Pg Sg	22 22	28 28	15,7 20,0		Ep.: See pag. 104
7	ZT ZT	Pn Sn	05 05	37 38	54,0 41,0		Ep.: 42,7 N; 1,5 W; H = 05:37:06,4 h = 3 km; M = 3,4 (IGN) SE Pamplona
7	ZT	P	08	44		9.260	Ep.: 53,0 N; 160,0 E; H = 08:31:37,6 h = 49 km; M = 5,9 (GS) off east coast of Kamchatka
9	ZT ZT	Pg Sg	10 10	31 31	08,0 18,0		Ep.: Local
10	ZT	P	06	48		10.295	Ep.: 28,5 S; 63,1 W; H = 06:36:28,3 h = 601 km; M = 6,4 (GS) Santiago del Estero prov.
12	ZT NT	Pg Sg	14 14	03 03	53,0 55,4		Ep.: See pag. 104



SEISMIC OBSERVATIONS

1994

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
16 May	ZT	Pg	11	58	31,3	2.045	Ep.: Local
	NT	Sg	11	58	42,0		
17	ZT	Pn	10	55	15,3	2.070	Ep.: See pag. 104
	NT	Sn	10	55	34,0		
23	ZT	P	06	50		2.045	Ep.: 35,6 N; 24,7 E; H = 06:46:16,1 h = 76 km; M = 6,0 (GS) Crete
23	ZT	Pg	18	12	38,7	2.070	Ep.: See pag. 104
	ZT	Sg	18	12	48,0		
24	ZT	P	02	09		2.070	Ep.: 38,7 N; 26,5 E; H = 02:05:36,2 h = 17 km; M = 5,0 (GS) Aegean sea
24	ZT	P	02	24		2.070	Ep.: 38,8 N; 26,6 E; H = 02:18:34,9 h = 16 km; M = 5,0 (GS) Aegean sea
24	ZT	P	03	39		2.060	Ep.: 38,7 N; 26,5 E; H = 03:35:33,2 h = 10 km; M = 4,8 (GS) Aegean sea
24	ZT	P	04	14		10.525	Ep.: 24,0 N; 122,4 E; H = 04:00:42,1 h = 16 km; M = 6,2 (GS) Taiwan region
25	ZT	Pn	03	36	02,0	8.635	Ep.: See pag. 104
	ET	Sn	03	36	21,3		
25	ZT	Pg	08	25	14,5	2.060	Ep.: Local
	ET	Sg	08	25	24,8		
25	ZT	Pg	11	25	57,6	2.060	Ep.: Local
	ET	Sg	11	25	59,7		
29	ZT	P	14	23		8.635	Ep.: 20,6 N; 94,2 E; H = 14:11:50,9 h = 36 km; M = 6,2 (GS) Myanmar
29	ZT	Pg	19	47	30,7	2.060	Ep.: Local
	NT	Sg	19	47	33,3		
10 Jun	ZT	Pg	18	11	52,3	2.060	Ep.: Local
	ZT	Sg	18	11	55,6		
10	ZT	Pg	19	43	14,3	2.060	Ep.: See pag. 104



SEISMIC OBSERVATIONS

1994

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
13 Jun	ZT	Pg	02	09	20,8		Ep.: Local
15	ZT	Pg	01	56	48,6		Ep.: See pag. 104
	ZT	Sg	01	56	55,1		
15	ZT	Pn	03	30	00,0		Ep.: See pag. 104
	ZT	Sn	03	30	15,3		
15	ZT	Pn	03	33	34,7		Ep.: See pag. 105
	ZT	Sn	03	33	50,3		
15	ZT	Pn	04	21	37,3		Ep.: See pag. 105
	ZT	Sn	04	21	52,8		
15	ZT	Pn	04	46	25,3		Ep.: See pag. 105
	ZT	Sn	04	46	40,4		
15	ZT	Pn	05	17	27,3		Ep.: See pag. 105
	ZT	Sn	05	17	42,5		
15	ZT	Pn	06	08	29,3		Ep.: 42,8 N; 2,1 E; H = 06:08:06,6 h = 5 km; M = — (GS) Pyrenees
	ZT	Sn	06	08	44,0		
15	ZT	Pn	08	33	21,6		Ep.: See pag. 105
	ZT	Sn	08	33	43,3		
15	ZT	Pn	08	57	42,3		Ep.: See pag. 105
	ZT	Sn	08	57	58,0		
15	ZT	Pn	09	16	10,6		Ep.: See pag. 105
	ZT	Sn	09	16	26,2		
15	ZT	P	18	53		9.755	Ep.: 15,2 S; 70,3 W; H = 18:41:28,2 h = 200 km; M = 5,6 (GS) Southern Peru
15	ZT	Pn	09	16	10,6		Ep.: See pag. 105
	ZT	Sn	09	16	26,2		
18	ZT	P	03	45		19.105	Ep.: 43,0 S; 171,7 E; H = 03:25:15,8 h = 14 km; M = 6,2 (GS) South island, New Zealand
20	ZT	P	09	17		4.690	Ep.: 29,0 N; 52,6 E; H = 09:09:02,9 h = 9 km; M = 5,9 (GS) Southern Iran



SEISMIC OBSERVATIONS

1994

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
24 Jun	ZT	Pn	16	59	13,0		Ep.: See pag. 105
	ZT	Sn	16	59	28,6		
24	ZT	Pn	17	02	37,6		Ep.: See pag. 105
	ZT	Sn	17	02	53,0		
25	ZT	Pg	01	44	16,0		Ep.: Local
	ZT	Sg	01	44	18,7		
29	ZT	Pg	05	19	33,1		Ep.: Local
	ZT	Sg	05	19	46,0		
30	ZT	Pg	09	08	05,3		Ep.: See pag. 105
	ZT	Sg	09	08	20,3		
30	ZT	P	09	31		5.800	Ep.: 36,3 N; 71,1 E; H = 09:23:21,3 h = 227 km; M = 6,1 (GS) Afghanistan-Tajukistan border region
30	ZT	Pg	13	14	09,3		Ep.: Local
	ZT	Sg	13	14	12,3		
1 Jul	ZT	P	10	19		4.210	Ep.: 40,2 N; 53,4 E; H = 10:12:41,2 h = 41 km; M = 6,0 (GS) Turkmenistan
1	ZT	Pg	13	12	23,3		Ep.: Local
	ZT	Sg	13	12	37,6		
1	ZT	P	19	27		4.210	Ep.: 40,2 N; 53,4 E; H = 19:50:04,3 h = 44 km; M = 5,6 (GS) Turkmenistan
2	ZT	P	05	27		16.050	Ep.: 10,6 S; 163,1 E; H = 05:08:08,0 h = 28 km; M = 5,4 (GS) Solomon islands
2	ZT	Pn	17	43	25,6		Ep.: See pag. 105
	ZT	Sn	17	43	57,3		
3	ZT	Pn	10	34	41,0		Ep.: See pag. 105
	ZT	Sn	10	34	58,3		
4	ZT	P	21	49		9.690	Ep.: 14,9 N; 97,3 E; H = 21:36:41,9 h = 15 km; M = 6,1 (GS) off coast of Oxaca, Mexico



SEISMIC OBSERVATIONS

1994

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
10 Jul	ZT	Pg	02	01	11,6		Ep.: See pag. 105
	ZT	Sg	02	01	17,3		
10	ZT	P	03	18		16.560	Ep.: 13,8 S; 167,2 E; H = 02:58:33,6 h = 199 km; M = 5,4 (GS) Vanuatu islands
10	ZT	Pg	07	32	58,5		Ep.: See pag. 105
	ZT	Sg	07	33	12,9		
10	ZT	Pg	07	51	18,0		Ep.: See pag. 105
	ZT	Sg	07	51	23,0		
10	ZT	Pg	13	02	35,3		Ep.: Local
	ZT	Sg	13	02	40,6		
11	ZT	Pg	12	51	46,3		Ep.: Local
	ZT	Sg	12	51	56,0		
12	ZT	Pg	09	55	22,8		Ep.: Local
	ZT	Sg	09	55	36,1		
12	ZT	Pn	17	17	17,6		Ep.: See pag. 105
	ZT	Sn	17	17	46,6		
13	ZT	P	02	55		16.865	Ep.: 16,6 S; 167,5 E; H = 02:35:56,0 h = 33 km; M = 6,4 (GS) Vanuatu islands
13	ZT	Pg	01	07	37,3		Ep.: Local
	ZT	Sg	01	07	40,0		
13	ZT	Pn	04	14	17,0		Ep.: See pag. 105
	ZT	Sn	04	14	45,5		
14	ZT	P	08	12		16.920	Ep.: 17,1 S; 167,6 E; H = 07:53:06,3 h = 36 km; M = 5,1 (GS) Vanuatu islands
14	ZT	P	18	45		9.125	Ep.: 55,4 N; 163,8 W; H = 18:38:09,8 h = 167 km; M = 5,2 (GS) Unimak islands region
16	ZT	Pn	22	39	38,0		Ep.: See pag. 105
	ZT	Sn	22	39	56,5		
26	ZT	Pn	03	25	25,0		Ep.: See pag. 106
	ZT	Sn	03	26	01,6		



SEISMIC OBSERVATIONS

1994

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
6 Aug	ZL	Pg	02	27	03,4		Ep.: See pag. 106
	ZL	Sg	02	27	08,0		
6	ZL	Pg	03	19	—		Ep.: See pag. 106
16	ZL	Sn	21	45	35,5		Ep.: See pag. 106
17	ZL	Sn	14	41	28,2		Ep.: See pag. 106
17	ZL	Pg	15	16	01,0		Ep.: See pag. 106
	ZL	Sg	15	16	30,7		
18	ZT	P	01	14		730	Ep.: 35,5 N; 0,1 W; H = 01:13:05,7 h = 9 km; M = 5,7 (GS) Northern Algeria
9 Set	ZT	Pg	02	56	09,0		Ep.: Local
	ZT	Sg	02	56	12,5		
12	ZL	Pg	12	25	10,0		Ep.: Local
	ZL	Sg	12	25	14,5		
17	ZL	Pn	10	04	20,0		Ep.: See pag. 106
	ZL	Sn	10	04	50,5		
17	ZL	Pg	22	48	—		Ep.: See pag. 106
24	ZL	Pn	17	55	32,7		Ep.: 41,0 N; 4,6 E; H = 17:55:04,1 h = 32 km; M = 4,5 (IGN) Mediterranean sea
	ZL	Sn	17	55	56,0		
26	ZL	Pg	05	38	49,2		Ep.: See pag. 106
	ZL	Sg	05	38	54,2		
2 Oct	ZL	Pn	09	46	09,5		Ep.: See pag. 106
3	ZL	Pg	09	28	34,0		Ep.: See pag. 107
3	ZL	Pg	11	10	40,1		Ep.: See pag. 107
4	ZL	P	13	35		9.880	Ep.: 43,7 N; 147,3 E; H = 13:22:58,3 h = 33 km; M = 7,4 (GS) Kuril islands



SEISMIC OBSERVATIONS

1994

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
9	ZL	P	05	22		9.880	Ep.: 43,9 N; 147,9 E; H = 07:55:38,0 h = 23 km; M = 6,5 (GS) Kuril islands
16	ZT	P	05	22		9.880	Ep.: 45,7 N; 149,2 E; H = 05:10:03,0 h = 139 km; M = 6,3 (GS) Kuril islands
16	ZT	Pg	18	41	08,9		Ep.: See pag. 107
	ZT	Sg	18	41	20,7		
17	ZT	Pg	08	23	16,0		Ep.: 42,0 N; 4,6 E; H = 08:22:54,4 h = — km; M = 2,7 (LDG) E. Barcelona
	ZT	Sg	08	23	32,2		
17	ZT	Pg	18	43	12,3		Ep.: Local
	ZT	Sg	18	43	15,3		
20	ZT	Pn	06	28	39,7		Ep.: 43,1 N; 1,3 W; H = 06:27:50,7 h = 2 km; M = 3,1 (LDG) Pau
	ZT	Sn	06	29	27,3		
22	ZL	Pn	01	02	—		Ep.: See pag. 107
25	ZT	P	01	03		5.785	Ep.: 36,3 N; 70,9 E; H = 00:54:34,6 h = 244 km; M = 5,9 (GS) Hidu Kush region
1 Nov	ZT	Pn	04	51	12,3		Ep.: See pag. 107
	ZT	Sn	04	51	42,6		
1	ZT	Pg	05	38	31,6		Ep.: See pag. 107
	ZT	Sg	05	38	41,0		
8	ZL	Pg	04	27	57,2		Ep.: See pag. 107
2 Dec	ZT	Pg	14	09	19,4		Ep.: Local
	ZT	Sg	14	09	21,3		
2	ZT	Pg	14	34	22,0		Ep.: Local
	ZT	Sg	14	34	23,9		
11	ZT	P	07	54		9.880	Ep.: 17,5 S; 69,7 W; H = 07:41:55,4 h = 151 km; M = 5,8 (GS) Peru-Bolivia border region



SEISMIC OBSERVATIONS

1994

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
11 Dec	ZT	Pn	15	05	06,3		Ep.: See pag. 107
13	ZT	P	08	36		9.665	Ep.: 16,3 N; 98,4 W; H = 08:23:48,3 h = 17 km; M = 5,3 (GS) near coast of Gerrero, Mexico
14	ZT	Pn	08	57	16,7		Ep.: 46,0 N; 6,4 E; H = 08:56:00,1 h = 2 km; M = 5,1 (LDG) Annecy
	ZT	Sn	08	58	13,1		
16	ZT	Pg	14	28	54,4		Ep.: Local
	ZT	Sg	14	28	56,0		
16	ZT	Pg	11	31	13,6		Ep.: Local
	ZT	Sg	11	31	15,7		
17	ZT	P	13	16		2.220	Ep.: 34,5 N; 26,3 E; H = 13:11:58,4 h = 33 km; M = 4,6 (GS) Crete
17	ZT	Pn	16	02	57,3		Ep.: See pag. 107
	ZT	Sn	16	03	15,0		
18	ZT	P	21	57		17.340	Ep.: 17,9 S, 178,7 W; H = 20:38:32,6 h = 551 km; M = 5,6 (GS) Fiji islands region
23	ZT	Pg	01	46	19,3		Ep.: Local
	ZT	Sg	01	46	22,0		
24	ZT	Pg	05	52	02,5		Ep.: Local
	ZT	Sg	06	52	05,2		
25	ZT	Pg	10	13	31,5		Ep.: Local
	ZT	Sg	10	13	42,3		
26	ZT	P	03	20		9.320	Ep.: 53,7 N; 164,5 W; H = 03:08:17,7 h = 33 km; M = 5,3 (GS) Unimark islands region
27	ZT	Pg	08	50	53,0		Ep.: Local
	ZT	Sg	08	51	03,4		
27	ZT	Pg	14	02	14,5		Ep.: Local
	ZT	Sg	14	02	17,2		
27	ZT	P	12	32		10.060	Ep.: 40,5 N; 143,5 E; H = 12:19:23,6 h = 33 km; M = 6,4 (GS) off East coast of Honshu, Japan



SEISMIC OBSERVATIONS

1994

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
30 Dec	ZT	Pg	09	22	02,1		Ep.: Local
	ZT	Sg	09	22	11,9		
31	ZT	Pg	04	05	24,1		Ep.: Local
	ZT	Sg	04	05	36,9		

