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Old seismologic reports

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SEISMIC OBSERVATIONS
AT FABRA OBSERVATORY IN 1992

by M^a TERESA SUSAGNA VIDAL

The Observatory has the following seismographs:

Station FONT (Coordinates 41°45,7'N, 2°26,1'E)

– Three short period «Teledyne Geotech» seismograph, 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» seismograph, horizontal components, with mechanic recording.

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

We symbolize by ZT Teledyne Geotech vertical components, by NT and ET the Teledyne Geotech horizontal components, by ZH the Hiller-Stuttgart vertical component, 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» (I.G.N.) or by the Laboratoire de Détection et de Géophysique (LDG).

The average instrumental constants have been:

1) Electromagnetic seismograph (electronic and ink recording):

Type	Component	Mass (kg)	Period(s) T_0	Amplification (m/ms^{-1})	Damping
Teledyne Geotech	Z (ZT)	5	1	7.200	0,7
	N-S (NT)	5	1	7.200	0,7
	E-W (ET)	5	1	7.200	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 smoke paper):

Type	Component	Mass (kg)	Period(s) T_0	Damping E	Friction r/T_0^2	Amplification V
Mainka	N-S (NM)	141	7,0	3,00	0,015	37,9
	E-W (EM)	144	6,2	3,91	0,013	58,9
Vicentini	Z (ZV)	56	0,9	—	—	125



SEISMIC OBSERVATIONS

1992

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
1 Jan	ZT	Pg	11	28	21,3		Ep.: See pag. 101
	ZT	Pg	11	28	34,0		
1	ZT	Pn	16	35	46,4		Ep.: 37,86 N; 7,04 E ; H= 16:34:26,3 h = 10 km ; M = - (GS) Western Mediterranean sea
2	ZT	P	16	33		8.890	Ep.: 48,74 N; 129,23 W ; H= 16:40:40,6 h = 10 Km ;M= 5,7 (GS) Vancouver island region
2	ZT	P	19	53		8.445	Ep.: 5,64 N; 73,83 W ; H= 19:41:45,0 h = 134km ;M= 5,8 (GS) Colombia
12	ZT	P	00	23		7.610	Ep.: 39,67 N; 98,30 E ; H= 00:12:27,1 h = 22 km ;M= 5,4 (GS) Gansu, China
15	ZT	Pn	02	28	07,5		Ep.: See pag. 101
15	ZT	P	07	09		7.290	Ep.: 18,02 N; 70,62 W ; H= 06:58:32,4 h = 10 km ;M = 5,8 (GS) Dominican republic region
15	ZT	Pn	20	50	04,8		Ep.: See pag. 101
	ZT	Sn	20	50	29,0		
15	ZT	Pn	22	36	36,0		Ep.: See pag. 101
	NT	Sn	22	36	50,0		
18	ZT	Pn	11	35	43,3		Ep.: See pag. 101
	NT	Sn	11	36	12,0		
19	ZT	Pn	20	22	55,9	610	Ep.: 36,08 N; 1,95 E ;H= 20:21:31,0 h = - km ;M= 4,5 (IGN) Ech Chelif, Arg.
	NT	SN	20	23	56,7		
21	ZT	Pn	02	49	32,0	370	Ep.: 43,24 N; 1,69 W ;H= 02:48:41,4 h = 9 km ;M= 3,3 (IGN) Lesaca, Na.
	ZT	Sn	02	50	22,5		
21	ZT	Pg	10	34	47,6		Ep.: See pag. 101
	ZT	Sg	10	35	02,3		
21	ZT	Pg	12	29	04,1		Ep.: See pag. 101
	ZT	Sn	12	29	21,0		
21	ZT	Pn	21	48	54,7		Ep.: See pag. 101
	ZT	Sn	21	49	29,5		
30	ZT	P	05	31		5.810	Ep.:24,96 N;63.14E ;H=05:22:01,4 h=29km; M=5,5 (GS) Off coast of Pakistan



SEISMIC OBSERVATIONS

1992

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
1 Feb	ZT	P	19	17		10.410	Ep.: 35.11 N; 139.64 E ;H= 19:04:04,5 h=100km;M= 5,6(GS) Near S coast of Honshu,Japan
2	ZT	P	00	41		16.600	Ep.: 51.65 S; 139.41E ; H = 00:22:05,9 h = 10 km; M= 5,7 (GS) South Australia
2	ZT	P	00	51		16.620	Ep.: 51.55 S; 139.70 E ; H= 00:31:30,9 h= 10 Km ;M= 5,6 (GS) South Australia
3	ZT	Pn	08	16	54,5		Ep.: 43.45 N; 0,55 W ; H = 23:11: h = 11km; M= 3,6 (IGN) Pau, F.
7	ZT	Pn	20	59	47,5		Ep.: 37.57 N; 13.41 W ; H= 20:56:43,3 h= - km ; M= 3.6 (IGN) Atlántico
9	ZT	Pg	21	59	54,8		Ep.: See pag. 101
	ZT	Sg	22	00	01,1		
11	ZT	Pn	17	53	38,8		Ep.: 43,41 N; 5,47 E ; H = 17:52:54,2 h = 5 km; M= - (GS) Near south coast of France
13	ZT	P	01	49		16.740	Ep.: 15.89 S; 166.32 E ; H= 01:29:13,1 h =10 km ;M= 6,1 (GS) Vanuatu islands
21	ZT	Pg	22	13	37,3		Ep.: See pag. 101
	ZT	Sg	22	13	41,7		
2 Mar	ZT	P	12	42		9.260	Ep.: 52,92 N; 159,88 E ;H=12:29:39,5 h = 39 km; M=6,2 (GS) Off east coast of Kamchactka
3	ZT	P	01	38			Ep.: 14,38 S; 167,18 E ; H = 01:18:31,2 h = 148 km ; M = 5,9 (GS) Vanuatu island
7	ZT	P	02	05		8.980	Ep.: 10,21 N; 84,32 W ; H = 01:53:37,7 h = 79 km; M = 6,2 (GS) Costa Rica
8	ZT	P	03	54			Ep.: 40,23 N; 124,29 W ;H= 03:43:04,4 h=13km;M=5,3(GS) Near coast of northern California
9	ZT	Pg	02	40	05,7		Ep.: See pag. 101
	ZT	Sg	02	40	13,9		



SEISMIC OBSERVATIONS

1992

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
11 Mar	ZT	Pg	11	09	47,1		Ep.: See pag. 101
	ZT	Sg	11	09	53,3		
12	ZT	Pn	13	07	45,0	9.430	Ep.: 35,06 N; 2,44 W ;H= 13:05:53,7 h =17km ;M= 5,2(IGN) S Chafarinas
13	ZT	P	16	13		9.530	Ep.: 52,45N; 178,94 W ;H = 16:01:04,4 h =197km;M=5,9(GS)Andreanof island,Aleutian island
13	ZT	P	17	24		3.115	Ep.: 39,71 N; 39,60 E ; H= 17:18:39,9 h = 27 Km ;M= 6,2 (GS) Turkey
14	ZT	Pn	08	08	16,2		Ep.: 35,59 N; 4,42 W ; H = 08:06:30,0 h = 90 km ;M= 3,6 (IGN) Mediterráneo
15	ZT	P	16	22		3.145	Ep.: 39,53 N; 39,93 E ; H=16:16:24,2 h = 21 km ;M= 5,5 (GS) Turkey
19	ZT	Pg	13	15	48,0		Ep.: See pag. 102
	ZT	Sg	13	15	55,3		
19	ZT	Pg	18	53	31,0		Ep.: See pag. 102
19	ZT	Pg	23	50	59,7		Ep.: See pag. 102
	ZT	Sg	23	51	08,7		
20	ZT	Pg	01	28	52,7		Ep.: See pag. 102
	ZT	Sg	01	29	00,0		
21	ZT	Pn	01	29	42,0		Ep.: 36,23 N; 3,09 E ; H= 02:28:21,6 h= - km ; M=3,5 (IGN) E. Berronaghia, Arg.
31	ZT	Pg	14	53	31,9		Ep.: See pag. 102
31	ZT	Pg	22	02	29,5		Ep.: See pag. 102
	ZT	Sg	22	02	32,2		
1 Apr	ZT	Pn	06	42	17,7		Ep.: See pag. 102
1	ZT	Pn	19	27	20,9		Ep.: 43,08 N; 0,18 W ; H= 19:26:37,6 h= 14 km ; M=2,9 (LDG) Pau, F
	ZT	Sn	19	27	50,7		
2	ZT	Pg	02	22	28,0		Ep.: See pag. 102
	ZT	Sg	02	22	40,0		



SEISMIC OBSERVATIONS

1992

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
3 Apr	ZT	P	03	39		14.940	Ep.: 5,70 S; 151,16 E ; H = 03:19:51,4 h = 27km; M = 5,8 (GS) New Britain region
3	ZT	Sg	19	57	27,3		Ep.: 43,47 N; 4,59 E ; H = 19:57:13,9 h = 14 km; M = 3,0(LDG) Marseille, F.
4	ZT	Pn	20	00	50,7		Ep.:41,02 N; 2,15 W ; H = 19:59:59,1 h = 20 km; M = 3,0 (IGN) Zaldivia, SS
4	ZT	P	22	10		16.225	Ep.:10,95 S; 166,05 E ; H = 21:51:19,1 h = 45 km; M = 5,4(GS) Santa Cruz island
7	ZT	P	23	07		16.915	Ep.:16,87 S; 168,13 E ; H = 22:47:29,4 h = 16 km; M = 5,3(GS) Vanuatu islands
8	ZT	P	03	21		16.925	Ep.:16,91 S; 168,26 E ; H = 03:01:27,5 h = 18 km; M = 5,5(GS) Vanuatu islands
12	ZT	Pn	03	32	38,9		Ep.:43,09 N; 0,42 W ; H = 23:11: h = 13 km; M = 2,8 (LDG) Pau, F.
13	ZT	Pn	01	22	20,7	1.075	Ep.:51,15 N; 5,82 E ; H = 01:20:03,4 h = 11km; M = 5,5 (LDG) Antwerpen, NI.
14	ZT	Pn	03	01	49,3		Ep.:43,10 N; 0,40 W ; H = 03:01:06,4
	ZT	Sg	03	01	23,7		h = 3 km; M = 2,8(LDG) Pau, F.
14	ZT	Pg	22	28	30,9		Ep.:See pag. 102
	NT	Sg	22	28	34,8		
15	ZT	P	01	43		8.425	Ep.: 24,32 N; 94,90 E ; H = 01:32:09,9 h = 116 km; M = 5,6 (GS) Myanmar-India border region
15	ZT	Pg	10	49	38,9		Ep.:See pag. 102
	ZT	Sg	10	49	43,2		
30	ZT	P	11	49		2.225	Ep.: 35,06 N; 26,66 E ; H = 11:44:38,9 h = 20km; M = 5,7 (GS) Crete
1 May	ZT	Pn	15	33	06,3		Ep.: See pag. 102
	ZT	Sg	15	33	25,1		
7	ZT	Pg	23	01	15,5		Ep.: See pag. 102
	ZT	Sg	23	01	30,0		



SEISMIC OBSERVATIONS

1992

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
10 May	ZT	Pn	02	39	16,9		Ep.: 41,21 N; 5,72 E ; H= 02:38:39,6 h =- km; M= 3,1(LDG) E. Barcelone
	NT	Sn	02	39	45,0		
10	ZT	P	04	13		5.895	Ep.: 37,21 N; 72,91 E ; H = 04:04:32,9 h = 33km; M = 5,6 (GS) Tajikistan
10	ZT	Pn	07	10	18,8		Ep.: 43,07 N; 0,38 W ; H= 07:09:37,4 h = 5 Km ;M= 3,7 (LDG) Pau, F
12	ZT	P	18	25		17.150	Ep.: 16,52 S; 172,37 W ; H = 18:05:42,6 h = 15km; M = 6,4 (GS) Samoa islands region
12	ZT	Pn	23	19	56,4		Ep.: 35,16 N; 2,44 W ; H= 23:18:05,7 h = 5 km ; M = 3,8 (IGN) islas Chafarinas
14	ZT	Pg	13	50	33,0		Ep.: See pag. 102
	ZT	Sg	13	51	01,7		
14	ZT	Pn	15	02	46,8		Ep.: 34,99 N; 2,43 W ; H = 15:00:54,8 h = 10 km; M = 3,9 (IGN) S. islas Chafarinas
15	ZT	P	07	24		14.750	Ep.: 6,08 S; 147,57 E ; H= 07:05:05,3 h =58 km ; M = 6,2 (GS) Eastern New Guinea region
15	ZT	P	08	17		5.665	Ep.: 41,02 N; 72,43 E ; H = 08:08:02,9 h = 50 km ;M= 5,7 (GS) Kyrgyzstan
16	ZT	P	15	18		17.185	Ep.: 19,12 S; 169,08 E ; H = 14:58:38,9 h = 165km ; M = 5,6 (GS) Vanuatu islands
16	ZT	P	21	10		10.085	Ep.: 13,67 S; 76,12 W ; H = 20:57:59,5 h = 57 km; M = 5,6 (GS) Near coast of Peru
17	ZT	P	10	07		12.155	Ep.: 7,24 N; 126,65 E ; H = 09:49:19,1 h = 33km ; M = 6,2 (GS) Mindanao, Philippine islands
17	ZT	P	10	24		12.165	Ep.: 7,19 N; 126,76 E ; H = 10:15:31,3 h = 33km; M = 6,4 (GS) Mindanao, Philippine islands
18	ZT	P	23	31		9.015	Ep.: 7,45 N; 82,31 W ; H = 23:19:20,8 h = 18 km ; M = 5,9 (GS) South of Panama
19	ZT	P	12	33		4.980	Ep.: 28,29 N; 55,59 E ; H = 12:24:57,4 h = 33km ; M = 5,7 (GS) Southern Iran

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1992

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
12 Jun	ZL	P	19	18			Ep.: 34,16 N; 8,33 E ; H = 19:16:43,9 h = 10 km ; M = 5,3(GS) Tunisia
19	ZL	Pn	02	32	58,0		Ep.: 47,17 N; 11,84 E ; H= 02:33:34,2 h =10 km ; M =- (GS) Austria
21 Jul	ZL	P	11	03			Ep.: 22,48 N; 178,41 W ; H = 10:44:19,7 h = 377 km ; M = 6,2 (GS) South of Fiji islands
13	ZL	P	18	23			Ep.: 35,21 N; 118,07 W ; H = 18:14:16,1 h = 11km ; M = 5,3 (GS) Central California
20	ZT	P	21	38		2.230	Ep.: 34,21 N; 26,16 E ; H = 21:33:57,7 h =11 km ; M = 4,9 (GS) Crete
27	ZT	Pn	03	18	44,9		Ep.: 43,06 N; 0,58 W ; H = 03:18:05,9 h = 9 km ; M = 3,4 (LDG) Pau, F.
29	ZT	P	02	14		16.180	Ep.: 55,35 S; 128,44 W ; H = 01:54:47,8 h = 10 km ; M = 5,7 (GS) Pacific-Antartic ridge
30	ZT	P	08	35		7.690	Ep.: 29,58 N; 90,16 E ; H = 08:24:46,6 h =14 km ; M = 5,9 (GS) Xijang
2 Aug	ZT	P	12	21		12.935	Ep.: 7,13 S; 121,75 E ; H = 12:03:20,3 h = 486 km ; M = 6,2 (GS) Flores sea
3	ZT	P	03	03		6.630	Ep.: 15,91 N; 60,88 E ; H = 02:53:51,7 h = 43 km ; M = 5,6 (GS) Leeward islands
19	ZT	Pn	21	55	27,1		Ep.: See pag. 104
20	ZT	Pg	06	41	23,0		Ep.: See pag. 104
	ZT	Sg	06	41	38,3		
21	ZT	P	01	14		9.290	Ep.: 43,93 N; 128,34 W ; H = 01:02:18,4 h = 20 km ; M = 5,5 (GS) Off coast of Oregon
24	ZT	P	07	12		9.800	Ep.: 41,98 N; 140,66 E ; H = 06:59:39,9 h = 121 km ; M = 6,2 (GS) Hokkaido. Japan region
24	ZT	Pg	22	23	26,3		Ep.: See pag. 104
	ZT	Sg	22	23	33,3		



SEISMIC OBSERVATIONS

1992

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
28 Aug	ZT	P	01	00		5.850	Ep.:29,09 N ; 66,74 E ; H = 00:50:50,4 h = 9 km ; M = 5,5 (GS) Pakistan
28	ZT	P	18	27		5.015	Ep.: 0,96 S; 13,56 W ; H = 18:18:46,4 h = 16 km ;M=6,3 (GS) North of Ascension island
30	ZT	P	20	28		15.330	Ep.: 17,92 S; 178,71 W ; H = 20:09:05,7 h = 565 km ; M = 5,8 (GS) Fiji islands region
1 Sep	ZT ZT	Pg Sg	04 04	46 46	30,7 37,7		Ep.: See pag. 104
2	ZT	P	06	07		12,075	Ep.: 6,05 S; 112,14 E ; H = 05:50:01,9 h = 625 km ; M = 5,9 (GS) Jawa, Indonesia
2	ZT	P	10	38		9.095	Ep.: 37,09 N; 113,47 W ; H = 10:26:20,9 h = 15 km ; M = 5,7 (GS) Utah
3	ZT	Pg	03	12	31,1		Ep.: See pag. 104
5	ZT ZT	Pg Sg	20 20	59 59	51,4 54,5		Ep.: See pag. 104
9	ZT	P	13	15		3.835	Ep.: 76,21 N; 7,28 E ; H = 13:08:54,8 h = 24 km ; M = 5,7 (GS) Svalbard region
11	ZT	P	04	06		5.860	Ep.: 6,09 S; 26,65 E ; H = 03:57:26,5 h= 11 km ; M = 6,7(GS) Zaire
12	ZT ZT	Pg Sg	15 15	18 18	16,4 33,3		Ep.: See pag. 104
15	ZT	P	21	23		16.600	Ep.: 14,05 S; 167,27 E ; H = 21:03:59,9 h = 184 km ; M = 6,3 (GS) Vanuatu islands
18	ZT ZT	Pg Sg	07 07	58 59	55,1 02,3		Ep.: See pag. 104
20	ZT	Pn	05	02	57,7		Ep.: 36,56 N; 5,36 E ;H = 05:01:35,9 h = - km ; M = 3,6 (IGN) S. Golfo de Bougie, Arg.
20	ZT	P	08	05		3.065	Ep.: 37,02 N; 33,01 W ; H = 07:59:46,8 h = 10 km ; M = 5,0 (GS) Azores islands region



SEISMIC OBSERVATIONS

1992

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
21 Sep	ZT	P	10	27		5.750	Ep.: 7,82 S; 13,59 W ; H = 10:18:49,3 h = 10 km ; M = 5,8(GS) Ascension islands region
28	ZT	Pg	12	04	45,1		Ep.: See pag. 104
	ZT	Sg	12	04	52,2		
30	ZT	P	03	40			Ep.: 51,41 N; 178,63 W ; H = 03:27:59,1 h = 26 km ; M = 5,9(GS)Andreanof islands,Aleutian island
30	ZT	P	05	46		9.470	Ep.: 51,28 N; 178,04 W ; H = 03:27:59,1 h = 33 km ; M = 6,1 (GS)Andreanof islands,Aleutian island
30	ZT	P	09	55			Ep.: 51,15 N; 178,17 W ; H = 09:42:50,9 h = 14 km ; M = 5,8 (GS) Andreanof islands,Aleutian island
30	ZT	Pn	20	59	11,3		Ep.: 43,38 N; 5,49 E ; H = 20:58:27,4 h = 2 km ; M = 3,0 (LDG) Marseille, F.
2 Oct	ZT	Pg	23	06	43,9		Ep.: See pag. 104
	ZT	Sg	23	06	54,0		
3	ZT	Pg	04	33	51,0		Ep.: See pag. 104
	ZT	Sg	04	34	04,3		
9	ZT	Pg	19	26	30,0		Ep.: See pag. 104
	ZT	Sg	19	26	43,1		
11	ZT	Pn	10	29	35,7		Ep.: See pag. 105
11	ZT	P	19	44		17.195	Ep.: 19,25 S; 168,95 E ; H = 19:24:26,2 h = 129 km ; M = 6,4 (GS) Vanuatu islands
11	ZT	Pg	21	20	20,0		Ep.: See pag. 105
11	ZT	P	23	32		9.370	Ep.: 50,46 N; 153,17 E ; H = 23:20:34,7 h = 285 km ; M = 5,6 (GS) Kuril islands
12	ZT	P	13	15		2.890	Ep.: 28,78 N; 31,14 E ; H = 13:09:55,5 h = 22 km ; M = 5,9 (GS) Egypt
12	ZT	Pn	20	00	21,7		Ep.: 42,87 N; 2,41 W ; H = 19:59:25,3 h = 7 km ; M = 3,3 (IGN) Salvatierra, Vi.



SEISMIC OBSERVATIONS

1992

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
15 Oct	ZT	P	22	56			Ep.: 14,54 S; 166,71 E; H = 22:37:05,9 h = 25 km; M = 6,2 (GS) Vanuatu islands
18	ZT	P	15	23		8.610	Ep.: 7,07 N; 76,86 W ; H = 15:11:59,1 h = 10 km; M = 6,6 (GS) Northern Colombia
18	ZT	P	16	17			Ep.: 7,01N; 76,74W ; H=16:05:44,7 h=12 km ;M=5,6 (GS) Northern Colombia
18	ZT	P	18	39			Ep.: 7,00 N; 76,77 W ; H = 18:27:31,6 h = 18 km; M = 5,5(GS) Northern Colombia
23	ZT	P	09	13		1.305	Ep.: 31,08 N; 4,13 W ; H = 09:11:07,0 h = 100 km; M = 5,0 (GS) Rissani, Marruecos
23	ZT	P	23	26		3.480	Ep.: 42,59 N; 45,10 E ; H = 23:19:45,2 h = 16 km; M = 6,1 (GS) Eastern Caucasus
30	ZT	P	10	46		1.315	Ep.: 31,28 N; 4,37 W ; H = 10:43:58,4 h = 26 km; M = 5,1 (GS) Morocco
3 Nov	ZT	Pg	04	35	00,0		Ep.: See pag. 105
	ZT	Sg	04	35	17,3		
4	ZT	P	18	38		16.615	Ep.: 14,24 N; 167,64 E ; H = 18:13:13,4 h = 14 km; M = 6,1 (GS) Vanuatu islands
4	ZT	P	20	39		5.110	Ep.: 0,59 S; 17,47 W; H = 20:31:04,0 h = 10 km; M = 5,0 (GS) Nort of Ascension island
5	ZT	P	06	29		16.605	Ep.: 14,24 N; 167,60 E ; H = 06:09:40,4 h = 52 km; M = 5,4 (GS) Vanuatu islands
5	ZT	P	20	12		14.980	Ep.: 5,26 S; 152,57 E ; H = 19:53:22,9 h = 20 km; M = 5,9 (GS) New Britain region
5	ZT	Pg	20	33	53,2		Ep.: See pag. 105
	ET	Sg	20	33	57,3		
6	ZT	P	07	31		5.670	Ep.: 41,05 N; 72,51 E ; H = 07:21:57,8 h = 40km; M = 5,1 (GS) Kyrgyzstan
6	ZT	P	19	12		2.120	Ep.: 38,16 N; 27,00 E ; H = 19:08:09,2 h = 17 km; M = 5,7 (GS) Aegean sea



SEISMIC OBSERVATIONS

1992

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
8 Nov	ZT	P	04	03		17.105	Ep.: 15,73 S; 179,70 W; H = 03:43:20,4 h = 10 km; M = 5,7 (GS) Fiji islands region
8	ZT	P	20	59		5.580	Ep.: 38,78 N; 69,86 E; H = 20:50:13,0 h = 64 km; M = 5,3 (GS) Tajikistan
9	ZT	Pn	19	55	07,7		Ep.: See pag. 105
	ZT	Sn	19	55	25,3		
10	ZT	P	21	21		9.175	Ep.: 53,88 N; 160,69 E; H = 21:08:56,4 h = 54 km; M = 5,6(GS) Near east coast of Kamchatka
11	ZT	P	21	38		9.670	Ep.: 51,20 N; 179,24 W; H = 21:26:14,0 h = 33 km; M = 5,8 (GS) Andreanof islands
12	ZT	P	20	49		5.770	Ep.: 36,45 N; 70,85 E; H = 20:41:04,6 h = 198 km; M = 5,7 (GS) Hindu Kush regin, Afghanistan
21	ZT	P	05	11		1.845	Ep.: 35,92 N; 22,49 E; H = 05:07:21,7 h = 65 km; M = 5,9 (GS) Central Mediterranean sea
21	ZT	P	12	59		1.980	Ep.: 45,67 N; 26,66 E; H = 12:55:49,0 h = 137 km; M = 5,2 (GS) Romania
23	ZT	P	23	20		5.800	Ep.: 38,62 N; 32,64 E; H = 23:11:06,7 h = 41 km; M = 5,6 (GS) Tajikistan
25	ZT	Pg	22	09	07,1		Ep.: See pag. 105
	ZT	Sg	22	09	10,7		
25	ZT	Pn	22	29	41,9		Ep.: 42,62 N; 0,70 W; H = 22:29:05,3 h = - km; M = 2,7 (IGN) NW Jaca, Hu
30	ZT	Pn	00	06	10,0		Ep.: 43,33 N; 4,93 E; H = 00:05:32,4 h = 12 km; M = 3,0 (LGD)Marseille, F.
30	ZT	P	09	38		3.255	Ep.: 35,69 N; 34,58 W; H = 09:32:37,5 h = 20 km; M = 6,1 (GS) Azores islands region
1 Dec	ZT	P	00	43		17.360	Ep.: 20,86 S; 169,23 E; H = 00:23:22,8 h = 32 km; M = 5,8 (GS) Vanuatu islands
1	ZT	Pg	12	18	41,2		Ep.: See pag. 105
	ZT	Sg	12	18	59,7		



SEISMIC OBSERVATIONS

1992

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
1 Dec	ZT	Pn	20	48	08,7		Ep.: 36,79 N; 3,81 E; H = 20:46:57,2 h = -km; M = 3,4 (LDG)
2	ZT	Pn	15	27	44,2		Ep.: See pag. 105
	ZT	Sn	15	28	02,0		
4	ZT	P	11	45		5.805	Ep.: 37,81 N; 72,19 E; H = 11:36:36,2 h = 120 km; M = 5,9 (GS) Tajikistan
8	ZT	Pn	19	14	33,5		Ep.: 39,26 N; 0,38 W; H = 19:13:40,8 h = 13 km; M = 3,6 (IGN) Algemesí, V.
8	ZT	Pn	21	30	30,0		Ep.: 43,09 N; 0,35 W; H = 21:38:48,1 h = 6 km; M = 3,0 (LDG) Pau, F.
	ET	Sn	21	31	01,7		
9	ZT	Pn	08	25	46,3		Ep.: 39,20 N; 0,47W; H = 08:25:54,3 h = 3 km ; M = 3,2 (IGN) Algemesí, V.
9	ZT	Pn	19	49	53,1		Ep.: See pag. 105
12	ZT	P	05	48			Ep.: 8,48 S; 121,89 E ; H = 05:29:26,3 h = 28km ; M = 6,5 (GS) Flores islands region
13	ZT	Pg	00	36	22,0		Ep.: See pag. 105
	ZT	Sg	00	36	36,4		
14	ZT	P	07	59			Ep.: 14,03 S; 170,75 E; H = 07:41:00,3 h = 622 km; M = 5,5 (GS) Vanuatu islands region
15	ZT	Pg	03	51	48,3		Ep.: See pag. 106
	ZT	Sg	03	52	01,7		
15	ZT	Pg	22	28	18,7		Ep.: See pag. 106
	ZT	Sg	22	28	36,8		
17	ZT	Pn	22	58	16,7		Ep.: See pag. 106
	ZT	Sn	22	58	47,3		
18	ZT	P	03	33		14.765	Ep.: 6,49 S; 147,14 E; H = 03:14:04,2 h = 29 km; M = 6,0 (GS) Easten New Guiena region
19	ZT	P	07	03		16.270	Ep.: 11,23 S; 166,29 E; H = 06:44:01,5 h = 44km; M = 5,7 (GS) Santa Cruz islands



SEISMIC OBSERVATIONS

1992

Date	Comp.	Phase	Time TU			Δ Km	Remarks
			h	m	s		
19 Dec	ZT	P	12	26		9.345	Ep.: 51,91 N; 158,41 E; H = 12:41:22,0 h = 53 km; M = 6,1(GS) Near east coast of Kamchatka
20	ZT	P	21	10		13.565	Ep.: 6,58 S; 130,39 E; H = 20:52:47,2 h = 78 km; M = 6,6 (GS) Banda sea
21	ZT	Pn	09	04	47,1		Ep.: 35,31 N; 2,45 W; H = 09:02:58,2 h = 2 km; M = 3,9 (IGN) islas Chafarinas
22	ZT	P	05	13		13.585	Ep.: 6,65 S; 130,55 E; H = 04:54:16,6 h = 67 km; M = 5,9 (GS) Banda sea
23	ZT	P	03	19			Ep.: 6,54 S; 130,42 E; H = 03:00:44,9 h = 102 km; M = 6,1 (GS) Banda sea
23	ZT	Pn	08	54	35,6		Ep.: 43,40 N; 5,41 E; H = 08:53:50,0 h = 10 km; M = - (GS) Near south coast of France
24	ZT	P	00	54		17.030	Ep.: 15,29; S; 173,13 W; H = 00:34:13,8 h = 23 km; M = 5,9 (GS) Tonga islands
26	ZT	P	20	01		5.185	Ep.: 0,56 S; 19,32 W; H = 19:52:24,9 h = 27 km; M = 5,8 (GS) Central mid-Atlantic ridge
30	ZT	Pn	10	57	18,3		Ep.: 41,47 N; 0,29 W ; H = 10:56:43,8 h = 3 km; M = 2,8 (IGN) S.El Ciervo, Z
	ZT	Sn	10	57	49,3		

