

Seismological Station  
 SARAJEVO, Grdonj 36  
 Yugoslavia

SEISMOLOGICAL BULLETIN

Coordinates: 43° 52,4 N Lat; 18° 25,7 Long						
Height : 725 m.						
Ground : Lime - stone /Trias/						
Instruments	Comp.	To sec	v:l	V	r/2 To	Recording speed mm/min.
Mainka, M=450 kg.	N-S	10,0	3,7	134	0,032	57 - 60
Mainka, M=450 kg.	E-W	9,2	3,6	125	0,033	57 - 60

I Seismographic registrations

JANUARY 1963

No	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A <sub>0</sub> N	A E		
54	1	e	23	51	10				USCGS: Alaska 56.6N, 157.7 W H=, 23 39 05,6	
	2	e	00	01	06					
	13								From 14 to 07 <sup>h</sup> /14 January/ instruments were out of order	
55	14	e	18	35	04			660	USCGS: Romania H= 18 33 25,3 45.7N., 26.6 E h ≈ 132 km.	
		e		36	54					
56	15	e	21	27	30				Traces	
57	24	iP	03	07	48				Local, Sarajevo /Yugoslavia/	

- 2 -

## Seism. Station Sarajevo

JANUARY 1963

No	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
58	24	e e/S/	04	00 01	18 07			420		
59	27	e e/S/	19	40 44	19 28			2.500	USCGS: Caspian Sea H= 19 35 14,3 41.2N., 49.8 E Mag. 5 -5 /Pal/	
60	28	eP e	13	13 23	09 24			9.200	USCGS: Alaska Peninsula H= 13 00 50,7 54.7N., 161.6W	
61	29	eP	09	33	07			8.990	USCGS: Kurile Islands H= 09 21 14.3 49.7N., 154.9E h 126 km.	
62	30	e e e	10	28 38 47	36 01 46					
63	31	e e e/S/	15	10 12 12	56 03 37					

Seism. Station Sarajevo

FEBRUARY 1963

No	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
	3								Disturbances	
	5								Disturbances	
64	8	ePn	11	41	53					
		eSn		42	09			130		
65	13	e/P/	09	02	23					
		e		05	34					
		e/S/		12	35					
66		ePn	12	46	20					
		e		47	04					
		eS			16			430	BCIS: South Italy H= 12 45 10 40.5 N., 15.8E	
67	14	ePn	11	05	53			160		
		eSn		06	13					
		eP	12	49	24					
		eS		50	09					
		eP	13	19	32					
		e			37					
		eS		20	04			270	USCGS: Near Coast of Yugoslavia H= 13 18 56.4 44.5 N., 15.5 E Mag 5.4	
68	15	ePn	10	19	24					
		eP			31					
		e/Sn/		20	08					
		e			24					
		e			41			399		
69	17	iPn	20	12	26					
		iSn			43					
		M		13	-			125	Livno region /Yugoslavia/	

## Seism. Station Sarajevo

FEBRUARY 1963

No	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
70	21	e	10	31	31					
		e		32	11					
71		e/P/	17	17	11				USCGS: Near Coast of Libya Ho= 17 14 35.7 32.7N., 20.9E h 33 km. 300-500 estimated dead 500 injured 12.000 homeless at El Marj. Mag 5.0	
		eS		19	15			1.330		
		eSS			37					
72		e	20	31	20			1.330	USCGS: Libya Ho= 20 26 43.8 32.6N., 21.0E h 33 km. Mag.4.4 /CGS/	
73	22	e/Pn/	14	14	00				USCGS: Albania Grece border Ho= 14 12 54.4 40.6N., 20.5E Mag. 4.4 /CGS/	
		e			21					
		e			26					
		e/Sn/			38					
		e		15	02					
		e			30					
74	26	e	20	32	46				400	
		e		34	23					
		e		36	39					

## Seism. Station Sarajevo

MARCH 1963

No	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
75	4	eP	15	13	07				1.180	USCGS: Crete H <sub>0</sub> = 15 10 19.2 35.2N., 25.4 E. h 42 km. Mag. 4.8 /CGS/
		e		14	44					
		eS		15	16					
		e		16	26					
76	11	e	07	29	03					
		e		32	55					
		e/S/		33	40					
77	16	eP	08	57	10				84°	USCGS: Kurile Islands region H <sub>0</sub> = 08 44 48.3 46.5N., 154.7E h 26 km. Mag. 7 /Pas/
		eS	09	07	25					
		e		16	29					
		eL		24	25					
		M1		28		29				
		M2		32		17				
		M3		34		24				
M4		35		19						
78	17	eP	14	18	35					USCGS: Grece H <sub>0</sub> = 14 17 25.9 39.5N., 21.5 E h 78 km. Mag 4.8 /CGS/
		e			47					
		e/S/		20	11					
		e		21	06					
79	21	iPn	22	43	18				95	Mostar region
		iSn			31					
80	24	eP	12	49	23				2.670	USCGS: Western Iran H <sub>0</sub> = 12 44 03.2 34.4N., 47.9 E h 33 km. Mag. $5\frac{1}{2}$ - $5\frac{3}{4}$ /Pal/
		e/S/		53	50					
		e		58	27					

- 6 -

## Seism. Station Sarajevo

MARCH 1963										
No	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance E km.	R E M A R K S
			h	m	s		A N	A E		
81	26	e/P/	10	08	05					
		e/S/		19	42					
		M	11	27	-					
82		eP	21	47	02					
		e/S/		57	15					
		M	22	23						
83	28	eP	00	22	03					
		e		27	06					
		e		29	51					
84	29	eP	03	11	17					
		eS		12	51			940	USCGS:Northwestern Turkey/Cannakale/ H <sub>0</sub> - 03 09 11.2 40.4N., 26.6 E h <sub>0</sub> 33 km. Mag.4.4 /CGS/	
85	30	eP	10	58	49					
		e			59					

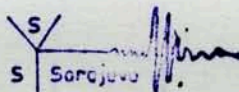
-7-

II Rapport macro-seismic  
/Bosnia and Hercegovina/

Seism. Station Sarajevo

JANUARY 1963

No	Date	T I M E /GMT/		L O C A L I T Y	Intensitet / Mercalli- Sieberg/°	R E M A R K S
		h	m			
1	19	03	01	Zenica	III°	
2	23	09	34	Zenica	III°	
3	24	03	07	Sarajevo Butmir	IV° IV°	Ep. Mountain Trebević /Yugoslavia/
FEBRUARY 1963						
1	14	13	19	Bihać	IV°	
2	17	20	12	Livno Duvno	IV°	Ep. Livno region /Yugoslavia/
MARCH 1963						
1	11	15	32	Travnik	III°	
2	21	22	43	Stolac Mostar Drežnica	IV° III° III°	



Hydrometeorological Institute  
Seismological Station  
SARAJEVO, Grdonj 36  
Yugoslavia

SEISMOLOGICAL BULLETIN

Coordinates: 43° 52,4 N Lat; 18° 25,7 Long						
Height : 725 m.						
Ground : Lime - stone /Trias/						
Instruments	Comp.	To sec.	v:l	V	r/2 To	Recording speed mm/min.
Mainka, M=450 kg.	N-S	10,0	3,7	134	0,032	57 - 60
Mainka, M=450 kg.	E-W	9,2	3,6	125	0,033	57 - 60

I Seismographic registrations

APRIL 1963

№	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	REMARKS
			h	m	s		A N	A E		
86	13	eP e	18	52	21 49					
87	16	e e e/S/ e	01	47	08 56 20 06 20					
88	19	eP e e/S/	07	45	17 59 32				USCGS: CHINA 35,8 N., 96,9 E H= 07 35 23,7 h ~ 33 km. M=7/Pas/	
89	23	ePn eSn	14	03	21 46 00				USCGS: Yugoslavia- Albania border 42,6 N., 19,5 E H= 14 02 56,8 h ~ 38 km. M=5,1 /CGS/	

107  
190



Seism. Station Sarajevo

APRIL 1963

No	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
90	25	e eSn	06	05 06	56 21				USCGS: Yugoslavia- Albania border 42,4 N., 19,4 E H <sub>o</sub> =06 05 32,2 h ≈ 44 km. M=5,1 /CGS/	
91	28	e e	00	46	04 35				USCGS: Northwest Turkey 40,5 N., 27,4 E H <sub>o</sub> = 00 42 11 h ≈ 160 km.	

MAY 1963

92	1	e e	10	22 23	43 07				
93	3	iP	23	16	36 41			46	near Goražde
94	4	eP eS	00	15	11 15			31	Felt in Sarajevo
95	6	e/Fb/ e eR <sub>s</sub> P eR <sub>s</sub> P <sub>2</sub> S e i/S/	19	31 32 33	45 52 05 34 52 16			5° 555	USCGS: Greece 39,5 N., 20,6 E H <sub>o</sub> = 19 30 28,2 h ≈ 33 km. Mag 5,7 /CGS/

Seism. Station Sarajevo

MAY 1963

No	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
96	8	eP i	10	34 45	39 24				USCGS: Japan 36,6 N., 141 E H <sub>o</sub> = 10 22 11,2 h = 53 km. Mg. 6.1 /CGS/	
97	11	e e	01	13 14	08 05			5° 555	Greece	
98	12	e/P/ e e e/S/	20	20 21 22 30	40 20 35 38			8.460	USCGS: Kodiak- Island, Alaska 57,4 N., 153,9W H <sub>o</sub> = 20 08 43.0 h = 80 km. Mag. 5.9 /CGS/	
99	13	eP	16	03	06					
100	15	eP̄ i i i/Sg/ eRsS̄ M F	11	16	25 28 38 54 17 04 05 21			2°31 256	USCGS: Albania 41,8 N., 20,2 E H <sub>o</sub> = 11 15 39,5 h = 33 km. Felt in Debar /Macedonia/	
101	19	ePn e e/P̄/ eRsP̄ e eRsP̄S̄ e eRsP̄S̄ <sub>2</sub> eRsS̄ M F	10	00 01	56 02 07 13 17 28 37 49 58 02 17 09			3°38 375	Ljubljana i Li- tija 46°05N., 14°45E Damage in Litija 3 injured VII° MCS USCGS: NW Yugosla- via 46,0., 14,7E H <sub>o</sub> = 10 00 04,6 Mag. 4,9 /CGS/	

Seism. Station Sarajevo

MAY 1963										
No	Date	Phase	T I M E			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
102	19	eP	21	45	25				USCGS: North Atlantic Ocean 23,8N., 45,9 W h ≈ 33 km. H <sub>0</sub> = 21 35 49,6 Mag. 6 <sup>1</sup> / <sub>2</sub> /Pas/	
		e		46	07					
		e			22					
		e		47	13					
		eS		53	18					
		eL	22	04	30					
103	22	iP	09	38	14			36	Felt in Sarajevo Krajishka street	
		iS			19					
104	23	e	01	56	02				Local	
105	31	eP	17	18	24			30		
		iP			28					
JUNE 1963										
106	2	eP	09	32	56					
		e/S/		33	01					
107	4	iPn	22	12	49			540	USCGS: Grece H <sub>0</sub> = 22 11 31,8 39,0N., 20,6 E h ≈ 33 km, Mag. 4,7 /CGS/ Traces	
		e/P/		13	21					
		eSn			52					
		e/S/		14	12					
108	7	e	01	33	56					
109	21	eP	06	03	04			135	Adriatique Coast Felt in Neum and Stolac	
		eRiP								09
		iS								21
		iRsPS <sub>2</sub>								26

Seism. Station Sarajevo

JUNE 1963

No	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
110	23	e/Pb/ e eSn eSb	09	34 35	41 12 20 25			330	Felt in Karlovac /Zgb/ USCGS: 45,6 N., 14,9 E h ≈ 33 km. H <sub>0</sub> = 09 33 53,2 Mag. 4,3	
111	24	e i/S/	04	38 48	26 12					
112	26	e e M	05	50 51	08 54 15			480		
113		eP eS F	15	20 21	18 31			110		
114	27	e e	11	06 08	59 00					
115	28	e/P/ eS	22	07 17	53 57			84,6	USCGS: Kurili, 46,5 N., 153,2 E H <sub>0</sub> = 21 55 38,8 h ≈ 33 km. Mag. 5,2 /CGS/	

Seism. Station Sarajevo

MAY 1963

No	Date	TIME /GMT/		LOCALITY	Intensitet / Mercalli- Sieberg <sup>o</sup> /	REMARKS
		h	m			
1	22	09	38	Sarajevo	III-IV	

JUNE 1963

1	21	06	03	Neum Stolac	IV IV	
---	----	----	----	----------------	----------	--

Hydrometeorological Institute  
 Seismological Station  
 SARAJEVO, Grdonj 36  
 Yugoslavia

## SEISMOLOGICAL BULLETIN

Coordinates: 43° 52,4 N Lat; 18° 25,7 Long						
Height : 725 m.						
Ground : Lime - stone /Trias/						
Instruments	Comp.	To sec.	v:1	V	r/2 To	Recording speed mm/min.
Mainka, M=450 kg.	N-S	10,0	3,7	134	0,032	57 - 60
Mainka, M=450 kg.	E-W	9,2	3,6	125	0,033	57 - 60

## I Seismographic registrations

JULY 1963

N <sup>o</sup>	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	REMARKS
			h	m	s		A <sub>N</sub>	A <sub>E</sub>		
116	5	e/P <sub>0</sub> /	14	23	15				5,76°	USCGS: Greece 39.1 N., 22,9 E H= 14 21 28,5 h ≈ 33 km. mag. 4.2 /CGS/
		e		24	05					
		e/S/			40					
		M		25	00					
		F		30	-					
117	10	ePn	07	21	14				5,7°	USCGS: Aegean Sea 39.8 N., 23.9 E H= 07 19 41 h ≈ 127 km. mag. 4.2 ± 0.2/CGS
		e			39					
		e		22	44					
118	13	e/P/	07	40	27					
		e			42					
		e		41	09					
		i			35					
		i			49					
M	42	07								

## Seism. Station Sarajevo

JULY 1963

N <sup>o</sup>	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
119	16	e/P/ i e e eS M <sub>1</sub> M <sub>2</sub>	18	31	11				16°8 1865	USCGS: Georgia USSR 43.1 N., 41.5 E H= 18 27 18.4 h ≈ 33 km. Mag. 5.8 ± 0.3 /CGS/
				32	19					
	18									The Instruments were out of order
120	21	ePn e	11	09 10	41 18					
121	25	e e	03	41 42	46 09					
122	26	eP iP i eSb	04	18	02 14 32 44			3°06 340		Destruction in Skopje Bgd: 42.08 09 N 21 29 28 E H= 04 17 11,4 BCIS: 42°1N., 21 05E H= 04 17 11. USCGS: 42.01 N 21° 05 E H= 04 17 16,7 h ≈ 33 km. Over 1.000 killed enjured about 3.500, 80% of buildings destroyed and 10% additional buildings damaged.
123		eP iS	16	00 01	49 21			1,57° 175		Ep. Adriatique Sea Felt in Trebinje

Seism. Station Sarajevo

AUGUST 1963										
N <sup>o</sup>	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
124	3	e/P/ e e ePP iS	10	31	37 51 59 33 49 39 55				58,5° 6.493	USCGS: Atlantic Ocean 7°7 N 35°8 W H= 10 21 36,6 h ≈ 33 km.
125	9	ePn ePb e e e/S/	06	06	34 56 07 24 48 08 05				511 4°6	USCGS: Northern Italy 44.5 N., 11.9 E H= 06 05 32,2 h ≈ 33 km.
126	15	e/S/ e eL	06	34	18 42 07 05 03				85 9.440	USCGS: 37°9 N., 141°6 E., H= 06 11 34,6 h ≈ 59 km.
127		e e e i/S/ i e	17	37	59 07 03 47 45 48 42 51 28				98 10.880	USCGS: Peru-Bolivia border 13.8 S., 69.3 W H= 17 25 05,9 h ≈ 543 km. Mag 7 <sup>3</sup> / <sub>4</sub> /Pas/
128	17	eP eSKS eL eL	11	25	10 43 15 10				84°3 9.370	USCGS: Ryukyu Islands 30°6 n., 130°9 E H= 11 12 41.2 h ≈ 33 km. Mag=5,6±0.3 /CGS/



## Seism. Station Sarajevo

AUGUST 1963

No	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	REMARKS
			h	m	s		A N	A E		
129	22	e	20	28	12					
130	25	e e e	12	36	47 55 54				USCGS: Fiji Islands region 17.5 S., 178.8 W H= 12 18 12.5 h ≈ 565 km. Mag. 6 $\frac{1}{2}$ /Pas/	
131	29	eP ePP eS e/SS/	09	01	40 23 30 52			41°6 4.610	USCGS: Sinkiong Province, China 39.6 N., 74.2 E H= 08 53 48.4 h ≈ 31 km. Mag 5.5	

SEPTEMBER 1963

132	4	eP e e/S/ e	05	09	48 17 18 15			12°85 1426	USCGS: Near coast of Algeria 36.1 N., 5.3 E h ≈ 38 km. Mag 5,2±0.3
133		e/P/ e eS	13	41	05 58 12			49°8 5,530	USCGS: Near east coast of Baffin Island 71.4 N., 73.3 W h ≈ 33 km. Mag=5.9±0.4 /CGS/

Seism. Station Sarajevo

SEPTEMBER 1963

N <sup>o</sup>	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	REMARKS
			h	m	s		A N	A E		
134	7	e	02	01	15					
135	8	eP	17	06	41				110	Ep. Stolac region Felt in Stolac
		eR <sub>s</sub> P			51					
		iS			53					
		eRiPS			55					
		F			07 57					
136	15	e	01	06	27			134°2	USCGS: Santa Cruz Islands 10.3 S., 165.6 E H= 00 46 54.1 Mag. 7 <sup>1</sup> / <sub>4</sub> -7 <sup>1</sup> / <sub>2</sub> /Pas/	
		ePP			08 51					
		e			09 49					
		e			12 48					
		e			14 33					
		e			20 07					
eL	52 44									
137	17	e	19	19	39			134°2	USCGS: Santa Cruz Islands H= 19 20 08.2 10.1 S., 165.3 E h ≈ 17 km. Mag. 7 <sup>1</sup> / <sub>4</sub> /Pas/	
		e/PP/			42 13					
		e			43 11					
		e			50 38					
		eL			20 32 06					

Seism. Station Sarajevo

SEPTEMBER 1963

N <sup>o</sup>	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	REMARKS
			h	m	s		A N	A E		
138	18	eP	17	00	19					USCGS: Turkey 1 killed and several injured at Istanbul 40.9N., 29.2E H= 16 58 12,5 h = 33 km. Mag 6 <sup>1</sup> / <sub>4</sub> /PAS/
		e			26					
		e			58					
		e			01 17					
		e			45					
		e			02 17					
		e			24					
		e			42					
		Rs $\bar{S}$			53				8 <sup>o</sup> 4 932	
		M <sub>1</sub>		03						
		M <sub>2</sub>		04						
139	19	e	10	44	07					ATHENA: 39 <sup>o</sup> 45' N., 21 <sup>o</sup> 15E
		e			12					
		e			18					
		e			45 32					
140		eP	23	48	44					Greece
		e			54					
		e			49 33					
		e			50 19					
141	24	eP	02	12	43					USCGS: Turkey, Felt in Istanbul 41.0 N., 29.0 E. H= 02 10 44,9 Mag. 4.6±0.3/CGS/ h = 33 km.
		e			13 02					
		eR <sub>s</sub> $\bar{P}$			20					
		e			15 03					
		e			29					
								8 <sup>o</sup> 3 921		
142		e $\bar{P}$	08	40	47					Local
		i $\bar{S}$			49					

Seism. Station Sarajevo

SEPTEMBER 1963

N <sup>o</sup>	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude <i>μ</i>		Distance D km.	REMARKS
			h	m	s		A N	A E		
143	29	e e e	13	39	53 34 39				USCGS: Turkey 36.6N., 29.2E H= 13 35 45,3 h ≈ 33 km. Mag. 4.5 <sup>±</sup> 0.3	
144		eP e eR <sub>s</sub> P <sub>2</sub> S iS	22	18	26 52 36 52			7 <sup>o</sup> 2 800	USCGS: Ionian Sea 36.1N., 18.0E H= 22 16 38,6 h ≈ 47 km. Mag. 5.5 <sup>±</sup> 0.4 /CGS/	

Raport Macro-seismic  
/Bosnia and Hercegovina/



From the ISC collection scanned by SISMOS

Seism. Station Sarajevo

JULY 1963

N <sup>o</sup>	Date	T I M E /GMT/		Locality	Intensitet / Mercalli- Sieberg <sup>o</sup> /	R E M A R K S
		h	m			
1	26	16	00	Trebinje	IV	
AUGUST 1963						
1	1	22	30	Stolac	III	
2	20	21	31	Čitluk /Mostar/	III	
SEPTEMBER 1963						
1	8	17	06	Stolac	IV	

Uređuje: Janković Miloš, Seizmološka stanica, Sarajevo-Grdonj 36.  
Umnoženo u Seizmološkoj stanici u Sarajevu.

Hydrometeorological Institute  
Seismological Station  
SARAJEVO, Grdonj 36  
Yugoslavia

SEISMOLOGICAL BULLETIN

Coordinates:  $43^{\circ} 52,4$  N Lat;  $18^{\circ} 25,7$  E Long  
Height : 725 m.  
Ground : Lime - stone /Trias/

Instruments	Comp.	To sec.	v:l	V	r/2 To	Recording speed mm/min.
Mainka, M=450 kg.	E-W	10,0	3,7	148	0,032	57 - 60
Mainka, M=450 kg.	N-S	10,0	2,8	129	0,037	57 - 60

I Seismographic registrations

OCTOBER 1963

No	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	REMARKS
			h	m	s		A <sub>N</sub>	A <sub>E</sub>		
145	2	e	21	09	07					
		e			34					
		e/S/		10	02					
146	3	e/S/	23	47	18				USCGS: Kyushu, Japan 32,2 N., 131,6 E H=23 24 34,7 Mag. $6\frac{1}{2}$ /Pas/	
		eL	24	17	28					
147	5	e	15	10	54					
148	8	eP	05	42	11			5.2° 578	USCGS: Near Ionian coast of Greece 39,0 N., 20,4 E H=05 40 28,7 h = 33 km. Mag. 4,3 /CGS/	
		eS		43	18					
		eR <sub>s</sub> PS <sub>2</sub>			36					

Seism. Station Sarajevo

OCTOBER 1963

N <sup>o</sup>	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
149	9	e e	21	43 44	09 13					
150	12	e/P/ eS e eL eL	11   12	39 49  13 16	15 23 55 46 42			83° 9.220	USCGS: Kurile Islands 44,8N., 149,0 E H=11 26 57,9 h ≈ 40 km. Mag. 6 $\frac{3}{4}$ -7 /Pas/	
151	13	eP e eS eSKS F	05    09	30  40  03	11 59 22 37			83° 9.220	USCGS: Kurile Islands Felt in Hokkaido and Honshu /Japan/ Seismic sea waves 44,8 N., 148,5 E H=05 17 57,1 h ≈ 60 km. Mag. 8 $\frac{1}{4}$ /Pas/	
152	16	eP ePP e e e/SSS/	15    16	50 52  56 00	37 05 18 52 08			40,4° 4,480	USCGS: Tadzhik SSR 38,6N., 73,4 E H=15 43 00,8 h ≈ 33 km. Mag. 5.9 <sup>+</sup> 0,2 /CGS/	
153	18	eP e e/S/ e	15	30   31	22 44 58 08			300		

- 3 -

## Seism. Station Sarajevo

OCTOBER 1963										
N <sup>o</sup>	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
154	19	eP	01	05	25					
		e		09	08					
		e/S/		15	42					
		e		16	17					
		eL		21	20					
155	29	eP̄	22	41	30					
		iR <sub>1</sub> P̄			33					
		i			38					
		iS̄			44					
		iR <sub>s</sub> P̄ <sub>2</sub> S̄			47					
		eR <sub>1</sub> S̄			51					
		M F		52						
	44		121	S-W from Sarajevo						
NOVEMBER 1963										
156	3	e/P/	14	09	50					
		e		11	29					
		e		12	00					
		e	14	16	01					
		e		30						
		e/S/	14	33	59					
		e		34	21					
e	58									



- 4 -

## Seism. Station Sarajevo

NOVEMBER 1963

No	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	REMARKS
			h	m	s		A N	A E		
157	3	ePn Pg e/S/ e e e e	14	37	17 37 54 19 40 45 16			549	USCGS: Near west coast of Greece 39,2N., 21,1 E., H=14 35 59,4 h ≈ 29 km. Mag. 4,3 /CGS/	
158	4	e i e ePP e i e	01	31	38 04 53 12 04 27 24				USCGS: Banda Sea, Slight damage at Darwin 6,8 S., 129,6 E H=01 17 08,9 h ≈ 80 km.	
159	9	eP e e/PP/ e e/S/ e eL	21	28	01 25 58 38 30 18 27				USCGS: Western Brazil 9,0 S., 71,5 W., H=21 15 30,4 h ≈ 600 km. Mag. $6\frac{3}{4}$ -7 /Pas/	
160	10	ePn e e	18	38	43 58 40			5.5° 610	USCGS: Ionian Sea 37,3 N., 20,9 E H=18 37 18 h ≈ 33 km. Mag. 4,5±0.3 /CGS/	

## Seism. Station Sarajevo

NOVEMBER 1963

No	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
161	15	eP e/S/ eL	21	18 28 51	48 58 53				USCGS: Kurile Islands 44.3N., 149.0 E H= 21 06 34 h ≈ 50 km. Mag. 6.0 /Bks/	
162	17	eP e e ePP e e/S/	00   01	58  59 00 02 06	08 23 46 30 34 31			60° 6.660	USCGS: North Atlantic Ocean 7.6 N., 37.4 W H= 00 48 02,6 h ≈ 33 km. Mag. 6 $\frac{1}{4}$ - 6 $\frac{1}{2}$ /Pas/	
163	18	e e	15	01 22	16 11				USCGS: Gulf of Mexico 29.9 N., 113.6 W. H= 14 38 28.9 h ≈ 14 km. Mag. 6 $\frac{1}{2}$	
164	22	e e/S/ e eRsS M F	20	29 30 31 32 33 43	32 51 00 00 10			10.9° 1.200	USCGS: Southwestern Turkey Felt: Burdur and tefonni 37.3N., 30.1 E H= 20 26 00.2 Mag. 4.4 /CGS/	
165		e e e	21	47 48	11 09 30			10.9° 1.200	USCGS: Southwestern Turkey 37.5 N., 30.0E H= 21 41 31 Mag. 5.1 /CGS/	

## Seism. Station Sarajevo

DECEMBER 1963

N <sup>o</sup>	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
166	2	iPn i iS i M	06	50 51	08 08 16 27 45				3.9° 432	USCGS: Austria 47.9., 16.5 E H= 06 49 08.7 h ≈ 43 km. Mag. 4.5±0.2 /CGS/
167	10	eP <sub>b</sub> e iS e	10	21	03 33 10 27				4.1° 455	
168	15	e e i i e	19	46	49 36 24 42 38					USCGS: Java Sea 4.8S., 108.0 E H= 19 34 45.5 h ≈ 650 km. Mag. 6.4 /CGS/
169	16	iPn i i i/Sn/ i i M <sub>1</sub> M <sub>2</sub> F	13	49	40 01 21 06 24 53 43 36				6.8° 754	USCGS: Ionian Sea 37.1N., 20.9 E H= 13 47 56.4 h ≈ 15 km. Mag. 5.6±0.1 /CGS/
170	18	e/P/ e e i eL	00	49	59 28 43 10 10					USCGS: Tonga Islands Kermadec Islands 24.8 S., 176.6 W. H= 00 30 02.6 h ≈ 46 km. Mag. 6.5±0.3 /CGS/

Seism. Station Sarajevo

DECEMBER 1963										
N <sup>o</sup>	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
171	21	iP̄	09	52	41				66	Foča region
		iRiP̄			45					
		iS̄			49					
		iRiP̄S̄			54					
		F			53 57					

Report Macro-seismic  
 /Bosnia and Hercegovina/

Seism. Station Sarajevo

November 1963

N <sup>o</sup>	Date	T I M E /GMT/		L O C A L I T Y	Intensitet /Mercalli- Sieberg <sup>o</sup> /	R E M A R K S
		h	m			
1	20	17	48	Stolac	III	
2	27	10	23	Stolac	IV	

December 1963

1	31	03	22	Drežnica /Mostar/	IV	
---	----	----	----	----------------------	----	--

Uredjuje: Miloš Janković, Seizmološka stanica Sarajevo

Umnoženo u Seizmološkoj stanici Sarajevo

Hydrometeorological Institute  
 Seismological Station  
 SARAJEVO, Grdonj 36  
 Yugoslavia

## SEISMOLOGICAL BULLETIN

Coordinates: 43° 52,4 N Lat; 18° 25,7 E Long						
Height : 725 m.						
Ground : Lime - stone /Trias/						
Instruments	Comp.	To sec.	v:l	V	r/2 To	Recording speed mm/min.
Mainka, M=450 kg.	E-W	10,0	3,7	148	0,032	57 - 60
Mainka, M=450 kg.	N-S	10,0	2,8	129	0,037	57 - 60

## I Seismographic registrations

OCTOBER 1963

NO	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	REMARKS
			h	m	s		A <sub>N</sub>	A <sub>E</sub>		
145	2	e e e/S/	21	09	07 34 10 02					
146	3	e/S/ eL	23 24	47 17	18 28				USCGS: Kyushu, Japan 32,2 N., 131,6 E H=23 24 34,7 mag. 6½ /Pas/	
147	5	e	15	10	54					
148	8	eP eS eR <sub>s</sub> PS <sub>2</sub>	05	42 43	11 18 36			5.2° 578	USCGS: Near Ionian coast of Greece 39,0 N., 20,4 E H=05 40 28,7 h=33 km. mag. 4,3 /CGS/	

Hydrometeorological Institute  
 Seismological Station  
 SARAJEVO, Grdonj 36  
 Yugoslavia

## SEISMOLOGICAL BULLETIN

Coordinates: $43^{\circ} 52,4$ N Lat; $18^{\circ} 25,7$ E Long						
Height : 725 m.						
Ground : Lime - stone /Trias/						
Instruments	Comp.	To sec.	v:1	V	r/2 To	Recording speed mm/min.
Mainka, M=450 kg.	E-W	10,0	3,7	148	0,032	57 - 60
Mainka, M=450 kg.	N-S	10,0	2,8	129	0,037	57 - 60

## I Seismographic registrations

OCTOBER 1963

N <sup>o</sup>	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	REMARKS
			h	m	s		A <sub>N</sub>	A <sub>E</sub>		
145	2	e e e/S/	21	09	07 34 10 02					
146	3	e/S/ eL	23 24	47 17	18 28				USCGS: Kyushu, Japan 32,2 N., 131,6 E H=23 24 34,7 Mag. $6\frac{1}{2}$ /Pas/	
147	5	e	15	10	54					
148	8	eP eS eR <sub>s</sub> PS <sub>2</sub>	05	42 43	11 18 36			5.2 <sup>o</sup> 578	USCGS: Near Ionian coast of Greece 39,0 N., 20,4 E H=05 40 28,7 h = 33 km. Mag. 4,3 /CGS/	

## Seism. Station Sarajevo

OCTOBER 1963

N <sup>o</sup>	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
149	9	e e	21	43 44	09 13					
150	12	e/P/ eS e eL eL	11  12	39 49 13 16	15 23 55 46 42			83° 9.220	USCGS: Kurile Islands 44,8N., 149,0 E H=11 26 57,9 h ≈ 40 km. Mag. 6 $\frac{3}{4}$ -7 /Pas/	
151	13	eP e eS eSKS F	05  09	30 40 03	11 59 22 37			83° 9.220	USCGS: Kurile Islands Felt in Hokkaido and Honshu /Japan/ Seismic sea waves 44,8 N., 148,5 E H=05 17 57,1 h ≈ 60 km. Mag. 8 $\frac{1}{4}$ /Pas/	
152	16	eP ePP e e e/SSS/	15  16	50 52 56 00	37 05 18 52 08			40,4° 4,480	USCGS: Tadzhik SSR 38,6N., 73,4 E H=15 43 00,8 h ≈ 33 km. Mag. 5.9 <sup>+</sup> 0,2 /CGS/	
153	18	eP e e/S/ e	15	30 31	22 44 58 08			300		



Seism. Station Sarajevo

OCTOBER 1963										
N <sup>o</sup>	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
154	19	eP	01	05	25					USCGS: Kurile Islands Seismic sea Waves 2,0ft Midway Islands; Mag. $6\frac{3}{4}$ -7 /PAS/
		e		09	08					
		e/S/		15	42					
		e		16	17					
		eL		21	20					
155	29	eP	22	41	30				121	S-W from Sarajevo
		iR <sub>1</sub> P			33					
		i			38					
		iS			44					
		iR <sub>s</sub> P <sub>2</sub> S			47					
		eR <sub>1</sub> S			51					
		M		52						
F	44									
NOVEMBER 1963										
156	3	e/P/	14	09	50					
		e		11	29					
		e		12	00					
		e	14	16	01					
		e		30						
		e/S/	14	33	59					
		e		34	21					
e	58									

## Seism. Station Sarajevo

NOVEMBER 1963

No	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	REMARKS
			h	m	s		A N	A E		
157	3	ePn Pg e/S/ e e e e	14	37	17 37 54 38 19 40 45 39 16				549	USCGS: Near west coast of Greece 39,2N., 21,1 E., H=14 35 59,4 h ≈ 29 km. Mag. 4,3 /CGS/
158	4	e i e ePP e i e	01	31	38 04 33 53 36 12 39 04 42 27 43 24					USCGS: Banda Sea, Slight damage at Darwin 6,8 S., 129,6 E H=01 17 08,9 h ≈ 80 km.
159	9	eP e e/PP/ e e/S/ e eL	21	28	01 25 32 58 36 38 37 30 40 18 42 27					USCGS: Western Brazil 9,0 S., 71,5 W., H=21 15 30,4 h ≈ 600 km. Mag. $6\frac{3}{4}$ -7 /Pas/
160	10	ePn e e	18	38	43 58 40 40				5.5° 610	USCGS: Ionian Sea 37,3 N., 20,9 E H=18 37 18 h ≈ 33 km. Mag. 4,5±0.3 /CGS/

Seism. Station Sarajevo

NOVEMBER 1963

No	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	REMARKS
			h	m	s		A N	A E		
161	15	eP e/S/ eL	21	18 28 51	48 58 53				USCGS: Kurile Islands 44.3N., 149.0 E H= 21 06 34 h ≈ 50 km. Mag. 6.0 /Bks/	
162	17	eP e e ePP e e/S/	00   01	58  59 00 02 06	08 23 46 30 34 31			60° 6.660	USCGS: North Atlantic Ocean 7.6 N., 37.4 W H= 00 48 02.6 h ≈ 33 km. Mag. 6 $\frac{1}{4}$ - 6 $\frac{1}{2}$ /Pas/	
163	18	e e	15	01 22	16 11				USCGS: Gulf of Mexico 29.9 N., 113.6 W. H= 14 38 28.9 h ≈ 14 km. Mag. 6 $\frac{1}{2}$	
164	22	e e/S/ e eRs $\bar{S}$ M F	20	29 30 31 32 33 43	32 51 00 00 10			10.9° 1.200	USCGS: Southwest Turkey Felt: Burdur and tefonr 37.3N., 30.1 E H= 20 26 00.2 Mag. 4.4 /CGS/	
165		e e e	21	47 48	11 09 30			10.9° 1.200	USCGS: Southwest Turkey 37.5 N., 30.0E H= 21 41 31 Mag. 5.1 /CGS/	

December 1963

## Seism. Station Sarajevo

No	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
66	2	iPn i iS i M	06	50 51	08 08 16 27 45				USCGS: Austria 37.9., 16.5 E H= 06 49 08.7 h = 43 km. Mag. 4.5±0.2 /CGS/	
67	10	eP <sub>0</sub> e iS e	10	21	2 33 10 27				4.1° 45	
168	15	e e i i e	19	46 50 56	49 36 24 42 38				USCGS: Java Sea 4.8S., 108.0 E H= 19 34 45.5 h = 650 km. Mag. 6.4 /CGS/	
169	16	iPn i i i/Sn/ i i M <sub>1</sub> M <sub>2</sub> F	13	49 50 51 52	40 01 21 06 24 53 43 36				USCGS: Ionian Sea 37.1N., 20.9 E H= 13 47 56.4 h = 15 km. Mag. 5.6±0.1 /CGS/ 6.8° 754	
170	18	e/P/ e e i eL	00	49 50	59 28 43 10 10				USCGS: Tonga Islands Kermadec Islands 24.8 S., 176.6 W. H= 00 30 02.6 h = 46 km. Mag. 6.5±0.3 /CGS/	

Seism. Station Sarajevo

DECEMBER 1963

N <sup>o</sup>	Date	Phase	T I M E /GMT/			Per. sec.	Amplitude		Distance D km.	R E M A R K S
			h	m	s		A N	A E		
171	21	iP̄	09	52	41				66	Foča region
		iRiP̄			45					
		iS̄			49					
		iRiP̄S̄			54					
		F		53	57					

Seism. Station Sarajevo

November 1963

№	Date	T I M E /GMT/		L O C A L I T Y	Intensitet /Mercalli- Sieberg <sup>o</sup> /	R E M A R K S
		h	m			
1	20	17	48	Stolac	III	
2	27	10	23	Stolac	IV	
						December 1963
1	31	03	22	Drežnica /Mostar/	IV	

Uredjuje: Miloš Janković, Seizmološka stanica Sarajevo

čeno u Seizmološkoj stanici Sarajevo