

Helwan Observatory, Egypt

Seismological Bulletin

January 1958



No.	Date	Comp	Phase	G.	M.	T.	Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
1	1	Z	eX eX	13	42 43	50 35				Very Weak
2	2	Z Z Z NE	P PP PPP S	2	10	35.0 43 50 23			1055	
3	2	Z ZN Z	δP eX eX	15	48 49	53 12.5 21				" "
4	3	Z	P	6	34	47.0				" "
5	3	Z	eP	7	00	17				" "
6	3	Z N	eP eX	7	12 22	30 30				" "
7	3	Z Z N	P eX S	17 18	57 58 05	27.0 21.5 43			6720	" "
8	4	Z N	eIP eS	6	50 58	04 24			6820	" "
9	4	Z Z	Pn Sn	7	06 08	57.3 14			733	" "
10	4	Z Z	eP eX	15	34 35	57.4 30				" "
11	4	Z Z	eP eX	23	34	04 12				" "
12	5	Z Z Z	P eX eX	8	19	02 08 25				" "
13	5	Z Z N	eP iX S	11	41 50	29.5 35 15			7310	" "
14	6	Z Z	eX eX	2	01 02	34.0 35				" "
15	6	Z Z	eX eX	8	19	29 43				" "
16	6	Z N Z	iP eX eX	9 10	57 02 03	42.0 21 36				" " Dilatation
17	6	Z Z	eP eX	11	34	03 18				" "
18	7	Z Z Z	P PP PPP	6	11 12 12	50.5 05 10			3780	" " PPP 6 13 18

No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
9	9	Z	eP	17	47	40.0			Confused with microseisms	
0	11	Z	ePKP	13	38	40.2			Very weak	
		Z	iX			49.0				
		Z	iX		39	39				
		Z	iX			50				
		Z	iX		43	23				
1	11	Z	ePn	15	42	26		766	" "	
		Z	eX			30				
		N	eSn		43	46				
2	12	Z	P	15	05	26.6			" "	
		Z	eX		07	42				
3	13	Z	eX	00	19	09			" "	
		Z	eX			40.8				
		N	eX		25	48				
4	13	Z	PKP	3	13	50.0			" "	
		Z	eX		14	05				
		Z	iX		16	21				
		Z	eX		17	17				
		Z	eX			51				
5	13	Z	iP	20	24	35.4			Dilatation	
		Z	eX			48				
6	14	Z	eX	6	14	46.6			Very weak	
		N	eX			55				
		Z	eX		15	10				
7	14	Z	eP	13	37	37.7			" "	
		N	eX		42	45				
8	15	Z	eX	13	20	14			" "	
9	15	Z	PP	19	29	15		12165	h = 100 Km.	
		Z	eX		32	21				
		Z	PP		33	24				
		Z	eX		34	00				
		E	eX		39	24				
		E	eX		40	12				
		N	(1S)		41	06				
		ZZ	PS		42	54				
0	15	Z	ePKP	22	35	10.6		14890	Very weak	
		Z	iX			15				
		Z	PP		37	45				
		Z	eX		40	30				
1	16	Z	eX	2	08	47			" "	
		Z	eX		09	15				
2	16	Z	iP	4	20	49.5			Compression	
		N	eX		22	44				
3	18	Z	eP	15	25	57		8110	Very weak	
		Z	eX		25	06				
		N	eS		35	24				



No.	Date	Comp	Phase	G.	M.	No. s	Par.	Amplitude	Dist.	Remarks
	24	Z	Pn	13	56	21	51.0			
	19	Z	sn	14	21	51			12220	Very weak
	24	Z	eX	18	25	30.7				" "
		Z	eX		26	18				" "
		Z	eX		32	30				" "
	24	N	eX	22	34	46.4			9890	Compression
		Z	PS		35	42			755	
	24	Z	ip	23	30	27.0				
		Z	sn		40	46.6				
		Z	eX		41	53				
		Z	esh		15	06.5				very weak
	25	Z	ip	00	12	16.0				Compression
		Z	iX	18	40	52.08				Very weak
		Z	eX		50	52.7				" "
	22	Z	eX	21	51	33.8				" "
	25	Z	eX	4	43	30				" "
		Z	eX							" "
	23	Z	eip	2	46	35.0				" "
		Z	eX		47	10				" "
		Z	eX			22				" "
	23	Z	eip	13	42	28.8				" "
	23	Z	(apn)	23	55	04				" "
		N	sn		56	18				" "
	24	Z	P	4	45	25.0				" "
		Z	iX			28.5				" "
	24	Z	eip	6	06	36.3			9445	
		Z	PP		09	54				
		N	eS		17	02				
		Z	ePS		18	08				
	24	Z	ip	6	23	42.0				Compression
		Z	(PP)		27	05				very weak
	24	Z	eP	7	00	10.7				" "
		Z	eX			33				" "
	24	Z	if	9	28	39.5			10	Tura Blast
		Z	S			40.8				" "
	24	Z	Pn	15	56	13.0			644	
		Z	sn		57	21				
	24	Z	P	18	16	30.7				Very weak
		N	eX		27	24				" "
	24	Z	P	22	40	46.4				" "
	24	Z	ip	23	30	27.0			9890	Compression
		N	eX		40	48				
		N	S		41	15				
	25	Z	P	00	12	16.0				very weak
		Z	iX			22.8				" "
		Z	eX			32.7				" "
	25	Z	eX	4	43	24				" "
		Z	eX			30				" "



Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
			h.	m.	s.				
25	Z	eX	11	39	20				very weak
	Z	eX			33				
	Z	eX			47				
27	Z	ePn	1	35	45		810		
	E	sn		37	09				
27	Z	eP	8	03	54				" "
	Z	eX		07	41				
28	Z	ePn	3	32	04.5		810		
	N	sn		35	29				
28	Z	eip	17	20	11.8				" "
	N	eX		24	42				
30	Z	PKP	6	53	24		17610 17610		" "
	Z	eX		54	10				
	N	PFS		51	00				
30	Z	ePn	19	15	12		810		
	Z	iX			17				
	Z	sn			16				

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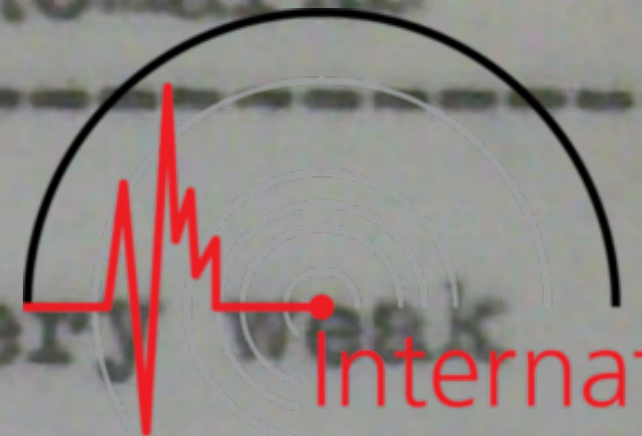
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Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
			h.	m.	s.				
1	Z	eP	16	24	36			11945	
	Z	PP		28	54				
	Z	eX		29	18				
	E	SKS		35	12				
	N	eX		36	42				
	E	PS		38	18				
1	Z	eX	18	20	18.0				Very weak
	Z	eX		21	14				" "
1	Z	eX	19	44	11.5				" "
1	Z	eX	21	03	34				" "
	Z	eX		04	30				" "
	E	eX		10	48				" "
2	Z	eIP	8	24	40.5			9555	" "
	Z	eX			54.3				" "
	N	eS		35	14				" "
3	Z	ePn	00	45	30			533	" "
	Z	eX			42.5				" "
	Z	eSn		46	27				" "
3	Z	eP	19	31	54			2480	" "
	Z	iX		34	09				" "
	ENZ	eS		35	56				" "
6	Z	eP	16	19	46				" "
	Z	eX		20	00				" "
7	Z	iP	00	43	19.0				Dilatation
	Z	eX			29				" "
7	Z	eIP	7	12	21.8				" "
	eX	eX			37.0				" "
7	Z	iP	23	33	51.0			6835	Compression
	Z	iX			57				" "
	Z	PP		36	15				" "
	Z	PPP		37	40				" "
	N	S		42	12				" "
9	Z	iPg	1	00	57.0				Compression
	Z	eX		01	27				Very weak
9	Z	eIP	9	40	21.8				" "
	Z	iX			32.6				" "
	Z	iX		41	44				" "
9	Z	eIPn	21	54	46			422	" "
	Z	eSn		55	32				" "
	Z	iSg			51				" "
9	Z	eP	22	41	54.5			9335	" "
	Z	eX		42	10				" "
	N	eS		52	18				" "

No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
16	11	Z	eX	00	58	56.5			Very weak	
		Z	eX		59	19				
17	12	Z	iP	18	27	49.0			Dilatation	
		Z	eX		28	50			Very weak	
18	12	Z	iPg	19	40	29.0		122	Compression	
		Z	SG			44.3				
19	12	Z	iP	23	44	23.7			Dilatation	
									Very weak	
20	12	Z	eP	23	57	12.0			" "	
		N	SKS	24	07	46				
21	13	EN	eP	10	27	51.5		2220	" "	
		Z	iX			55.0				
		N	eS		31	32				
22	13	Z	eX	16	37	26			" "	
		Z	eX			40			(local tremor)	
		Z	eX		38	08				
23	14	Z	eX	11	04	34			" "	
		Z	eX		05	37				
24	15	Z	eX	00	00	50			" "	
		Z	eX		01	04				
		Z	eX			39				
25	15	Z	eip	1	59	25.0		9555	Very weak	
		Z	eX			37				
		N	S	2	10	00				
		N	eX			26				
26	16	Z	eip	6	16	50.0		9555	" "	
		Z	eX		17	04				
		Z	FP		20	12				
27	16	Z	eP	16	33	00			" "	
		Z	eX			26				
		Z	eX		34	58				
28	17	Z	P	5	25	06.0		3555	h = 200 Km.	
		Z	PP			45				
		N	iS		30	04				
		N	iX		31	24				
		N	iX		32	36				
29	17	Z	iPg	23	33	16.2			Compression	
		Z	eX			30				
		Z	eX			38				
30	18	Z	PKP	13	41	13		17110	Very weak	
		Z	eX		42	24				
		Z	FP		45	12				
		Z	eX		43	24				
31	18	Z	iPg	14	00	50.8			Dilatation	
		Z	iX			53			(Tura Blast)	
32	18	Z	eX	19	35	11.0			Very weak	
		Z	eX		36	07				



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No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
3	18	Z	iP	20	00	51.0		8780	Dilatation	
		Z	eX		01	21				
		N	S		10	51				
		N	eX		11	20				
4	19	Z	eip	10	40	13.0			Very weak	
5	19	Z	iP	19	37	45.0		8965	Compression	
		Z	eX		38	24			Very weak	
		Z	eX		41	15				
		N	S		47	52				
6	20	Z	eP	4	09	50			" "	
		Z	eX		10	20				
7	20	Z	eP	4	50	42			" "	
		Z	eX		51	10				
8	22	Z	iP	11	03	55.7		10780	Dilatation	
		NZ	PP		07	54				
		Z	eX		11	45				
		N	SKS		14	36				
		NZ	PS		16	42				
9	23	Z	eip	10	18	30.5			Very weak	
		Z	eX			40				
10	23	Z	iP	11	01	06.0			Dilatation	
		Z	eX			21				
11	23	Z	iPg	14	01	41.0			"	
		Z	iX			42			(Tura Blast)	
		Z	iX			43				
12	24	Z	iP	12	36	39.0		6110	Compression	
		Z	eX		37	36				
		N	S		44	21				
		Z	eX			51				
13	25	Z	eP	18	12	58			Very weak	
		Z	eX		13	13				
14	26	Z	eip	17	03	31			" "	
15	27	Z	eip	23	39	58.4		8800	" "	
		Z	iX		40	10				
		N	S		49	58				
16	28	Z	eip	10	05	41.0			" "	
		Z	eX		06	42				
		Z	eX		09	15				



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No.	Date	Comp	Phase	G. M. T. Per.				Amplitude	Dist.	Remarks
				h.	m.	s.	s.			
1	1	Z NR	eP iS	9	31 55	30.0 25		2565	Confused with microseisms	
2	2	Z	eIP	10	50	29			Very weak	
3	2	Z NZ Z	eX iX iX	23	34	34.0 44 49			Local tremor	
4	3	Z	eIP	7	34	50.3			Very weak	
5	3	Z Z Z Z	eP eX eX eX	13	53	11 24 45 13			" "	
6	3	Z Z Z	iP eX FP	16	31 32 34	03.0 39 24		9610	Compression	
7	3	Z Z	eIP eX	17	45	34.0 44			Very weak	
8	4	Z Z na	iPn iX iSn	11	33 34 35	59.0 05 12.3		688	Compression	
9	4	Z Z	eX eX	18	01	08 25			Very weak	
10	6	Z Z N Z	eP PFP S SSS	5	43	31.5 46 16 43		1032		
11	6	Z N NZ	iPn iX sn	8	16	05.0 21.5 07.5		588	Dilatation	
12	7	Z N N	eP eS M	8	42 46 50	04 30 52		2755	Very weak	
13	8	Z N	PG SG	13	58	53.4 54.6		10	(Tura Blast)	
14	9	Z Z Z Z	ePKP eX PKKP eX	10	42	18.5 32 49 10		17000	Very weak	
15	9	Z Z NZ Z	eX eX iX iX	15	17	38 54 18 37 34.5			" "	
16	10	Z Z	eX iX	6	12 13	35 12.5			" "	
17	11	Z EZ E	iP eX eX	00	38 41	05.0 24 30		8890	Compression	

No.	Date	comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
7	11	con. NE N	isKS PPS	00	48 49	17 12				
8	11	Z Z	ipg eX	13	45	45.0 47.7			Local Tremor	
9	11	Z Z Z Z	eP eX iX iX	14	18	28.0 39 14 17			Very weak	
0	13	Z Z	eX eX	6	17	00 13			" "	
1	13	Z NE	ePn Sn	17	41 42	47.0 33	422		Confused with microseisms	
2	14	Z Z Z Z NE E	eP eX eX eX S eX	00	02 03 12	04.0 57 22 20 52 37 54	9555		" " "	
3	15	Z Z Z Z N N	eP iX iX iX S eX	00	36	13.0 18 26 53 12 29	8760		Very weak	
4	15	Z Z Z Z Z N N	eip eX eX eS eX eX eX	6	30	20 26 39 32 39 33 12 31 40 30 36	1365		" " Probably two shocks	
5	18	Z	eP	17	33	37.0			Very weak	
6	19	Z Z Z	eip eX eX	16	08	39.7 43.5 15			" "	
7	19	Z Z	eip eX	21	50 51	59.6 17.5			" "	
8	20	Z Z N N NZ	eip PP SKS eX PS	1 2	51 02 03 04	38.0 36 14 03 29	10760			
9	22	Z Z Z N N	eip eX PoP S eX	10	21	06.0 22 06 45 18	6090		" "	
0	22	Z Z Z Z E	eP eX PP (SS) eX	11	14 15 21	07.0 29 12 05 30	3555			

No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
31	22	Z	eX	12	04	07			Very weak	
		Z	eX			44				
		Z	eX		05	15				
32	23	Z	Pn	15	57	41.0		677	Confused with microseisms	
		E	ep*		58	04				
		NE	isn			54.8				
33	24	E	eX	17	25	18			Very weak	
		N	eX			54				
		Z	eX		26	17				
34	25	Z	ep	22	41	53			" "	
		Z	eX		42	06				
		Z	eX		43	45				
35	26	Z	ep	02	02	17.0			" "	
		Z	eX			43				
		Z	eX			51				
36	26	Z	ep	00	38	36.7			" "	
		Z	eX		39	03				
37	26	Z	epg	11	59	58.0		10	(Tura Blast)	
		NZ	sg			59.4				
38	26	Z	eX	22	56	08			Confused with microseisms	
		Z	eX			36				
		Z	eX		57	19				
		Z	iX			30.8				
		Z	iX			50				
39	28	Z	eIP	4	15	57.4			Very weak	
		Z	eX		16	46.8				
		Z	eX		17	17.0				
		Z	iX		18	31				
40	28	Z	eX	5	43	40			" "	
		Z	eX			52				
41	28	Z	iP	12	12	49.0		5720	Compression h = 200 Km.	
		Z	PP		13	28				
		Z	PP		14	08				
		Z	eX		15	06				
		N	(S)		18	00				
		N	(SS)		19	12				
42	29	Z	ep	3	03	27.0			Very weak	
		Z	eX		04	24				
		Z	eX		05	26				
43	29	Z	eX	7	21	36			" "	
		Z	eX		23	45				
		Z	eX		24	05				
44	30	Z	epn	20	00	02.5		766	" "	
		NE	esn		01	22				
45	31	Z	eX	4	07	16			" "	
		Z	eX		09	38				
		Z	eX		10	11				
46	31	Z	ipg	11	59	41.6		10	Dilatation Tura Blast	
		N	sg			43.0				
47	31	Z	ep	16	49	37		1445		
		N	S		50	07				
		N	SS			23				



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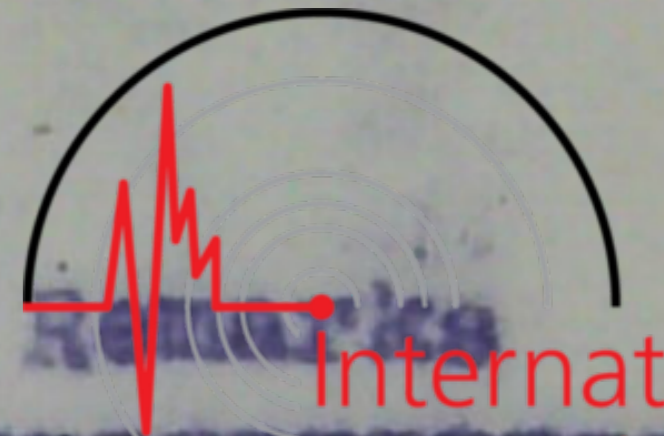
April 1958

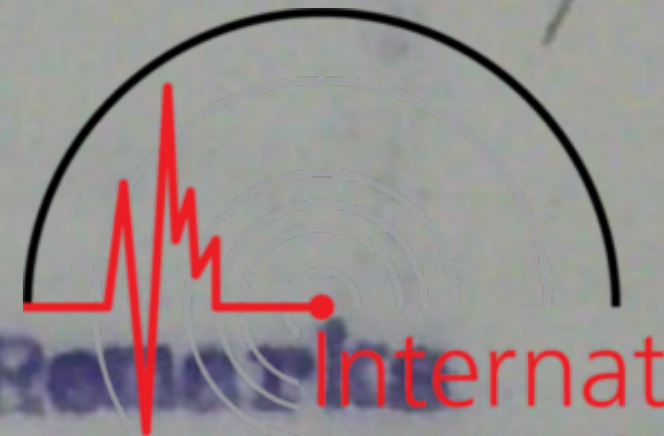
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No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
1	1	Z	eX	5	09	46			Confused with m microseisms	
		Z	eX			52				
		Z	eX		10	17				
2	1	Z	eX	22	18	11.0			Local tremor Very weak	
		N	iX			13				
3	2	Z	eX	00	07	57.8			" "	
		Z	eX		08	05				
4	2	Z	eX	4	44	30			" "	
		N	eX		45	13				
		E	eX			24				
5	3	Z	eP	2	27	03		1500	" "	
		N	S		29	36				
		N	SS			51				
		N	eX		30	10				
6	3	Z	oipn	7	20	04.0		667	" "	
		N	sn		21	14				
7	4	Z	iP	2	14	39.6			Compression Very weak	
		Z	iX		16	47				
8	4	Z	eX	7	35	46			" "	
		Z	eX			56				
9	4	Z	eX	9	22	17			" "	
		Z	eK			41				
10	4	Z	eX	10	00	44			" "	
		Z	eX		01	23.5				
11	4	Z	iP	15	30	43.0			Dilatation	
		Z	iX		32	04				
		Z	iX			07				
12	4	Z	eX	22	15	58			Very weak	
		Z	eX		17	03				
		NZ	iX			24				
		N	iX			34				
13	5	Z	eX	8	41	51			" "	
		Z	eX			59				
		Z	(SG)		42	02				
		Z	eX			12				
14	5	Z	ePn	12	26	32		610	" "	
		Z	eT			41				
		Z	Sn		27	37				
		Z	eX			48				
15	6	NZ	eX	1	47	50			" "	
		Z	eX		49	05				
		Z	eX			43				
16	7	Z	iPg	00	36	27.8		167	" "	
		NE	SG			57.0				

No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
17	7	Z	ePn	3	15	18.6		545	Very weak	
		Z	eX			20.7				
		Z	eX			39.7				
		NE	sn		16	25				
18	7	Z	eip	15	43	14.0		9290		
		Z	eX			24.5				
		N	PP		46	27				
		NE	S		53	36				
19	7	Z	eip	18	17	50.0		9585	Confused with the preceding shock	
		Z	PP		21	15				
		N	eS		28	25				
		N	PS		29	32				
20	7	Z	eip	18	43	00			" " " "	
		Z	eX		46	24				
		Z	eX		51	05				
21	7	Z	eip	19	22	47.0			" " " "	
		N	eX		30	24				
22	8	Z	eip	00	26	51.2			Very weak	
		Z	eX		30	09				
23	8	Z	eip	10	05	42.2		3555	" "	
		Z	eX		06	34				
		Z	PP			49				
		N	SS		12	42				
		N	eX		14	48				
24	8	Z	eip	13	41	06.6			" "	
		Z	ix			20.0				
25	9	Z	eip	4	40	45.4		2110	" "	
		Z	eX		42	30				
		NE	S		44	12				
		E	SS			36				
		E	eX		45	48				
		E	eX		46	30				
26	9	Z	eip	6	28	53.0			" "	
		Z	eX			38				
		Z	eX			44				
27	10	Z	eip	1	16	09.4			" "	
28	10	Z	eP	11	04	57.0			" "	
		Z	eX		05	08				
		Z	eX			22				
29	10	Z	eX	11	37	57			" "	
		Z	eX		38	40				
30	10	Z	eip	12	02	51.4			" "	
		Z	eX		03	04				
31	10	Z	eipKP	10	29	52.8			" "	
		Z	ix		30	06				
32	11	Z	eip	1	10	59.0			" "	
		Z	eX		11	18				





No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
33	11	Z	iP	23	24	02.0		9665	Compression	
		Z	FP		27	27				
		Z	eX		28	00				
		NE	eX		34	12				
		NE	SKS			28				
		NE	eX		35	12				
34	12	NE	eX	12	22	21			Very weak	
35	12	Z	iP	13	37	43.0		9045	Compression	
		Z	eX			55				
		Z	eX		39	35				
		Z	PP		40	54				
		N	S		47	52				
		N	iX		48	18				
36	13	Z	eP	9	19	57.8			Very weak	
		N	(eS)		30	24				
37	13	Z	ipn	12	02	59.0		390	Not felt	
		Z	iX		03	31				
		NE	sn			41				
38	13	Z	eip	12	41	52.0		9665		
		Z	PP		45	15				
		NE	S		52	30				
39	14	Z	eip	3	02	30.0			Very weak	
		Z	eX			40.6				
40	14	Z	eip	18	21	35.0			" "	
41	14	Z	eP	21	46	54		12055		
		ZE	FP		51	15				
		E	SKS		57	32				
		N	eX		59	00				
42	14	Z	ePg	21	56	55.0		67	Not felt	
		E	isg		57	03				
43	15	Z	eP	1	45	21		9665	Very weak	
		Z	PP		49	47				
		E	SKS		55	48				
44	15	Z	eX	4	11	27.0			" "	
		Z	eX			42				
		Z	eX		13	42				
		E	eX		20	48				
		Z	eX		21	04				
45	15	Z	eP	6	17	51			" "	
		Z	eX		18	51				
		E	eX		21	32				
46	15	NE	eX	8	03	27			" "	
		N	eX			48				
47	15	Z	eip	10	12	08.0			" "	
		Z	eK			24				
		Z	eK			55				
48	15	Z	eK	22	36	44.6			" "	
		Z	eX		37	24				



No.	date	comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
49	16	Z	eip	12	48	34.8			Very weak	
		Z	eX		49	19				
50	17	Z	ipg	2	43	21.8		56	Not felt	
		NE	sg			28.0				
51	18	Z	eX	7	50	59.4			Very weak	
		Z	iX		51	12				
52	18	Z	ePn	8	12	16.4		667	Confused with microseisms	
		NE	sn		13	26				
53	18	Z	eX	8	52	52.8			" " "	
		ZE	eX		53	37				
		ZE	eX			46				
54	19	Z	eP	18	33	43.0		667	Very weak	
		Z	eX		34	06				
		NE	esn			54				
55	21	Z	eX	5	44	04.0			" "	
56	21	ZNE	eX	19	33	53.0			" "	
57	21	Z	ePKP	20	34	43.5			" "	
		Z	eX		38	20				
58	21	Z	eip	22	49	15.0		8245		
		Z	eX			52				
		E	eX		55	06				
		NE	is		58	48				
		NE	SKS		59	18				
59	22	Z	eipn	10	04	25.8		710		
		N	P*			40				
		E	sn		05	41				
60	23	Z	eP	3	10	35.9		9720		
		Z	eX			41				
		EH	SKS		21	00				
		Z	S			16				
61	23	Z	ePn	7	57	43.5		411	" "	
		Z	eX			51.5				
		NE	sn		28	28				
62	23	Z	eX	15	31	34.3			" "	
		Z	eX		32	24				
63	24	Z	ePn	8	02	35		810	" "	
		Z	eX			44.8				
		Z	eX		03	43.5				
		NE	sn		04	00				
64	24	Z	ePn	9	16	26.0		810	" "	
		NE	sn		17	51				
		N	eX		18	23				
65	25	Z	eP	17	47	29.5		910	Confused with microseisms	
		Z	PPP			44				
		E	eX		48	11				
		ZNE	S		49	05.5				
66	26	Z	iBg	14	00	00.0		10	Dilatation	
		NE	sg			01.3			(Tura Blast)	

No.	Date	Comp	Phase	G.	M.	T.	Per.	Amplitude	Dist.	Remarks
				h.	m.	s.	s.		Km.	
17	28	Z	ePP	12	06	45.0			12220	Very weak
		Z	eX		07	12				
		E	SKS		12	48				
		E	SKKS		15	42				
		E	M		52	03				
18	30	Z	eX	14	04	50.0				" "
19	30	Z	eIP	14	15	24.0				" "
		N	eS		21	18				

No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Intensity
				h.	m.	s.				
15	12	Z	ePn	14	19	45		710		
		Z	eX		20	06.6				
		N	Sn		21	00				
16	12	Z	eiP	17	02	50.4			Very weak	
17	14	Z	eX	12	46	07			" "	
		Z	eX			13				
18	15	Z	iX	00	10	27.0			" "	
		Z	eX			39				
19	15	Z	eiP	4	38	18.7			" "	
20	15	Z	eiPKP	5	00	48			" "	
21	15	Z	eX	14	49	10			" "	
		Z	eX		51	46				
22	15	Z	eX	18	58	37			" "	
		Z	eX			40.6				
23	16	Z	eiX	16	29	42.0			" "	
24	16	Z	eX	18	37	37			" "	
		Z	eX			45				
		Z	eX			57				
		N	eX		42	47				
25	17	Z	eP	5	29	45		2000		
		Z	eX		30	05				
		N	eS		33	15				
		N	iX		35	43				
26	17	Z	eX	6	57	45			" "	
		Z	eX		58	54				
		Z	eX		59	34				
27	17	Z	eX	8	00	09			" "	
		Z	eX			16				
28	18	Z	eiPKP	2	52	15.0		15000	" "	
		EZ	PP		54	54				
		E	PKS		55	57				
29	18	Z	eiPKP	12	40	40.0		15000	" "	
		EZ	PP		43	20				
		Z	eX		44	12				
30	19	EN	eP	7	58	42			" "	
		EN	eX	8	01	02				
		E	eX			27				
31	19	E	eX	18	23	06			" "	
32	19	E	eX	19	58	19			" "	
33	21	Z	eX	10	15	37			" "	
		Z	eX			43				
		Z	eX			55				
34	22	Z	eX	16	59	20			" "	
		Z	eX			28				
		Z	eX			54				
35	22	Z	eX	19	58	19			" "	
		Z	eX		59	44				
		Z	eX	20	00	00				
36	23	Z	eX	19	50	55			" "	
		NEZ	eX		52	09				
		Z	eX			39				
37	24	Z	eX	22	20	39			" "	
		Z	eX			49				
		Z	eX		22	13				
		Z	eX		23	09				

No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	
				h.	m.	s.				
38	24	Z	eX	22	27	54				Very weak
		N	eX		28	22				
		N	eX		29	13				
		Z	eX		30	15				
39	24	Z	e1P	23	58	23.6		2555		
		Z	eX			29.8				
		Z	eX		59	06				
		N	S	24	02	30				
40	25	Z	e1P	2	58	36.0		2555		
		Z	eX			49				
		Z	eX		59	48				
		N	iS	3	02	42				
41	25	Z	eP	4	38	29		2555		
		Z	eX			37				
		N	S		42	36				
42	25	Z	e1P	15	07	57.0		10445	" "	
		N	SKS		18	30				
		N	SKKS			46				
43	25	Z	ePKP	21	29	46		12110	h = 100 Km.	
		Z	PP		30	36				
		Z	eX		31	09				
		Z	eX		33	00				
		E	SKS		36	48				
		E	eX		37	42				
		E	M	22	14	30				
44	27	Z	iPn	18	29	36.0		788	Compression	
		NE	iSn		30	58				
45	28	Z	ePn	17	59	28		744	Very weak	
		NE	eSn	18	00	48				
46	29	Z	eP	8	45	06.0		1145		
		Z	eX			18				
		NE	eS		47	02				
		NE	eX			19				
47	30	Z	ePn	13	36	49.4		700		
		NE	Sn		38	02				
48	30	Z	iP	16	23	34.8		8555	Compression	
		Z	eX		24	03				
		E	S		33	24				
		E	eX		34	12				
49	30	Z	eP	18	18	19		10665		
		Z	1X			24				
		NE	SKS		29	00				
		N	SKKS			12				
		N	IS		31	00				
50	30	Z	1X	21	44	47.8			Very weak	
		Z	eX		47	08				
51	31	Z	eX	3	53	56			" "	
		Z	eX		54	15				
52	31	Z	PKP	19	51	58.0		15500		
		Z	PP		55	00				
		Z	IS	20	05	21				

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No.	Date	Comp	Phase	G.	M.	T.	Per.	Amplitude	Dist.	Remarks
				h.	m.	s.	s.		Km.	
1	1	Z	eX	10	01	08.8				Very weak
		Z	eX		02	07				
		N	(Sn)		03	22				
		NE	eX			33				
2	2	Z	eP	6	13	35.5			2610	
		Z	PP		14	08				
		Z	eX		15	10				
		N	S		17	51				
		NE	eX		18	07				
3	2	Z	eX	13	26	59				" "
		Z	eX		27	10				
		Z	eX			24				
4	2	Z	eX	14	54	11.5				" "
		Z	eX			17				
		N	eX	15	02	55				
		Z	eX		03	04				
		N	M		22					
5	3	Z	ePn	8	03	02			600	
		Z	P*			10				
		E	Sn		04	05				
6	3	Z	ePKP	19	51	18			15335	
		Z	PP		54	09				
		E	PKS			56				
7	4	Z	eX	13	11	52				" "
		N	eX		12	53				
8	4	Z	eiP	14	43	21.7			10665	
		N	SKS		53	57				
		N	iX		54	12				
		N	PS		56	02				
9	4	Z	eX	19	42	02				" "
		E	eX			43				
		N	eX		43	06				
10	5	Z	eiP	13	32	27.0			1235	
		Z	eX			49.6				
		Z	eX		33	05				
		EN	eS		34	33				
		E	eX			43				
11	6	Z	ePKP	9	29	30			12220	" "
		Z	PP		30	05				
		Z	eX			20				
		E	PS		39	30				
12	6	Z	eX	19	33	25			12110	" "
		Z	PP		34	20				
		E	eX		40	40				
		N	eS		42	10				
13	7	Z	ePn	6	46	58			778	
		NE	Sn		48	19				
14	8	Z	eP	00	51	57			10055	
		N	S	01	02	56				

No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
5	8	Z	eP	21	20	08			Very weak	
		Z	eX			30				
		N	M		46					
6	9	Z	ePn	17	26	24.5		500	Not felt	
		Z	P*			33				
		N	Sn		27	19				
7	10	Z	eP	7	08	05		1920		
		Z	PP			20				
		Z	iX			50				
		N	S		11	18				
		E	iX			30				
		E	iX			54				
8	10	Z	eX	8	32	18			Very weak	
		Z	eX		35	09				
		Z	eX			39				
9	10	N	eX	20	14	16			" "	
		N	eX		15	15				
0	12	Z	eP	21	06	30		10665		
		Z	eX		07	08				
		Z	eX		09	48				
		N	PP		10	24				
		N	SKS		17	06				
		N	PS		19	12				
1	14	Z	eP	10	41	59		890	" "	
		Z	eX		42	19				
		NE	eS		43	32				
		N	SS			44				
2	14	Z	ePn	16	40	36.5		445	" "	
		Z	eP*			45				
		N	Sn		41	24				
3	15	ZN	(Sn)	13	47	40			" "	
4	15	Z	iPKP	15	13	22.5		17000	Dilatation h = 600 Km.	
		Z	iX			29				
		Z	iX			39				
		Z	pPKP		15	41				
		Z	PP		17	22				
		Z	eX		22	19				
		E	eX		23	06				
		Z	eX		26	35				
5	16	Z	iPn	2	02	16.0		700	Compression	
		NE	Sn		03	30				
6	16	Z	ePKP	8	33	05.0			Very weak	
		Z	eX			36				
		Z	eX		35	18				
		Z	eX		36	09				
7	17	Z	eX	16	59	26			" "	
		Z	eX	17	00	03				
		Z	eX		03	20				
8	18	Z	eiP	1	23	41.0		5335		
		Z	PP		25	32				
		E	S		30	42				
9	18	Z	eX	13	53	36			" "	
		Z	eX		54	05				

No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
30	19	Z	1P	5	30	46.0		9780	Dilatation Very weak	
		Z	eX		32	24				
		Z	eX		33	30				
		N	eSKS		41	06				
		N	S			30				
		N	PS		42	30				
31	21	NEZ	Sn	12	40	00			" "	
32	22	Z	eX	17	53	34			" "	
		Z	eX			50				
		Z	eX		54	09				
33	23	Z	e1P	5	19	46.0		6280		
		Z	eX		20	04				
		NE	S		27	36				
34	23	Z	1X	19	36	29.9			" "	
		Z	1X			39.8				
35	24	Z	1P	00	21	39.9			Dilatation	
		Z	eX			56				
36	24	Z	eX	4	00	47.0			Very weak	
		N	eX		06	29				
37	24	Z	eP	4	55	56.9			" "	
		Z	eX		56	03				
		Z	eX			33.5				
		NE	eX	5	02	00				
38	24	Z	eX	6	55	22			" "	
		Z	eX		56	52				
		S	eX	7	15	24				
39	25	Z	1P	1	18	27.0		2245	Compression	
		Z	eX			36				
		Z	eX		19	45				
		NE	S		22	09				
		N	1X		24	24				
40	25	Z	eX	2	43	51.5			Very weak	
41	25	Z	ePa	8	13	07		845	" "	
		NE	Sn		14	35				
		N	eX			52				
42	25	Z	eP	9	51	21		12555		
		Z	eX		55	12				
		ENZ	PP		56	00				
		E	SKKS	10	02	52				
		E	eX		03	06				
		N	S			36				
		E	PS		05	28				
43	26	Z	1P	4	50	47.2		9335	Dilatation	
		Z	(PP)		51	06			h ≠ 100 Km.	
		Z	(eP)			21				
		Z	eX		54	36				
		NE	S	5	00	58				
		NE	PS		02	00				
44	26	Z	1X	7	51	43.2			Very weak	
45	28	Z	eX	17	10	14			" "	
		Z	eX			24				

No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
16	29	Z NE	eIn Sn	7	54 55	16.0 22		622	Very weak	
17	29	Z Z Z	eP eX eX	9	34 38	33 57 33			" "	
18	30	Z NE	iIn Sn	8	44 45	27.0 42		710	Dilatation Felt in Upper Egypt & Cairo Direction about 40° W of N.	
19	30	Z Z NE NE	eIP ePP SKS S	18	39 42 49 50	21.2 54 52 17		10110		

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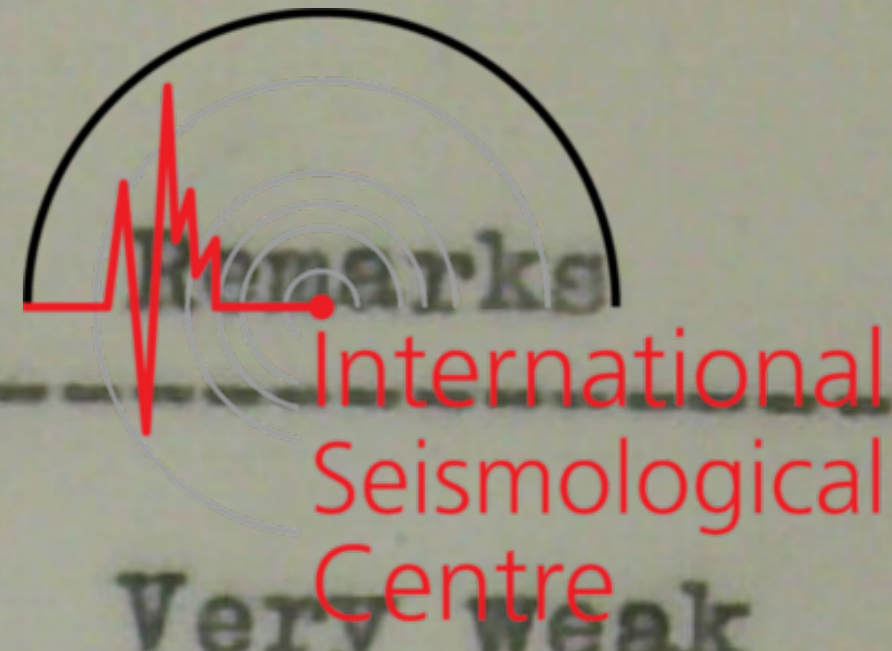
No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	M.	s.				
1	1	Z	e1P	6	06	32.0	s.	10445	Very weak	
		Z	eX			57				
		N	SKS		17	05				
		N	eX		19	21				
2	2	Z	1P	00	57	14.9			Compression	
3	2	Z	e1P	5	07	20.4			Very weak	
4	2	Z	eP	22	17	56.5		4000	h = 100 Km.	
		Z	eX		19	31				
		N	S		23	30				
		N	(sS)		24	06				
5	3	Z	eP	5	55	11.0		6465	Very weak	
		Z	eX			18.5				
		Z	eX		57	45				
		NE	S	6	03	12				
		NE	eX		09	39				
6	3	Z	ePKP	6	46	53.5		17220	" "	
		Z	1X		47	15			h = 400 Km.	
		Z	pPKP		48	31				
7	3	Z	1PKP	10	42	55.8			Dilatation	
		Z	eX		43	13			Very weak	
		Z	eX			28				
		Z	eX			54				
	4	Z	eX	00	39	44.0			" "	
		Z	eX			49.4				
9	4	Z	eP	18	47	07.0		10000	" "	
		E	eS		57	59				
		E	1X		58	21				
		E	eX		59	30				
10	5	Z	eX	2	09	34.0			" "	
		Z	eX			49				
		Z	eX		10	22				
11	5	Z	ePn	23	05	35.0		400	" "	
		Z	eX			45				
		N	Sn		06	19				
		N	eX			38				
		N	eX			57				
12	6	Z	Pg	9	40	12.0			Tura Blast	
13	8	Z	1P	5	08	03.6			Compression	
14	8	Z	e1P	23	00	09.0		8220	Very weak	
		Z	eX		01	26				
		NE	S		09	42				
15	9	Z	eX	1	19	40			" "	
		Z	eX			50				
16	9	Z	ePn	10	43	04.0		778		
		NE	eSn		44	25				
17	10	Z	ePn	00	23	03		644		
		Z	eX			14				
		NE	Sn		24	11				
18	10	Z	e1P	6	29	03.0		10110		
		ZN	PP		32	40				
		E	SKS		39	38				
		E	S			59				

No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
9	10	Z	eP	15	09	24.0		7110	Very weak	
		Z	eX			55				
		NE	eS		18	00				
		N	M		32					
0	11	Z	eX	7	21	52.3			" "	
1	11	Z	ePKP	19	29	11.0		13220	" "	
		Z	eX			27				
		Z	eX			45				
		NE	M	20	16					
2	12	Z	eX	1	11	18			" "	
3	13	Z	eiPn	20	50	53.0			" "	
4	14	Z	ePn	1	43	35.0		788		
		NE	Sn		44	58				
5	14	Z	iPg	10	31	03.9	Dil.		Tura Blast	
6	15	Z	eiPn	7	06	27.0		377		
		E	Sn		07	08				
7	15	Z	eiPn	8	01	25.0		889		
		E	P*			44.7				
		E	Sn		02	57				
8	16	Z	eX	10	44	52			(Near)	
		NEZ	iX		45	52				
		E	eX		46	05				
		E	iX			12				
9	16	Z	ePKP	13	14	12.4			Very weak	
		NE	M	14	15					
0	16	Z	eiPn	18	14	50		611		
		Z	eX			55				
		NE	Sn		15	55				
1	17	Z	iP	5	40	08.0		1290	Compression	
		N	iS		42	28.6				
2	17	Z	eX	19	15	40			Very weak	
3	17	Z	eiP	21	12	49.0		10500		
		Z	eX		13	02				
		N	SKS		23	24				
		N	S			39				
4	18	Z	eP	00	52	46		10780	" "	
		Z	eX			55			h = 100 Km.	
		Z	pP		53	13				
		N	iX	1	03	34				
		N	S		04	02				
5	18	Z	iP	21	50	13.0		9000	Dilatation	
		Z	pP			49			h = 150 Km.	
		N	S	22	00	03				
		E	sS		01	06				
6	19	Z	eP	18	30	27		10780		
		Z	eX			38				
		Z	eX		33	30				
		Z	PP		34	25				
		E	SKS		41	06				
		E	S			48				
		E	PS		43	12				
		E	PPS			54				

No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
7	21	Z	iP	7	37	43.0		9780	Compression	
		Z	eX			53				
		Z	eX		38	09				
		N	SKS		48	12				
		N	S			25				
		N	PS		49	30				
8	21	Z	iP	14	50	41.7		10220	Compression	
		Z	ePP		54	30				
		N	SKS	15	01	12				
		N	SKKS			26				
		N	PPS		03	30				
9	23	Z	eiP	10	40	23.5		10000		
		Z	PP		44	00				
		E	SKS		50	58				
		Z	eS		51	15				
		Z	RS		52	24				
0	26	Z	eiP	6	25	08.4			Very weak	
		Z	eX			20				
		N	M		56					
1	26	Z	eiP	8	55	17.0			" "	
		Z	eX			25				
2	26	Z	eiP	15	57	08.0			" "	
		Z	eX	16	02	54				
		E	M		06					
3	26	Z	eiP	17	50	22.6		12000	h = 650 Km.	
		Z	pP		52	42				
		Z	eX			54				
		Z	eX		53	36				
		Z	PP		54	00				
		E	iSKS	18	00	06				
		N	iS		01	33				
4	26	Z	ePn	18	47	37		644	Conf. with the preceding shock	
		NE	eSn		48	45				
5	27	Z	iP	00	41	25.0			Dilatation	
		Z	eX			36.8			Very weak	
		Z	iX		43	41				
6	27	Z	eiPn	14	50	48.0		667		
		Z	eX		51	10				
		N	Sn			38				
7	27	Z	iP	17	29	46.0			Dilatation	
		NE	eX		38	30			Very weak	
		NE	eX			42				
8	28	Z	iP	17	43	42.2			Dilatation	
		Z	iX			54.4			Very weak	
		Z	eX		45	47				
9	28	Z	eX	18	48	35.0			" "	
		Z	eX			40.5				
0	29	Z	eX	11	09	24.4			" "	
		Z	eX			36.8				
		Z	eX			51				
1	29	Z	eP	20	10	16			" "	
		N	eX		11	15				
		N	eX			45				
		N	eX		12	06				
		N	eX			20				
52	29	Z	iP	21	47	36.0		6720	Compression	
		Z	PcP		48	23				
		Z	eX		50	09				
		NE	eS		55	52				



No.	Date	Comp	Phase	G.	M.	T.	Per.	Amplitude	Dist	Remarks
				h.	m.	s.	s.		Km.	
53	30	Z E	eiP (S)	3	00 10	02 36			9555	Very weak
54	30	Z	eP	15	30	06.0				" "



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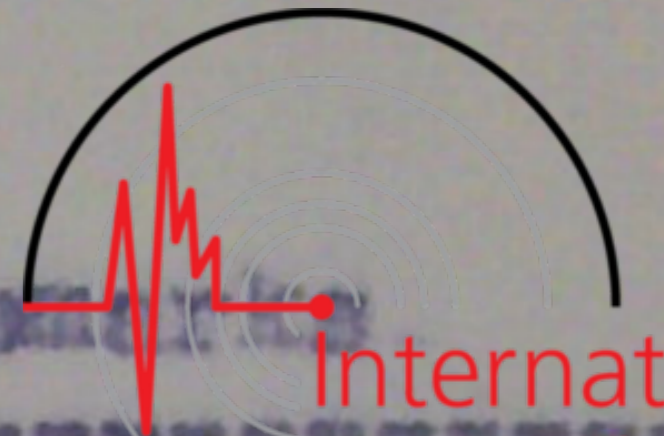
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No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist. Km.	Remarks
				h.	m.	s.				
1	1	Z	eX	1	17	17			Very weak	
		Z	eX			34				
2	1	Z	iP	15	41	08.0		9055	Dilatation	
		Z	PP		42	38			h = 400 Km.	
		NR	S		50	45				
3	2	Z	eP	1	16	07.0		1180		
		Z	eX			14.5				
		Z	eX			21.5				
		NR	S		18	09				
		N	eX			30				
4	2	NE	iX	2	10	50			Very weak	
5	2	Z	iP	3	10	11.0		944	Dilatation	
		Z	PP			34.5				
		N	S		11	48				
6	2	Z	eX	4	47	08.0			Very weak	
		N	eX		49	44				
7	3	Z	eip	1	37	41.0				
		Z	eX		38	14				
		Z	eX		42	12				
		Z	eX			42				
8	3	Z	ipn	3	00	39.0		689	Dilatation	
		Z	P*			58.5				
		NR	SN		08	11.6				
9	3	Z	eip	3	54	02		6190		
		E	PP		57	18				
		E	iS	4	01	48				
10	3	Z	iP	8	23	02.5		9355	Compression	
		Z	eX			20				
		Z	PP		26	21				
		NE	S		33	24				
		E	eX			54				
		N	eX		34	12				
11	4	Z	iP	00	04	48.4		810	Dilatation	
		E	P*		05	06				
		E	SN		06	12				
		Z	SS		07	00				
12	4	Z	eip	2	52	50.0		778		
		E	(SN)		54	11				
		N	eX			18				
13	4	Z	ePn	6	09	18.0		889		
		N	SN		10	50				
14	4	Z	eX	22	11	06		12890		
		Z	PP		13	30				
		NE	PS		20	39				
		E	iX		21	42				
		E	(SS)		27	10				

No.	date	comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
15	7	Z	eK	3	30	31				Very weak
		Z	eK			37				
		N	eK		25	05				
		N	eK			26				
16	8	Z	iP	5	58	17.0				Compression
		Z	iX			31				Very weak
		Z	eK			54				
		Z	eK		45	21				
		E	(S)		49	12				
17	9	Z	pn	00	21	30.0		444		" "
		Z	eK			39				
		N	sn		22	18				
18	10	Z	eiP	3	53	12.0		1760		
		Z	eK			20				
		ZNE	S		56	10				
		NE	eK		57	58				
		E	eK		58	30				
19	10	NE	(sn)	8	06	10				" "
20	11	Z	ep	13	14	52		10110		" "
		Z	FP		18	30				
		E	eK		26	06				
21	12	NL	eK	6	01	00				" "
22	12	Z	eK	21	27	12				" "
		Z	eK			48				
23	14	Z	iP	14	32	23.3		7335		Dilatation
		Z	eK			48				
		Z	FP		34	47				
		Z	PPP		35	24				
		Ns	S		41	10				
24	14	Z	eiPFP	21	40	59.0				Very weak
		Z	eK		41	06				
25	15	Z	iP	19	57	33.0		10000		Compression
		Z	iX			37				h = 650 Km.
		Z	PP		59	54				
		Z	eK	20	01	06				
		NE	iK		06	57				
		NE	iX		07	18				
		N	SS		11	36				
		N	eK		13	35				
26	16	Z	ep	14	27	49.4		2835		Very weak
		Z	FP		28	27				
		E	eS		32	16				
27	16	Z	ipn	18	53	07.5		289		Compression
		N	ign			40				Not felt
28	17	Z	ep	2	40	3372				Very weak
		N	eK		42	31				
29	17	Z	iP	9	29	37.4				Dilatation
		NE	SS			38.0				Tura Blast



No.	date	comp	Phase	C. M. T.			Per.	amplitude	Dist.	Remarks
				h.	m.	s.				
0	17	Z	eip	12	36	45.5			Very weak	
		Z	eK			58				
1	18	Z	eP	14	52	25.0		7325	" "	
		Z	eK			45				
		N	S	15	01	15				
		N	SSS		08	26				
		NE	M		17					
2	19	Z	eK	20	51	03			" "	
		Z	eK		52	21				
3	20	Z	eK	10	45	22			" "	
		Z	eK			31.8				
4	20	Z	ePKP	17	28	22.6		13835	" "	
		Z	eK			33				
		Z	iK		29	48.6				
		E	eS		40	06				
5	21	Z	eK	13	12	20.0			" "	
		Z	iK		21	15				
6	21	Z	ePKP	13	48	51		17780	" "	
		Z	PKKP		49	52			h = 150 Km.	
		Z	eK		52	33				
		Z	FP		53	21				
7	21	Z	eip	16	21	51			Very weak	
		Z	iK		23	04				
		ZNE	eK		26	24				
8	22	Z	eipPKP	19	25	27.0		17110	" "	
		Z	iK			46				
		Z	iK		26	00				
		E	SKKS		36	24				
9	23	ZNE	eK	2	16	55			Local tremor	
0	23	ZNE	eK	2	21	27			" "	
1	23	Z	PG	9	30	21.3		22	Not felt	
		NE	SS			23.8				
2	24	Z	eP	3	57	30		10445		
		Z	iK			39				
		Z	iK			54				
		N	SKS	4	08	10				
		N	S			39				
3	24	Z	eipN	9	05	03.0			Very weak	
		NE	eK		06	26				
		E	eK			42				
4	25	Z	eip	7	31	11.0		7720		
		Z	iK		33	38				
		N	S		40	18				
		N	iK		44	30				
		N	iK		48	24				
5	25	Z	eP	7	59	18			Confused with the preceding shock	
6	25	Z	ePn	8	33	10		355	Very weak	
		N	(SN)			50				



No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
17	25	Z NE	epn sn	13	08 09	13 17		600		
18	26	Z Z	eip ek	7	26 31	27.0 21			Very weak	
19	26	Z Z	ep ek	23	53 54	41 10			" "	
20	27	Z Z Z	eip ix ek	14	14	47.0 59 30			" "	
21	28	Z Z Z Z	ek ek ix ix	12	44	33 45 45 09			" "	
22	29	E E	ix ek	10	57	18.0 37			Local tremor	
23	30	Z Z Z	ep ek ek	8	50	40.0 05 24			Very weak	
24	30	Z	ipg	9	30	21.7			Dilatation Tura Blast	

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No.	date	comp	phase	G.	M.	T.	Per.	Amplitude	Dist.	Remarks
				h.	m.	s.			Km.	
1	1	Z	ePKP	9	48	54			14445	very weak
		Z	PP		51	12				
		Z	eX		52	10				
		NE	SS	10	08	28				
2	2	Z	eP	4	38	52			10610	" "
		Z	ePP		42	38				
		E	eS		50	12				
3		Z	eX	15	14	02.5				" "
4	3	Z	iP	00	45	34.8		compression		" "
		N	eX		55	42				
5	3	Z	eX	11	37	37.8				" "
		Z	eX			44				
6	4	Z	ePn	2	44	55.7			788	
		NE	S _n		46	18				
		N	eX			30				
		N	S*			40				
7	4	NE	eX	10	45	28.0				" "
8	6	Z	eIPKP	1	06	43.0				" "
		Z	iX			50				
		Z	iX		07	05				
8	6	Z	eX	7	27	59				" "
9	6	Z	eX	9	30	11				" "
		Z	eX			17				
10	6	Z	iP	9	34	04.0			2335	compression
		N	S		37	54				
		E	iX		38	04				
		N	(SS)			14				
11	6	Z	eIP	19	05	22.2				Very weak
		Z	iX			36.4				
12	7	Z	eIPKP	12	51	33.0			13335	" "
		Z	ePP		52	54				
		E	SKS		58	30				
		E	PS	13	02	45				
13	8	Z	eX	3	32	54				" "
		Z	eX		33	14				
		Z	eX		38	20				
14	9	Z	eIPG	10	00	36.5			67	" "
		N	SG			44.4				Not felt
15	9	NZ	iPG	10	29	56.0				Tura Blast
			iX			58.5				
16	9	Z	eP	11	34	08			11390	
		Z	ePP		38	06				
		N	SKS		44	42 42				
		N	S		45	50				
17	9	Z	iPn	13	33	36.4			710	
		NE	S _n		34	52				

No.	date	comp	phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
18	10	Z	ep	8	43	00		9445	Very weak	
		Z	ex			18				
		N	S		53	30				
		N	ex			50				
19	11	Z	ip	2	13	20.0			compression	
		Z	ex			33				
20	11	Z	epn	5	27	58.0		644	Very weak	
		Z	ex		28	17				
		E	sn		29	06				
21	12	Z	epn	6	37	46		355	Not felt	
		NE	sn		38	25				
22	12	Z	epn	13	13	13		677		
		N	esn		14	24				
23	12	Z	ip	15	30	32.0		8890	dilatation h = 250 km.	
		Z	pp		31	33				
		Z	sp		32	00				
		Z	ppp		34	38				
		E	ex		40	30				
		E	ex		42	06				
24	13	Z	ex	9	05	24.5			Very weak	
25	19	Z	ex	2	12	10.0			" "	
		Z	ex			20				
		Z	ix		14	21				
		Z	ex		18	00				
26	19	Z	ePKP	12	02	39.0			" "	
		Z	ex			48				
		Z	ex		03	03				
27	20	Z	ip	1	25	19.0		9665	compression	
		Z	pp		28	44				
		N	SKS		35	48				
		E	is			57				
28	21	Z	epn	10	24	59.0		510		
		Z	ex		25	24				
		N	sn			54				
		N	ix		26	12				
29	21	Z	eip	15	53	28.8			Very weak	
30	22	Z	ipg	9	59	34.8			dilatation (Tura Blast)	
31	22	Z	epn	13	03	06.5		533		
		N	sn		04	03				
		N	ex			21				
32	23	Z	ep	00	02	14			Very weak	
		Z	ex		05	42				
33	23	N	ex	6	46	32			" "	
		N	ex		47	08				
34	23	Z	ip	15	46	05.0		1420	dilatation	
		Z	ix		47	09				
		Z	ix			52				
		Z	S		48	51				
35	23	Z	ipn	21	46	41.5		778	compression	
		NE	esn		48	02				
36	24	NEZ	ex	23	32	36.0			local tremor	
		Z	ex			51				
37	26	Z	eip	2	30	07.0		9335	Very weak	
		E	ix		31	08				
		E	es		40	30				
38	26	Z	eip	12	43	44.4			" "	

No.	date	comp	phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
38	26	Z	eip	12	43	44.4			very weak	
		Z	ix			58				
		NZ	ex		47	51				
39	26	Z	epn	16	28	46.0			" "	
		N	ex		29	07				
40	27	ENZ	ex	10	15	32			" "	
		Z	ex			44				
		Z	ex			52				
41	27	Z	ex	22	26	52			" "	
		N	ex		30	15				
42	28	Z	ip	10	54	53.0		5055	dilatation	
		Z	pp		56	40				
		NE	S	11	01	36				
		NZ	ix			59				
		N	M		15	15				
43	28	Z	ep	20	58	38.0			very weak	
44	29	Z	ep	7	57	32.0		10445		
		Z	pp	8	01	20				
		N	SES		08	03				
		N	PS		10	03				
45	30	Z	ep	7	59	22.8			" "	
46	31	Z	ep	23	51	25.3		8610	" "	
		Z	ex			51				
		E	S	24	01	16				

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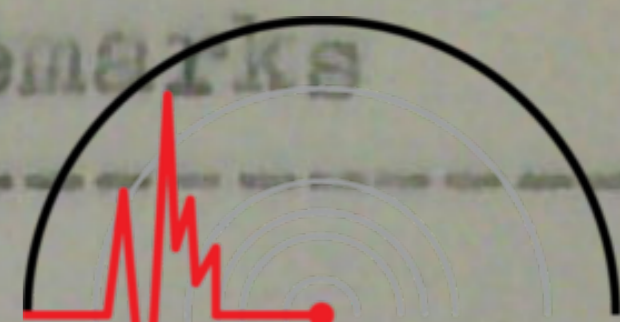
No.	date	comp	phase	G. M. T.			per.	Amplitude	Dist. Km.	Remarks
				h.	m.	s.				
1	1	Z	eX	3	54	02			Very weak	
		Z	eX		57	47				
		ZE	(PP)		58	42				
		Z	eX	4	00	27				
		Z	eX		02	06				
2	1	Z	iPKP	12	36	06.0		15390	dilatation	
		Z	PP		39	00				
		ZE	PKS			39				
		E	ePS		49	18				
		N	SS		57	11				
3	1	Z	eP	16	09	42.0		15390	Very weak	
		Z	PP		12	39				
		Z	PKS		13	19				
		Z	iX			48				
4	1	Z	eX	23	39	15			" "	
		NE	iX		40	30				
5	2	Z	eip	9	18	43.0		2165	" "	
		E	S		22	18				
6	2	Z	eip	10	07	24.8			" "	
7	3	Z	iP	14	39	59.8			dilatation	
		Z	iX		40	02.5				
8	4	NE	M	5	22				Very weak	
9	4	Z	eX	8	41	33			" "	
		Z	eX		44	06				
10	4	Z	eipPKP	23	14	31.9			" "	
		Z	eX		15	30				
		Z	eX		16	09				
		Z	eX		18	39				
11	6	Z	epn	14	49	48		466		
		N	sn		50	38				
		N	iX			55				
12	6	Z	epn	14	55	45		477		
		Z	iX			57				
		N	sn		56	37				
		N	iX			54				
13	6	Z	epn	21	15	48		677		
		N	eX		16	08				
		N	sn			59				
14	6	Z	iP	23	10	49.8		9110	compression	
		N	S		20	48			h = 100 Km.	
15	7	Z	eX	00	49	00			Very weak	
16	7	Z	eX	1	55	44			" "	
17	7	Z	eX	2	08	25			" "	
18	7	Z	eX	3	03	38			" "	
19	7	Z	eX	5	12	40.5			" "	
20	7	Z	eip	7	53	23.0		9555	" "	
		E	eS	8	03	57				
21	7	Z	eX	10	42	17			" "	
22	7	Z	eip	11	37	09.0		9665	" "	
		N	eS		47	48				
23	7	Z	eip	20	29	16			" "	

No.	date	comp	phase	G. M. T.			per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
24	8	Z E	ip es	9	35 46	40.8 30		9945	compression	
25	8	Z Z	ex ix	19	46 47	47 03			Very weak	
26	9	Z	ep	3	27	35.5			" "	
27	10	ZNE NE	ex sn	14	58 59	15 16			" "	
28	12	Z N Z N	ip SKS S PS	20	36 46 47	14.8 32 52 56		9665	compression	
29	13	Z E N	ep es ex	3	09 19 20	15 52 09			Very weak	
30	13	Z Z N NZ Z	ip ex es ex PS	4	17 20 27 28	23.0 36 57 10 56		9555	compression	
31	13	Z Z	ip ex	16	26 27	45.2 12.8			Dilatation Very weak	
32	13	Z	ex	23	25	00			" "	
33	13	Z Z Z	ep ex ex	23	32 36 38	17.4 00 33			" "	
34	14	Z Z N	ip ix es	5	47 58	40.8 54.5 17		9665	dilatation	
35	14	Z Z Z E E	ep ex PP (SKS) PS	14	02 05 06 12 15	20.0 18 29 50 26		11110		
36	14	Z Z	ex ex	16	06 18	12 09			Very weak	
37	15	Z Z NE	eip ex is	5	45 47	21.0 41 14		1110		
38	15	Z Z NE	ip ix SKS	9	13 14 24	32.6 05 00		9665	dilatation	
39	16	Z NE	eipn sn	4	44 45	15.6 39		700		
40	16	Z NE	eipn sn	5	22 23	29.0 52.8		700		
41	16	Z E	ex ex	10	38 40	44 08			Very weak	
42	16	Z E	ex ex	15	46 58	50 36			" "	
43	16	Z Z Z	epKP ex (PP)	18	04 05 08	54 20 52		17000	" "	
44	16	Z	ix	20	34	05.0			" "	
45	17	Z NE	epn ix	3	17	02 40			" "	
46	17	NEZ	ex	9	51	44			" "	



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No.	date	comp	phase	G. M. T.			per	Amplitude	Dist.	Remarks
				h.	m.	s.				
47	17	Z NE	ePg Sg	12	09 10	49.7 11		178	Not felt	
48	17	Z NE	Pn Sn	23	46 47	55.0 54		556		
49	19	Z	iX	4	13	51.0			very weak	
50	19	Z N	eP S	9	36 47	34.0 12		9665		
51	19	Z NE	eiPg Sg	10	00	15.4 16.8		10	Tura Blast	
52	19	Z Z	iP iX	15	15	13.0 33			Dilatation	
53	20	Z Z	eP eX	5	49	20 46			very weak	
54	20	Z N	eiP S	14	30 41	46.0 24		9665	" "	
55	22	Z E	eP eX	00	17 29	15.0 00			" "	
56	23	Z	eX	8	11	55			" "	
57	23	Z	eX	13	10	19			" "	
58	23	Z ZE Z Z	eP eX eX iX	18	31 34 36 38	21.0 20 27 03			" "	
59	30	Z E	eP PPS	1	45 56	15.0 38		9110	" "	
60	30	Z NE	iPg Sg	19	54	28.0 34.7		60	Compression Not felt	



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No.	Date	Comp	Phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
1	2	ZE	ex	4	05	49.5			Very weak	
2	2	E	ex	6	18	29			" "	
		E	ix			36			" "	
3	2	Z	ex	23	09	23			" "	
		Z	ex		10	05			" "	
		E	ex		11	22			" "	
4	3	Z	ex	00	41	17			" "	
		E	ex		43	20			" "	
		E	ix			31			" "	
5	3	Z	eip	10	00	41.0		8890	" "	
		Z	ix		01	10			" "	
		Z	ex		03	30			" "	
		E	S		10	46			" "	
6	4	Z	ex	00	38	17			" "	
		E	ex		39	13			" "	
		E	ix			19			" "	
7	4	Z	eip	10	31	13.0		2890	" "	
		Z	ex			45			" "	
		E	S		35	42			" "	
8	5	Z	ep _n	20	37	37.0		556	" "	
		E	S _n		38	36			" "	
		E	ix			41			" "	
9	5	E	ex	22	14	30			" "	
		E	ix			37			" "	
10	8	Z	epn	8	40	12		545	" "	
		Z	P*			22			" "	
		E	S _n		41	10			" "	
		E	ix			15			" "	
		N	S*			25			" "	
11	8	Z	eip	12	21	11		9555	" "	
		Z	ex			27			" "	
		N	S		31	45			" "	
12	9	Z	ip _n	8	56	25.6		710	" "	
		Z	ix			59			" "	
		NE	sn		57	41			" "	
13	9	Z	epn	20	38	28		556	" "	
		NE	sn		39	27			" "	
14	9	Z	eipn	20	42	57.5		556	" "	
		NE	isn		43	57.0			" "	
15	10	Z	ep	2	50	17.0			" "	
		E	ex		51	10			" "	
16	10	Z	eipKP	7	22	13.0		16665	h = 300 km.	
		Z	ex			42			" "	
		Z	PPKP		23	30			" "	
		Z	PP		25	57			" "	
		Z	PPP		27	06			" "	
		NE	ix		36	18			" "	
		NE	ix		37	24			" "	
		N	(SS)		44	48			" "	
17	10	ZE	ix	21	38	26.0			Very weak	
		ZE	ex			40.8			" "	
18	11	Z	epn	3	06	22		577	" "	
		NE	sn		07	23			" "	

No.	date	comp	phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
19	11	NE E E	ix ex ix	9 10	59 00 01	48.0 08 10			very weak	
20	14	Z	eipKP	7	31	12.0			" "	
21	16	Z E	pn sn	14	18 19	41.6 45	588		" "	
22	16	E	ix	17	35	54.8			" "	
23	17	Z	ep	15	46	33			" "	
24	18	Z Z NE E	ep pp s ix	7	38 41 44	02 25 48 50	2310		" "	
25	18	Z Z	epKP ex	19	43 44	50 21			" "	
26	18	Z NE	eipn isn	23	08 09	06.8 12.8	622			
27	19	Z N E	ipn sn s*	3	29 30 31	26.0 51 18	810		compression	
28	19	Z Z	ex ex	11	20 21	58 07			very weak	
29	19	Z E	epn esn	17	25 26	25.6 50	810		" "	
30	19	Z	ex	18	49	50.9			" "	
31	19	NEZ	ex	23	05	12			" "	
32	20	Z E	epn sn	1	04 05	13.8 12	556			
33	20	Z N NE	pn ix sn	6	42 43	26 50 19	490			
34	20	Z	ex	19	33	02			" "	
35	21	Z N N Z E	eip ex (s) ex ex	4	22 26 29 30 32	54.0 38 36 06 30			" "	
36	21	Z Z NE	ip pp is	5 6	54 56 00	18.0 00 36	4620		dilatation	
37	22	Z Z NE	eipn p* sn	3	17 18	29.0 42 36	635			
38	22	Z Z	ipg sg	10	00	32.6 34	10		Tura Blast	
39	23	Z E	epn esn	20	39 40	50 48	545		Very weak	
40	23	Z Z NE	epn p* esn	23	37 38	09.8 21 09	556			
41	24	Z Z E	ipn ix sn	7	18 19	35.0 41.5 34.4	556		compression	



No.	date	comp	phase	G. M. T.			Per.	Amplitude	Dist.	Remarks
				h.	m.	s.				
42	25	Z	eipKP	8	24	25.4		13110	Very weak	
		Z	ix			35				
		Z	PP		25	42				
		Z	ex		28	24				
43	25	Z	ep	18	38	02		2445		
		Z	ex			15				
		NEZ	S		42	00				
		E	ix		44	51				
44	25	Z	epn	21	07	44		566		
		NE	sn		08	44				
45	28	Z	ip	5	42	32.5		4610	compression	
		Z	PP		44	10				
		NE	ig		48	48				
46	28	N	ex	20	19	19			" "	
47	29	Z	epn	00	16	59		922		
		Z	ex		17	20				
		N	esn		18	35				
48	29	Z	eip	22	49	33.2		7890	h = 150 km.	
		Z	ipp		50	08.7				
		Z	ex		51	09				
		N	S		58	28				
		N	SS		59	29				
49	30	NEZ	ix	6	56	21.8			Local tremor	
50	30	Z	eipKP	8	57	34.5			Very weak	
51	30	Z	eipn	16	20	24		556		
		NE	sn		21	22				
		E	S*			38				
52	30	Z	eipn	16	55	57.6		778		
		NE	sn		57	19				
53	31	Z	eipKP	2	05	07.6			" "	
		Z	ix			21				
		Z	(ppKP)		06	43				
		Z	ix		08	54				
54	31	Z	eip	3	53	08.6			" "	
		Z	ex	4	02	45				