

NOAA

SEISMOLOGICAL REPORT

for

I. G. Y.

Jan., 1958

Seismological Observatory.

Tôhoku University.

Sendai, Japan.

Station: Seismological Observatory, (Mukaiyama Observatory),
Tôhoku University, Sendai, Japan.

Longitude: 140° 51' 30" E.

Latitude: 38° 14' 32" N.

Elevation: 128 m.

Foundation: Sandstone.

Instrument:

No	Name	Comp- onent	Vmax	T ₁ sec	T ₂ sec	h ₁	h ₂	f mm	^	Date of Cali- bration
1.	Wiechert Seismo- graph (200 Kg)	EW	125	3.8		0.55		0.30		30th, Jan., 1958
2.	"	NS	117	3.8		0.57		0.27		"
3.	" (1,200 Kg)	UD	100	3.8		0.58		0.19		"
4.	Long-period Elec- tromagnetic Seis- mograph	EW	132	22.4	26.8	1.2	1.1		0.0	"
5.	"	NS	132	22.8	41.8	1.1	1.0		0.0	"
6.	Short-period Electromagnetic Seismograph	EW	8,500*	1.0	1.2	2.0	1.0		0.0	16th, Sept. 1957
7.	"	NS	9,000*	1.0	1.2	2.0	1.1		0.0	"
8.	"	UD	8,200*	1.0	1.3	2.0	1.0		0.0	"

Vmax: Maximum magnification.
 T₁ : Period of pendulum.
 T₂ : Period of Galvanometer.
 h₁ : Damping constant of pendulum.
 h₂ : Damping constant of galvanometer.
 f : Solid friction.
 ^ : Coupling factor.
 * : Magnification for the amplitude read on
 microfilm-reader (magnification 8.4).

Serial No.	Date	Phase	Time			Period	Amplitude			Instrument	Remarks	
			G.M.T.				N	E	Z			Δ ca
			h	m	s							
157											No trace	
158	4th	ePE	08	12	03.0	0.6		+0.9		40°	6	
		iPN			03.2	0.5	-1.1				7	
		iPZ			02.7	0.5			+1.5		8	
		iSE	17	32	32.4	8.8		-0.8			4	
		iSN			31.8	9.8	-1.2				5	
159	5th	ePE	11	35	57.6	2.1		+0.2		23°	1	
		ePN			52.4	0.8	+0.6				7	
		ePZ			47.6	1.4			+1.4		8	
		iSE	39	54	54.8	3.1		+0.4			4	
		eSN			52.9	9.4	+0.8				5	
		eXE	41	33	33.5	35.5		+2.9			4	
		eXN			38.1	3.5	+2.8				7	
		iXZ			24.8	2.1			+1.3		8	
		iXN	42	37	37.0	3.4	+0.4				2	
		iLN	44	43	43.7	16.0	-2.2				5	
		iLN	45	42	42.3	16.0	+5.0				5	
160	9th	ePZ	11	21	53.4	1.2			+0.6	44°	8	
		eXZ	22	02	02.2	0.9			-0.2		8	
161	11th	ePE	13	30	21.1			+0.8		73°	6	
		ePZ			20.4	0.8			+0.7		8	
		ePPZ	32	02	02.4	1.8			+0.4		8	
162	13th	ePE	03	04	03.4	1.7	+0.1			55°	1	
		iPZ			00.4	1.9			-0.7		8	
		iXE	06	40	40.7	1.5		-1.0			6	
		eXN			39.4	2.3	+1.0				7	
		eXN	12	58	58.5	10.4	+0.7				5	
163	13th	ePE	20	23	29.0	1.4		-1.2		51°	6	
		ePN			29.1	1.2	-0.1				2	
		iPZ			28.4	1.3			+2.6		8	
164												No trace
165	15th	ePKPN	19	33	58.7	1.4	-0.1			145°	2	
		ePKPZ			58.9	0.9			-1.0		8	
		ePPE	37	25	25.0	30.4		+1.3			4	
		iPPN			24.1	43.1	-1.6				5	
		eXE	55	26	26.0	43.0		+1.2			4	
		iXN			26.2	34.1	-1.9				5	

Serial No.	Date	Phase	Time			Period	Amplitude			Δ ca	Instru- ment	Remarks
			G ₀ M ₀ T ₀				N	E	Z			
			h	m	s		sec	mm	mm			
166	15th	ePZ	22	25	35.2	1.4			+1.3	57°	8	
		eXE		26	04.2	3.8		+0.2			1	
		eXN			05.1	1.8	+0.2				2	
		eXZ			06.9	3.5			+0.3		3	
167											No trace	
168	17th	ePE	04	21	56.1	0.8		-1.1		41°	6	
		ePN			58.1	1.6	-0.1				2	
		ePZ			53.9	0.6			-0.7		8	
169											No trace	
170											No trace	
171	19th	eXZ	14	26	23.9	1.9			+0.3	126°	8	PKP
		eXE			36.5	0.4		+0.6			6	
		eXN			39.3	0.8	+0.9				7	
		iXZ			37.5	1.1			+1.3		8	
		ePFE	28	30.3	4.8			-0.4			4	
		ePPN		30.6	5.3		-0.2				5	
		iPPZ		28.1	4.7				-0.2		3	
		iSSE	45	11.9	25.1			-5.5			4	
		eSSN		19.8	18.0		-1.8				5	
		iXE	50	31.3	25.3			-3.9			4	
		iXN		30.7	32.6		-3.9				5	
		iLE		55.9	22.6			-5.3			4	
		iLN		56.2	22.0		-5.1				5	
		iLE	15	03.5	19.9			+3.5			4	
iLN		03.4	21.8		-4.5				5			
172	19th	eXE	15	02	37.					126°	6	PKP
		eXZ			27.4	1.2			-0.4		8	PKP
		eXZ	05	32.7	2.4				-0.4		8	
173	20th	ePKPN	02	39	49.9	2.1	-1.0			153°	7	
		ePKPZ			50.5	1.1			+1.3		8	
		eXZ	40	01.1	1.2				-1.6		8	
		eXN	40	11.6	0.9		+1.6				7	
		eXZ		11.6	1.4				-1.5		8	
174	22nd	ePN	18	33	51.7	0.7	+1.3			23°	7	
		ePZ			50.9	0.7			+0.3		8	
		iXE	34	02.1	2.8			+0.3			1	
		iXZ		01.1	0.7				-1.0		8	
		iLE	40	34.2	28.5			+1.7			4	
		iLN		25.3	38.8		+2.5				5	

Serial No.	Date	Phase	Time			Period	Amplitude			Instrument	Remarks	
			M.T.				N	E	Z			Δ
			h	m	s	sec	mm	mm	mm			
175	23rd	iPE	02	35	53.7	0.4		-1.8		7.5°	6	
		iPN			52.6	0.4	+1.1				7	
		iPZ			52.0	0.5			-1.9		8	
		iSE	37	06.1	3.3		-2.1				4	
		iSN		06.1	3.3		+2.2				5	
		iSZ		07.3	2.5				+4.6		3	
176	24th	ePN	05	59	07.7	3.9	-0.3			24°	4	
		ePZ			08.8	3.0			+1.2		8	
		eXE			11.5	1.8		+0.1			6	
		eXN			11.0	4.7	-0.4				2	
		iXZ			10.8	1.5			+4.1		8	
		eSE	06	03	25.1	18.1		+1.7			4	
		eSN			21.8	12.4		+2.2			5	
		iLE	13	34.0	20.9		-2.3				4	
		eLN		19.	19.4		-2.9				5	
177	24th	ePE	23	25	54.5	2.2		+1.2		47°	6	
		ePN			55.9	2.1	-1.4				7	
		ePZ			54.1	3.1			-1.0		8	
		iXN	26	06.8	1.8		+2.9				6	
		iXZ		05.8	2.5		-0.1				3	
178											No trace	
179											No trace	
180	30th	ePZ	06	22	01.7	1.4			-0.2	48°	8	
		iXE		23	26.1	2.1		-1.0			6	
		iXN			26.0	2.2	-1.1				7	
		iXZ			21.6	1.6			+1.1		8	
		iXE		29	00.5	18.5		+2.1			4	
		eXN			04.0	19.5	-1.0				5	
		eXE	06	32	51.	15.1		+0.7			4	
		eXN			48.	19.0	+1.7				5	
		eLE		34	07.	26.9		-2.3			4	
		eLN		33	57.	25.9	+2.5				5	



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Longitude: 140° 51' 30" E.

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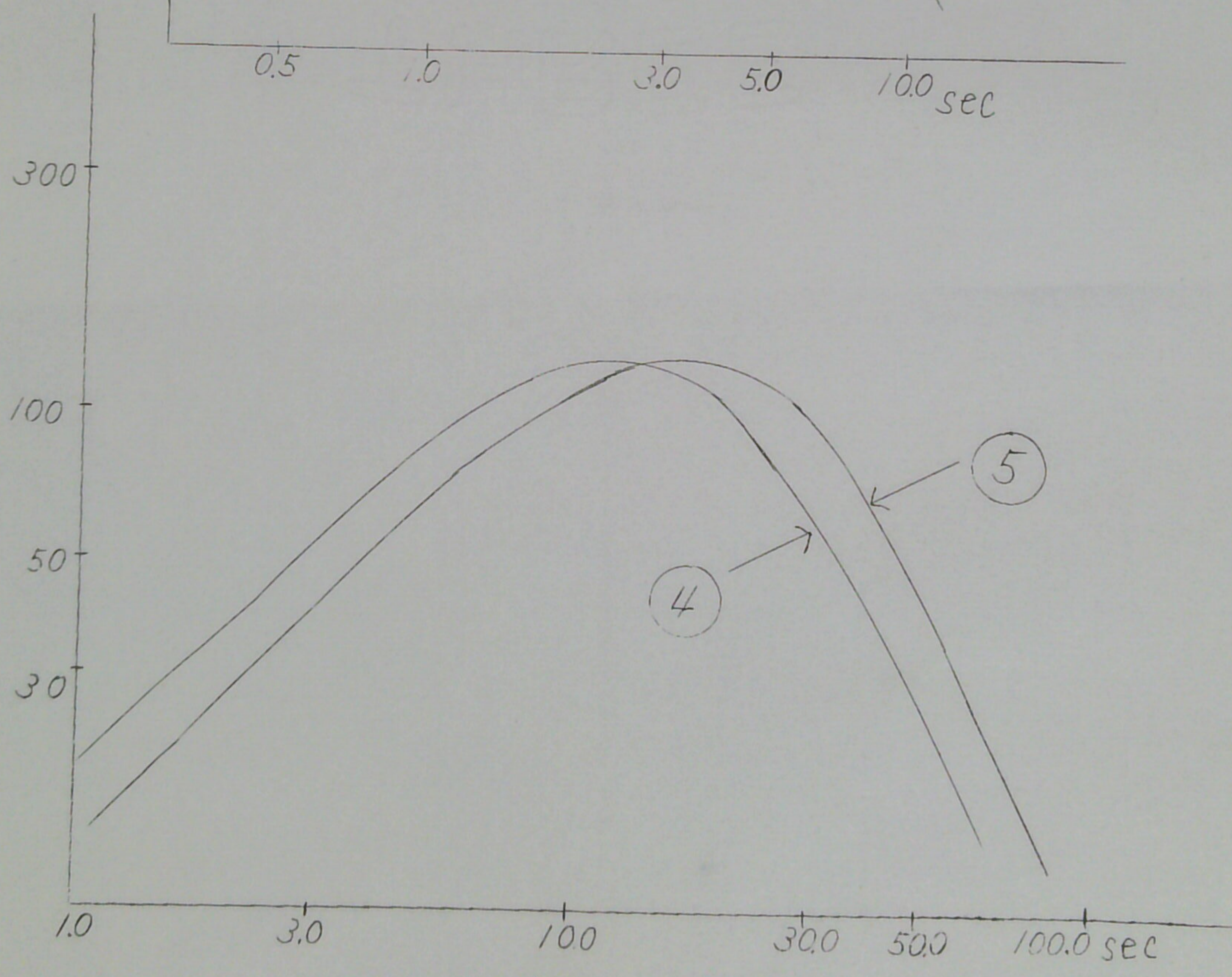
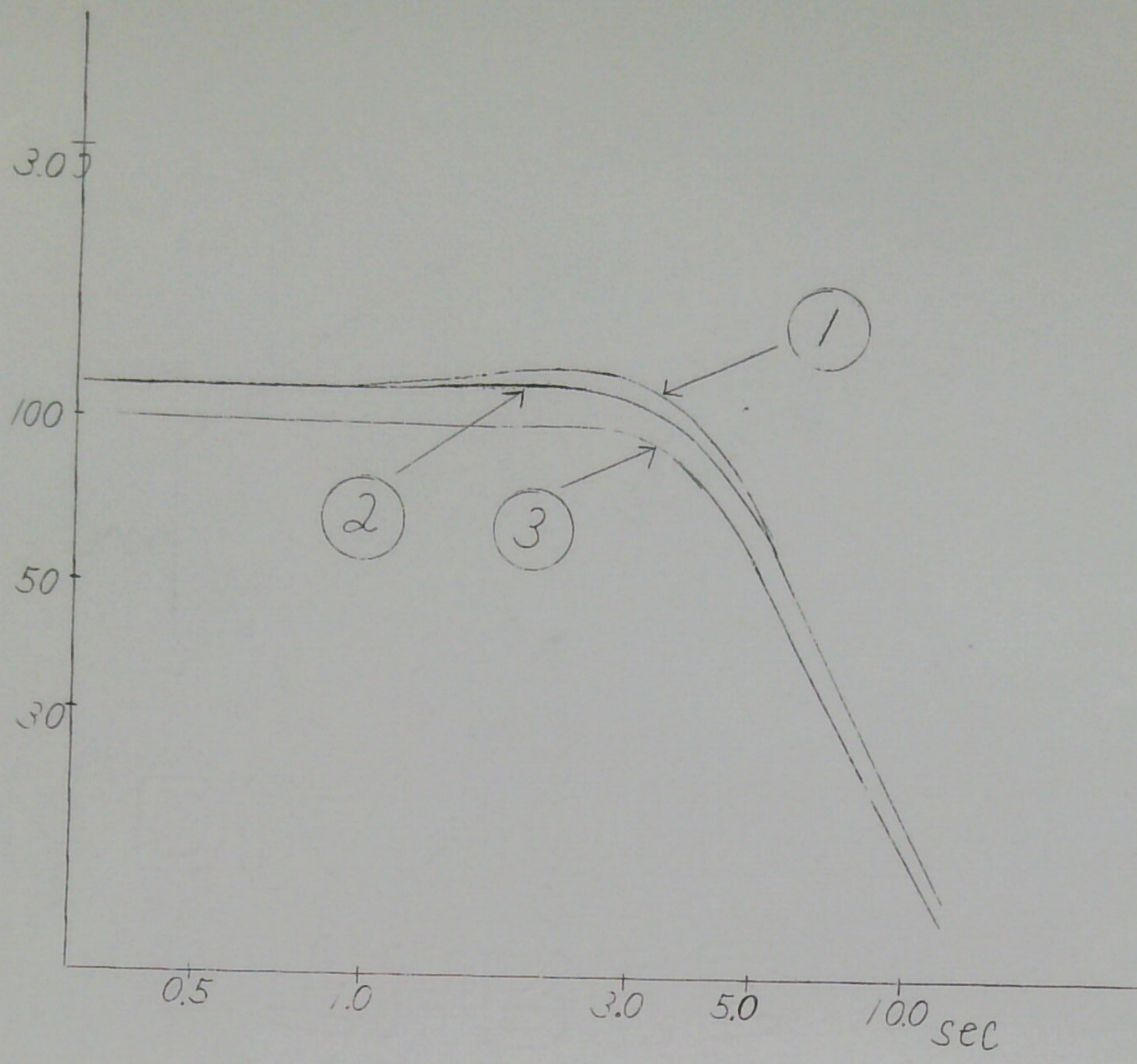
Elevation: 128 m.

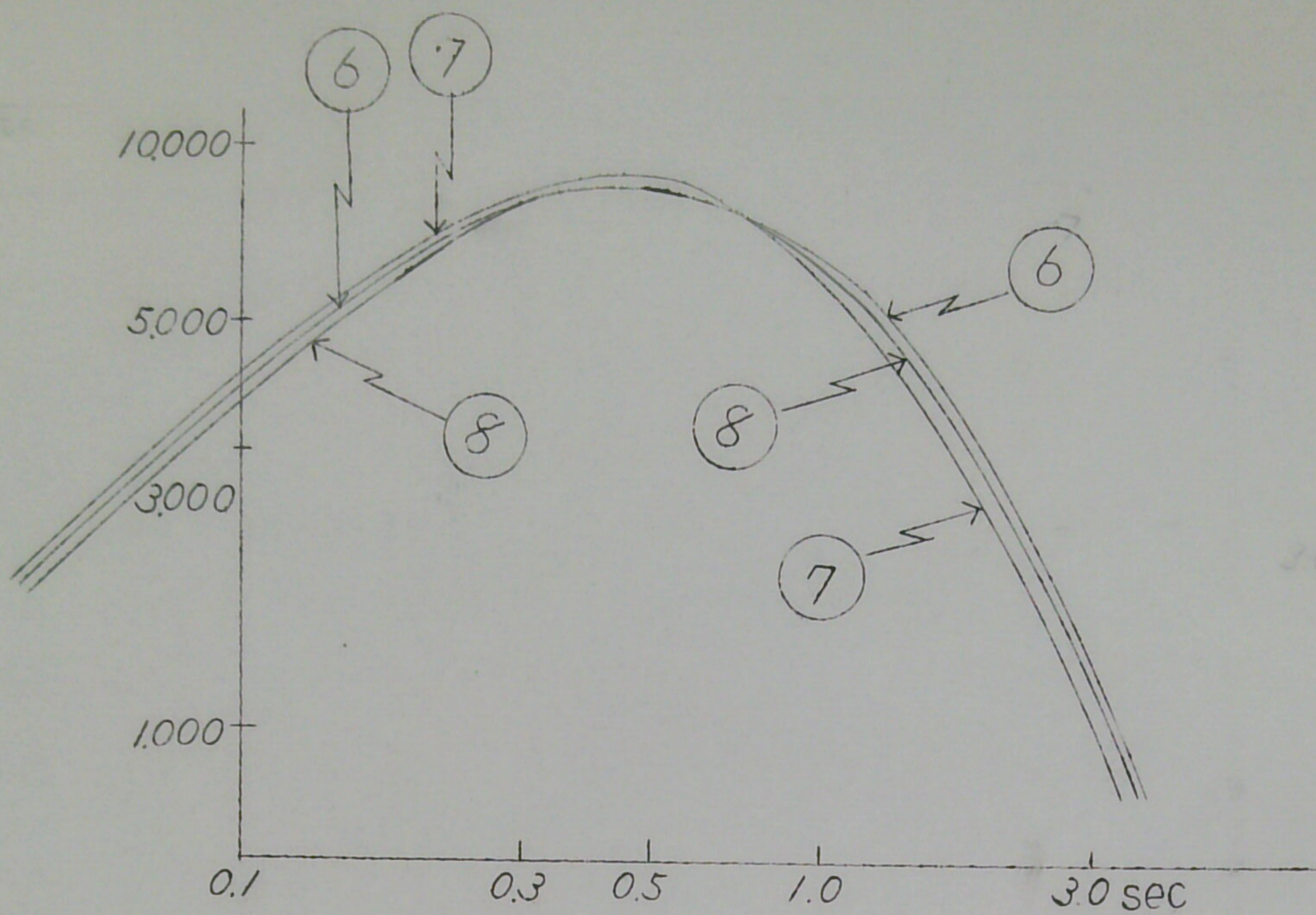
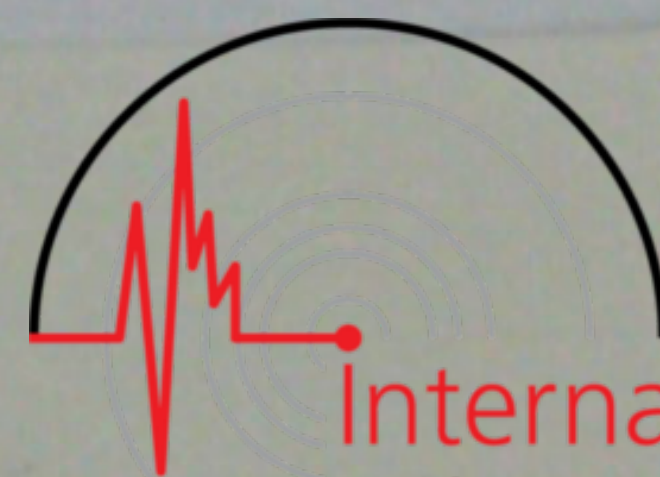
Foundation: Sandstone.

Instrument:

No	Name	Component	Vmax	T ₁ sec	T ₂ sec	h ₁	h ₂	f mm	~	Date of Calibration
1.	Wiechert Seismograph (200 Kg)	EW	125	3.8		0.55		0.30		30th, Jan., 1958
2.	"	NS	117	3.8		0.57		0.27		"
3.	" (1,200 Kg)	UD	100	3.8		0.58		0.19		"
4.	Long-period Electromagnetic Seismograph	EW	132	22.4	26.8	1.2	1.1		0.0	"
5.	"	NS	132	22.8	41.8	1.1	1.0		0.0	"
6.	Short-period Electromagnetic Seismograph	EW	8,500*	1.0	1.2	2.0	1.0		0.0	16th, Sept. 1957
7.	"	NS	9,000*	1.0	1.2	2.0	1.1		0.0	"
8.	"	UD	8,200*	1.0	1.3	2.0	1.0		0.0	"

Vmax: Maximum magnification.
 T₁: Period of pendulum.
 T₂: Period of Galvanometer.
 h₁: Damping constant of pendulum.
 h₂: Damping constant of galvanometer.
 f: Solid friction.
 ~: Coupling factor.
 *: Magnification for the amplitude read on microfilm-reader (magnification 8.4).





Serial No	Date	Phase	Time			Period sec	Amplitude			Instru- ment	Remarks		
			G.M.T.				N	E	Z			Δ ca	
			h	m	s		mm	mm	mm				
181	1st	eXZ	16	29	32.9	1.8			+0.3	126°	8	P', ?	
		eXN			53.9	1.4	+0.7				7		
		eXZ			58.6	1.4			-0.5		8		
		ePPPE	31	55.1	2.6		+0.9				6		
		ePPPZ		59.0	2.5				-0.4		8		
182	1st	eXN	18	22	18.0	1.9	+0.3			126°	7		
		eXZ			18.0	1.7			+0.4		8		
		ePPZ	23	35.2	1.9				+0.3		8		
183	1st	ePPZ	21	06	46.7	1.8			-0.2	126°	8		
184	2nd	ePN	08	15	14.0	1.0	+1.0			15°	7		
		ePE			13.9	0.6		+1.0			6		
		iPZ			13.6	0.3			+0.9		8		
		ePPN			25.6	3.1	+0.3				2		
		ePPE			25.5			+0.2			1		
		iPPZ			24.2	0.6				-2.9			8
		iSN	17	40.8	0.9	+3.6					7		
		eSE		40.5	1.2		-0.1				1		
		eSZ		42.0	0.8				-4.7		8		
		eXN	20	22.3	23.5	-2.6					5		PcP?
eXE		16.6	18.8		-0.9				4	PcP?			
185											No trace		
186	9th	ME	22	44.2	22.9			1.4			4		
		MN		43.7	33.3	1.8					5		
187											No trace		
188	15th	ePN	01	48	33.3	1.5	-0.8			8°	7		
		ePE			32.7	0.7		-0.8			6		
		iPZ			33.3	0.7			+3.0		8		
		iXN	49	47.2	0.5	-20.					7		S?
		IXE		48.9	0.6		+0.7				1		S?
		eSZ		47.9	1.3				-13.		8		S?
189	16th	iPN	06	04	28.8	0.6	+0.2			2°	2		
		iPE			28.8	1.3		+5.3			1		
		iPZ			28.5	1.4				-25.0	3		
		iSN			40.7		-				2		
		iSE			41.6			+			1		
190	17th	ePN	05	27	49.4	0.8	-0.6			54°	7		
		ePE			49.8	1.0		+1.0			6		
		ePZ			48.4	1.2				-1.0	8		
		eSN	35	09.5	16.87	+0.4					5		
		eSE		11.7	11.6		-0.3				4		
		eXN	36	16.6	37.	+1.5					5		
		eXE	36	13.3	40.2		-1.5				4		

Serial No	Date	Phase	Time			Period sec	Amplitude			Instrument	Remarks		
			G.M.T.				N	E	Z				
			h	m	s		mm	mm	mm				
191	18th	ePN	19	54	06.5	0.4	-0.3			25°	7		
		ePE			09.8	0.6		-0.3				6	
		ePZ			07.8	0.9				+0.9		8	
		eXNE			23.7	2.2		-0.9				6	
		iXN			30.4	1.0	+2.8					7	
		iXE		55	31.4	2.1		-1.1				6	
		eXE		58	29.8	16.4		-0.7				4	
		eXN			31.2	16.0	-0.6					5	
		iXN	20	02	52.2	31.0	-2.4					5	
		eXE			43.3	31.8		-2.3				4	
		iLN		05	51.3	18.1	-0.7					5	
		iLE		06	29.3	16.5		+0.4				4	
192												No trace	
193	19th	ePN	19	34	58.6	1.0	+0.5			56°	7		
		ePE			59.6	1.4		+1.1				6	
		ePZ			58.7	2.4				-0.2		3	
		eXN		35	24.3	2.4	+0.2					2	
		eXE			18.4	2.0		-0.2				1	
		eXZ			21.5	2.4				+0.1		3	
		eXE			35.4	1.9		-0.2				1	
		iXZ			32.3	2.2				-0.3		3	
194	22nd	iPZ	10	57	00.9	1.8				+2.0	34°	8	
		iXN			27.1	1.8	-5.4					7	
		iXE			21.9	1.4		-0.3				1	
		eXZ			22.2	1.8				+0.2		3	
		iXN			38.3	1.4	-1.2					7	
		iXZ			43.4	2.0				+0.2		3	
		eSN		11	02	22.0	15.3	+0.3				5	
		iSE			25.9	20.8		-2.6				4	
		iXN		03	56.6	39.	+1.2					5	
		eXE			50.3			-0.7				4	
195	23rd	iPN	09	14	39.9	0.9	+1.1			8°	7		
		iPE			39.3	2.4		-5.9				6	
		iPZ			39.9	1.8				-9.4		8	
		iXE			45.8			+				4	
		iXN		15	23.9	1.6	+2.7					2	
		iSN		16	29.3	3.0	+1.7					5	
		iSE			25.6	2.9		-1.8				1	
		iSZ			28.6	2.3				-2.3		3	
196	23rd	ePN	10	51	05.1	1.9	+0.6			14°	7		
		ePE			05.7	1.5		+0.8				6	
		iPZ			05.2	2.1				-3.1		8	
		iXN			05.9	2.0	-4.6					7	
		iXE			06.4	1.8		-1.7				6	
		iSN		53	36.3	1.8	+7.9					7	
		iSE			34.0	0.7		+5.0				6	
		eSZ			32.0	0.7				-4.2		8	
		eSSN		54	03.4	2.1	+0.7					2	
		iSSE			03.7	3.0		-1.2				1	

Serial No	Date	Phase	Time G.M.T.			Period sec	Amplitude			Instrument	Remarks
			h	m	s		N mm	E mm	Z mm		
197	24th	eXN	12	43	27.4	22.9	+0.9			5	
		eXE			39.6	26.1		+1.5		4	
		MN			46.0	11.2	2.4			5	
		ME			48.8	11.8		2.0		4	
198	27th	iPN	23	33	18.6	0.5	+2.1			25°	7
		ePE			18.2	2.1		+1.3			6
		ePZ			19.2	2.8			+1.5		8
		iXN			33.4	2.0	-6.7				7
		eXE			32.4	2.1		+2.9			6
		eSN	37		37.6	26.6	-0.8				5
		iSE			37.0	16.4		-1.8			4
		iXN	40		49.9	35.5	-3.5				5
		iXE			43.7	36.5		-3.3			4
		iXN	41		57.9	25.6	-6.1				5
		iXE			59.9	23.8		-2.8			4
		iLN	44		58.1	20.9	-4.0				5

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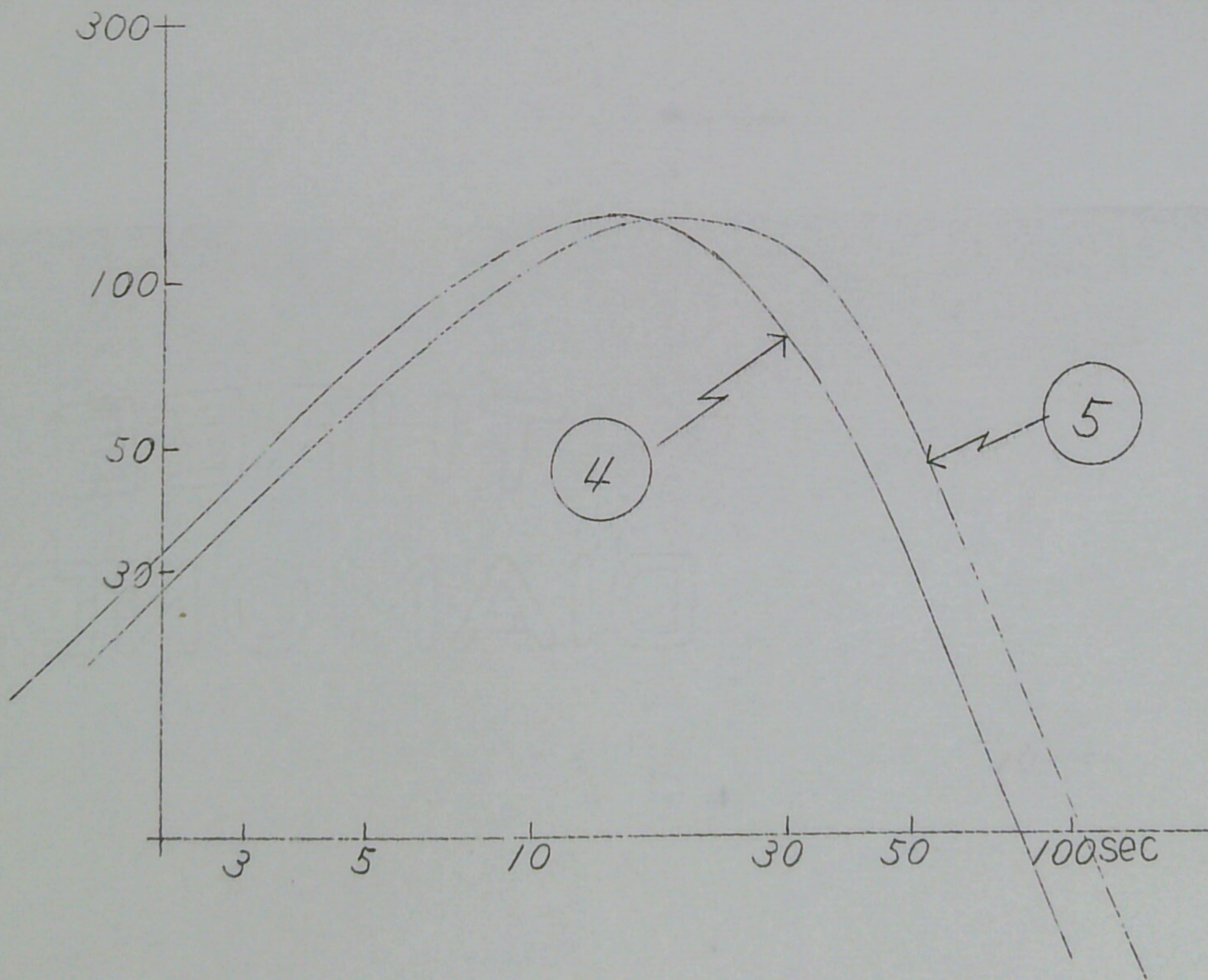
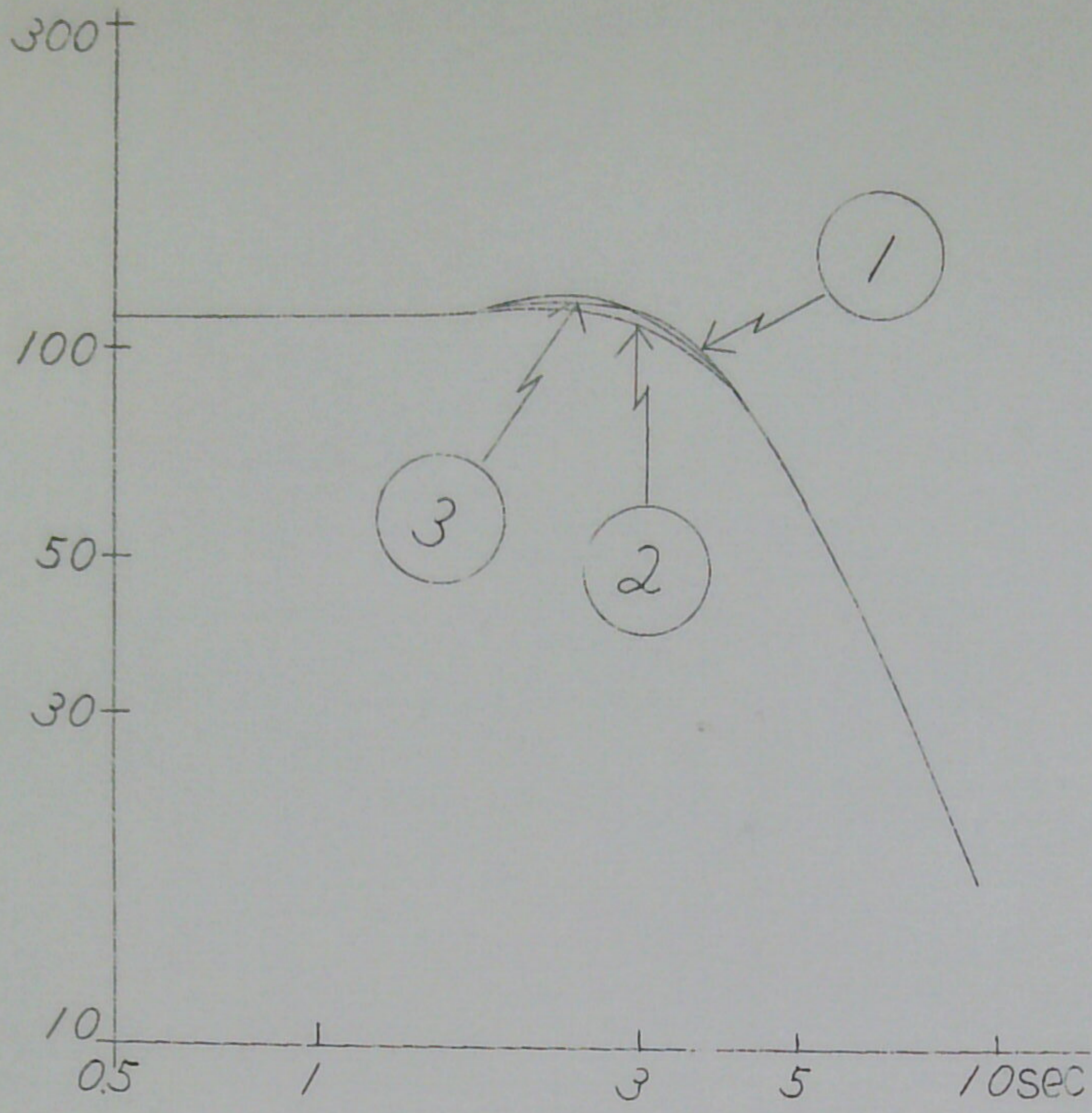
Elevation: 128 m.

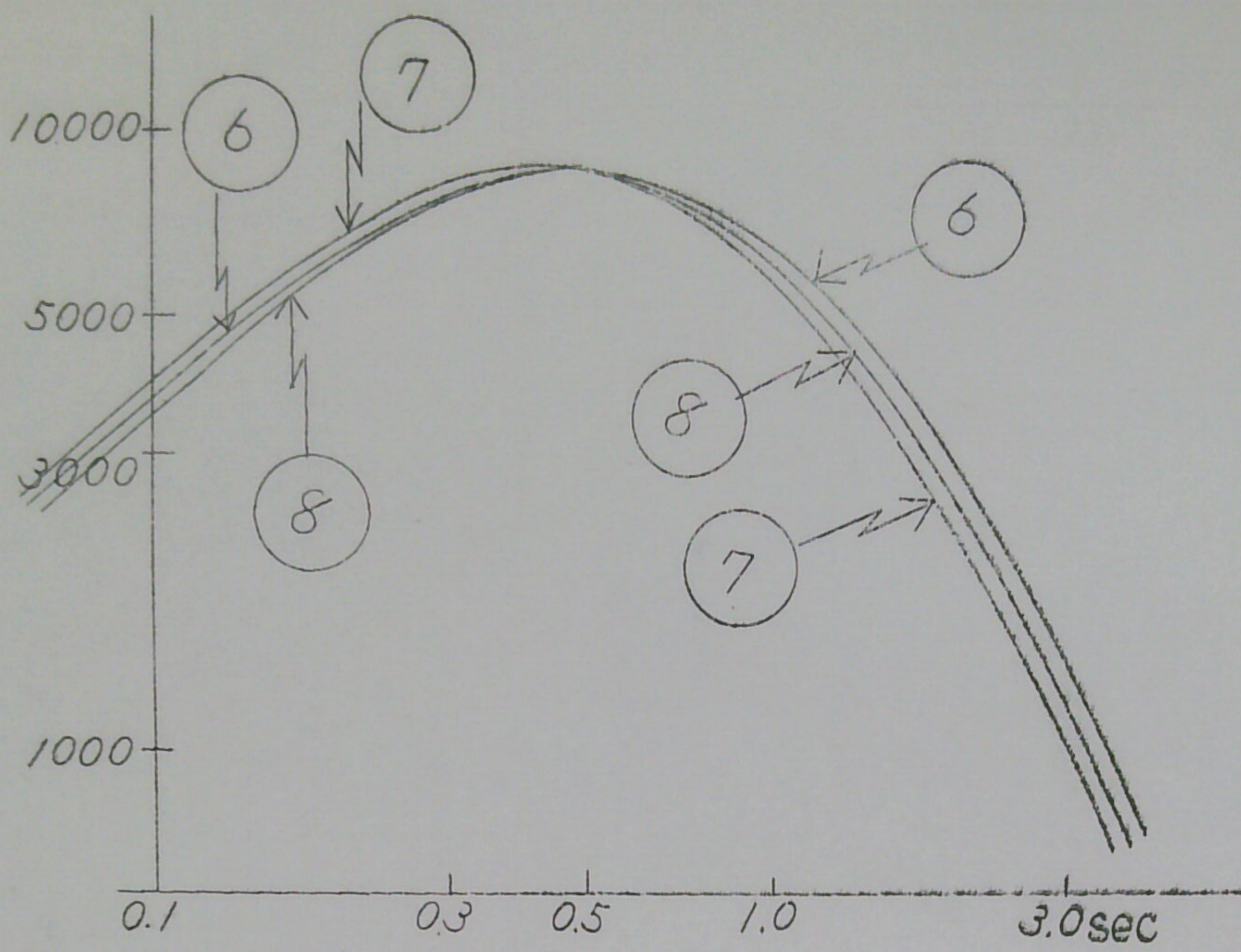
Foundation: Sandstone.

Instrument:

N ^o	Name	Comp- onent	Vmax	T ₁ sec	T ₂ sec	h ₁	h ₂	ρ mm	α	Date of Cali- bration
1.	Wiechert Seismo- graph (200 Kg)	EW	121	3.8		0.57		0.24		3rd March, '58
2.	"	NS	119	3.8		0.58		0.26		"
3.	" (1,200 Kg)	UD	123	3.7		0.57		0.16		"
4.	Long-period Elec- tromagnetic Seis- mograph	EW	138	23.7	27.0	1.0	1.0		0.01	"
5.	"	NS	135	25.1	42.1	1.1	0.9		0.01	"
6.	Short-period Electromagnetic Seismograph	EW	8,500 [*]	1.0	1.2	2.0	1.0		0.01	16th Sept., 1957
7.	"	NS	9,000 [*]	1.0	1.2	2.0	1.1		0.01	"
8.	"	UD	8,200 [*]	1.0	1.3	2.0	1.1		0.01	"

Vmax: Maximum magnification.
T₁ : Period of pendulum.
T₂ : Period of galvanometer.
h₁ : Damping constant of pendulum.
h₂ : Damping constant of galvanometer.
 ρ : Solid friction.
 α : Coupling factor.
* : Magnification for the amplitude read
on microfilm-reader (magnification 8.4).





Serial No.	Date	Phase	Time			Amplitude			Instru- ment	Remarks		
			G.M.T.			N	E	Z			Δce	
			h	m	s	sec	mm	mm				mm
199	3rd	iPE	16	23	38.1	1.2		+4.7	25°	6		
		iPN			38.3	1.3		-11.7		7		
		iPZ			37.9	1.3			-2.5	8		
		eXE			48.5	2.9			-0.9	1		
		iXN			50.0	3.3		+1.2		2		
		iSE	28	06.0	9.2				-0.9	4		
		eSN			08.1	3.9		+0.4		2		
200										No trace		
201	11th	ePE	00	30	22.3	0.4		+1.0	19°	6		
		ePN			21.8	0.6		-0.8		7		
		ePZ			21.2	0.4			-1.0	8		
		eSE	33	56.4	3.3				-1.4	1		
		eSN			59.0	3.1		-0.8		2		
		iSZ			56.6	2.4			+1.5	3		
		iXE	34	16.9					+	4		
		iXN			13.6	3.8		+4.0		2		
		iScSE	42	06.5	3.3				-4.2	6		
		iXN			13.5	3.1		+3.1		7		
		iXZ			12.3	1.8				-1.8	8	
		202	20th	iPE	01	44	57.8	1.2		-2.3	35°	6
iPN					57.2	1.3		-1.0		7		
iPZ					56.7	1.4			+4.1	8		
iPPN	03			20.1	1.4		-1.9			7		
iPPZ					16.5	1.6			-1.9	8		
iXN	52			56.8	15.5		+1.1			5	L	
iXE	53			00.3	19.2			+2.1		4	L	
iXE	54			03.9	21.0			+0.9		4	L	
eXN					02.5	16.3		+1.2		5	L	
203	22nd	iPE	10	19	24.4	2.1		-2.6	42°	6		
		ePN			24.1	0.8		-1.0		7		
		iPZ			23.4	1.0			-1.6	8		
		iXZ	20	58.5	1.8				+2.0	8	PP	
		iSE	25	37.7	2.7				-2.7	6		
		eSN			37.0	2.1		+1.0		7		
		eXE	29	47.1	13.1				+0.3	4	L	
		eXN			32.9	18.0		+0.9		5	L	
		204	22nd	ePE	11	17	44.3	1.0		-1.2	58°	6
ePZ					37.9	1.1			+1.0	8		
iXZ	18			07.4	1.4				-0.9	8		
ePcPE	18			44.9	1.4				+0.5	6		
ePcPN					45.0	1.2		-0.5		7		
eXN	41			16.5	19.0		-0.8			5	L	
eXE					13.0	13.3			+0.4	4	L	
iXE	45			14.0	17.2				-1.4	4	L	

Serial No.	Date	Phase	Time G.M.T.			Period sec	Amplitude			Δ ca	Instru- ment	Remarks
			h	m	s		N mm	E mm	Z mm			
205	23rd	ePE	10	20	28.2	1.6		+1.4		27°	6	
		ePZ			27.2	1.2			-0.8		8	
		iPPE	21	04.2	2.1		+3.0				6	
		ePPZ			07.6	1.6			-1.1		8	
206	28th	ePE	12	15	28.9	0.9		-1.0		54°	6	
		ePN			28.7	0.6	+0.7				7	
		ePZ			28.3	1.0			+2.6		8	
		iXE	17	34.3	1.8			-0.3			6	PP?
		eXE	18	15.2	1.9			+0.1			6	
		eXN			13.4	1.9		-0.2			7	

SEISMOLOGICAL REPORT

for

I. G. Y.

Apr., 1958

Seismological Observatory.

Tôhoku University.

Sendai, Japan.

April, 1958.

Station: Seismological Observatory, (Mukaiyama Observatory),
Tôhoku University, Sendai, Japan.

Longitude: 140 51' 30" E.

Latitude: 38° 14' 32" N.

Elevation: 128 m.

Foundation: Sandstone.

Instrument

No.	Name	Component	Vmax	T ₁ sec	T ₂ sec	h ₁	h ₂	f mm	~	Date of Calibration
1.	Short-period Electromagnetic Seismograph	EW	9600*	0.93	1.2	1.2	1.0	0.0	~	16th, April.
2.	"	NS	9100*	0.92	1.2	1.4	1.1	0.0	~	"
3.	"	UD	9200*	1.0	1.0	1.4	1.0	0.0	~	"
4.	Long-Period Electromagnetic Seismograph	EW	145	22.9	26.9	0.88	1.0	0.0	~	15th, April.
5.	"	NS	116	24.8	43.4	1.5	1.0	0.0	~	"
6.	Wiechert Seismo- graph (200 Kg)	EW	136	3.7		0.56		0.24	~	2nd, May.
7.	"	NS	125	3.7		0.59		0.26	~	"
8.	" (1,200 Kg)	UD	105	3.8		0.59		0.21	~	"

Vmax: Maximum magnification.

T₁: Period of pendulum.

T₂: Period of Galvanometer.

h₁: Damping constant of pendulum.

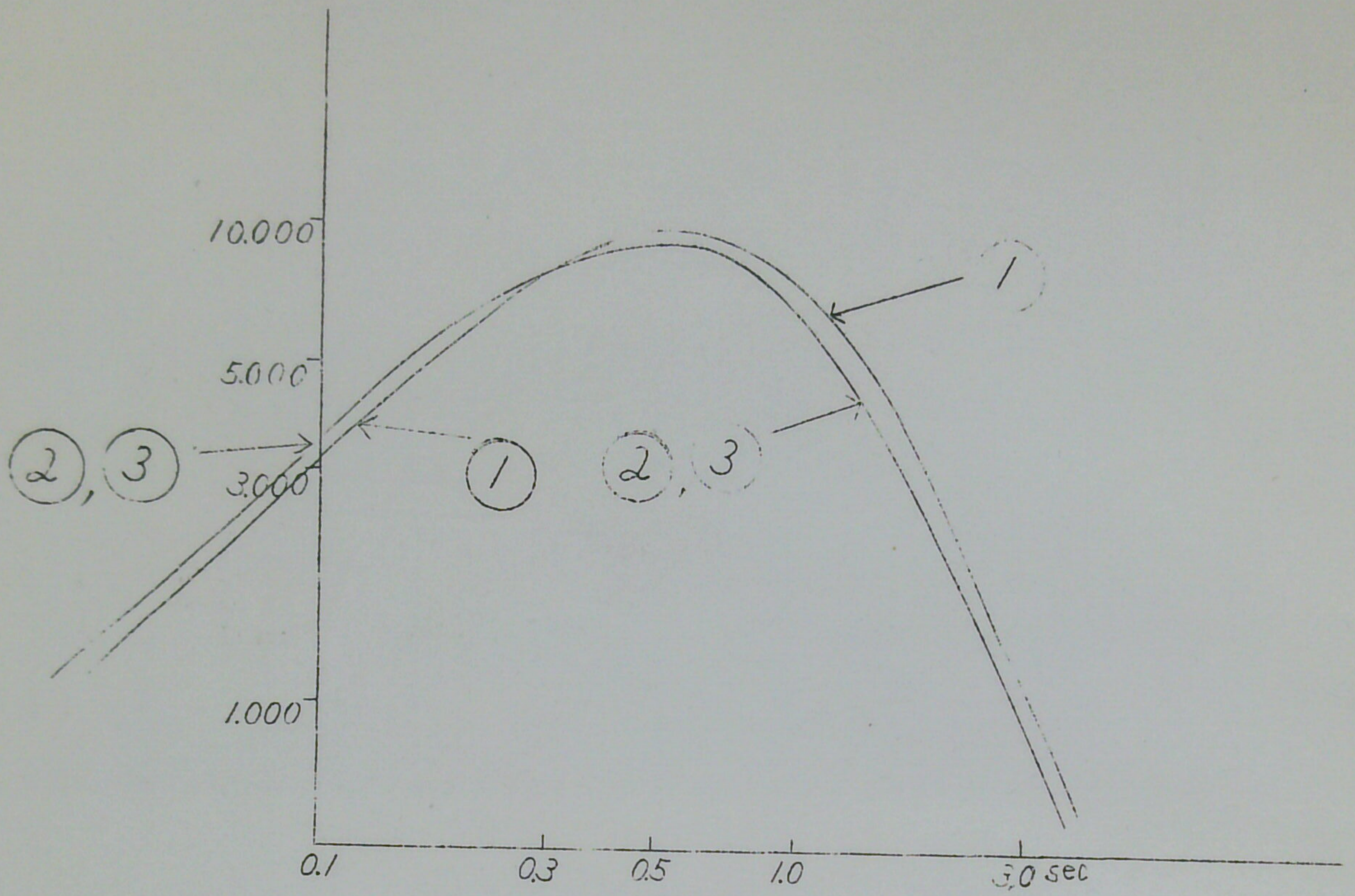
h₂: Damping constant of galvanometer.

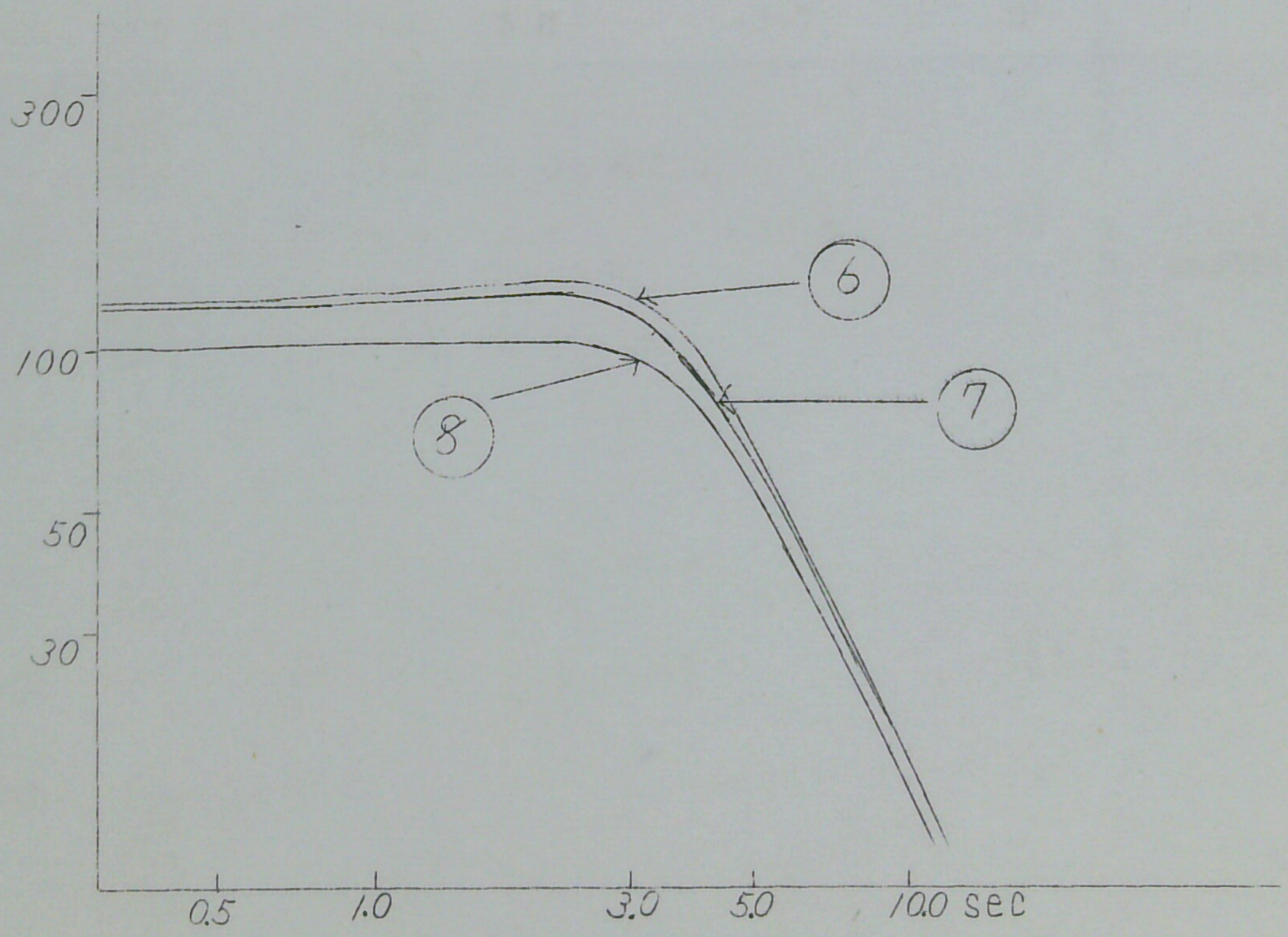
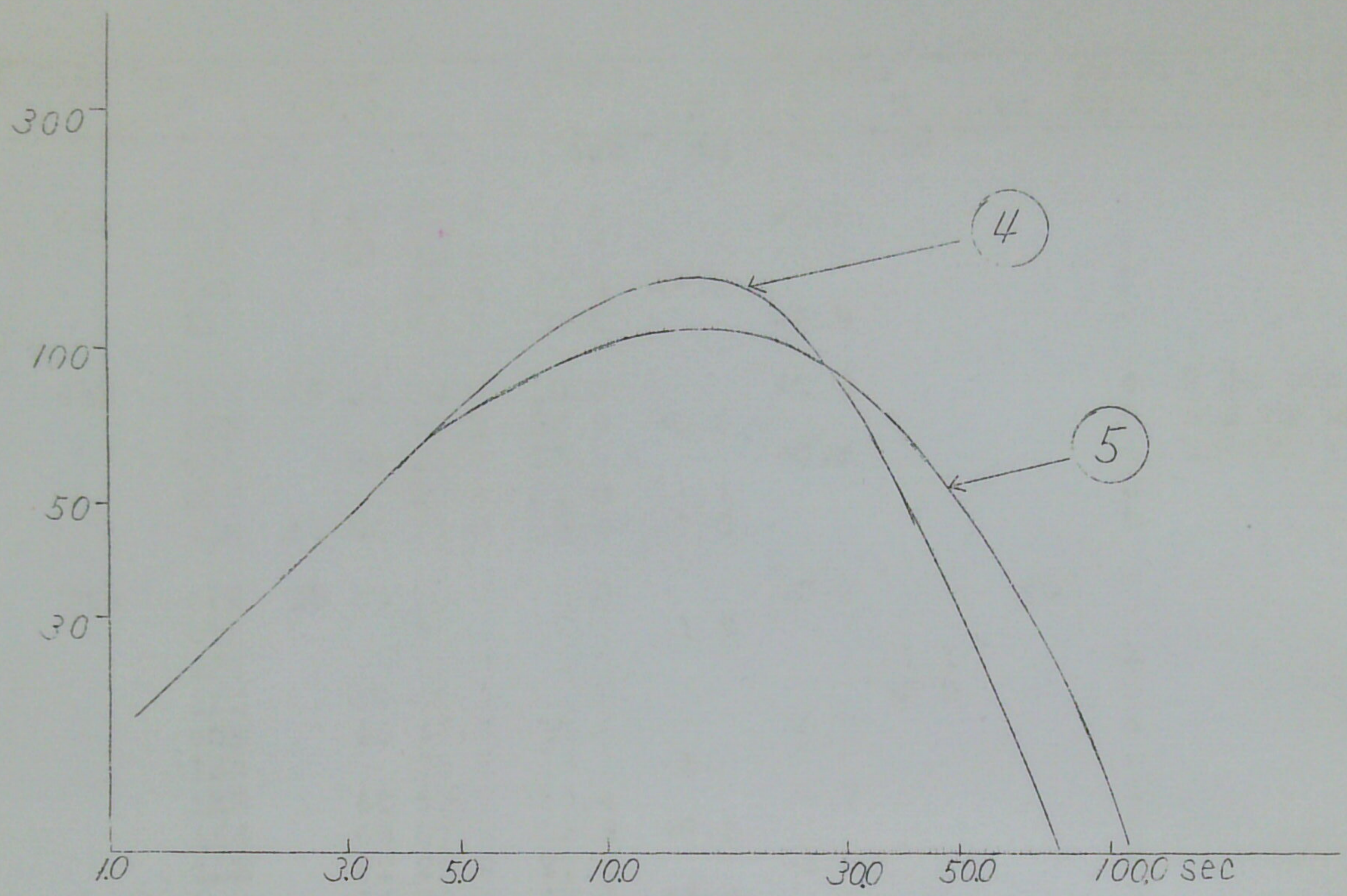
f: Solid friction.

~: Coupling factor.

*: Magnification for the amplitude read on
microfilm-reader (magnification 8.4).

Remark: After this month the Nos. of instruments are
changed.





Serial No.	Date	Phase	Time G.M.T.			Period sec	Amplitude			Instrument	Remarks	
			h	m	s		N	E	Z			
207	4th	eXE	07	49	59.7	31.7		-1.8		4		
		eXE		51	01.6	19.8		-2.7		4		
		eXN			01.1	26.6	+5.8			5		
		1XE			43.7	10.2		-5.9		4		
208	4th	1XE	15	54	09.2	10.3		+0.3		4	P is overlapped by another shock.	
		eXN			17.3	22.9	+0.8			5		
		eXE		56	27.3	23.4		+0.5		4		
		eXN			26.2	21.0	-1.1			5		
		eLN	16	04	30.0	18.8	-1.0			5		
209	7th	ePE	15	38	58.4	2.8		-0.2		45°	6	
		ePN			58.4	2.3	-1.2				2	
		1PZ			55.9	1.7			-1.1		3	
		1XZ		39	08.0	1.5			+5.0		3	
		eSE		45	31.2	10.5		-0.7			4	
		1SN			35.7	13.1	-1.3				5	
		1XE		48	59.7	13.4		-4.7			4	
		1XN		49	07.8	35.9	+8.3				5	
		1LE		52	29.9	27.9		-16.8			4	
		1LN		56	24.0	17.1	+7.0				5	
210	7th	1PE	18	05	36.0	3.8		-6.7		2°	6	
		1PN			36.1		-				2	
		1PZ			36.0				+		3	
		1XE			45.9				-		6	
		1XN			46.4	2.0	+20.6				7	
211	7th	1XE	18	30	35.7	3.3		-10.8		2°	6	overlapped by another shock
		eXN			40.8		+				2	
		1XZ			47.6				+		3	
		1XN		31	17.0	2.5	-30.				7	
212	7th	eXN	18	37	14.1	0.4	-0.2			2°	6	P? overlapped by another shock
		1XN			47.5		-				2	
		1XZ			47.3				+		3	
213	7th	eLN	19	31	09.1	12.9	+0.2				7	overlapped by another shock
		eLZ			14.9	12.6		+0.2			8	
214	8th	ePN	00	22	40.9	1.1	-1.1			45°	2	
		eXE		24	04.3	2.8		-1.7			1	
215	10th	1PE	11	50	59.1					3°	1	
		1PN			39.1		+				2	
		1PZ			38.9				+		3	
		1SE		51	18.4				-		6	
		1SN			17.1		-				7	
216	11th	ME	00	07.5		24.1		2.0			4	
		MN		07.5		40.		1.0			6	

Serial No.	Date	Phase	Time G.M.T.			Period sec	Amplitude			Δ ca	Instrument	Remarks
			h	m	s		N mm	E mm	Z mm			
217	11th	1PE	00	58	48.1	3.4		-5.0		2°	6	
		1PN			48.2		-4.2				2	
		1PZ			48.1				+		3	
		1SN		59	23.5						7	
		1XE			27.9						6	
218	11th	ePE	23	14	34.1	0.5		+0.1			6	
		ePN			35.4	2.2	-2.4				2	
		ePZ			28.4	0.6			+1.0		3	
		1XZ			39.1	1.6		-0.4			8	
		eXE		16	46.5	0.5		-0.7			6	
		1XN			50.4	0.7	+1.0				7	
		eXZ			46.5	0.8			+0.3		8	
		1LN		18	20.0	18.3	+1.2				5	
		1LE		19	08.0	20.1			-2.0		4	
219	12th	ePZ	11	59	49.5	1.5			-0.4	87°	3	
		1XZ			55.1	1.3			+0.7		3	
		eXE	12	21	51.6	41.1		-1.1			4	
		1XN		22	03.5	34.2	+1.1				5	
		eXE		23	04.4	39.0		+1.6			4	
		eXN			02.8	38.0	-1.1				5	
220	12th	1PE	13	29	40.4	1.3		+1.0		18°	1	
		1PN			40.4	0.9	+3.7				2	
		1PZ			38.8	1.3			+1.3		3	
		1SE		33	03.4	2.3		+2.6			1	
		1SN			03.2	2.2	+5.6				2	
		1SZ			07.9	1.7			+1.7		3	
		1XZ		34	29.8	1.6			-1.0		3	
		eXE		35	11.0	22.1		-2.0			4	
		1XN			15.5	22.7	-0.7				5	
		eXE		38	45.2	24.1		+1.4			4	
		eXN			44.2	24.6	-1.1				5	
221	13th	1PZ	09	15	44.1	1.7			-0.9	45°	3	
		eXN		16	00.9	1.8	+1.1				2	
		1XZ		15	58.6	1.5			+1.0		3	
		eLE		32	30.4	23.9		-1.3			4	
		eLN			33.7	31.7	+0.6				5	
		eLE		35	24.3	18.2		+1.5			4	
		eLN			27.4	16.4	-0.9				5	
222	13th	ePE	12	33	42.5	1.3		+0.9		21°	1	
		ePN			40.4	0.3	-0.2				2	
		1PZ			39.1	1.6			-1.7		3	
		1XE			44.5	1.0		+2.7			1	
		1XN			44.0	1.5	+1.8				2	
		1XZ			43.7	1.2			+4.5		3	
		1XN		34	53.3	1.7	-18.5				2	
		1XE		35	50.3	1.8		-4.9			1	
		1XN			41.5	1.7	-13.4				2	

Serial No.	Date	Phase	Time G.M.T.			Period sec	Amplitude			Instrument	Remarks	
			h	m	s		N mm	E mm	Z mm			
222 (cont'd)		1XZ			45.4	1.3			-2.4		3	
		1SE	37		30.2	13.9		+3.4			4	
		1SN			31.8	14.3	-3.5				5	
		1XE			49.4	2.1		-8.0			1	
		1XN			50.5	2.1	+3.1				2	
		1XZ			44.2	2.2			+4.1		3	
		eXE	38		10.6	36.9		-3.5			4	
		1XN			11.2	41.8	-8.0				5	
		1LE	40		08.0	31.0		+5.6			4	
		1LN			17.2	24.9	-5.2				5	
		1XE	46		32.7	12.8		-2.8			4	
		1XN			18.6	18.2	-2.3				5	
223	14th	1SSE	22	10	39.0	25.1		+2.1			4	
		1SSN			40.0	26.9	-2.6				5	
		1SSPE	11		02.9	34.9		+2.2			4	
		1SSPN			14.7	42.2	-3.2				5	
		1SSSE	15		16.6	22.2		+1.1			4	
		1LE	28		47.0	52.0		-1.5			4	
		1XE	37		03.9	24.5		-3.5			4	
		1XE	44		18.6	21.8		-1.8			4	
		1XN	55		48.6	24.9	-1.0				5	
		1XN	23	00	41.1	24.1	+1.2				5	
224	14th	eXE	23	15	07.2	17.2		-1.4			4	SKS?
		1XE		16	02.0	21.9		+1.1			4	
		1XE		22	54.3	19.2		+1.5			4	
		1XN		27	43.4	21.5	+0.8				5	
225	15th	ME	01		57.1	22.5		1.0			4	
		MN			58.6	37.0	0.8				5	
226											Overlapped by another shock.	
227	17th	1PE	11	33	15.3			+	2°		1	
		1PN			15.3		-				2	
		1PZ			15.1				-		3	
		1XE			22.7			+			6	
		1XN			35.7		+				7	
228	19th	ME	04		23.0	30.2		1.2			4	
		MN			26.8	31.3	1.1				5	
229	21st	ePZ	20	25	51.8	1.6			+1.2	69°	3	
		1XE		34	40.1	35.8		+1.0			4	
		1XN			42.8	30.7	-1.3				5	
230	21st	ePE	22	46	50.3	0.6		+0.9		55°	1	
		1PN			50.3	0.6	-2.1				2	
		ePZ			50.1	0.7			+1.3		3	
		eXE	55		08.3	10.0		-1.0			4	
		eXN			08.9	12.6	-1.3				5	

Serial No.	Date	Phase	Time G.M.T.			Period sec	Amplitude			Δ ca	Instrument	Remarks
			h	m	s		N mm	E mm	Z mm			
230 (cont'd)		1XE	23	00	44.5	20.6		+0.7			4	
		1XN			44.7	16.1	+0.8				5	
		1LE	01		35.1	33.9		+0.9			4	
		1LN			32.0	37.0	-1.7				5	
231	22nd	ePE	00	05	31.6	0.7		+1.8		46°	1	
		ePN			35.8	0.7	-2.3				2	
		ePZ			29.2	0.9			+0.4		3	
		1XZ	06		39.3	0.8			-2.0		3	
		1XZ			47.6	1.3			+1.2		3	
232	28th	ePKPE	11	07	09.9	0.8		-0.2		140°	1	PKP
		eXZ			13.8	0.9	+0.2				3	
233	30th	ePKPE	19	47	13.1	1.3		-1.4		150°	1	
		ePKPN			13.1	1.4	+1.1				2	
		ePKPZ			05.9	0.7			-0.7		3	
		1XN			44.4	1.5	+1.5				2	
		1XZ			44.5	1.3			-0.9		3	

NOAA

SEISMOLOGICAL REPORT

for

I. G. Y.

May, 1958

Seismological Observatory.

Tôhoku University.

Sendai, Japan.

Station: Seismological Observatory, (Mukaiyama Observatory),
Tohoku University, Sendai, Japan.

Longitude: 140° 51' 30" E.

Latitude: 38° 14' 32" N.

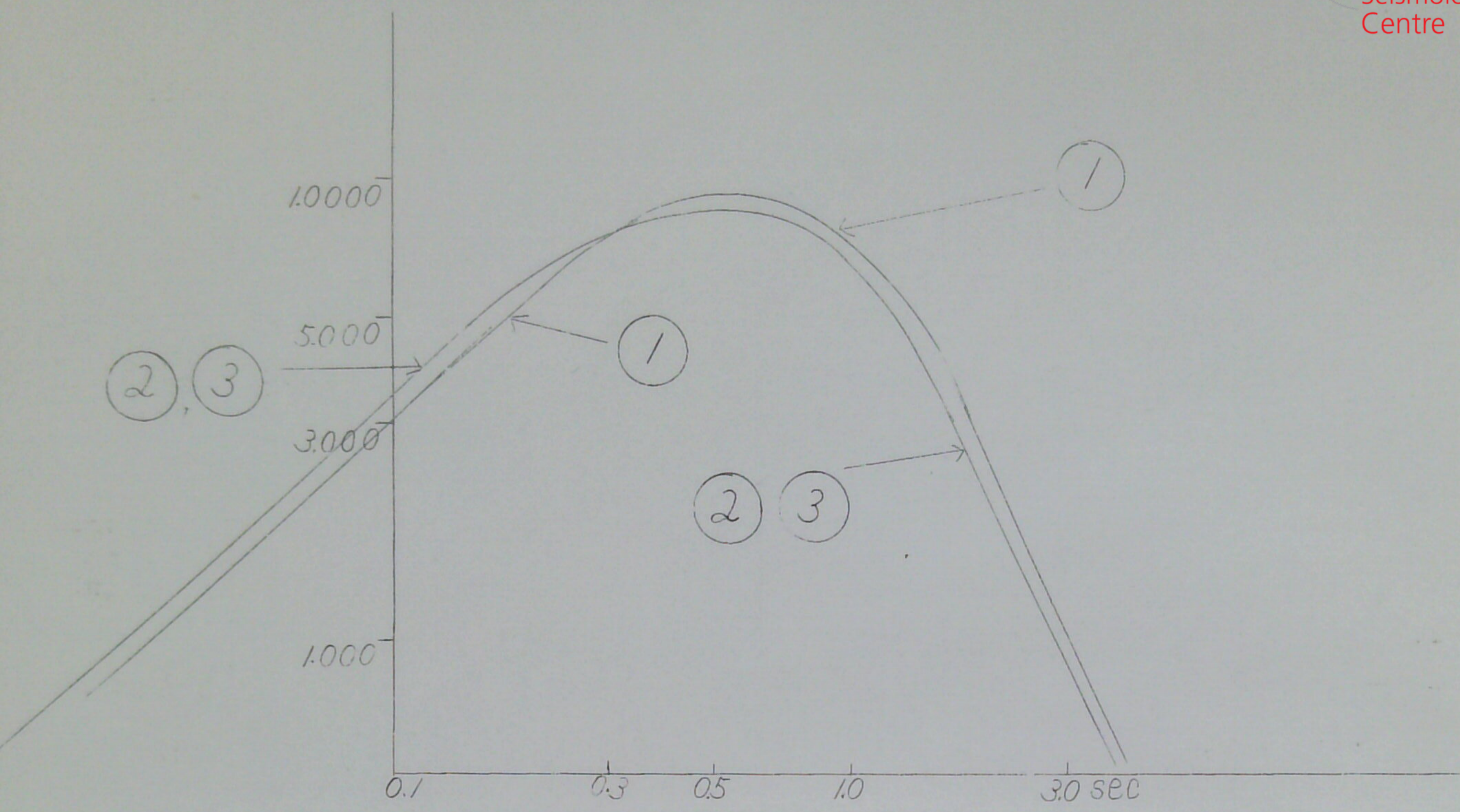
Elevation: 128 m.

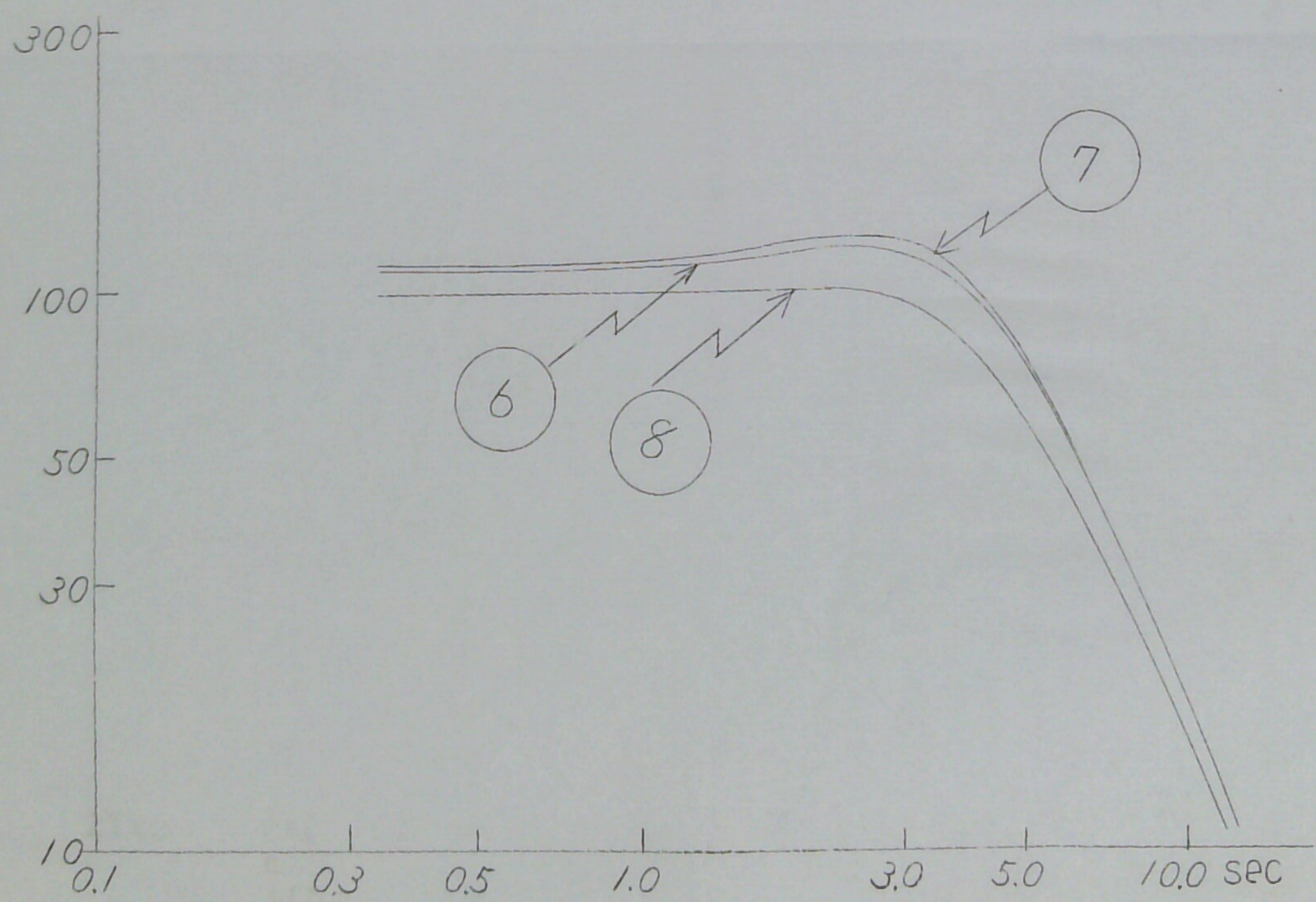
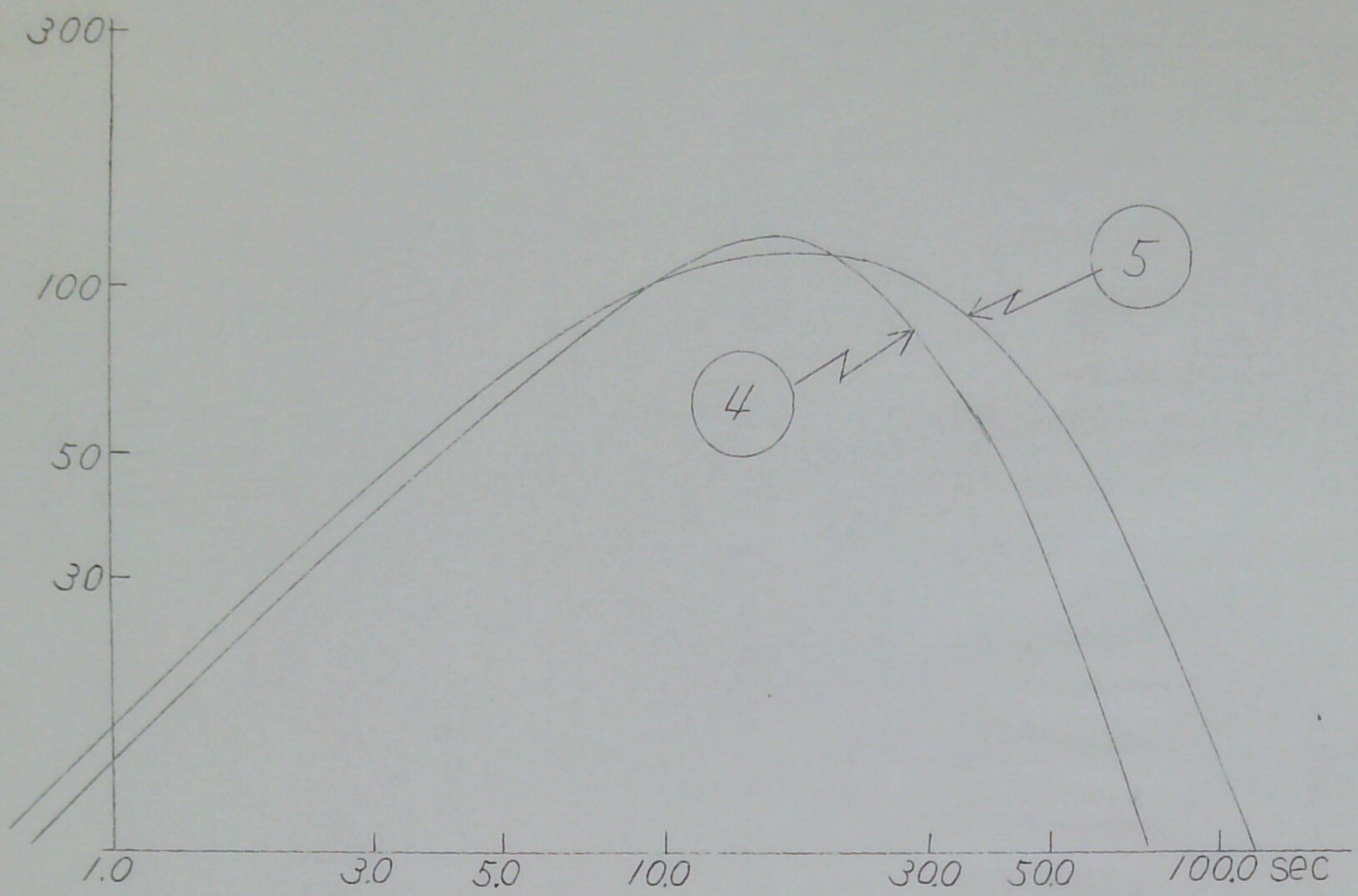
Foundation: Sandstone.

Instrument

No	Name	Component	Vmax	T ₁ sec	T ₂ sec	h ₁	h ₂	ρ mm	α	Date of Calibration
1.	Short-period Electromagnetic Seismograph	EW	9,600*	0.93	1.2	1.2	1.0		0.00	April 16, 1958
2.	"	NS	9,100*	0.92	1.2	1.4	1.1		0.00	"
3.	"	UD	9,200*	1.00	1.0	1.4	1.0		0.00	"
4.	Long-Period Electromagnetic Seismograph	EW	126	22.7	27.0	0.88	0.89		0.00	June 2, 1958
5.	"	NS	120	25.9	40.9	1.56	0.77		0.00	"
6.	Wiechert Seismo- graph (200 Kg)	EW	126	3.8		0.52		0.26		"
7.	"	NS	131	3.8		0.51		0.26		"
8.	" (1,200 Kg)	UD	105	3.8		0.59		0.35		"

Vmax: Maximum magnification.
T₁ : Period of pendulum.
T₂ : Period of Galvanometer.
h₁ : Damping constant of pendulum.
h₂ : Damping constant of galvanometer.
 ρ : Solid friction.
 α : Coupling factor.
* : Magnification for the amplitude read on
microfilm-reader (magnification 8.4).





Serial No.	Date	Phase	Time			Period sec	Amplitude			Instru- ment	Remark.	
			G.M.T.				N	E	Z			Δca
			h	m	s		mm	mm	mm			
234	1st	1PE	00	38	47.1	1.3		+2.6	58°	1		
		1PN			46.6	1.9	+3.3			2		
		1PZ			46.9	1.4			-4.1	3		
		1XZ	39		15.9	1.4			-4.9	3		
		spPZ	39		34.1	1.6			+2.1	3		
		eSE	46		30.1	4.5		+2.3		4		
		1SN			27.9	15.0	+2.9			5		
		1sSE	47		47.9	21.9		-2.0		4		
		eScSN	48		08.0	20.3	+1.0			5		
		1SSSE	53		01.9	35.1		+2.5		4		
		1SSSN			01.9	26.6	+1.2			5		
1XE	55		57.8	23.7		-2.1		4				
235	1st	1PE	12	33	18.4	0.7		+2.1	13°	1		
		1PN			18.2	0.8	-1.8			2		
		1PZ			17.6	0.5			-1.7	3		
		1SE	33		23.2			+		1		
		eSN			24.4		+			2		
		1SZ			22.9	0.6			+5.4	3		
		1XE			27.0					1	Supper	
		1XZ			27.6				-	3	branch?	
236										No trace.		
237	8th	1P'N	13	00	24.7	1.0	-2.0		153°	2		
		1P'Z			24.5	1.1			+1.6	3		
		eXE			27.1	0.9		+1.4		1		
		1XZ			27.4	2.9			-0.3	8		
		1XE			40.9	2.4		-0.2		6	P'2?	
		1XZ			39.2	2.2			+0.3	8	"	
238										No trace.		
239	9th	1XE	05	00	40.8	1.1		-3.2	158°	1		
		eXN			40.2	0.6	-2.0			2	P'?	
		1XZ			40.4	1.0			-5.2	3	"	
		1XE			46.2	0.8		-3.0		1		
240	10th	eXN	23	17	42.2	19.5	+0.5			5	P is very	
		eXN		18	26.8	21.5	-0.4			5	feeble.	
		eLE		21	00.9	21.8		+1.6		4		
		eLN		21	14.7	18.2	+1.4			5		
		1XE		22	59.1	14.2		+0.7		4		
		1XN		25	14.0	15.6	-1.3			5		
		1XN		27	58.6	11.9	-1.0			5		
241	11th	eLE	05	50	36.7	19.2		-1.2		4	P is very	
		eLN			41.6	22.1	-1.7			5	feeble.	
		iLE		52	23.5	19.2		-1.4		4		
		eXN		54	26.2	16.3	+1.3			5		
		1XE		55	51.3	13.9		-0.6				

Serial No.	Date	Phase	Time			Period sec	Amplitude			Instru- ment	Remarks		
			G.M.T.				N	E	Z			Δca	
			h	m	s		mm	mm	mm				
242	18th	ePZ	02	42	38.5	1.1			-0.9	57°	3		
		eXN		43	11.1	0.8	+2.1					2	
		iSE		50	31.1	7.2			-0.3			4	
		iSN			31.7	13.8	+0.3					5	
		eXE		57	48.2	18.3			+0.7			4	
		eXN			51.4	17.6	+1.9					5	
		eXE	03	02	15.1	17.9			-2.1			4	
		eXE			49.5	19.0			+1.2			4	
		eXN		03	17.7	18.4	-0.4					5	
		eXN		08	14.8	19.2	+0.7					5	
		eLE		15	37.9	16.6			+0.8			4	
		eLN		17	49.0	18.1	+1.0					5	
		eLN		21	25.6	17.6	+1.0					5	
243	18th	ePE	12	31	05.0	1.5			-0.9	57°	1		
		ePN			04.5	7.0	+0.2					5	
		iPZ			04.1	1.4			-1.1			3	
		eXE			12.8	1.5			-1.4			1	
		eXN			13.1	1.9	-1.0					2	
		iXZ			12.7	2.0			+2.4			3	
		eXE			31.4	1.9			+1.4			1	
		eXN			47.3	1.7	-1.6					2	
		iXZ			47.7	1.7			+1.7			3	
		iPPR		33	01.1	1.6			+0.8			1	
		ePPZ		32	59.5	1.4				-0.3		3	
		iSE		38	58.8	10.7			+0.6			4	
		iSN			55.5	13.1	+0.5					5	
		eXE		44	40.8	22.8			+0.6			4	SSS or L
		eXN			47.0	17.5	+0.3					5	"
		eLN		46	46.2	19.4	-0.6					5	
		eLE		47	38.0	20.1			-0.7			4	
244	22nd	eXE	15	16	30.8	0.7			-0.7		1	P is not	
		eXN			31.2	1.2	-1.5				2	distinct.	
		eXZ			32.	1.1			+0.8		3		
		iXE		25	20.5	25.0			+1.2		4		
		eXN			45.7	35.0	-0.8				5	SSS?	
		iLE		26	11.9	18.6			+0.9		4		
245	25th	ePZ	17	43	39.7	1.3			-0.5	12°	3		
		eXE		44	08.3	1.8			-1.6			1	
		eXZ			10.3	1.3			+1.5			3	PPP?
		eXE		47	03.4	28.7			+1.7			4	
		eXN			09.7	22.6	-1.1					5	
		iXE		48	08.0	15.3			+1.8			4	
		eXN			10.1	12.3	+0.3					5	
		eLE		49	37.5	18.0			+0.9			4	
		eLE		51	31.2	16.8			-0.8			5	
246	24th	eP'E	21	31	01.2	1.0			-0.5	131°	1		
		eP'N		30	58.7	1.8	-1.8				2		
		eP'Z		30	54.2	1.0			+0.9		3		

Serial No.	Date	Phase	Time G.M.T.			Period sec	Amplitude				Instru- ment	Remarks
			h	m	s		N mm	E mm	Z mm	Δ ca		
246 (cont'd)		eXE	31	10.6	0.9		+1.1				1	
		eXN		11.8	1.0	-1.6					2	
		iXZ		10.0	1.1				+2.1		3	
		eXE	46	51.4	32.6		-0.2				4	
		eXN		49.5	23.8	-0.3					5	
		eXE	47	04.7	24.4		+1.5				4	
		iXN		10.4	23.1	-1.1					5	
		iXE	48	09.8	15.4		+1.9				4	
		iXN		16.0	11.7	-2.7					5	
247	29th	iPE	05	23	55.9	0.6	+1.2			11°	1	
		iPN			55.8	0.6	-1.2				2	
		iPZ			55.8	0.9			-4.6		3	
		iXE	24	08.9							4	
		iXN		08.4	0.8	+0.3					7	
		iSE	25	50.0	2.8	-0.8					6	
		iSN		50.7	1.8	-0.3					7	
		eSZ		49.8					+		3	
		iXE	26	37.3	2.2	-0.4					6	
248	30th	ePE	18	12	09.9	1.4	-0.2			37°	1	
		ePN			09.0	0.7	-0.6				2	
		ePZ			07.9	1.1			-0.3		3	
		eXN			24.7	1.9	+0.2				7	
		iXZ			23.0	1.9			+3.1		3	
		iXN			27.1	1.6	+1.8				2	
		eXZ			26.5	1.1			+0.2		8	
		eSE	17	56.5	7.2	-0.2					4	
		eSN		59.8	19.6	-0.5					5	
		eXE	20	44.2	22.9	-0.7					4	SSS?
		iXN		43.0	24.8	+1.2					5	
		iXE	22	46.0	17.9	+1.3					4	
		eXN		38.2	18.3	+1.1					5	
		iLE	25	10.7	20.2	+0.7					4	
		eLE	28	58.5	18.2	+0.8					4	
eLN		56.6	16.1	+1.4					5			
249	31st	ePE	19	42	36.3	2.0	-0.1			60°	6	
		ePN			36.0	5.7	+0.2				5	
		ePZ			32.6	2.3			+0.1		8	
		eXE			54.6	2.0	+0.3				6	
		iXN			52.2	1.6	+0.4				7	
		eXE	43	18.5	7.4	-0.9					4	
		iXN		18.5	7.0	+2.1					5	
		iSE	50	52.4	14.6	-4.4					4	
		iSN		45.3	18.5	+6.6					5	
		iXE	51	39.5	17.9	-8.9					4	
		iLE	59	37.2	22.0	-9.1					4	
		iLN	20	00	44.0	28.6	+8.5				5	

NOAA

SEISMOLOGICAL REPORT

for

I. G. Y.

June, 1958

Seismological Observatory.

Tôhoku University.

Sendai, Japan.

Station: Seismological Observatory, (Mukaiyama Observatory),
Tohoku University, Sendai, Japan.

Longitude: 140° 51' 30" E.

Latitude: 38° 14' 32" N.

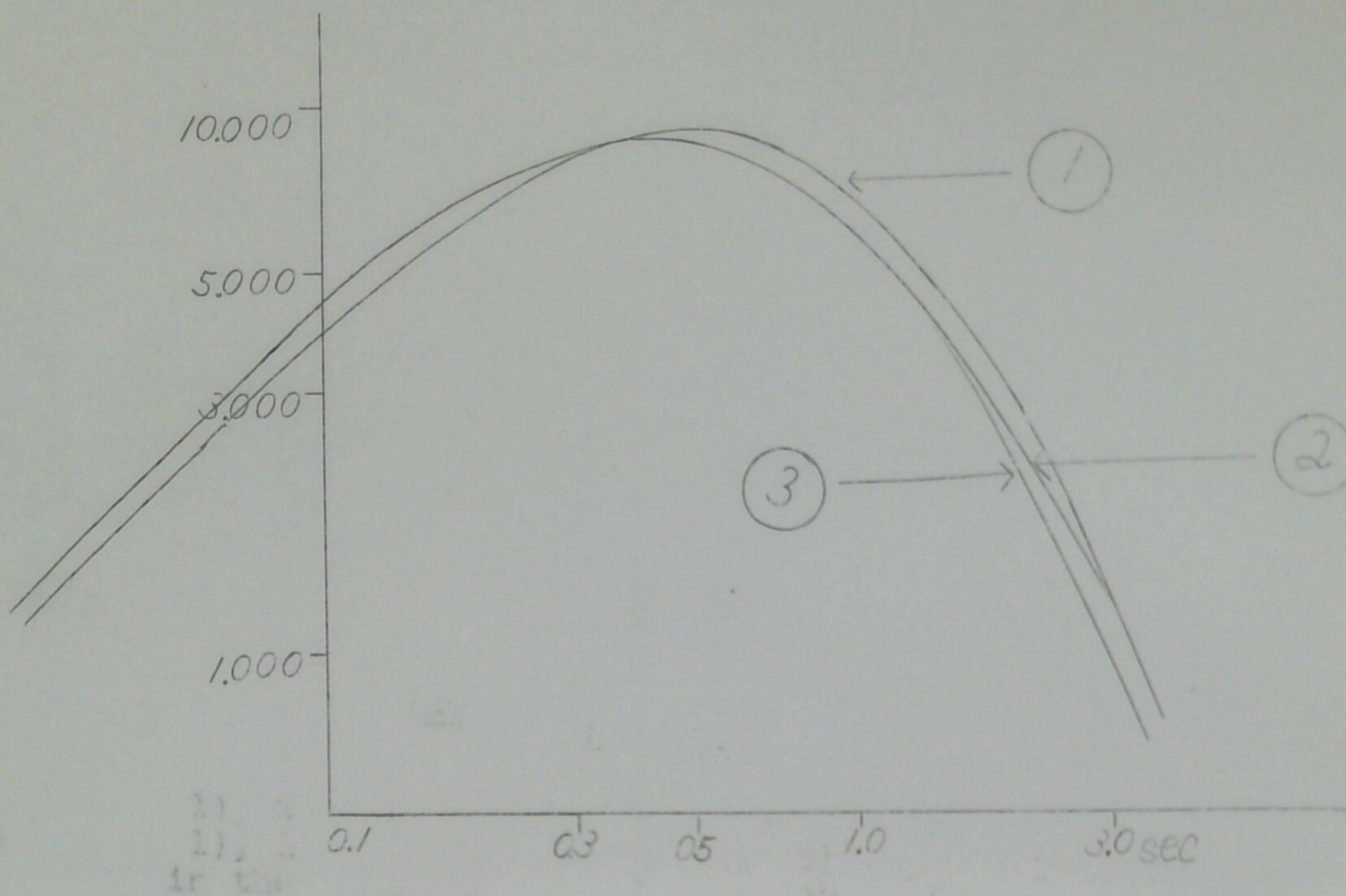
Elevation: 128 m.

Foundation: Sandstone.

Instrument

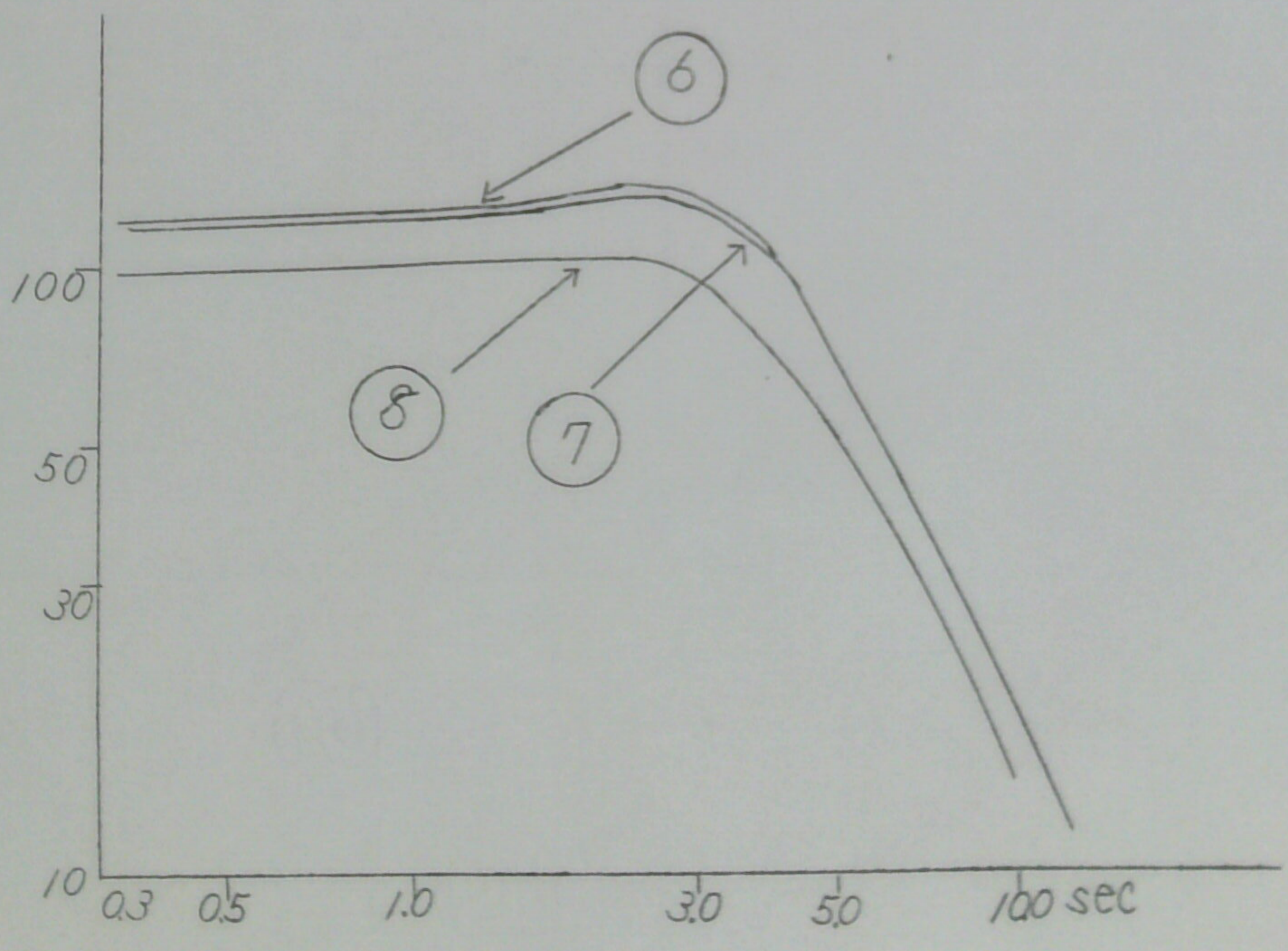
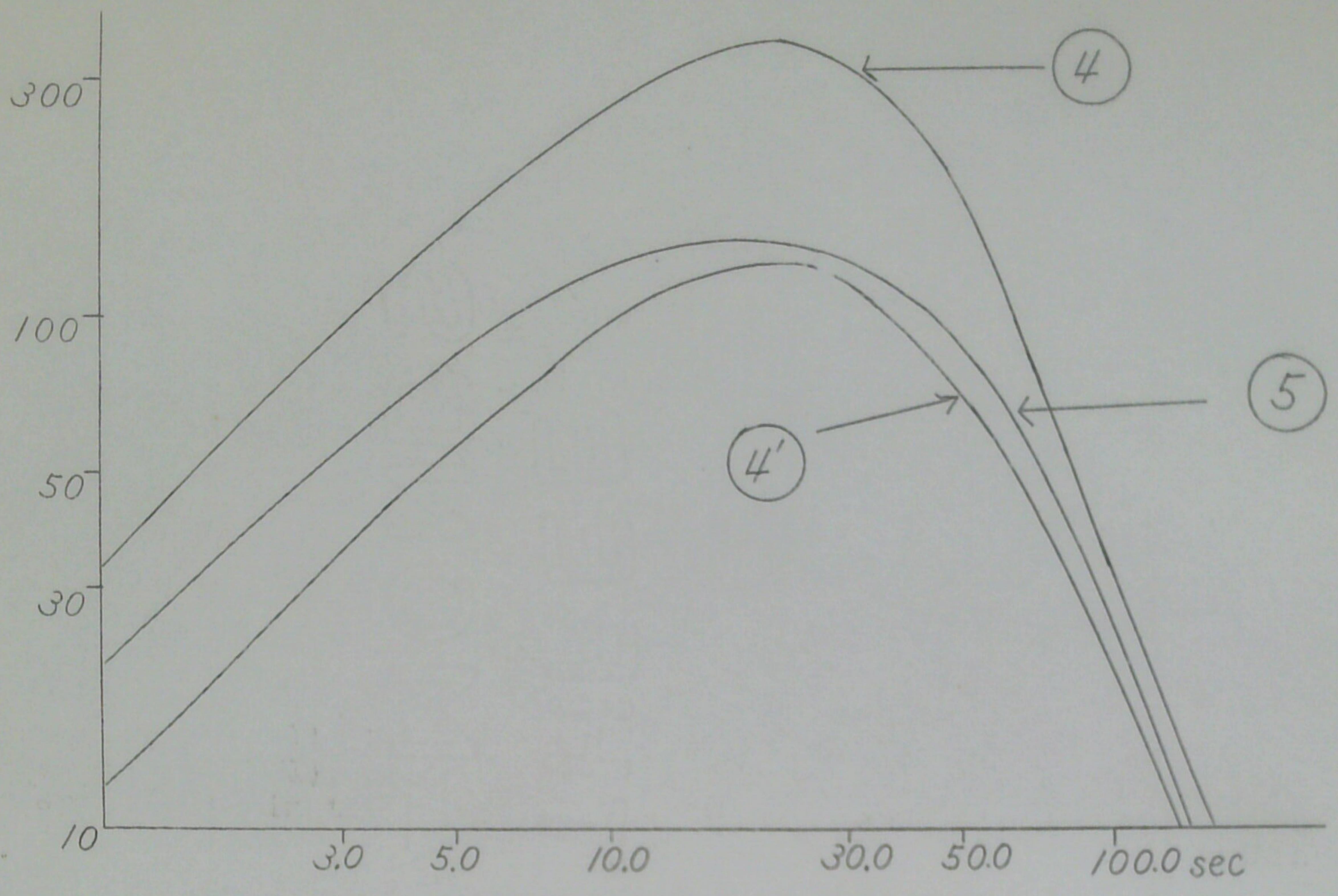
No	Name	Component	Vmax	T ₁ sec	T ₂ sec	h ₁	h ₂	ρ mm	α	Date of Calibration
1.	Short-period Electromagnetic Seismograph	EW	9,600*	0.93	1.2	1.8	1.0		0.00	April 16, 1958
2.	"	NS	9,100*	0.92	1.2	2.1	1.1		0.00	"
3.	"	UD	9,200*	1.00	1.0	2.1	1.0		0.00	"
4.	Long-period Electromagnetic Seismograph	EW	360	31.2	36.9	1.26	0.71		0.00	July 4, 1958
4'	"	EW	135	26.0	70.8	1.03	1.16		0.00	June 2, 1958
5.	"	NS	145	28.4	52.2	1.74	0.86			July 4, 1958
6.	Wiechert Seis- mograph (200 Kg)	EW	136	3.7		0.55		0.24		July 2, 1958
7.	"	NS	130	3.7		0.55		0.30		"
8.	" (1,200 Kg)	UD	103	3.7		0.60		0.35		"

Vmax: Maximum magnification.
T₁ : Period of pendulum.
T₂ : Period of galvanometer.
h₁ : Damping constant of pendulum.
h₂ : Damping constant of galvanometer.
 ρ : Solid friction.
 α : Coupling factor.
* : Magnification for the amplitude read on
microfilm-reader (magnification 8.4).



Errata

Read 1.8 (No. 1), 2.1 (No. 2) and 2.1 (No. 3) for
 h_1 : 1.2 (No. 1), 1.4 (No. 2) and 1.4 (No. 3)
 respectively in the table of instruments for April
 and May, 1958.



Serial No.	Date	Phase	Time			Period sec	Amplitude			Instru- ment	Remarks
			G.M.T.				N	E	Z		
			h	m	s						
250	3rd	ePE	19	41	59.6	0.6		+0.9	59°	1	
		1PN			58.8	6.7	+0.5			5	
		1PZ			57.4	1.6			+1.1	3	
		1XZ	42	07.2		1.6			-3.3	3	
		eXZ			36.6	1.7			+1.0	3	
		ePPPN	45	38.		7.7	+0.3			5	
		1SE	50	05.		10.4		+0.3		4'	
		1SN			09.2	13.0	+1.0			5	
		1LN	20	05 02.3		16.9	+0.9			5	
		eLN		08 05.		18.	-0.7			5	
		eLN		13 20.		18.	-0.8			5	
251	4th	ePE	14	37	12.8	0.7		-0.2	39°	1	
		ePN			12.8	1.6	+1.1			2	
		1PZ			12.9	1.7			+1.1	3	
		1XE			27.1	1.7		-1.5		1	
		eXN			31.4	1.6	-1.4			2	
		1XZ			31.4	1.4			-2.0	3	
		1SE	38	07.7		1.4		-1.5		1	
		1XN			08.2	1.7	-1.7			2	
		1XN	42	51.6		6.5	+0.5			4'	S?
		1XE	46	02.		30.		-1.2		4'	SS?
		1KN			02.	33.	+2.2			5	SS?
		1XE	50	27.		20.0		-2.1		4'	
		eXN			52.	21.	-0.8			5	
		1XN	57	53.		18.	+1.1			5	
		1XE	59	04.		19.		-0.9		4'	
		1XN	59	53.		16.	-1.4			5	
		1XN	15	04 04.		14.1	+0.8			5	
252	6th	ePSE	09	40	57.	13.0		-0.1		4'	
		ePSN			57.	10.0	-0.2			5	
		1XE	41	10.		26.		-0.7		4'	
		1XN			11.	23	-0.6			5	
		1XE	47	50.5		24.3		+0.7		4'	
		1XN			51.3	23.1	+0.5			5	
		eLE	10	18.0		27.				4'	
		1LN	20	06.		24.	-1.0			5	
		eXN	23	35.		27.	-0.8			5	
		eXE	26.9			19.				4'	
		eXN	26.3							5	
		eXN	31	44.		20.	-0.8			5	
		253	6th	ePSN	19	52	35.	17.	+0.2		
eLN	20			30	40	21.	-0.2			5	
eLN					33.0	20.	-0.2				
254	8th	ePE	00	46	18.0	1.4		-1.0	39°	1	
		ePN			18.3	1.0	-1.1			2	
		ePZ			16.0	1.2			+2.0	3	
		eXE	47	18.8		1.0		-0.9		1	
		eXZ			15.6	1.3			+0.8	3	

Serial No.	Date	Phase	Time			Amplitude			Instrument	Remarks	
			G.M.T.	Period		N	E	Z Δ ca			
			h	m	s	sec	mm	mm	mm		
254 (cont'd)		eXN			52.4	1.4	+2.0			2	
		ePcPN	48	38.		20.6	-0.4			5	
		eSSSE	55	23.		29.		+1.7		4	
		eXN	56	19.		28.	+1.0			5	
		eLE	58	47.		22.4		-1.8		4	
		eLN			55.	24.5	+1.3			5	
		eLN	01	16	17.	18.	-0.3			5	
		eLN		18	03.	16.	-0.5			5	
255	10th	ePE	05	56	02.7	1.0		+0.4	11°	1	
		ePN			03.3	1.6	+1.4			2	
		1PZ			03.0	1.5			+4.1	3	
		eSE	58	02.8	2.2		-0.3			4	
		1SN	57	59.4	3.1	-0.3				5	
		1SZ	58	04.6	2.6			-0.6		8	
256										No trace.	
257	12th	ePE			20.9			+0.5	39°	3	
		eXE			28.1	0.8		-1.0		1	
		1XN			26.5	1.6	-1.7			2	
		1PPE	01	49.7	12.2		-0.9			4	
		1PPN		49.3	11.6	-0.5				5	
		1PPPZ	02	14.2	1.6		+4.0			2	
		1PPPZ		17.4	1.7			+1.3		3	
		1PcPN		41.4	1.5	+1.1				2	
		1SE	06	16.9	12.9		+2.9			4	
		1SN		18.2	16.0	+0.7				5	
		1XE	08	56.	28.		+2.1			4	SS?
		1XN	09	04.	24.	-1.2				5	SS?
		1XE	13	36.8	21.4		-8.9			4	
		eLN	19	08.	13.7	-0.7				5	
		1LN	20	54.	20.	-1.9				5	
		1XE	23	14.	19.		-1.9			4	
		1XN		04	16.	-3.1				5	
1XE	36	14.	18.4		-1.1			4			
258	15th	1PE	15	03	42.6	0.9		+1.3	68°	1	
		ePN			42.1	0.6	-0.6			2	
		1PZ	03	41.8	1.3			+1.9		3	
		ePcPE	04	09.7	2.0		-1.8			1	
		1PcPZ		07.6	1.8			-1.8		3	
		eXE	04	42.9	1.5		+0.9			1	
		eXN	04	45.2	1.8	+1.3				2	
		ePPE	06	23.5	1.5		-0.9			1	
		ePPZ		19.1	2.1			-1.1		3	
		eXE	06	47.3	2.0		-0.6			1	
		eXN		45.2	1.8	+1.3				2	
		esPN		54.8	2.7	+1.1				2	
		1sPZ		55.5	1.8			-1.1		3	
		eSN	11	36.	11.	+0.2				5	
		1ScSE	12	53.9	7.5		+0.8			4	

Serial No.	Date	Phase	Time			Amplitude			Instru- ment	Remarks		
			G.M.T.	Period		N	E	Z Δ ca				
			h	m	s	sec	mm	mm	mm			
258 (cont'd)		eScSN			54.	9.2	+0.2			5		
		eScSZ			55.5	5.4			+0.2	8		
		1XE	13		54.	7.5		-0.9		4		
		1XN			54.8	8.8	+1.0			5		
		1SSN	16		37.	24.	+0.0			5		
259	17th	1PE	19	09	57.1	1.4		+0.8		13°	1	
		1PN			58.1	1.4	+2.4				2	
		1PZ			55.4	2.0			+1.0		3	
		1XZ			59.2	0.5			+0.4		8	
		1XN	10		01.9	2.3	+0.5				7	
		1XN			31.1	2.0	-0.4				7	
		1SE	12		22.0	2.5		-0.4			4	
		1SN			22.3	2.9	+0.3				5	
		1SZ			22.7	1.9			-0.3		8	
		1XE			47.	5.3		+2.5			4	
		1XN			44.4	2.5	-0.9				5	
		eLE			57.	33.		-3.			4	
		eLN	13		08.	31.	+1.8				5	
		1XE	14		15.	17.7		+8.6			4	
		1XN			15.	18.4	+3.1				5	
		1XN			54.	19.2	+4.4				5	
		1XN	20		56.	12.9	-0.8				5	
1XE	21		57	16.		+1.9			4			
1XN	23		22.	15.	+1.4				5			
260	19th	ePE	05	21	50.5	0.9		+1.0		16°	1	
		ePN			50.3	0.8	-0.9				2	
		1PZ			50.3	1.1			-2.7		3	
		1XE			51.2	0.8		-2.4			1	
		1XN			51.1	1.6	-1.4				2	
		1XZ			51.3	1.7			-12.2		3	
		1XE			58.7	1.5		-0.4			6	
		1XN	22		00.4	1.7	+0.4				7	
		1SE	24		52.7	6.0		+3.2			4	
		eSN			52.9	9.3	-0.8				5	
		1XE	25		39.	36.		+5.8			4	
		eLN	27.		8	20.						
		1LE	28		14.	24.4		+5.2			4	
		eLE			52.	16.4		+3.1				
261											No trace.	
262	25th	ePE	09	44	26.0	0.9		-1.1		41°	1	
		ePN			26.9	3.4	+1.4				2	
		ePZ			24.4	1.3			-1.1		3	
		1XN	45		07.7	3.1	+4.1				2	
		1XZ			00.1	3.0			+0.4		8	
		1XE	51		38.	19.4		-9.3			4	
		1XN			38.	11.6	+2.8				5	
		1XE	53		42.	26.		-4.7			4	
1XN			45.	23.	-3.2				5			

Serial No.	Date	Phase	Time			Period sec	Amplitude			Instru- ment	Remarks
			G.M.T.				N	E	Z		
			h	m	s						
262 (cont'd)		1XN	54	21.		36.	-15.			6	
		1XE	54	40.		20.		+26.		4	
		1XE	58	54.						4	
		1XE	10	04	49.	21.			-9.9		4
263	26th	1PE	04	42	54.0	1.7			+3.0	21°	1
		1PN			54.1	2.0	+4.8				2
		1PZ			53.8					-12.6	3
		1XZ			54.9	1.2				-6.9	3
		1XN		43	28.9	2.8			+0.6		5
		1XZ			43.3	1.9				+0.7	8
		1SE		46	37.3	12.0				+3.4	4
		1SN			40.	12.6	-0.9				5
		1PcPE		47	18.	11.8				+5.5	4
		1PcPN			19.	12.0	-3.0				5
		1XE		49	24.	19.				+2.4	4
		1XE		54	06.	8.6	-1.3				4
		264									
265	29th	eP'Z	03	44	53.	1.5			-0.4	145°	3
		eXZ		46	05.	1.7			-0.4		3
266	30th	1PE	18	28	05.7	0.2			-3.0	7°	1
		ePN			05.5	1.5	-1.0				2
		ePZ			04.2	1.2				+0.7	3
		1XE			06.6	1.0				+2.1	1
		1XN			06.5	1.1	+1.4				2
		eXE			31.					+	4
		1XN			32.2	9.4	-1.6				5
		1SE		29	20.2	7.2				-11.3	4
		1SN			21.2	5.2	-3.8				5
		eSZ			18.9	2.0				+0.8	8
		1XE		29	56.8	18.4				-6.2	4
		1XN			56.6	12.0	-9.6				5
		1XE		30	04.	20.8				+8.2	4
		1XN			12.	21.6	+25.7				6
		1LE		30	47.0	16.6				-25.5	4
		1LN			46.8	18.0	-11.0				5
		eLE		31	58.	15.				+22.9	4
		1XE		33	20.8	10.0				-5.1	4
1XE		35	21.	12.				+3.9	4		
1XN			06.	13.	+7.7				5		
1XE		36	59.	16.				-5.5	4		
1XN			31.	17.	-5.1				5		



SEISMOLOGICAL REPORT

for

I. G. Y.

July, 1958

JAPAN

Seismological Observatory.

Tohoku University.

Sendai, Japan.

Station: Seismological Observatory, (Mukaiyama Observatory),
Tohoku University, Sendai, Japan.

Longitude: 140° 51' 30" E.

Latitude: 38° 14' 32" N.

Elevation: 128 m.

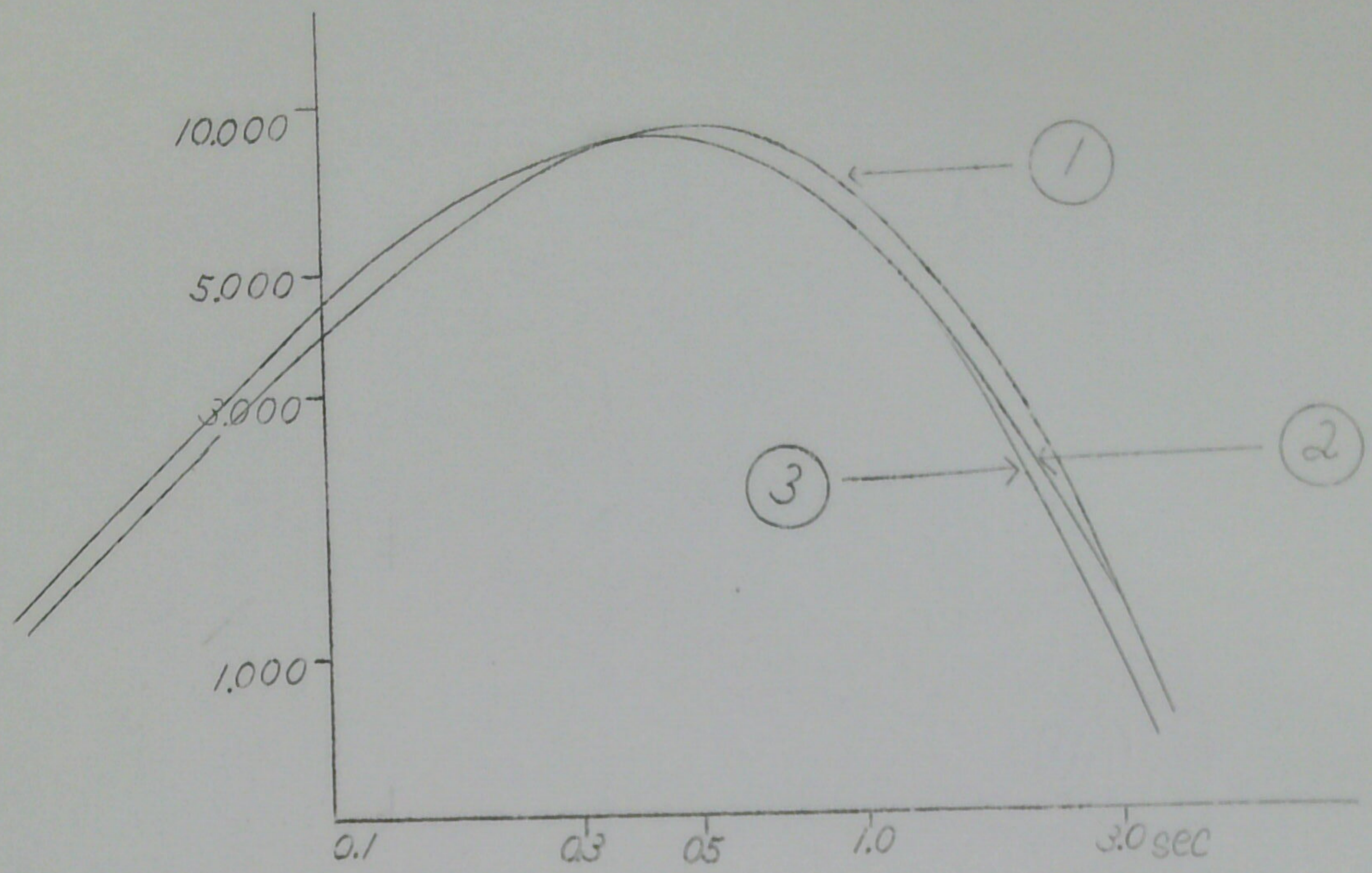
Foundation: Sandstone.

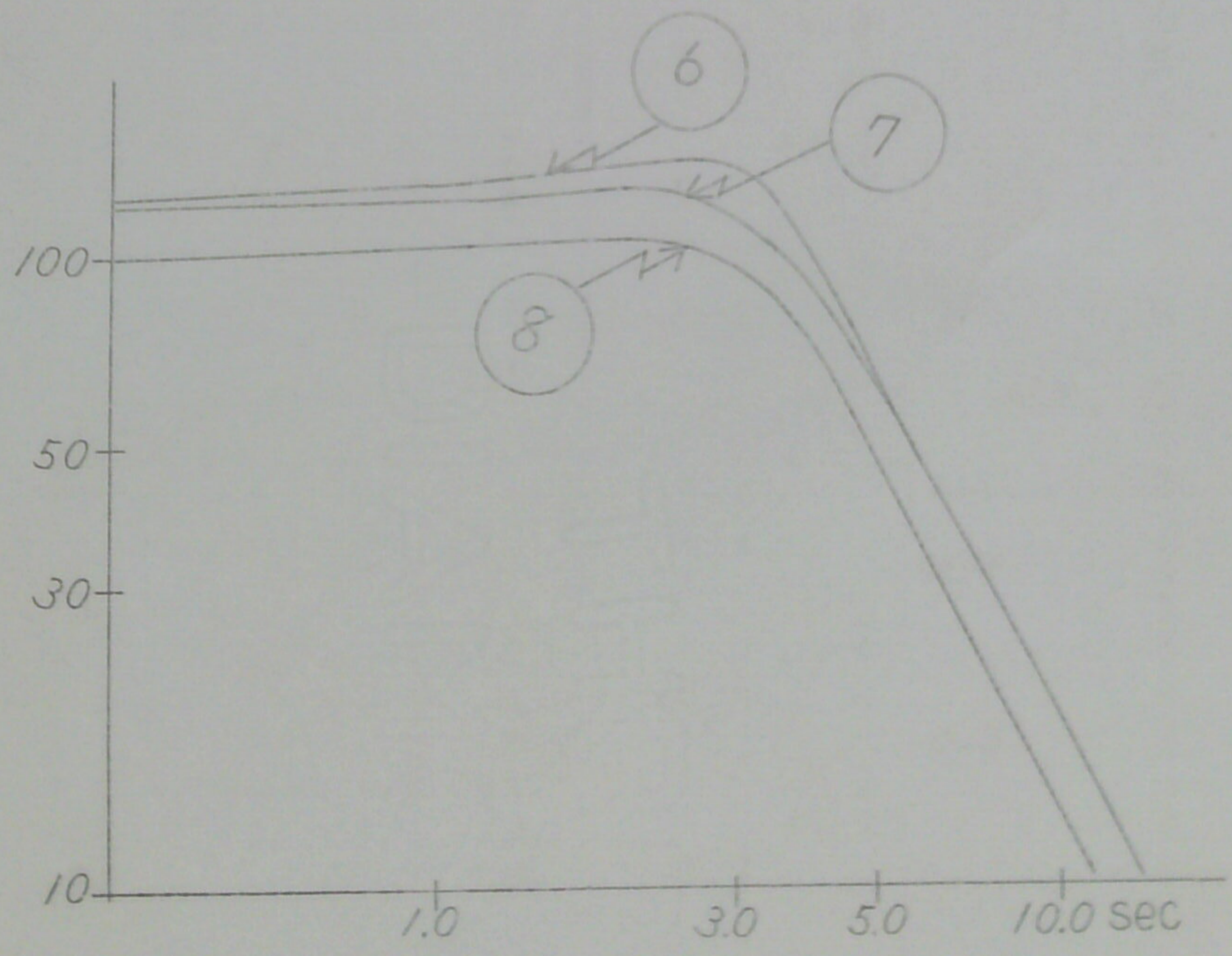
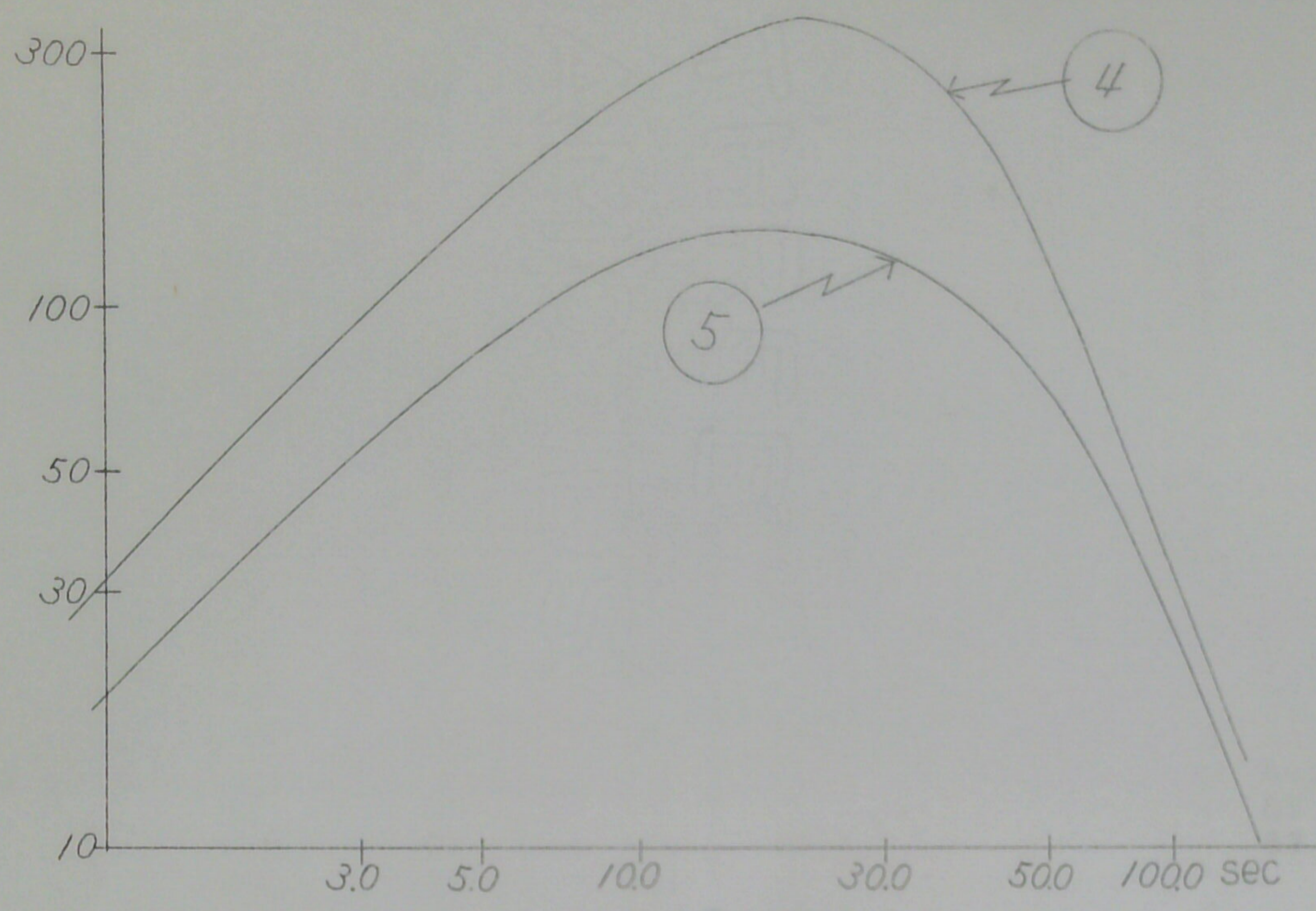
*noted
1/22/29*

Instrument

No	Name	Component	Vmax	T ₁	T ₂	h ₁	h ₂	ρ mm	α	Date of Calibration
1.	Short-period Electromagnetic Seismograph	EW	9,600*	0.93	1.2	1.8	1.0		0.00	April 16, 1958
2.	"	NS	9,100*	0.92	1.2	2.1	1.1		0.00	"
3.	"	UD	9,200*	1.00	1.0	2.1	1.0		0.00	"
4.	Long-period Electromagnetic Seismograph	EW	360	31.2	36.9	1.26	0.71		0.00	July 4, 1958
5.	"	NS	145	28.4	52.2	1.74	0.86			July 4, 1958
6.	Wiechert Seis- mograph (200 Kg)	EW	136	3.7		0.55		0.24		July 2, 1958
7.	"	NS	130	3.7		0.55		0.30		"
8.	" (1,200 Kg)	UD	103	3.7		0.60		0.35		"

Vmax: Maximum magnification.
 T₁ : Period of Pendulum.
 T₂ : Period of galvanometer.
 h₁ : Damping constant of pendulum.
 h₂ : Damping constant of galvanometer.
 ρ : Solid friction.
 α : Coupling factor.
 * : Magnification for the amplitude read on
 microfilm-reader (magnification 8.4).





Serial No.	Date	Phase	Time			Period	Amplitude			Instru- ment	Remarks
			G.M.T.				H	E	Z		
			h	m	s		mm	mm	mm		
267	1st	ePH	06	59	48.2	0.9		+1.0	33°	1	
		ePH			50.7	1.2		-0.9		2	
		1PZ			37.6	1.3			+0.8	3	
		1XZ	07	00	36.2	1.4			+0.9	3	
		1XZ			41.2	1.5			-1.0	3	
		ePcPH	02		13.5	2.1			+1.1	2	
		ePcPZ			10.8	1.4			-0.7	3	
		13K	04		50.5	8.4			-0.7	4	
		ePcSE	05		38.	37.4			-1.2	4	
		ePcSN			25.	24.			+0.3	5	
		1LH	08		36.	24.4			-0.8	4	
		eXH	09		34.	19.			-0.3	5	
		1XR	15		02.	17.			+0.7	4	
		eLE	17		02.	21.			+1.8	4	
		1XR	19		24.	26.			-1.1	4	
268	3rd	1XE	03	04	23.	50.		+1.9		4	P is not dis-
		eXH			04 23.	39.		+1.1		5	ting.
		eXE			09 11.	28.			-0.8	4	Large micro-
		eXH			09 11.	46.			+0.8	5	seisms,
		eXR			19 41.	34.			+1.0	4	ST
		eXH			19 48.	46.			-1.4	5	ST
		eLN			23 31.	04.			+1.4	5	
269										No trace.	
270	3rd	1PH	12	50	33.0	0.5		+4.2	11°	1	
		1PH			32.4	0.5		-5.2		2	
		1PZ			32.1					3	
		eSE		52	28.4	1.4		+3.0		1	
		13H			20.6	1.3		-7.		2	
		13H			30.2					3	
		1XE		53	05.6	3.4		+0.5		4	
		eXH			03.8	2.8		-0.4		5	
271	4th	ePH	18	41	04.9	1.3		-1.0	36°	1	
		ePH			04.4	2.0		-0.8		2	
		1PZ			04.7	1.7			+1.6	3	
		1XN			31.1	2.6		-0.3		7	
		1XZ			31.6	2.1			-2.7	3	
		1XR	42		17.0	1.9			+2.2	1	???
		13E	43		34.6	7.8			-0.9	4	
		13H			34.8	5.8			+0.3	5	
		eSE			41.2	2.7			-0.6	3	
		1XE	49		30.5	15.7			-0.9	4	
		eScSR	51		04.	19.			+1.2	4	
		eScSN			00.	26.			-1.2	5	

Serial No.	Date	Phase	Time			Period sec	Amplitude			Instra- ment	Remarks	
			G.M.T.				N	E	Z			Δαα
			h	m	s		mm	mm	mm			
272	8th	eXR	23	08	32.	17.		-0.3		4	PPT	
		eXN			27.	26.	-0.3			5	PPT	
		eSSSE	30		27.	40.		+1.0		4		
		eSSSN			19.	40.				5		
		1XE	35		59.	40.		+1.8		4		
		eLE	48		37.			+0.8		4		
		eLN			43.	24.	+1.5			5		
		eLE	50		29.	28.		+2.0		4		
273	10th	ePZ	06	25	21.8	2.5			+0.1	55°	5	PK, PH is very feeble
		eXE			31.9	1.9		+2.4			1	
		1XN			32.3	1.0	-2.1				2	
		1XZ			33.4	1.7			-1.0		3	
		eXE			50.3	3.6		-0.3			6	
		eXN			50.0	1.8	+0.3				7	
		1XZ			49.9	2.7			-1.8		8	
		ePcPE	26		21.6	2.6		-0.5			3	
		1PcPN			21.7	3.0	+0.9				7	
		1PcPZ			21.4	3.2			+1.4		6	
		1XK	27		43.3	2.7		-0.5			6	
		1XN			41.1	3.3	+0.6				7	
		1SK	33		12.	22.7		+26.			4	
		1SN			08.	33.	+37.				5	
		1LN	45		38.	19.	-1.2				7	
		1XE	46		34.	20.		-2.8			6	
		1XN			34.	19.	+3.4				7	
		1LE	50		02.	21.		+3.4			6	
		1LE	52		40.	17.		-1.8			6	
		1LN			40.	17.	+1.1				7	
1LE	55.0			19.					6			
274	11th	ePKPE	19	30	08.4	0.8		-0.3		140°	1	
		ePKPE			08.1	1.7			+0.2		3	
		eXE			13.4	0.9		+1.3			1	PK upper branch.
		eXN			12.1	0.8	-0.5				2	"
		eXZ			15.4	1.4			+0.2		3	"
		eXE			28.6	1.2		+0.9			1	
		1XZ			31.6	1.7			+3.5		3	
		1XE	31		53.5	1.5			+1.7		2	
		eXZ	33		55.4	0.8			+0.3		3	PPT
		1XZ	36		15.3	1.3			+1.6		3	
		eXE	41		24.	28.		+0.2			4	
		1LE	20	19	35.	32.		+0.5			4	
		1LE		26	50.	19.		-0.4			4	
		1LE		30	17.	20.		+0.8			4	
		275	12th	eXE	01	26	30.	26.		+0.5		
eXN				26	35.	24.	-0.5				5	
1LE				42	14.	32.		+0.2			4	
eLN					44.3	24.	+0.4				5	

Serial No.	Date	Phase	Time			Period sec	Amplitude			Instrument	Remarks	
			G.M.T.				N	E	Z			Δ ca
			h	m	s		mm	mm	mm			
276	16th	eXE eXN	13	47.4 53.6	38. 22.		+0.6 +0.4		4 5			
277	17th	eLN eLE eLE eLN	06	22 25. 55. 29 11. 11.	23. 22. 17. 17.	+0.6	-0.5 +0.7 -0.3		5 4 4 5	P is not distinct.		
278	17th	ePE ePZ eXE eXN eXZ eXN eXZ ePPE ePPZ eSE eSN 1SSE eSSN eXE 1XN 1XN eXE eXN	21	05 53.3 54.3 56.5 56.3 56.9 06 17.0 18.1 57.6 56.7 11 08. 11. 12 57. 52. 14 56. 53. 20 26. 35 13. 12.	0.7 1.2 1.2 1.2 1.4 2.1 1.6 1.2 1.1 16.4 19. 30. 24. 21. 25. 19. 15. 18.		-0.2 +0.5 +0.9 -0.9 -1.6 +1.6 -1.0 -0.6 -0.6 -0.4 -0.5 -0.9 -0.7 -1.2 -1.3 -0.6 -0.4 -0.3	32°	1 3 1 2 3 2 3 1 3 4 5 4 5 4 5 5 4 5			
279	18th	ePZ eXE eXZ eXN 1XZ 1XZ 1XZ eXE eXZ eSE eSN 1XE 1XN 1XN	00	45 51.9 46 16.9 18.5 34.1 32.6 55.9 47 18.2 51.6 52.8 51 08. 10. 53 12.7 12.7 56 00.	1.1 1.4 0.9 1.7 3.0 1.3 1.6 1.9 2.9 5.0 - 24.4 27.0 18.8		-0.6 -0.1 -1.2 -1.9 -0.2 -1.3 -2.1 -1.0 -0.1 -0.2 - +1.8 -1.8 +1.4	32°	1 6 3 2 8 3 3 1 8 4 5 4 5 5	PE, PN not distinct. PP?		
280	19th	ePE ePN ePZ eXE 1XN 1XZ 1pPE	06	38 06.5 04.7 03.3 11.3 12.0 10.0 38 58.7	1.6 - 1.2 1.2 1.1 1.0 -		-1.0 -1.7 -0.9 -0.1 -1.4 -1.9 -1.9	43°	1 2 3 6 2 3 4			

Serial No.	Date	Phase	Time			Period sec	Amplitude				Instrument	Remarks
			G.M.T.				N	E	Z	Δca		
			h	m	s							
280 (cont'd)		ipPN	39	00	07	11.6	-0.8				5	
		ixE			15	38		+0.7			4	
		ixZ			17.1	1.5			+2.6		3	
		eXN			19.5	2.0	+0.3				7	
		eXE	40	04	09	1.2		+0.9			1	
		ixZ			04.9	1.9			+3.4		3	
		ixE			46	34		+0.4			4	
		ixE	41	15		26		+0.4			4	
		eXN	45	19		17	-0.6				5	
		ixE			34	40		+0.3			4	
		ixE	46	38		11.6		-			4	
		oSeSN	47	37			-0.4				5	
	281	19th	ePE	18	24	27.7	1.0		-0.2		40°	1
ePN					27.9	1.2	-0.4				2	
ePZ					28.0	1.1			+0.3		3	
eXE					29.4	1.6		-0.1			6	
eXZ					29.3	2.5			+0.1		8	
eXN					37.4	1.7		-0.3			6	
ixZ					37.2	1.8			-0.4		8	
ixZ					41.6	1.3			+2.9		3	
eXE					43.4	1.7		+0.2			6	
ixZ			18	25	09.0	1.2			+4.8		3	PP?
ixZ					16.9	1.4			+3.3		3	
ixZ					30.6	1.7			-2.0		3	PPP?
eXE					41.9	2.0		-2.0			1	PcP?
ixN					40.9	1.9	+2.4				2	PcP?
ixE			30	31		18.0		+1.9			4	
ixN					33	22.0	-1.3				5	
ixE			32	53		15		-3.2			4	
ixN					47	19	-2.5				5	
ixE			35	48		34		-4.1			4	
eLE			38	1		14					4	
ixE			40	26		21		-7.0			4	
ixE			42	23		21		+5.3			4	
ixE			43	40		18		-4.2			4	
282	21st	ePE	07	26	56.3	1.8		+0.9		7°	1	
		ePN			58.5	0.4	-0.1				6	
		ePZ			55.4	2.0			+1.5		3	
		ixE	28	21.1		2.0		-1.5			4	
		eSN			20.7	4.6	+1.2				5	
		ixZ			22.8	1.8			-0.9		8	
		ixE	32	04.9		2.3		-7.9			1	
		ixN			09.0	1.8	+8.6				2	
		ixE	32	35.0		2.4		-10.1			1	
		ixE			35.0	2.7	-3.5				2	
		ixN	34	38.2		2.7		-4.4			1	
		eXE	34	37.1		2.1	+1.0				2	

Serial No.	Date	Phase	Time			Period sec	Amplitude			Instru- ment	Remarks
			G.M.T.				N	E	Z Δ		
			h	m	s		mm	mm	mm		
283	21st	ePE	14	43	40.5	1.3	-1.1		32°	1	
		ePN			40.4	1.1	-0.7			2	
		iPZ			39.4	1.5		+1.6		3	
		eXN			42.9	1.0	+1.2			2	
		iXZ			42.2	0.8		+1.0		3	
		eXN			49.7	1.0	+2.6			2	
		iXZ			48.0	1.1		+3.0		3	
		eXE	44	21.8		1.6		-1.0		1	
		eXN			22.7	1.7		-1.8		2	
		eXN	45	23.5		1.9	+1.8			2	
		iXZ			24.8	1.6		+2.0		3	
		eXE	48	45.		6.3		+0.2		4	S?
		eSN			53.			-0.9		5	
		iXN	50	26.		27.		+1.4		5	PcS?
		iXE	51	45.		35.		-1.3		4	
		eXN			58.	20.		-1.0		5	
		iLE	52	53.		25.		-3.1		4	
eXE	15	00	06.	22.		+1.5		4			
eXN			08.	13.		-0.3		5			
284	23rd	iPE	10	29	08.8	1.5	+2.6		7°	1	
		iPN			08.3	1.3	-3.2			2	
		iPZ			07.1	1.6		-3.7		3	
		iXE	30	12.0		12.		-5.4		4	
		iXN			08.8	15.	-5.9			5	
		iSE	30	23.0		6.		-9.0		4	
		iSN			25.0	4.4	-4.9			5	
		iSZ			25.9	2.2		+3.9		8	
		iXE	54	20.		13.		+4.2		4	
		iXN			19.	11.	-9.2			5	
		iXE	55	39.		11.		+4.7		4	
		iXN			29.	11.	-1.2			5	
		iXE	11	03	04.	7.		+4.5		4	
		iXN			06.	13.	-3.1			5	
285										No trace.	
286	23th	ePKPN	17	55	36.9	0.7	+0.7		143°	2	
		iPKPZ			37.2	0.8		-1.3		3	
		eXE			37.8	0.8	+0.9			1	PKP upper branch.
		iXZ			37.2	0.9		-4.0		3	"
		iXE			39.0	0.7	-2.2			1	"
		iXN			38.8	0.7	-0.9			2	"
		ePPPE	18	02	12.9	1.9	-3.1			1	
		ePPPZ			15.3	1.8		-2.5		3	
		eXE	13	02.9		1.6	+2.0			1	
		iXN			07.4	2.1	+3.4			2	
		eXZ			15.2	2.2		+1.0		3	
		iSSE	16	58.		29.		+3.8		4	
		iSSN			56.	28.	-3.0			5	
isSSE	20	44.		25.		+6.1		4			

Serial No.	Date	Phase	Time G.M.T.			Period sec	Amplitude			Instrument	Remarks	
			h	m	s		N mm	E mm	Z mm			
286 (cont'd)		1sSSN			40.	29.	-8.6			5		
		eXE	26	18.		31.		+7.9		4		
		1XN			24.	29.	+11.0			5		
		1XN	36	46.		47.	-7.0			5		
		1XN	37	04.		46.	-11.5			5		
287	30th	ePZ	02	49	22.7	0.4			+0.2	8°	3	
		eXE			25.6	0.5		-1.7			1	
		eXN			25.5	0.5	+1.0				2	
		1XZ			24.2	0.4			+2.1		3	
		eSE	50	59.1		7.0		+1.3			4	
		eSN		59.7							5	
		1XZ	52	31.8		1.7			+0.8		8	
		1XE	54	21.9		2.1		+9.0			1	
288	30th	1PZ	04	52	36.8	1.8			+0.9	42°	3	
		eXE			44.8	1.3		-1.6			1	
		eXN			48.6	2.1	-1.1				2	
		1XZ			55.0	1.6			-1.4		3	
		eXE	53	24.3		1.5		+2.1			1	
		1XZ		15.0		1.3			-2.3		3	
		eXE	54	29.8		1.9		+2.2			1	PP?
		eSSE	05	02	07.	29.		+0.7			4	
		eSSN		05.		19.	-0.4				5	
		eLN	04	59.		31.	-2.4				5	
		eLE	05	15.		27.		+1.6			4	

2-A-1
Box 214



REPORT OF MICROSEISMS
for
I. G. Y.

SEN

July, 1958

Seismological Observatory,

Tôhoku University .

Sendai, Japan.

Station: Seismological Observatory, (Mukaiyama Observatory),
Tôhoku University, Sendai, Japan.

Longitude: 140° 51' 30" E.

Latitude: 38° 14' 32" N.

Elevation: 128 m.

Foundation: Sandstone.

Instrument

No	Name	Component	V _{max}	T ₁ sec	T ₂ sec	h ₁	h ₂	α	Date of Calibration
1.	Short-period Electromagnetic Seismograph	EW	9,600*	0.93	1.2	1.8	1.0	0.00	April 16, 1958
2.	"	NS	9,100*	0.92	1.2	2.1	1.1	0.00	"
3.	"	UD	9,200*	1.00	1.0	2.1	1.0	0.00	"

V_{max}: Maximum magnification.

T₁ : Period of pendulum.

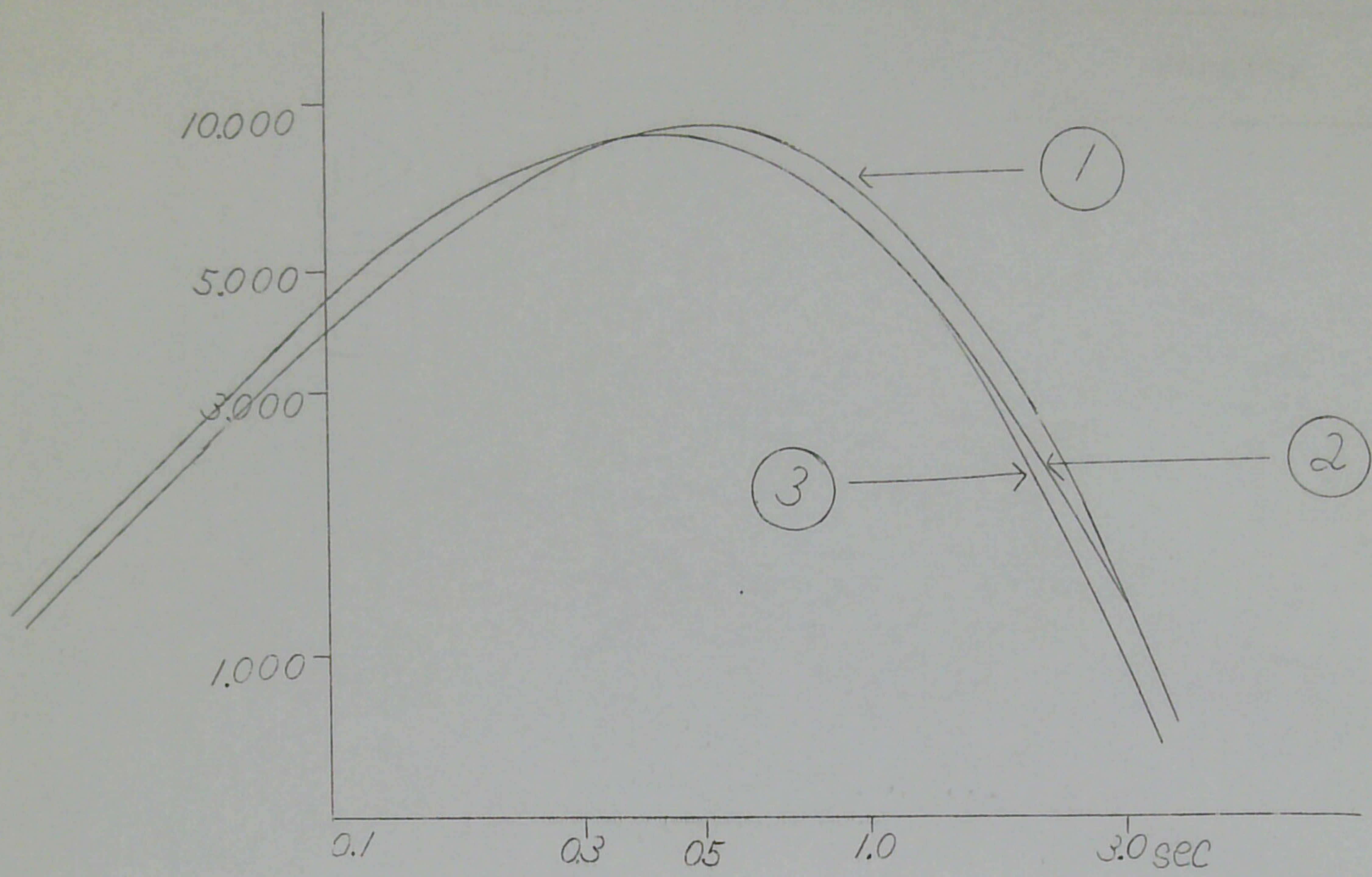
T₂ : Period of galvanometer.

h₁ : Damping constant of pendulum.

h₂ : Damping constant of galvanometer.

α : Coupling factor.

* : Magnification for the amplitudes read
on microfilm-reader (magnification 8.4).



Date	Time	K	N-S		K	E-W		K	U-D		Remarks
			A μ	T sec		A μ	T sec		A μ	T sec	
1	00	3	0.3	2.3	3	0.2	2.1	3	0.1	1.7	
	06	3	0.4	2.5	3	0.2	2.1	3	0.1	1.5	
	12	3	0.3	2.3	3	0.1	2.0	3	0.0		
	18	3	0.3	2.0	3	0.2	2.1	3	0.1	1.7	
2	00	3	0.2	2.1	3	0.2	2.0	3	0.0		
	06	3	0.3	2.1	3	0.2	2.2	3	0.0		
	12	3	0.8	2.3	3	0.5	2.3	3	0.2	1.6	
	18	3	0.9	2.2	3	0.6	2.2	3	0.3	2.0	
3	00	3	1.1	2.4	3	0.7	2.5	3	0.2	1.6	
	06	3	0.9	1.7	3	0.8	2.0	3	0.4	1.7	
	12	3	1.5	2.8	3	0.5	2.2	3	0.3	2.1	
	18	3	0.9	2.9	3	0.7	3.1	3	0.2	2.4	
4	00	3	0.9	2.9	3	0.7	2.9	3	0.1	1.8	
	06	3	0.7	2.9	3	0.4	2.7	3	0.0		
	12	3	0.5	2.6	3	0.4	2.8	3	0.0		
	18	3	0.3	2.4	3	0.2	2.5	3	0.0		
5	00	3	0.3	2.5	3	0.2	2.3	3	0.0		
	06	3	0.3	2.7	3	0.2	2.6	3	0.0		
	12	3	0.3	2.9	3	0.0		3	0.0		
	18	3	0.2	2.8	3	0.0		3	0.0		
6	00	3	0.3	2.8	3	0.0		3	0.0		
	06	3	0.0		3	0.0		3	0.0		
	12	3	0.2	1.7	3	0.1	1.7	3	0.0		
	18	3	0.2	1.8	3	0.1	1.6	3	0.0		
7	00	3	0.3	2.0	3	0.2	1.7	3	0.2	1.7	
	06	3	0.3	1.9	3	0.2	1.7	3	0.1	1.7	
	12	3	0.3	2.1	3	0.3	2.1	3	0.1	1.6	
	18	3	0.3	2.1	3	0.1	1.8	3	0.0		
8	00	3	0.3	2.3	3	0.2	1.8	3	0.1	1.6	
	06	3	0.3	2.4	3	0.2	2.2	3	0.0		
	12	3	0.3	2.1	3	0.2	2.1	3	0.1	1.5	
	18	3	0.3	2.2	3	0.2	2.2	3	0.0		
9	00	3	0.4	2.4	3	0.3	2.3	3	0.0		
	06	3	0.4	2.2	3	0.3	2.4	3	0.0		
	12	3	0.2	2.0	3	0.3	2.3	3	0.0		
	18	3	0.3	2.7	3	0.2	2.5	3	0.0		
10	00	3	0.3	2.5	3	0.2	2.7	3	0.0		
	06	3	0.2	2.2	3	0.0		3	0.0		
	12	3	0.2	2.3	3	0.1	1.9	3	0.0		
	18	3	0.2	2.8	3	0.0		3	0.0		
11	00	3	0.3	2.7	3	0.0		3	0.0		
	06	3	0.0		3	0.0		3	0.0		
	12	3	0.2	2.6	3	0.0		3	0.0		
	18	3	0.0		3	0.0		3	0.0		
12	00	3	0.0		3	0.0		3	0.0		
	06	3	0.3	2.4	3	0.2	2.4	3	0.0		
	12	3	0.3	2.4	3	0.0		3	0.0		
	18	3	0.2	2.0	3	0.1	2.0	3	0.0		
13	00	3	0.3	2.4	3	0.1	2.1	3	0.0		
	06	3	0.2	2.0	3	0.2	2.0	3	0.0		
	12	3	0.3	2.1	3	0.2	2.0	3	0.1	1.5	
	18	3	0.4	2.2	3	0.3	2.4	3	0.1	1.7	

Date	Time	K	N-S		K	E-W		K	U-D		Remarks
			A μ	T sec		A μ	T sec		A μ	T sec	
14	00	3	0.5	2.8	3	0.3	2.6	3	0.1	1.7	
	06	3	0.5	2.8	3	0.3	2.5	3	0.1	1.4	
	12	3	0.4	2.3	3	0.3	2.4	3	0.1	1.5	
	18	3	0.6	2.7	3	0.4	2.5	3	0.1	1.6	
15	00	3	0.5	2.6	3	0.3	2.4	3	0.1	1.7	
	06	3	0.4	2.2	3	0.2	1.9	3	0.1	1.2	
	12	3	0.3	1.7	3	0.2	1.6	3	0.2	1.8	
16	18	3	0.4	1.9	3	0.3	1.9	3	0.1	1.6	
	00	3	0.5	2.7	3	0.2	2.2	3	0.1	1.8	
	01	3	0.4	2.4	3	0.2	2.1	3	0.1	1.4	
	02	3	0.3	2.5	3	0.2	2.1	3	0.1	1.4	
	03	3	0.3	2.4	3	0.2	2.2	3	0.1	1.6	
	04	3	0.3	2.5	3	0.2	2.2	3	0.1	1.3	
	05	3	0.3	2.5	3	0.2	2.4	3	0.1	1.6	
	06	3	0.3	2.5	3	0.2	2.5	3	0.1	1.3	
	07	3	0.3	2.2	3	0.1	2.0	3	0.1	1.5	
	08	3	0.3	1.8	3	0.1	1.5	3	0.1	1.4	
	09	3	0.3	2.1	3	0.1	1.5	3	0.1	1.4	
	10	3	0.2	1.7	3	0.1	1.5	3	0.2	1.7	
	11	3	0.2	1.7	3	0.2	1.7	3	0.2	1.7	
	12	3	0.3	1.9	3	0.2	1.7	3	0.1	1.5	
	13	3	0.3	1.9	3	0.2	1.7	3	0.1	1.6	
	14	3	0.3	1.8	3	0.2	1.7	3	0.1	1.6	
	15	3	0.3	1.7	3	0.2	2.0	3	0.2	1.7	
	16	3	0.3	1.7	3	0.2	2.0	3	0.1	1.7	
	17	3	0.3	1.8	3	0.2	2.0	3	0.1	1.7	
	18	3	0.3	1.8	3	0.2	2.0	3	0.1	1.7	
19	3	0.3	2.0	3	0.2	2.1	3	0.1	1.6		
17	20	3	0.3	1.9	3	0.2	1.8	3	0.1	1.5	
	21	3	0.3	1.9	3	0.2	2.0	3	0.1	1.5	
	22	3	0.3	2.0	3	0.2	1.9	3	0.1	1.4	
	23	3	0.3	2.0	3	0.2	1.9	3	0.1	1.4	
	00	3	0.3	1.9	3	0.2	1.9	3	0.1	1.6	
	01	3	0.2	1.9	3	0.2	2.0	3	0.1	1.4	
	02	3	0.3	2.2	3	0.2	2.0	3	0.1	1.4	
	03	3	0.3	2.2	3	0.2	2.1	3	0.1	1.3	
	04	3	0.3	2.2	3	0.2	2.2	3	0.0		
	05	3	0.3	2.2	3	0.2	2.1	3	0.0		
	06	3	0.3	2.2	3	0.2	2.1	3	0.1	1.5	
	07	3	0.3	2.2	3	0.2	2.1	3	0.1	1.6	
	08	3	0.3	1.9	3	0.2	2.0	3	0.1	1.7	
	09	3	0.3	1.9	3	0.2	1.9	3	0.1	1.7	
	10	3	0.4	2.1	3	0.2	1.8	3	0.1	1.7	
	11	3	0.4	2.2	3	0.2	1.7	3	0.1	1.6	
	12	3	0.4	2.3	3	0.3	1.9	3	0.1	1.6	
	13	3	0.5	2.5	3	0.3	1.9	3	0.2	1.8	
	14	3	0.5	2.4	3	0.2	1.7	3	0.1	1.7	
	15	3	0.5	2.5	3	0.2	1.8	3	0.1	1.7	
16	3	0.4	2.2	3	0.2	1.9	3	0.1	1.7		
17	3	0.6	2.5	3	0.3	2.1	3	0.1	1.6		
18	3	0.5	2.3	3	0.3	2.2	3	0.1	1.7		
19	3	0.6	2.5	3	0.2	2.1	3	0.1	1.6		

Date	Time	K	N-S		K	E-W		K	U-D		Remarks
			A μ	T sec		A μ	T sec		A μ	T sec	
	20	3	0.6	2.5	3	0.3	2.2	3	0.1	1.6	
	21	3	0.5	2.2	3	0.2	1.7	3	0.1	1.6	
	22	3	0.4	2.0	3	0.2	1.6	3	0.1	1.4	
	23	3	0.3	1.8	3	0.2	1.6	3	0.1	1.4	
18	00	3	0.6	2.2	3	0.4	1.9	3	0.2	1.7	
	06	3	0.7	2.9	3	0.4	2.6	3	0.1	1.8	
	12	3	0.5	2.6	3	0.4	2.4	3	0.2	2.0	
19	18	3	0.6	2.8	3	0.3	2.4	3	0.1	2.0	
	00	3	0.4	2.2	3	0.3	2.4	3	0.1	1.8	
	06	3	0.4	2.6	3	0.3	2.5	3	0.0		
	12	3	0.4	2.8	3	0.2	2.3	3	0.0		
	18	3	0.5	2.8	3	0.2	2.1	3	0.0		
20	00	3	0.5	2.7	3	0.4	2.7	3	0.1	1.4	
	06	3	0.7	2.8	3	0.4	2.2	3	0.1	1.7	
	12	3	0.8	2.3	3	0.6	2.3	3	0.2	1.6	
	18	3	0.9	2.6	3	0.7	2.7	3	0.2	2.0	
21	00	3	0.9	2.5	3	0.5	2.0	3	0.2	1.8	
	06	3	0.6	2.2	3	0.5	2.3	3	0.2	1.8	
	12	3	0.7	2.7	3	0.5	2.4	3	0.2	1.8	
	18	3	0.7	2.6	3	0.4	2.2	3	0.1	1.7	
22	00	3	0.6	2.1	3	0.3	1.8	3	0.2	1.7	
	06	3	0.8	2.0	3	0.6	2.0	3	0.4	1.8	
	12	3	0.6	1.9	3	0.5	2.0	3	0.4	2.1	
	18	3	0.7	2.0	3	0.4	1.7	3	0.2	1.9	
23	00	3	1.5	2.7	3	0.4	1.8	3	0.5	2.1	
	06	3	1.7	2.2	3	0.7	1.7	3	0.7	1.8	
	12	3	1.5	2.1	3	1.2	2.2	3	0.5	1.6	
	18	3	1.3	2.5	3	0.6	2.1	3	0.3	1.8	
24	00	3	1.5	2.6	3	0.9	2.3	3	0.4	1.8	
	06	3	1.4	2.3	3	0.7	2.2	3	0.2	1.6	
	12	3	0.9	2.5	3	0.5	2.2	3	0.2	1.7	
	18	3	0.7	2.2	3	0.5	2.2	3	0.2	1.7	
25	00	3	0.9	2.2	3	0.5	2.2	3	0.3	2.0	
	06	3	1.0	2.5	3	0.4	1.9		...		
	12	3	0.9	2.4	3	0.5	2.2	3	0.3	1.8	
	18	3	0.6	1.9	3	0.6	2.2	3	0.2	1.6	
26	00	3	0.2	2.0	3	0.5	1.7	3	0.3	1.7	
	06	3	0.4	1.7	3	0.4	1.9	3	0.2	1.8	
	12	3	0.5	2.0	3	0.5	2.4	3	0.2	1.8	
	18	3	0.5	2.4	3	0.4	2.6	3	0.2	1.8	
27	00	3	0.4	2.3	3	0.2	2.3	3	0.1	1.7	
	01	3	0.3	2.2	3	0.2	2.2	3	0.1	1.8	
	02	3	0.3	2.3	3	0.2	2.1	3	0.1	1.7	
	03	3	0.3	2.3	3	0.2	2.2	3	0.1	1.8	
	04	3	0.3	2.4	3	0.3	2.3	3	0.1	1.6	
	05	3	0.3	2.3	3	0.2	2.1	3	0.1	1.6	
	06	3	0.3	2.3	3	0.3	2.3	3	0.1	1.3	
	07	3	0.4	2.4	3	0.2	2.1	3	0.1	1.5	
	08	3	0.3	2.4	3	0.2	2.1	3	0.1	1.5	
	09	3	0.3	2.3	3	0.2	2.0	3	0.1	1.6	
	10	3	0.3	2.2	3	0.2	1.9	3	0.1	1.6	
	11	3	0.3	2.2	3	0.2	2.0	3	0.1	1.7	

Date	Time	K	N-S		K	E-W		K	U-D		Remarks
			A μ	T sec		A μ	T sec		A μ	T sec	
	12	3	0.3	2.2	3	0.2	1.9	3	0.1	1.7	
	13	3	0.3	2.2	3	0.2	1.8	3	0.1	1.7	
	14	3	0.3	2.2	3	0.2	2.1	3	0.1	1.8	
	15	3	0.3	2.3	3	0.2	2.1	3	0.1	1.6	
	16	3	0.2	1.7	3	0.2	1.9	3	0.1	1.7	
	17	3	0.2	1.9	3	0.2	1.9	3	0.1	1.6	
	18	3	0.2	1.9	3	0.2	1.8	3	0.1	1.8	
	19	3	0.3	2.2	3	0.1	1.8	3	0.1	1.9	
	20	3	0.3	2.2	3	0.2	2.2	3	0.1	1.9	
	21	3	0.3	2.3	3	0.2	2.0	3	0.1	1.9	
	22	3	0.4	2.5	3	0.2	2.1	3	0.1	1.8	
	23	3	0.4	2.5	3	0.2	2.2	3	0.1	1.8	
28	00	3	0.4	2.3		...		3	0.1	1.6	
	06	3	0.8	2.4		...		3	0.3	1.8	
	12	3	0.7	2.4	3	0.4	2.1	3	0.2	1.8	
	18	3	0.5	2.3		...		3	0.2	2.1	
29	00	3	0.6	2.5	3	0.5	2.7	3	0.2	2.0	
	06	3	0.6	2.7	3	0.5	2.6	3	0.1	1.5	
	12	3	0.7	2.8	3	0.6	2.9	3	0.2	2.0	
	18	3	0.7	3.1	3	0.4	2.7	3	0.1	1.8	
30	00	3	0.6	2.6	3	0.4	2.6	3	0.0		
	06	3	0.6	2.8	3	0.4	2.6	3	0.1	1.6	
	12	3	0.6	2.9	3	0.4	2.6	3	0.1	1.4	
	18	3	0.5	2.5	3	0.3	2.5	3	0.1	1.7	
31	00	3	0.6	2.8	3	0.4	2.7	3	0.1	1.8	
	06	3	0.5	2.6	3	0.3	2.3	3	0.1	1.4	
	12	3	0.6	2.7	3	0.3	2.0	3	0.2	1.7	
	18	3	0.4	2.3	3	0.3	2.4	3	0.1	1.6	



SEISMOLOGICAL REPORT

for

I. G. Y.

Aug., 1958

Seismological Observatory.

Tôhoku University.

Sendai, Japan.

Station: Seismological Observatory, (Mukaiyama Observatory),
Tohoku University, Sendai, Japan.

Longitude: 140° 51' 30" E.

Latitude: 38° 14' 32" N.

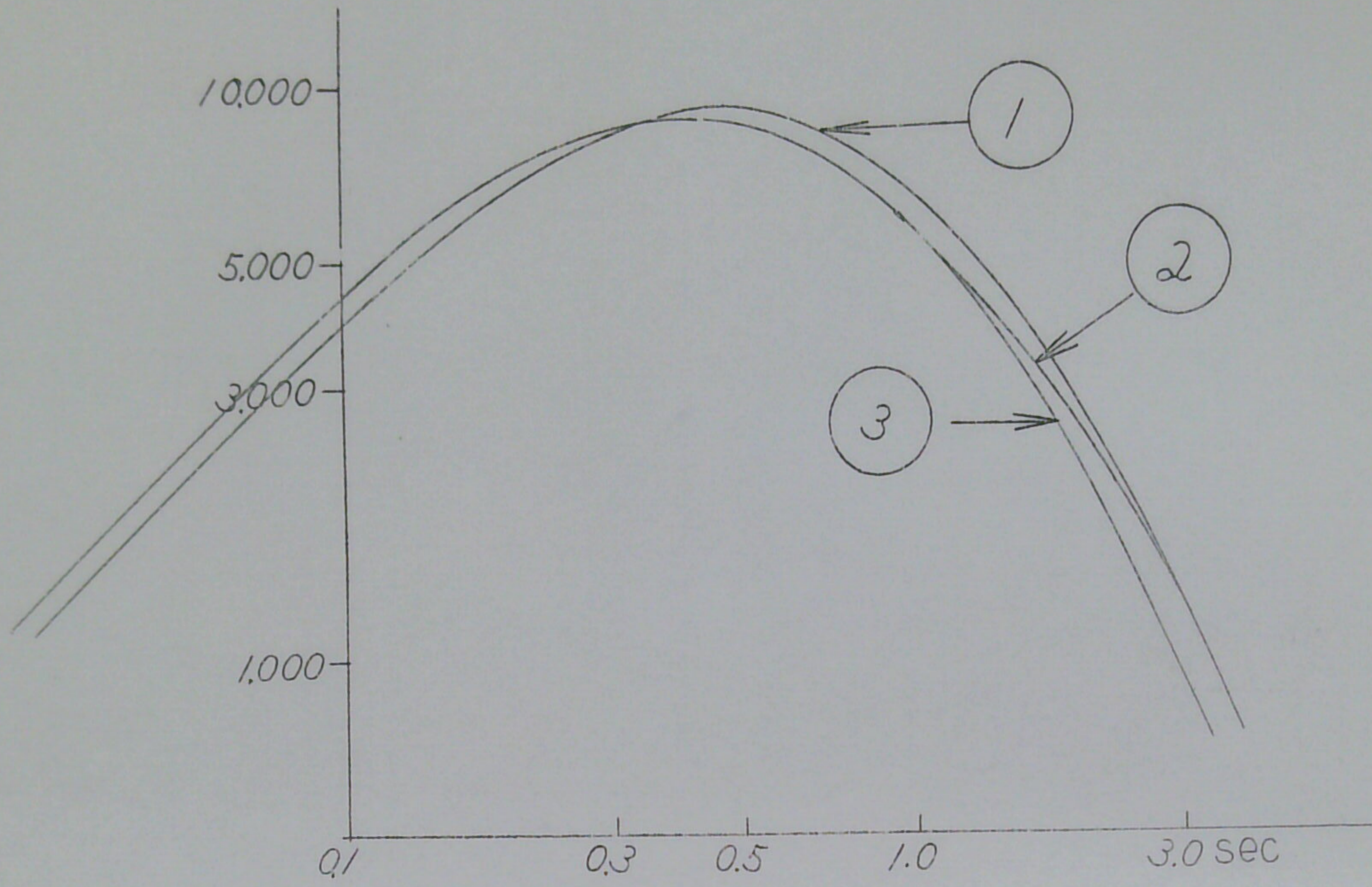
Elevation: 128 m.

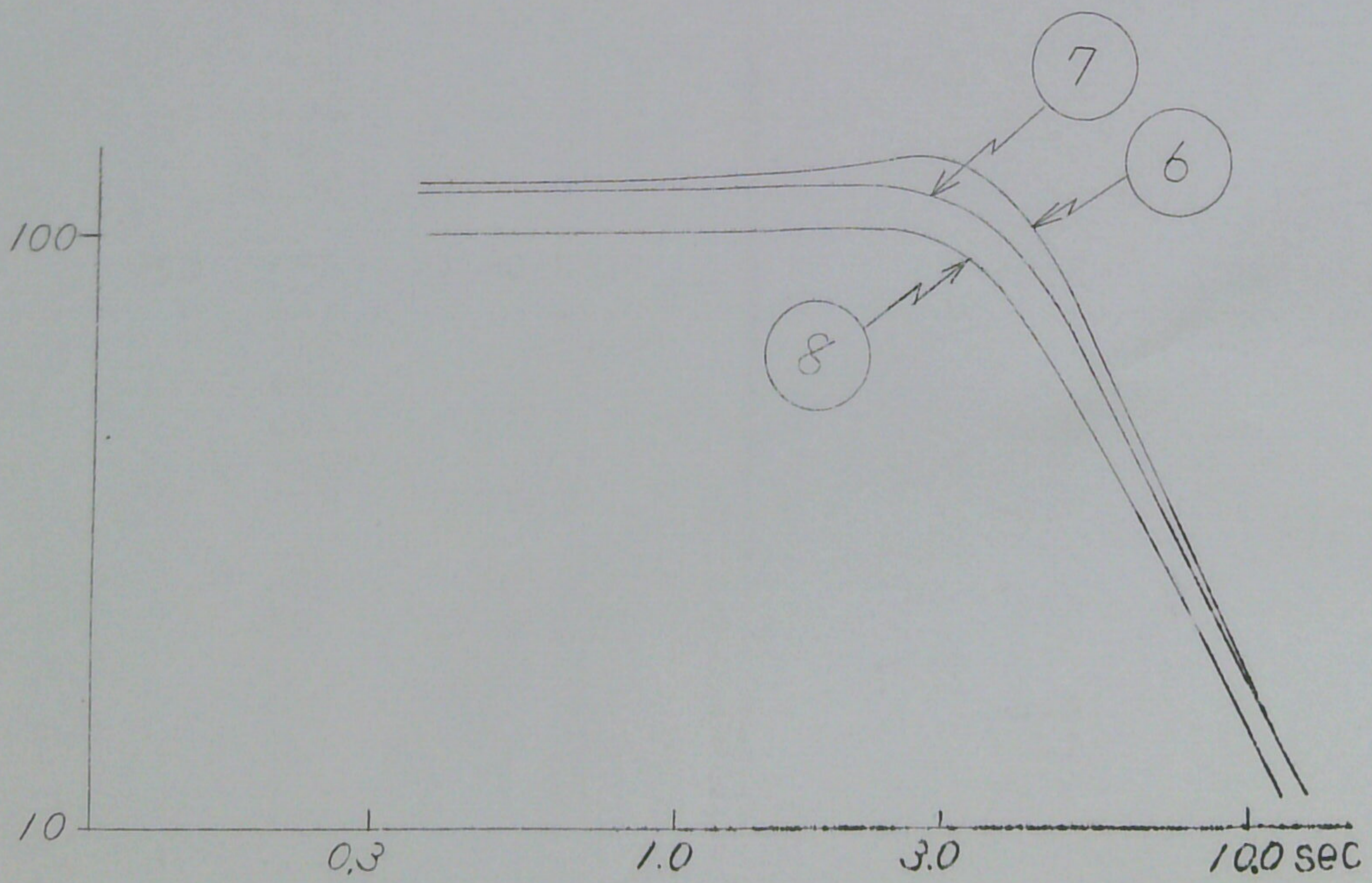
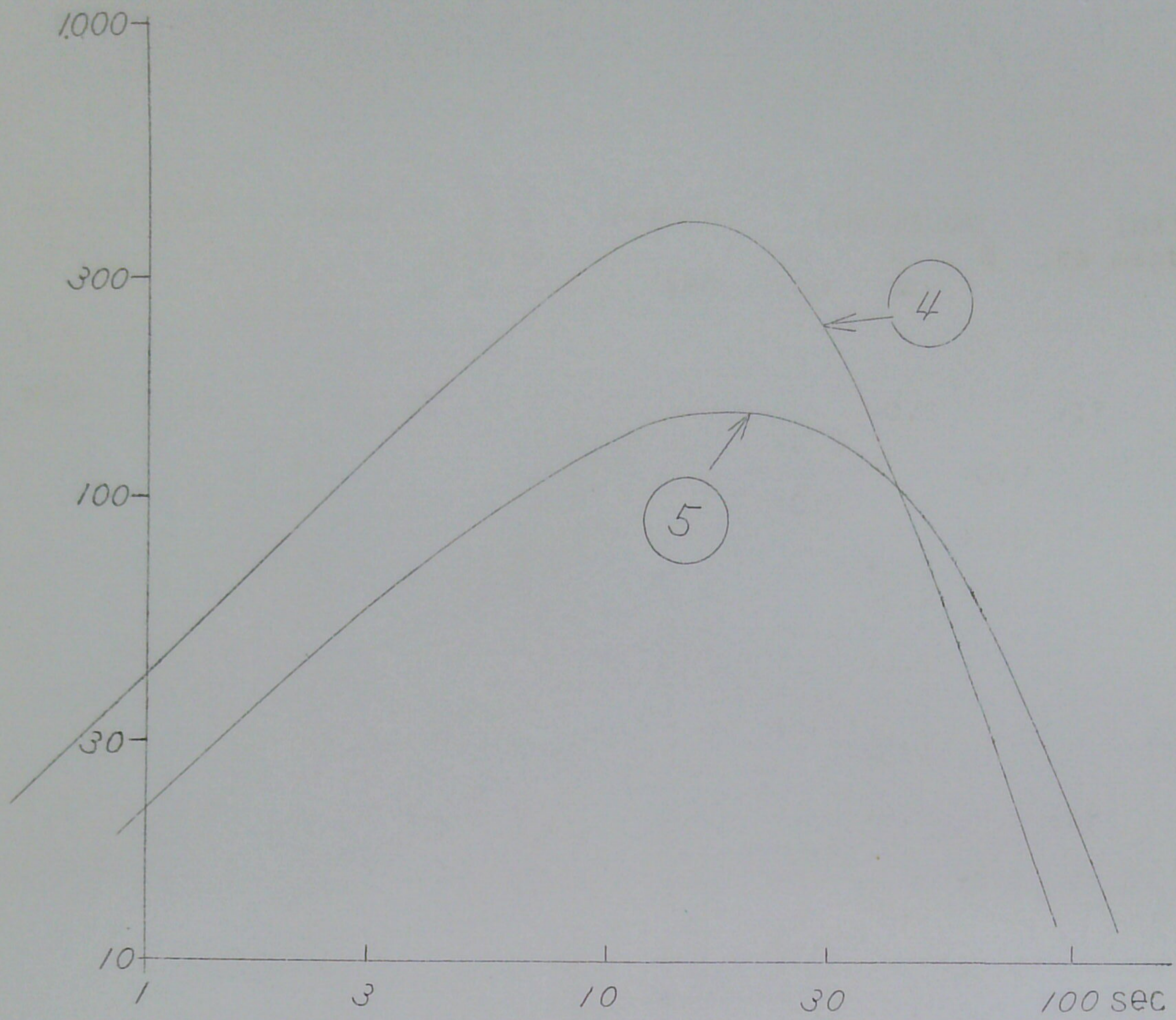
Foundation: Sandstone.

Instrument:

No	Name	Component	Vmax	T ₁	T ₂	h ₁	h ₂	ρ mm	α	Date of Calibration
1.	Short-Period Electromagnetic Seismograph	EW	9,600*	0.93	1.2	1.8	1.0		0.00	April 16, 1958
2.	"	NS	9,100*	0.95	1.2	2.1	1.1		0.00	"
3.	"	UD	9,200*	1.00	1.0	2.1	1.0		0.00	"
4.	Long-period Electromagnetic Seismograph	EW	390	25.2	37.1	0.99	0.71		0.00	Aug. 7, 1958
5.	"	NS	161	25.5	51.7	1.55	0.85		0.00	"
6.	Wiechert Seis- mograph (200 Kg)	EW	141	3.7		0.51		0.31		"
7.	"	NS	127	3.7		0.59		0.31		"
8.	" (1,200 Kg)	UD	107	3.5		0.58		0.19		"

Vmax: Maximum magnification.
 T₁: Period of Pendulum.
 T₂: Period of galvanometer.
 h₁: Damping constant of pendulum.
 h₂: Damping constant of galvanometer.
 ρ : Solid friction.
 α : Coupling factor.
 * : Magnification for the amplitude read on
 microfilm-reader (magnification 8.4).





Serial No.	Date	Phase	Time			Period sec	Amplitude			Instrument	Remarks
			G.M.T.				N	L	Z		
			h	m	s		mm	mm			
289											No trace
290	3rd	ePE	01	16	49.1	1.3		-0.6	71°	1	
		ePN			49.7	0.7	-0.5			2	
		ePZ			48.4	0.8			+0.2	3	
		eXN			55.2	1.5	+0.1			7	
		iXZ			56.5	0.9			+0.8	3	
		iPcPE	17	05	05.8	1.2		+0.1		6	
		iSE	25	20	20.4	4.8		-0.2		4	
		iSN			19.4	6.4	-0.2			5	
		iXE	26	07	07.0	7.2		+1.1		4	
		iXN			07.2	4.6	-0.2			5	
		eXN	29	22	22.	8.6	+0.2			5	
		eXE			50.	16.1		-0.4		4	
291	4th	ePE	04	21	28.3	1.0		-0.9	45°	1	
		ePN			28.5	0.8	-0.9			2	
		iPZ			27.4	1.0			+2.0	3	
		epPE	22	03	03.1	3.6		+0.3		4	
		epPN			03.1	3.0	+0.2			5	
		iPcPZ	23	04	04.0	1.9			-0.2	8	
		iXN	23	54	54.7	1.9	+0.2			7	PPP?
		iXZ			56.0	2.0			-0.2	8	PPP?
		iSE	27	55	55.6	10.8		-1.0		4	
		iSN			55.0	10.8	+1.2			5	
		iSZ			59.7	3.7			-0.2	8	
		iXE	28	04	04.7	2.1		-3.3		1	
		iXN			05.4	3.3	+4.4			2	
		isSE	29	03	03.3	2.3		-1.4		1	
		isSN			03.2	2.6	-3.0			2	
		isSZ			03.4	2.1			+0.1	8	
292	6th	ePE	21	20	25.9	0.6		+0.5	70°	1	
		ePN			24.8	0.7	+1.0			2	
		iPZ			24.4	0.6			+1.1	3	
		eXZ			58.5	1.3			-2.5	3	PcP?
		eXE	21	14	14.1	5.0		+0.2		4	
		eXN			15.5	4.4	+0.2			5	
		iSE	29	32	32.3	11.0		-0.8		4	
		eSN			34.6	8.5	+0.3			5	
		eXN	30	33	33.	25.		+0.7		5	ScS?
		iLE	41	47	47.	27.6		-0.8		4	
		eLN			54.	32.	-0.7			5	
		iLE	47	58	58.	24.		-1.0		4	
		eXE	51	12	12.	21.		-0.7		4	
		eXE	55	15	15.	21.		+0.4		4	
		eXN			03.	21.	+0.5			5	

Serial No.	Date	Phase	Time			Period sec	Amplitude			Instrument	Remarks
			G.M.T.				N	E	Z		
			h	m	s		mm	mm	mm		
293	12th	iPE	19	32	43.6	3.6		+0.4	41°	4	
		iPN			45.8	5.0	+0.5			5	
		iPZ			45.3	2.5			+0.7	3	
		iSE		38	52.0	4.6		+0.5		4	
		iSN			53.4	2.2	+1.9			2	
		eSZ			53.6	1.2			-1.0	3	
		iXE		46	41.	35.		+3.7		4	
		iXN			39.	26.	+2.5			5	
		iLE		47	39.	23.0		+5.0		4	
		eLE		52	24.	18.		-1.9		4	
294	14th	ePE	15	01	50.2	1.1		-0.2	34°	1	
		ePN			50.0	0.9	-0.2			2	
		ePZ			49.1	1.2			+1.1	3	
		iSE		07	10.1	13.2		-1.2		4	
		eSN			20.1	17.	-0.3			5	
		iSSE		09	10.	23.		+2.5		4	
		iXE		10	56.	23.		+2.7		4	
295	15th	iPE	20	00	15.8	1.5		-5.0	20°	1	
		iPN			14.3	2.2	+3.3			2	
		iPZ			14.7	1.5			+3.1	3	
		iSE		03	58.2	11.8		-3.7		4	
		iSN			57.0	25.5	-10.4			5	
		iXE		04	11.2	4.1		+2.3		6	
		iXN			12.4	3.5	+1.4			7	
		iXN			52.	42.	-			5	
		iXN		05	07.	39.	-			5	
296	15th	iPE	22	36	32.4	1.9		+1.8	40°	1	
		iPN			31.3	2.6	+2.7			2	
		iPZ			31.8	2.0			+4.2	3	
		ePPZ		37	17.	4.3			+1.9	8	
		eXE			36.8	2.5		-1.3		6	sP?
		eXN			39.9	2.5	-1.7			7	sP?
		eXZ			41.9	3.1			-4.7	8	sP?
		iSE		42	18.9	21.9		-21.		4	
		iSN			20.0	24.5	-21.			5	
		eSZ			18.					3	
		iXE			27.2	4.1		+5.1		6	PcS?
		eXN			29.5	3.2	-5.9			7	PcS?
		iXZ			29.7	3.5			+5.1	8	PcS?
		iScSE		46	21.9	4.6		-1.4		6	
iScSN			21.5	4.9	+1.3			7			

Serial No.	Date	Phase	Time				Amplitude			Instrument	Remarks
			G.M.T.				N	E	Z		
			h	m	s	sec	mm	mm	mm		
297	16th	ePE	13	24	28.0	12.		-0.3	33°	4	
		ePN			28.4	9.4	-0.2			5	
		ePZ			28.8	1.1			-0.6	3	
		iXZ	25		11.0	1.7			-2.5	3	
		eXZ	29		21.9	1.5			-1.0	3	
		eXE	29		44.	14.0			-0.7	4	
		eXN			5.	21.	-0.3			5	
		eXE	32		38.	21.			+1.7	4	
		iXN			38.0	24.	-3.1			5	
		iSN	39		39.2	20.6			-1.4	5	
298	16th	ePE	19	25	11.4	2.1		+0.9	72°	1	
		ePN			14.6	1.1	+0.8			2	
		ePZ			11.3	1.1			-1.0	3	
		iSE	34		28.0	10.4			+1.1	4	
		iSN			27.8	12.6	+0.6			5	
		iSSE	39		25.2	24.			-1.8	4	
		iSSN			23.0	29.	+1.7			5	
		iXE	43		57.	21.			-2.8	4	
		eXN			59.	23.	-2.5			5	
		eLN	46		47.	56.	-3.2			5	
		eLN	52		06.	54.	+2.8			5	
		eLE	53		56.	31.			-5.7	4	
		iXE	55		36.	20.			-8.0	4	PKPPKS?
		eXN			36.	20.	-5.1			5	PKPPKS?
		iXE	20	01	54.	15.8			-6.3	4	
		iXN			47.	19.0	-1.7			5	
		iXE		02	42.	18.4			+4.6	4	
iXE		06	53.	17.5			-8.3	4			
299	17th	ePE	18	09	02.6	1.7		+0.7	72°	1	
		ePN			05.1	1.0	-0.3			2	
		ePZ	08		58.5	1.6			+0.2	3	
		iXE	09		12.9	1.3			-1.2	1	
		iXNN			15.5	1.3	-1.9			2	
		eXZ			12.8	1.6			+1.0	3	
		iSE	15		14.6	16.9			-1.6	4	
		iSN			13.6	18.9	-0.8			5	
		iSSE	18		27.2	22.7			+9.7	4	
		eSSN			28.	27.	-0.6			5	
		iXN			55.	34.	-4.3			5	
300	19th	ePE	21	55	52.3	1.3		+1.2	42°	1	Large micro-seisms
		ePZ			55	48.0	1.1		-0.6	3	
		ePPN			57	20.	11.2	-0.1		5	
		iSE	22	01	45.1	12.			-0.7	4	
		iSN			46.5	14.2	+0.7			5	
		iXE	06		39.	24.	+1.8	+1.8		4	
		eXE	09		40.	18.			-1.0	4	
		eXN	10		08.	20.	-0.8			5	
		eXE	12		30.	19.			+3.0	4	

Serial No.	Date	Phase	Time G.M.T.			Period sec	Amplitude			Instrument	Remarks	
			h	m	s		N mm	E mm	Z mm			
301	20th	eXE	03	50	05.	5.8		+0.4		4	P is not distinct. Large micro-seisms	
		eXN		49	59.	12.	+0.4			5		
		eXZ		50	02.0	1.8			-0.1	8		
		eXN			27.	1.1	-0.9			2		
		eXN			40.5	3.1	-1.6			2		
		eXZ			40.3	1.3			+1.8	3		
		eXE		51	08.9	0.7		-1.0		1		
		eXN			09.5	1.8	-1.9			2		
		iXE		58	01.4	10.0		+1.3	-1.8	4		
eXN			04.	19.	-0.9			5				
302	27th	eLE	03	16	53.	28.		-1.3		4	Large micro-seisms	
303	27th	ePZ	15	29	21.2	1.7			+0.4	86°	1	Large Micro-seisms
		iXE	16	07	08.3	17.0		-1.3			4	
		eXN			00.1	18.	+0.8				5	
		iXE		11	38.	23.		-1.2			4	
		eXN			36.	17.	+1.4				5	
		eXE		15	27.	18.		-1.9			4	
		eXN			27.	13.	-1.0				5	
eXE		17	57.	17.		+1.2			4			

62-A-10
Box 214



REPORT OF MICROSEISMS
for
I. G. Y.

Aug., 1958

Seismological Observatory,
Tohoku University
Sendai, Japan.

Station: Seismological Observatory, (Mukaiyama Observatory),
Tôhoku University, Sendai, Japan.

Longitude: 140° 51' 30" E.

Latitude: 38° 14' 32" N.

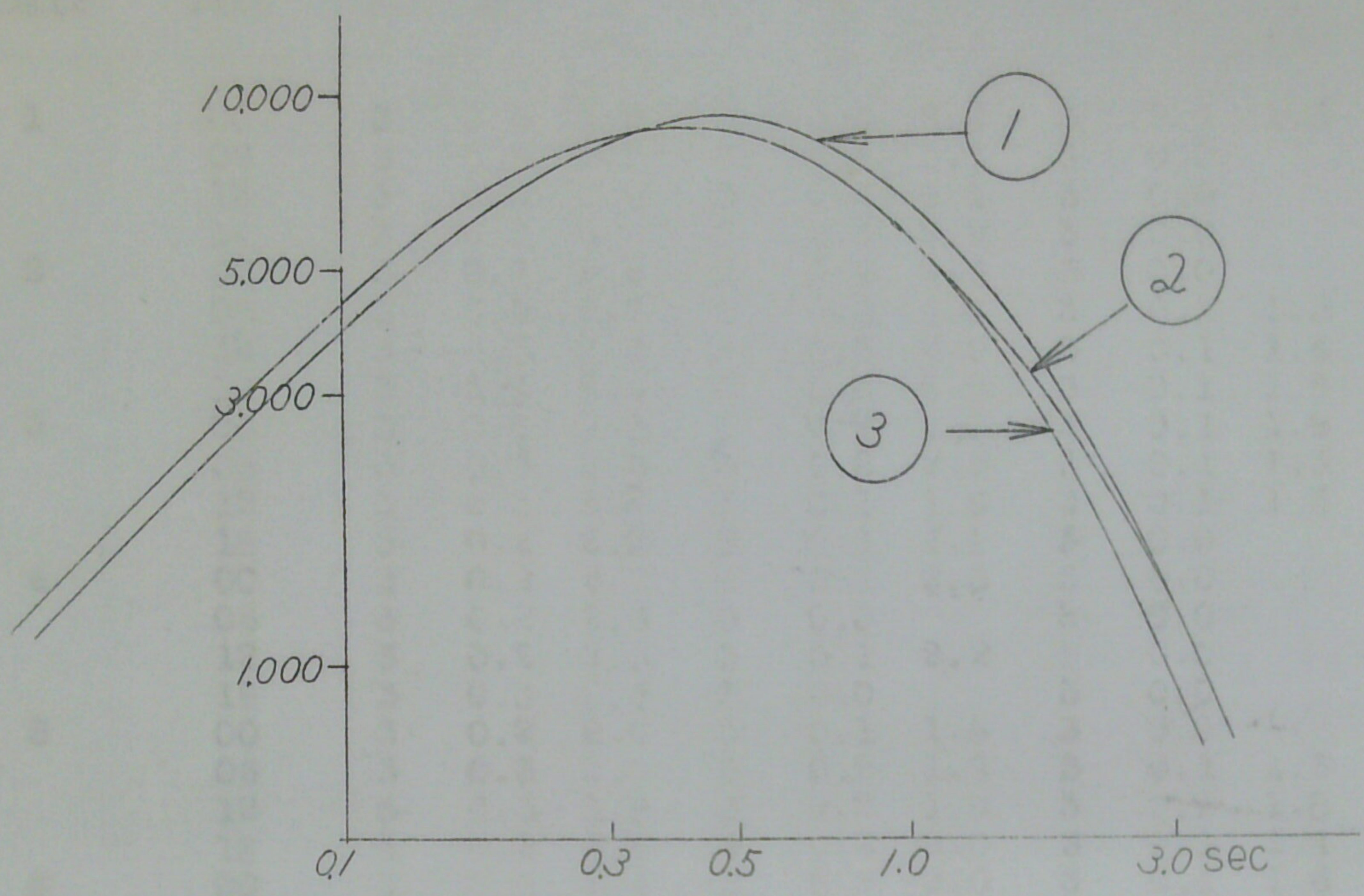
Elevation: 128 m.

Foundation: Sandstone.

Instrument

No	Name	Component	Vmax	T ₁ sec	T ₂ sec	h ₁	h ₂	~	Date of Calibration
1.	Short-Period Electromagnetic Seismograph	EW	9,600*	0.93	1.2	1.8	1.0	0.00	April 16, 1958
2.	"	NS	9,100*	0.92	1.2	2.1	1.1	0.00	"
3.	"	UD	9,200*	1.00	1.0	2.1	1.0	0.00	"

- Vmax: Maximum magnification.
 T₁ : Period of galvanometer. *pendulum.*
 T₂ : Period of galvanometer.
 h₁ : Damping constant of pendulum.
 h₂ : Damping constant of galvanometer.
 ~ : Coupling factor.
 * : Magnification for the amplitudes read
 on microfilm-reader (magnification 8.4).



Date	Time	K	N-S		K	E-W		K	U-D		Remarks
			A μ	T sec		A μ	T sec		A μ	T sec	
1	00	3	0.4	2.2	3	0.3	2.2	3	0.1	1.6	
	06	3	0.6	3.2	3	0.4	3.1	3	0.0		
	12	3	0.5	2.9	3	0.4	3.1	3	0.0		
2	18	3	0.6	2.8	3	0.4	2.9	3	0.0		
	00	3	0.7	2.9	3	0.4	2.6	3	0.0		
	06	3	0.5	2.7	3	0.4	2.8	3	0.1	1.3	
3	12	3	0.5	2.9	3	0.3	2.9	3	0.1	1.4	
	18	3	0.4	2.5	3	0.2	2.2	3	0.1	1.5	
	00	3	0.3	2.3	3	0.2	2.0	3	0.1	1.8	
4	06	3	0.3	2.6	3	0.2	2.5	3	0.1	1.5	
	12	3	0.3	2.8	3	0.1	1.8	3	0.1	1.6	
	18	3	0.2	2.2	3	0.1	2.1	3	0.0		
5	00	3	0.2	2.7	3	0.1	2.3	3	0.0		
	06	3	0.2	2.6	3	0.0		3	0.0		
	12	3	0.2	2.5	3	0.1	2.2	3	0.0		
6	18	3	0.3	2.8	3	0.0		3	0.0		
	00	3	0.2	2.0	3	0.1	1.8	3	0.0		
	06	3	0.3	2.0	3	0.2	1.9	3	0.1	1.6	
7	12	3	0.3	1.8	3	0.2	1.9	3	0.1	1.8	
	18	3	0.3	2.2	3	0.2	2.0	3	0.1	1.4	
	00	3	0.5	2.4	3	0.2	2.0	3	0.1	1.6	
8	06	3	0.4	2.4	3	0.2	2.1	3	0.1	1.3	
	12	3	0.5	2.7	3	0.3	2.4	3	0.1	1.3	
	18	3	0.4	2.8	3	0.3	3.1	3	0.0		
	00	3	0.4	2.6	3	0.4	2.7	3	0.1	1.6	
	01	3	0.4	2.7	3	0.3	2.6	3	0.1	1.5	
	02	3	0.5	2.8	3	0.3	2.5	3	0.1	1.5	
	03	3	0.4	2.6	3	0.2	2.2	3	0.1	1.4	
	04	3	0.4	2.5	3	0.2	2.3	3	0.1	1.4	
	05	3	0.4	2.4	3	0.3	2.4	3	0.1	1.5	
	06	3	0.4	2.4	3	0.3	2.7	3	0.1	1.3	
	07	3	0.4	2.3	3	0.3	2.3	3	0.1	1.2	
	08	3	0.4	2.2	3	0.2	2.0	3	0.1	1.2	
	09	3	0.4	2.4	3	0.3	2.2	3	0.1	1.4	
	10	3	0.4	2.4	3	0.2	2.0	3	0.1	1.3	
	11	3	0.3	2.2	3	0.3	2.2	3	0.1	1.1	
	12	3	0.3	2.1	3	0.3	2.2	3	0.1	1.4	
	13	3	0.4	2.3	3	0.3	2.4	3	0.1	1.6	
14	3	0.3	2.2	3	0.3	2.4	3	0.1	1.7		
15	3	0.4	2.5	3	0.3	2.4	3	0.1	1.7		
16	3	0.4	2.5	3	0.3	2.6	3	0.0			
17	3	0.5	2.8	3	0.3	2.5	3	0.0			
18	3	0.4	2.7	3	0.2	2.5	3	0.0			
19	3	0.4	2.7	3	0.3	2.6	3	0.0			
20	3	0.5	3.0	3	0.2	2.3	3	0.0			
21	3	0.4	2.6	3	0.1	2.2	3	0.0			
22	3	0.4	2.5	3	0.2	3.0	3	0.0			
23	3	0.4	2.7	3	0.2	2.6	3	0.0			
8	00	3	0.4	2.6	3	0.3	2.8		...		
	06	3	0.4	2.2	3	0.2	2.1		...		
	12	3	0.4	2.4	3	0.2	2.0	3	0.1	1.3	
	18	3	0.3	2.3	3	0.2	1.9	3	0.1	1.4	

Date	Time	K	N-S		K	E-W		K	U-D		Remarks
			A μ	T sec		A μ	T sec		A μ	T sec	
9	00	3	0.3	2.2	3	0.2	2.0	3	0.0		
	03	3	0.3	1.8	3	0.3	2.1	3	0.2	1.6	
	12	3	0.4	2.2	3	0.4	2.2	3	0.2	1.7	
10	18	3	0.4	2.1	3	0.3	2.2	3	0.2	2.2	
	00	3	0.4	2.4	3	0.2	2.2	3	0.1	1.7	
	06	3	0.4	2.1	3	0.2	1.9	3	0.2	1.6	
11	12	3	0.4	2.1	3	0.3	2.0	3	0.1	1.6	
	18	3	0.3	2.1	3	0.2	2.0	3	0.1	1.8	
	00	3	0.4	2.1	3	0.2	2.2	3	0.1	1.7	
12	06	3	0.3	2.3	3	0.3	2.4	3	0.0		
	12	3	0.4	2.7	3	0.3	2.7	3	0.1	1.7	
	18	3	0.3	2.4	3	0.3	2.7	3	0.0		
13	00	3	0.3	2.5	3	0.2	2.5	3	0.0		
	01	3	0.3	2.5	3	0.2	2.3	3	0.0		
	02	3	0.3	2.5	3	0.2	2.2	3	0.0		
	03	3	0.3	2.5	3	0.2	2.6	3	0.0		
	04	3	0.2	2.1	3	0.1	1.9	3	0.0		
	05	3	0.2	2.1	3	0.2	2.1	3	0.1	1.7	
	06	3	0.2	2.0	3	0.1	1.9	3	0.1	1.5	
	07	3	0.2	2.0	3	0.2	2.0	3	0.1	1.5	
	08	3	0.2	2.0	3	0.2	1.9	3	0.1	1.7	
	09	3	0.2	2.1	3	0.2	2.1	3	0.0		
	10	3	0.2	2.0	3	0.2	2.0	3	0.1	1.7	
	11	3	0.2	2.0	3	0.2	2.3	3	0.1	1.7	
	12	3	0.2	2.0	3	0.2	1.8	3	0.0		
	13	3	0.2	2.0	3	0.2	2.1	3	0.0		
	14	3	0.2	2.0	3	0.2	2.0	3	0.0		
	15	3	0.2	1.9	3	0.3	2.5	3	0.0		
	16	3	0.2	2.1	3	0.1	1.8	3	0.0		
	17	3	0.2	2.1	3	0.3	2.6	3	0.0		
	18	3	0.2	2.1	3	0.1	2.0	3	0.0		
	19	3	0.2	2.1	3	0.2	2.1	3	0.0		
	20	3	0.2	2.1	3	0.1	1.9	3	0.0		
	21	3	0.2	2.2	3	0.2	2.1	3	0.0		
22	3	0.2	2.0	3	0.2	2.0	3	0.0			
23	3	0.3	2.4	3	0.2	2.0	3	0.0			
14	00	3	0.3	2.4	3	0.1	2.1	3	0.0		
	06	3	0.3	2.5	3	0.2	2.4	3	0.0		
	12	3	0.3	2.5	3	0.2	2.2	3	0.0		
14	18	3	0.3	2.0	3	0.2	1.8	3	0.1	1.6	
	00	3	0.4	2.6	3	0.3	2.6	3	0.0		
	01	3	0.3	2.5	3	0.2	2.5	3	0.0		
	02	3	0.4	2.6	3	0.3	2.7	3	0.0		
	03	3	0.3	2.6	3	0.3	2.7	3	0.0		
	04	3	0.4	2.8	3	0.2	2.6	3	0.0		
	05	3	0.4	2.8	3	0.2	2.6	3	0.0		
	06	3	0.4	2.6	3	0.2	2.6	3	0.0		
	07	3	0.4	2.6	3	0.2	2.6	3	0.0		
	08	3	0.4	2.6	3	0.2	2.6	3	0.1	1.6	
09	3	0.5	2.7	3	0.3	2.6	3	0.0			
10	3	0.4	2.4	3	0.2	2.3	3	0.0			

Date	Time	N-S			E-W			U-D			Remarks
		K	A μ	T sec	K	A μ	T sec	K	A μ	T sec	
	11	3	0.4	2.4	3	0.3	2.5	3	0.2	2.2	
	12	3	0.4	2.2	3	0.3	2.5	3	0.1	1.9	
	13	3	0.4	2.4	3	0.3	2.5	3	0.1	2.1	
	14	3	0.4	2.4	3	0.2	2.2	3	0.1	1.9	
	15	3	0.4	2.4	3	0.3	2.3	3	0.1	2.0	
	16	3	0.5	2.4	3	0.2	2.1	3	0.1	1.8	
	17	3	0.5	2.5	3	0.3	2.3	3	0.1	1.9	
	18	3	0.5	2.5	3	0.3	2.4	3	0.2	2.1	
	19	3	0.5	2.4	3	0.3	2.2	3	0.2	2.1	
	20	3	0.7	2.5	3	0.4	2.5	3	0.2	2.1	
	21	3	0.7	2.6	3	0.5	2.5	3	0.2	1.8	
	22	3	0.6	2.4	3	0.4	2.3	3	0.2	1.9	
	23	3	0.6	2.4	3	0.4	2.5	3	0.2	1.9	
15	00	3	0.6	2.6	3	0.4	2.6	3	0.2	2.0	
	01	3	0.6	2.7	3	0.4	2.6	3	0.2	2.0	
	02	3	0.6	2.7	3	0.5	2.7	3	0.2	2.1	
	03	3	0.6	2.7	3	0.4	2.7	3	0.1	2.0	
	04	3	0.5	2.5	3	0.4	2.5	3	0.0		
	05	3	0.7	2.8	3	0.4	2.7	3	0.0		
	06	3	0.7	2.8	3	0.4	2.7	3	0.0	1.8	
	07	3	0.8	2.7	3	0.5	2.8	3	0.1	1.9	
	08	3	0.8	2.7	3	0.6	2.8	3	0.2	2.0	
	09	3	1.0	2.9	3	0.5	2.7	3	0.1	1.8	
	10	3	0.8	2.8	3	0.5	2.6	3	0.1	1.7	
	11	3	0.7	2.7	3	0.6	2.8	3	0.1	1.6	
	12	3	0.7	2.7	3	0.6	2.9	3	0.1	1.6	
	13	3	0.8	2.8	3	0.6	2.8	3	0.1	1.7	
	14	3	0.9	2.9	3	0.6	2.9	3	0.1	1.8	
	15	3	0.9	2.8	3	0.6	2.7	3	0.1	1.8	
	16	3	0.9	2.8	3	0.7	2.8	3	0.2	1.9	
	17	3	0.9	2.8	3	0.6	2.7	3	0.2	1.8	
	18	3	0.7	2.6	3	0.6	2.9	3	0.2	1.8	
	19	3	0.8	2.8	3	0.5	2.7	3	0.2	1.8	
	20	3	0.8	2.7	3	0.5	2.6	3	0.2	2.0	
	21	3	0.8	2.7	3	0.6	2.8	3	0.2	2.0	
	22	3	0.7	2.6	3	0.6	2.7	3	0.2	2.1	
	23	3	...		3	...		3	...		
16	00	3	1.0	2.8	3	0.6	2.7	3	0.1	1.9	
	06	3	0.8	2.7	3	0.6	2.8	3	0.1	1.8	
	12	3	0.7	2.2	3	0.5	2.0	3	0.2	1.8	
	18	3	0.8	2.4	3	0.7	2.7	3	0.2	2.0	
17	00	3	0.7	2.5	3	0.7	2.7	3	0.1	1.8	
	06	3	0.6	2.7	3	0.4	2.7	3	0.1	1.8	
	12	3	0.7	2.9	3	0.3	2.6	3	0.1	2.0	
	18	3	0.4	2.6	3	0.3	2.6	3	0.0		
18	00	3	0.4	2.7	3	0.3	2.6	3	0.0		
	06	3	0.5	2.5	3	0.4	2.5	3	0.1	1.9	
	12	3	0.7	2.5	3	0.5	2.5	3	0.2	2.0	
	18	3	0.7	2.4	3	0.7	2.4	3	0.2	2.2	
19	00	3	0.8	2.8	3	0.4	2.2	3	0.2	1.9	
	06	3	0.6	2.4	3	0.4	2.3	3	0.1	1.8	
	12	3	0.9	2.9	3	0.6	2.8	3	0.1	1.8	

Date	Time	K	N-S		K	E-W		K	U-D		Remarks
			A μ	T sec		A μ	T sec		A μ	T sec	
20	18	3	0.6	2.5	3	0.4	2.3	3	0.1	1.7	
	00	3	0.9	2.6	3	0.7	2.7	3	0.2	1.7	
	06	3	0.6	2.1	3	0.4	1.9	3	0.2	1.7	
	12	3	1.1	2.9	3	0.6	2.6	3	0.2	1.7	
21	18	3	0.8	2.8	3	0.6	2.8	3	0.1	1.8	
	00	3	0.8	2.7	3	0.7	3.0	3	0.1	1.6	
	06	3	0.7	2.7	3	0.6	2.8	3	0.1	1.5	
	12	3	0.8	3.0	3	0.6	2.8	3	0.1	1.7	
22	18	3	0.5	2.7	3	0.4	2.8	3	0.0		
	00	3	0.5	2.8	3	0.3	2.6	3	0.0		
	06	3	0.5	2.9	3	0.3	2.8	3	0.0		
	12	3	0.5	2.8	3	0.4	2.9	3	0.1	1.6	
23	18	3	0.4	2.9	3	0.3	2.9	3	0.0		
	00	3	0.5	2.0	3	0.3	1.8	3	0.2	1.8	
	06	3	1.2	2.8	3	0.8	2.8	3	0.2	1.8	
	12	3	0.5	2.6	3	0.4	2.9	3	0.1	2.0	
24	18	3	0.3	2.5	3	0.3	2.8	3	0.0		
	00	3	0.4	2.7	3	0.3	2.7	3	0.0		
	06	3	0.4	2.7	3	0.2	2.7	3	0.0		
	12	3	0.3	1.8	3	0.2	2.0	3	0.1	1.6	
25	18	3	0.3	1.9	3	0.3	2.3	3	0.1	1.7	
	00	3	0.5	1.8	3	0.3	1.8	3	0.2	1.8	
	06	3	0.5	2.0	3	0.3	2.0	3	0.2	1.8	
	12	3	0.5	2.5	3	0.4	2.3	3	0.1	1.8	
26	18	3	0.6	2.5	3	0.4	2.3	3	0.1	1.7	
	00	3	0.9	2.8	3	0.6	2.6	3	0.2	1.8	
	06	3	2.2	2.7	3	1.4	2.5	3	0.3	1.3	
	12	3	2.7	2.5	3	1.7	2.2	3	0.9	2.1	
27	18	3	3.1	2.7	3	2.6	2.9	3	0.6	2.2	
	00	3	3.1	2.7	3	2.4	2.8	3	0.7	2.4	
	06	3	2.2	2.7	3	1.8	2.9	3	0.3	2.0	
	12	3	2.2	3.2	3	1.2	2.8	3	0.5	2.2	
28	18	3	2.0	3.3	3	1.1	3.0	3	0.2	2.0	
	00	3	0.9	2.8	3	0.7	2.7	3	0.2	2.1	
	06	3	0.9	2.9	3	0.6	2.9	3	0.1	1.3	
	12	3	0.8	2.4	3	0.4	2.0	3	0.2	1.7	
29	18	3	0.6	2.2	3	0.3	1.9	3	0.1	1.6	
	00	3	0.7	2.6	3	0.4	2.5	3	0.1	1.8	
	06	3	0.8	2.8	3	0.5	2.7	3	0.1	1.6	
	12	3	0.5	2.1	3	0.5	2.5	3	0.1	1.6	
30	18	3	0.7	2.6	3	0.5	2.5	3	0.1	1.5	
	00	3	0.5	2.4	3	0.4	2.2	3	0.1	1.3	
	06	3	0.4	2.2	3	0.4	2.4	3	0.1	1.4	
	12	3	0.5	2.4	3	0.3	2.6	3	0.0		
31	18	3	0.4	2.6	3	0.3	2.6	3	0.0		
	00	3	0.7	2.9	3	0.4	2.8	3	0.0		
	06	3	0.6	2.9	3	0.4	2.8	3	0.1	1.4	
	12	3	0.6	2.8	3	0.4	2.6	3	0.1	1.3	
	18	3	0.6	2.7	3	0.4	2.5	3	0.1	1.4	



International
Seismological
Centre

SEISMOLOGICAL REPORT

for

I. G. Y.

Sept., 1958

Seismological Observatory.

Tôhoku University.

Sendai, Japan.

Station: Seismological Observatory, (Mukaiyama Observatory),
Tōhoku University, Sendai, Japan.

Longitude: 140° 51' 30" E.

Latitude: 38° 14' 32" N.

Elevation: 128 m.

Foundation: Sandstone.

Instrument:

No	Name	Component	Vmax	T ₁	T ₂	h ₁	h ₂	ρ mm	α	Date of Calibration
1.	Short-Period Electromagnetic Seismograph	EW	9,600*	0.93	1.2	1.8	1.0		0.00	April 16, 1958
2.	"	NS	9,100*	0.99	1.2	2.1	1.1		0.00	"
3.	"	UD	9,200*	1.00	1.0	2.1	1.0		0.00	"
4.	Long-Period Electromagnetic Seismograph	EW	370	25.2	37.2	0.99	0.71		0.00	Sept. 11, 1958
5.	"	NS	320	26.3	51.8	1.30	0.85		0.00	
6.	Wiechert Seis- mograph (200 Kg)	EW	140	3.7		0.51		0.33		Sept. 5, 1958
7.	"	NS	122	3.7		0.58		0.32		"
8.	" (1,200 Kg)	UD	107	3.8		0.59		0.21		"

Vmax: Maximum magnification.

T₁: Period of Pendulum.

T₂: Period of galvanometer.

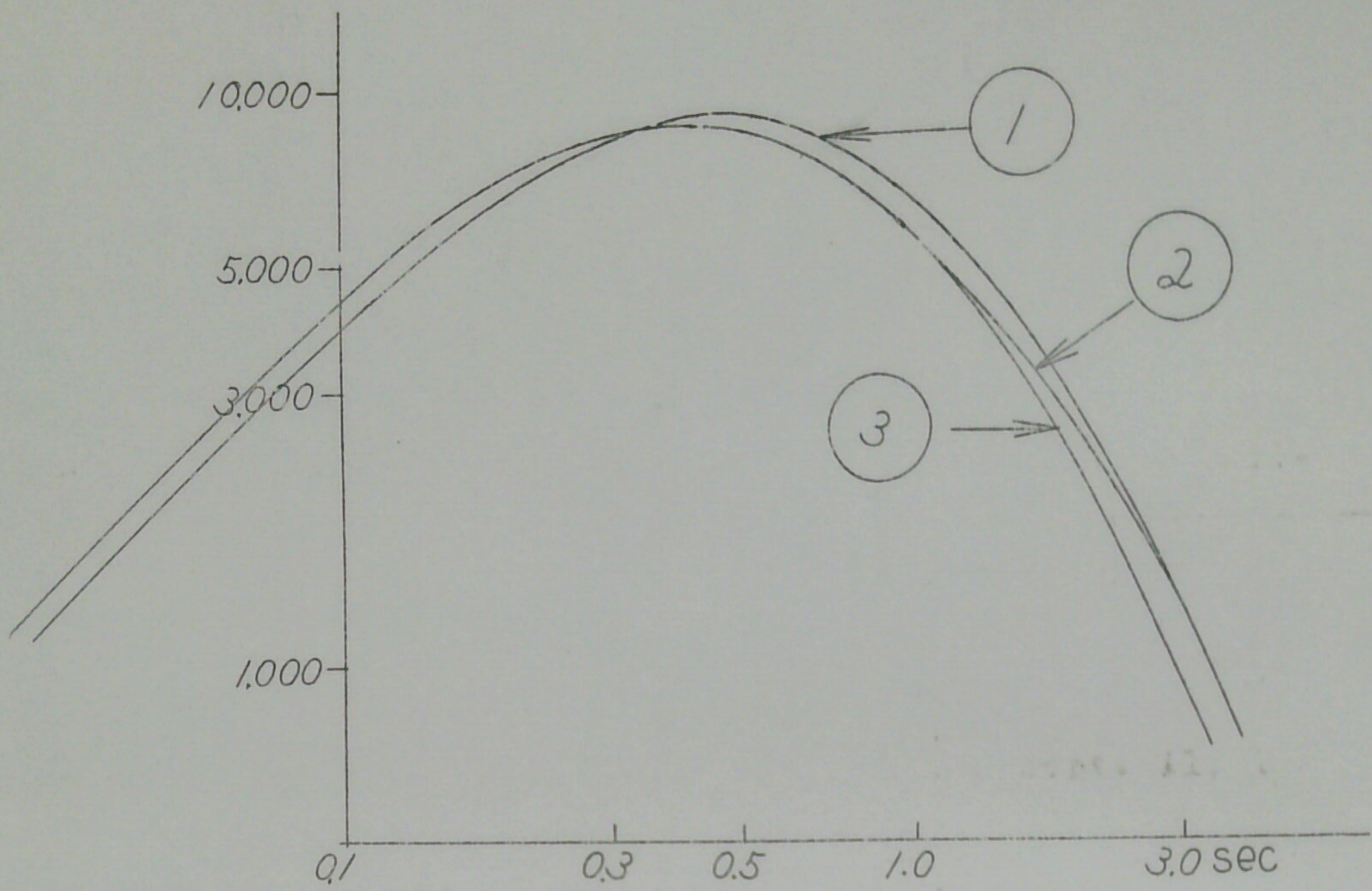
h₁: Damping constant of pendulum.

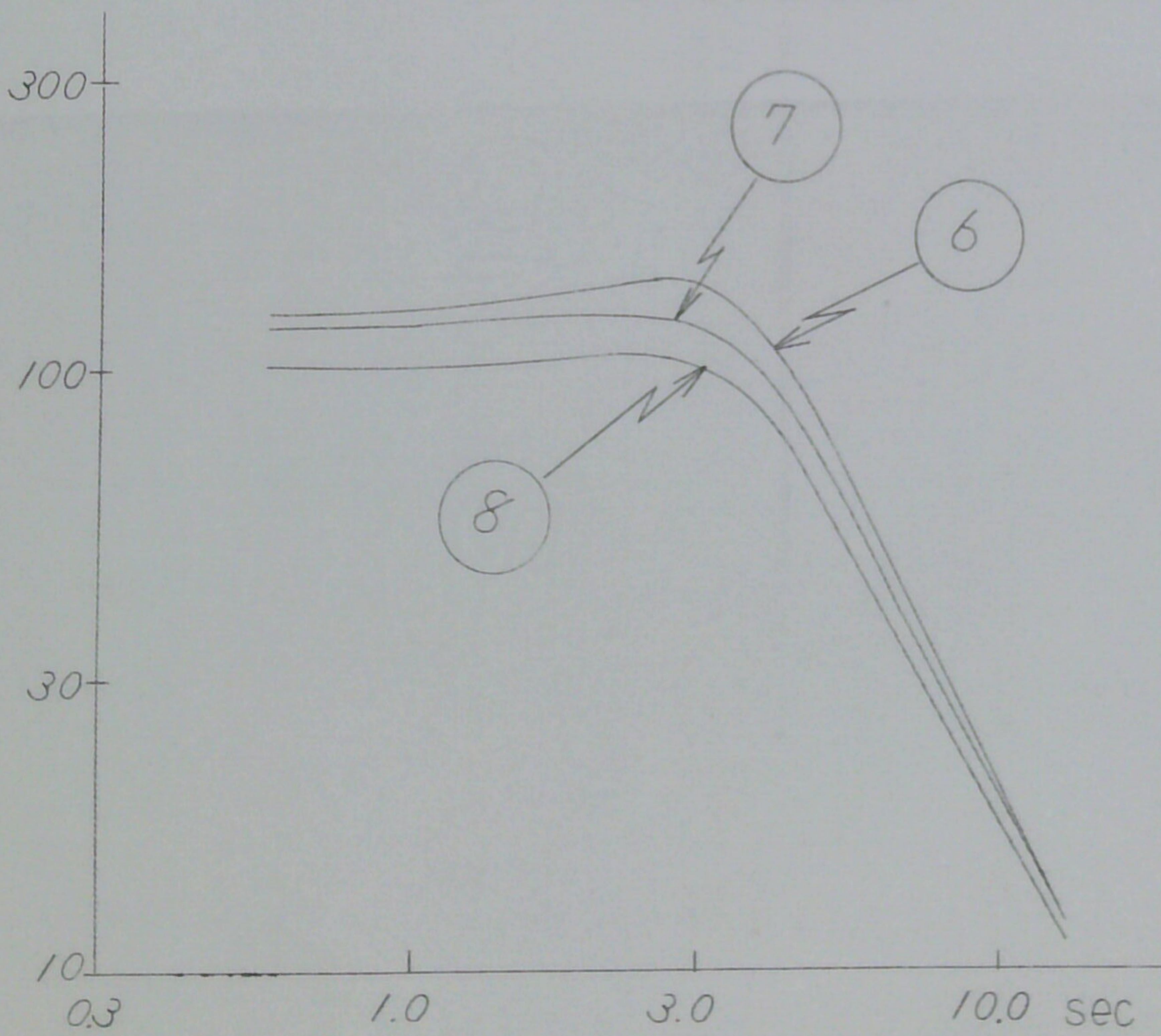
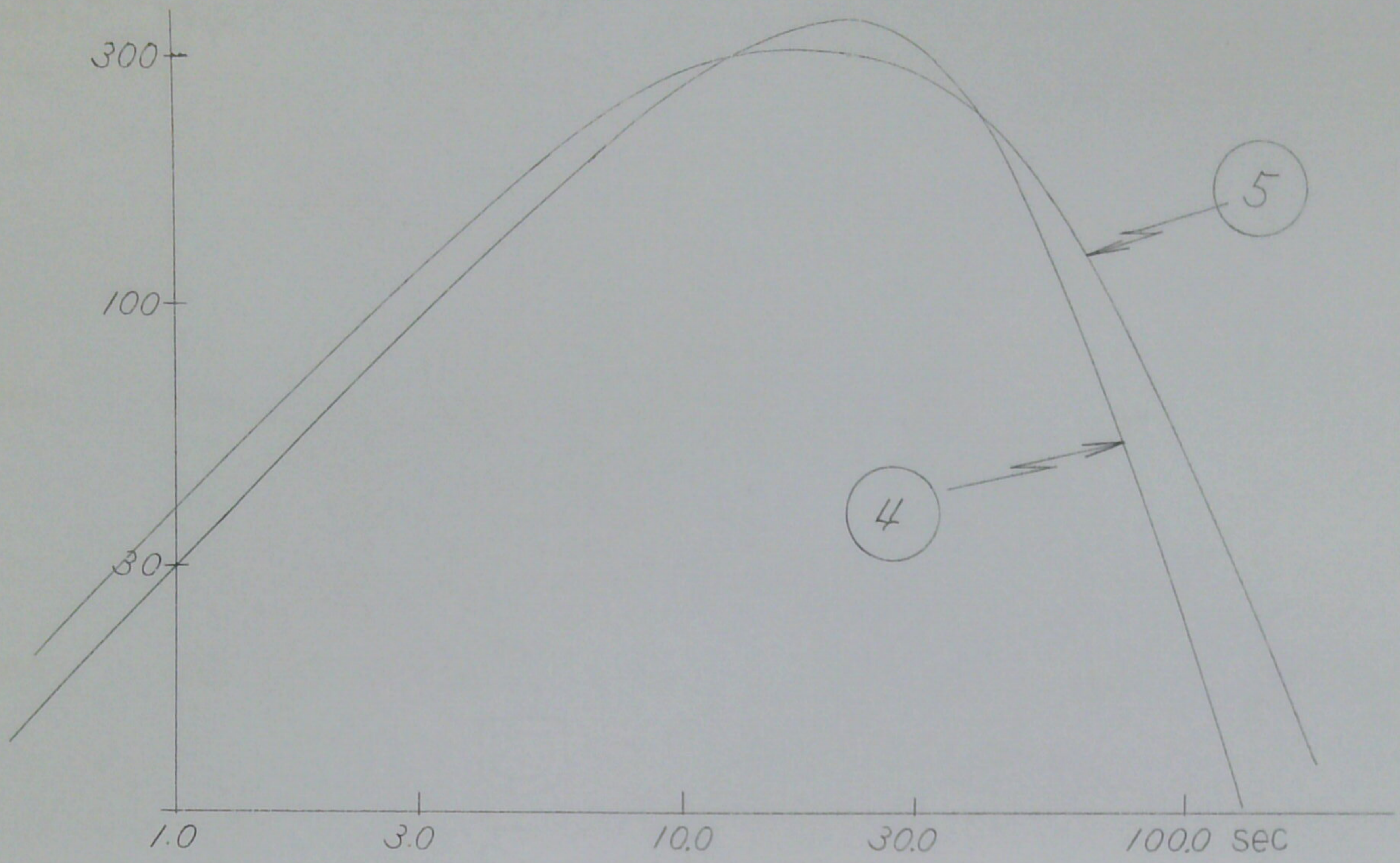
h₂: Damping constant of galvanometer.

ρ : Solid friction.

α : Coupling factor.

*: Magnification for the amplitudes read on
microfilm-reader (magnification 8.4).

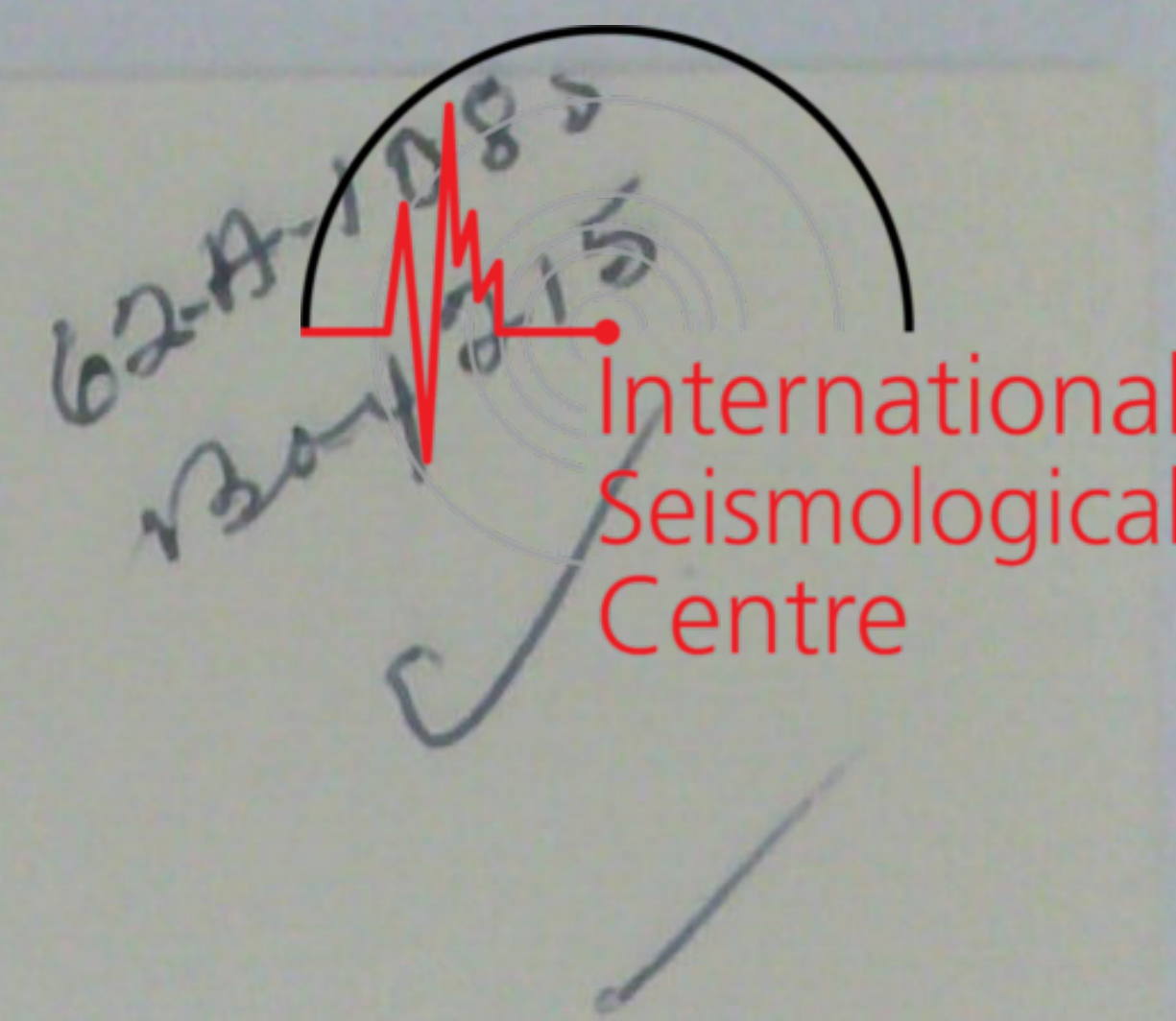




Serial No.	Date	Phase	Time			Period sec	Amplitude				Instru- ment	Remarks
			G.M.T.				N	E	Z	Δ ca		
			h	m	s							
304	3rd	eSSE	04	25	00.			-1.4			4	
		eSSN		24	50.	44.	-0.6				5	
		eXN		30	25.	40.	-0.9				5	
		eXE		31	20	42.		+0.8			4	
		eXN		37	20	44.	-1.5				5	
		eXN		49	30	46.	+2.0				5	
305	3rd	iPE	08	11	13.4	4.8		-1.9		3°	4	
		iPN			13.0	1.2	+2.9				2	
		iPZ			12.2				+4.5		3	
		iXE			14.2	3.5		+0.8			6	
		iXN			14.2	3.7	+0.7				7	
		iSE			48.4						4	
		iSN			49.0						5	
306	4th	ePKPE	22	11	34.7	1.6		+1.3		155°	1	
		ePKFN			28.7	1.5	-0.6				2	
		ePKPZ			33.3	1.4			-0.1		8	
		eXZ		15	30.3	2.1			-0.1		8	
		eXE		15	00.	40.		+1.5			4	
		eXN			05	14.	-1.0				5	
		eXE		21	57.	19.1		+0.9			4	
		eXE		29	42.	19.		+1.1			4	
		eXN			38.		-0.6				5	
		eXE		35	35.	24.		-1.6			4	
		eXN			46.	22.	+0.8				5	
		iXE		35	22.	41.		-7.7			4	
		iXE		41	08.	30.		-2.0			4	SSS?
		eXN		40	53.	30.	-1.1				5	SSS?
		eXN		53	15.	26.	+2.0				5	
		eXE		55	30.	19.		-0.7			4	
		eXN			42.	24.	-4.9				5	
		eXE		23	02	32.	35.		+4.1		4	
eXN				28.	36.	-3.8			5			
iXN		25	26.	30.	-2.5				5			
iXE		27	14.	21.		-1.3			4			
iXN				21.	27.	-1.9			5			
307	8th	iPE	05	30	08.2	1.3		-3.0		20°	1	
		iPN			08.0	0.9	-5.2				2	
		iPZ			07.5	1.7			-5.1		3	
		eSE		33	42.7	8.4		-0.2			4	
		eSN			42.3	13.0	-1.3				5	
		eLN		34	40.	36.		+2.5			4	
		eLN			24.	38.0	+3.1				5	
		eLE		38	26.	16.7		+1.0			4	
		eLN			44.	20.5	-1.4				5	

Serial No.	Date	Phase	Time			Period sec	Amplitude			Instru- ment	Remarks	
			G.M.T.				N	E	Z			Δ ca
			h	m	s		mm	mm	mm			
308	14th	ePN	14	26	38.7	1.6		+0.7	23°	1		
		ePZ			37.7	2.0	+0.3			2		
		eXE			43.8	1.5		-0.1		6	pP?	
		eXN			42.0	2.8	+0.1			7	pP?	
		IXZ			43.1	1.5			-2.0	3	pP?	
		1PPN	27		13.0	1.5	+3.1			2		
		IXZ			42.2	1.7			+3.0	3		
		IXZ	28		26.2	1.4				3		
		ePcPE	30		38.0	15.1		+0.7		4		
		ePcPN			36.3	14.9	+1.2			5		
		ISE			51.5	3.3		-0.5		6		
		eSN			45.1	9.2	+0.2			5		
		eSZ			52.5	6.0			-0.3	8		
		eLE	33		09.	24.1		-8.1		4		
		eLN			05.	27.5	+12.5			5		
		eXE	33		10.3	4.7		-0.3		6		
		eXZ			18.9	6.9	+0.6			7		
		eXE			26.					1		
		eXN			23.4	2.4	-5.0			2		
		IXN	35		44.	16.0	+13.5			5		
		IXN	36		30.	13.	-1.7			5		
IXN	38		30.	16.	-4.0			5				
eLE	42		25.	13.		-3.8		4				
309	15th	1PE	19	52	30.1	1.3		-1.8	40°	1		
		ePN			30.3	1.1	-1.0			2		
		1PZ			29.9	1.3			+3.1	3		
		ePPE	54		21.6	11.0		-1.2		4	or PcP	
		1PPN			16.1	11.8	-1.3			5		
		ePPZ			20.2	3.0			-0.5	8	or PcP	
		IXE	55		30.3	9.1		+2.5		4		
		IXN			33.9	8.1	-1.0			5		
		eXZ			34.6	8.3			+0.3	8		
		ISE	57		51.6	1.7		-7.1		1		
		ISN			53.9	2.5	-1.5			7		
		ISE			51.6	2.1			+10.3	3		
		eXE	58		15.6	2.6		+0.7		6		
		eXN			10.9	2.2	-0.6			7		
		IXZ			18.1	2.0			+1.2	8		
		IXE			45.7	11.8		+3.2		4		
		eXN			45.5	9.1	+2.4			5		
		1SSZ	20	03	07.7	19.6		-3.7		4		
		1SSN			04.2	26.4	-4.1			5		
		eScSE	20	01	22.1	3.0	+0.2			6		
		eScSN			23.4	4.8	+0.4			7		
eScSZ			22.0	1.8			+2.2	3				
310	20th	ePE	17	17	55.0	0.8		+0.7	46°	1		
		ePN			52.2	9.0	+0.3			4		
		ePZ			55.0	1.5			+0.9	3		
		IXN			57.8	0.6	+1.0			2		
		IXZ	18		24.6	1.6			-2.3	3		
		eSE	24		50.1	8.0		+1.0		4		
		ISN			35.8	23.8	-1.5			5		
		eXE	25		03.7	11.7		+1.0		4	PS or PPF	
		eXN			07.7	19.9	+1.4			5	PS or PPF	

Serial No.	Date	Phase	Time			Period	Amplitude			Instrument	Remarks
			G.M.T.				N	E	Z		
			h	m	s		sec	mm	mm		
310		iXE	.28	30.	12.4		+0.3		4		
		iXN		33.	15.7	+1.3			5		
		eLN	35	23.	21.	-3.3			5		
		iXE	40	23.	17.		-0.5		4		
		iXN	47	15.	20.1	-2.8			5		
		eXE	47	38.	15.		+0.8		4		
311	22nd	ePE	08	38	51.5	1.2	+1.1	11°	1		
		ePN			52.3	1.2	-0.8		2		
		iPZ			51.5	1.2		-1.4	3		
		iSE	41	46.8	5.9	+2.2			4		
		eSE		46.8	2.3	+0.3			5		
		eSZ		47.1	3.3				3		
312	22nd	eSE	19	28	05.1	10.0	-0.3	82°	4	P is not distinct	
		iSN			06.3	16.1	-1.8		5		
		eXE	30	08.	17.6		-1.2		4		
		iXN			09.6	12.9	-1.7		5		
		eSKKSE	43	51.	38.		-1.5		4		
		eSKKSN		49.	30.	-2.1			5		
		eXE	51	00.	21.2		-1.4		4		
		iXN	50	58.	22.3	-3.3			5		
		eXE	52	43.	19.2		+0.7		4		
		eXN		41	21.0	+1.5			5		
		eXE	54	26	20.6		+1.4		4		
		eXN		23	20.4	-0.9			5		
		313	24th	eSE	04	00	54	16.	+1.0		4
eScSE				04	25.	15.	+1.6		4		
eXE				15	40.	21.	+1.3		4		
eXE				17	00.	13.	-0.8		4		
eXE				18	15.	18.	+0.9		4		
314	25th	eXE	08	27.0	41.		-0.8		4		
		eXN		28	20.	33.	+1.2		5		
		eXE		33.0	32.		-1.0		4		
		eXE		39	20	20.	+1.0		4		
		eXN		41	25.	19.	-0.8		5		
		eXN		42.5	23.	+2.0			5		



SEISMOLOGICAL REPORT

for

I. G. Y.

Oct., 1958

Seismological Observatory.

Tôhoku University.

Sendai, Japan.

Station: Seismological Observatory, (Mukaiyama Observatory),
Tōhoku University, Sendai, Japan.

Longitude: 140° 51' 30^m E.

Latitude: 38° 14' 32^m N

Elevation: 128 m

Foundation: Sandstone.

Instrument:

No	Name	Component	V _{max}	T ₁	T ₂	h ₁	h ₂	ρ	~	Date of Calibration
1.	Short-Period Electromagnetic Seismograph	EW	9,600*	0.93	1.2	1.8	1.0		0.00	April 16, 1958
2.	"	NS	9,100*	0.99	1.2	2.1	1.1		0.00	"
3.	"	UD	9,200*	1.00	1.0	2.1	1.0		0.00	"
4.	Long-Period Electromagnetic Seismograph	EW	195	25.1	37.4	0.96	0.71		0.00	Oct. 11, 1958
5.	"	NS	151	25.1	47.5	1.54	0.78		0.00	
6.	Wiechert Seis- mograph (200kg)	EW	127	3.7		0.59	0.25			Oct. 7, 1958
7.	"	NS	127	3.7		0.58	0.23			"
8.	" (1,200Kg)		119	3.7		0.59	0.15			"

V_{max}: Maximum magnification.

T₁: Period of Pendulum.

T₂: Period of Galvanometer.

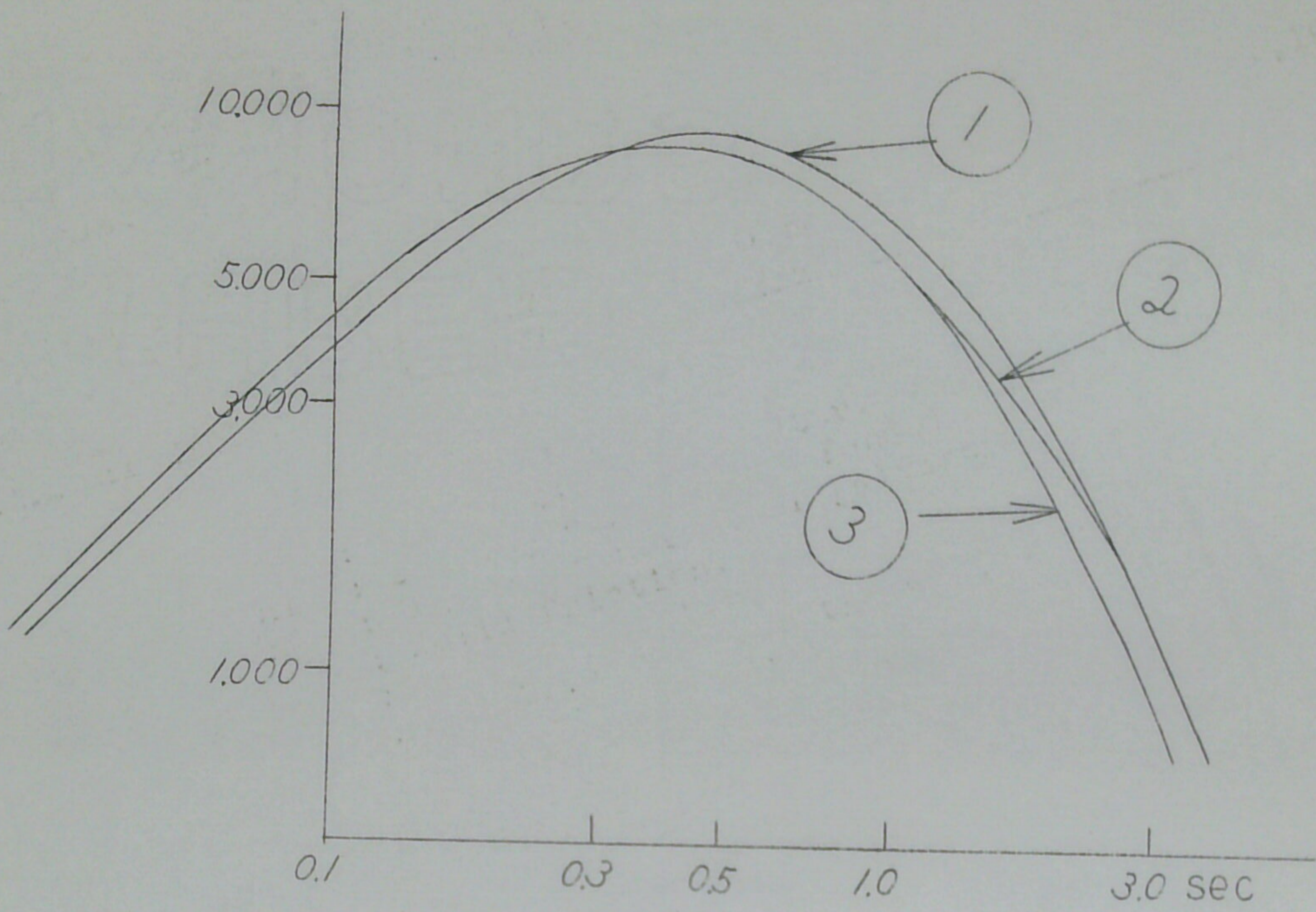
h₁: Damping constant of Pendulum.

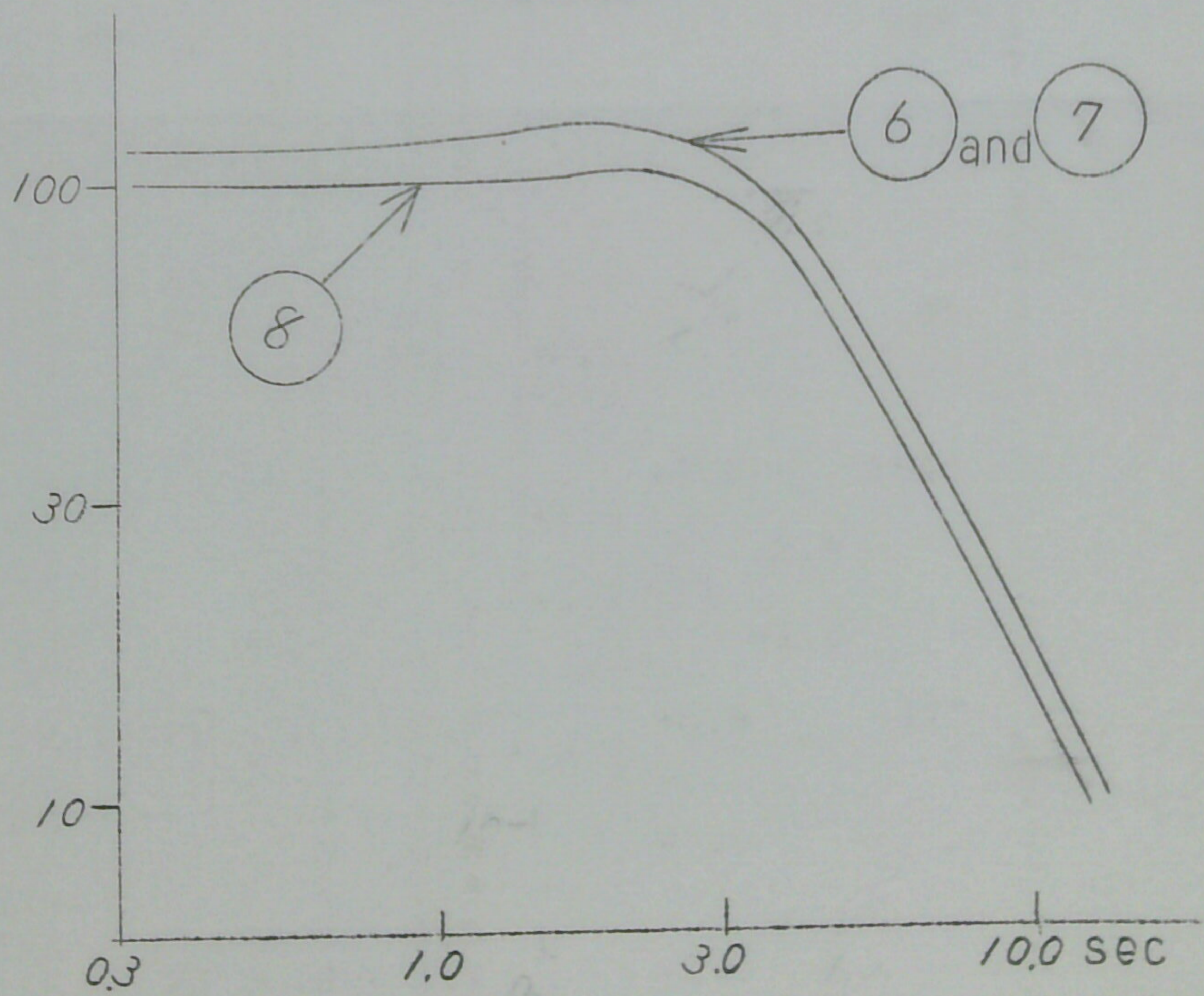
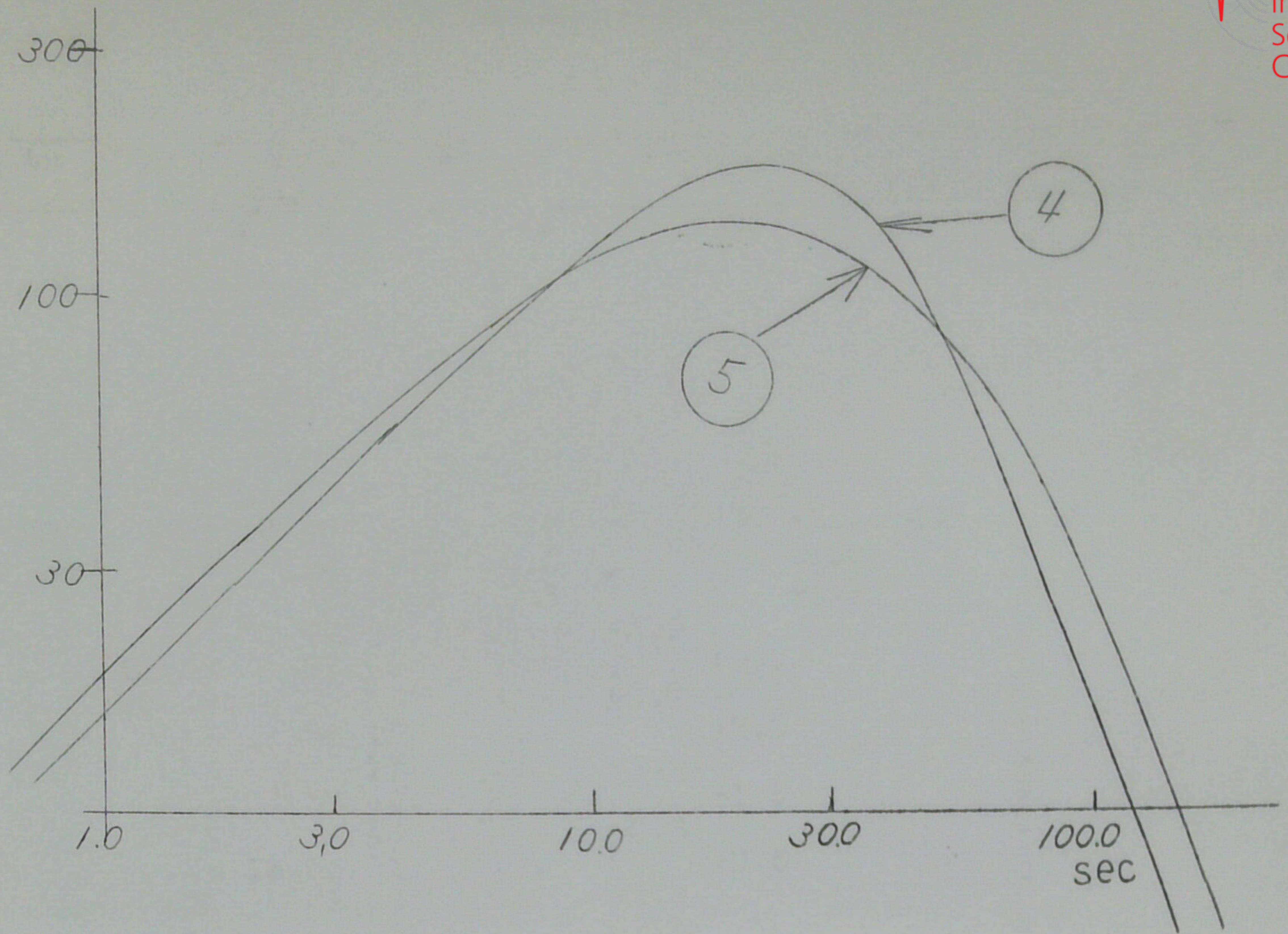
h₂: Damping constant of galvanometer.

ρ : Solid friction.

~: Coupling factor.

*: Magnification for the amplitudes read on
microfilm reader (magnification 8.4).





Serial No.	Date	Phase	Time G.M.T.			Period sec	Amplitude			Instrument	Remarks
			h	m	s		N mm	E mm	Z mm		
315											No trace Large micro-seisms.
313											No trace Large micro-seisms.
317	7th	ePZ	12	40	56.8	1.2		+0.9	44°	3	
		eXZ		42	04.5	1.8		-1.0		3	
		ePPZ		42	41.9	1.1		+1.1		3	
		iSN		47	38.	21.8	+2.5			5	
		iScSE		50	55.	37.		+0.9		4	
		eScSN			56	35.	+0.7			5	
		eXE		55	11.	17.		+2.5		4	
		eXN			17.	21.	-1.6			5	
		eXE		57	44.	21.		+1.5		4	
		eXN			46	23.	-0.6			5	
		eXE	13	05	11.	19.		+0.5		4	
		eXN		05	06.	25.	-2.8			5	
		iXN		11	43.	19.	-1.9			5	
318											No trace
319	10th	ePE	08	34	59.5	1.7		+1.0	21°	1	
		ePN			58.4	1.8	-0.1			7	
		ePZ			58.8	1.7		+2.1		3	
		iXN		35	00.1	1.3	-3.2			2	
		iXZ			00.0	1.3				3	
		iXZ			48.2	1.1		+2.2		3	
		iXN		36	36.8	1.2	-3.4			2	
		iSE		38	43.7	12.		+0.4		4	
		eSN			44.	33.	+0.2			5	
		isSN			59.	12.	+1.8			5	
320	11th	iPKPE	14	57	21.1	0.8		-1.9	154°	1	
		ePKPN			20.4	0.6	+1.9			2	
		iPKPZ			19.0	0.8		-2.3		3	
		iXN			23.7	1.0	-1.7			2	
		iXZ			23.5	1.0		+1.6		3	
321	12th	ePE	15	22	17.0	2.0		+0.9	17°	1	
		ePN			16.5	0.9	-0.5			2	
		ePZ			15.3	1.7		+0.5		3	
		iXE			20.5	0.6		-5.6		1	
		iXN			20.2	0.6	+			2	
		iXZ			20.6	1.0		-2.0		3	
		iXE	23	30.9	2.7			-0.3		6	
		iXN			29.5	2.6	+0.2			7	
		iXZ	24	13.9	1.6			-2.8		3	
		iSE	25	09.2	0.7			+3.0		1	
		iSN			09.3	1.4	+2.8			2	
		iSZ			08.1	0.8		+0.9		3	
		iXE			16.7	3.0		-0.7		8	



Serial NO.	Date	Phase	Time G.M.T.			Period			Amplitude			Instrument	Remarks
			h	m	s	sec	N mic	E mm	Z mm	Δ	ca		
321		1XN				28.3	3.4	+1.1				7	
		1XE				50.3	3.2		+0.6			6	
		1XN				53.4	2.3	-0.6				7	
		1XE	26			04.4	2.3		+0.5			6	
		1XN				08.4	2.4	-0.5				7	
		ePcPE	26			58.	26.		+1.6			4	
		ePcPN				58.	31.	+3.2			5		
322	20th	1PE	01	21		58.6	1.7		-1.7		55°	1	
		1PN				58.7	1.8	-1.6				2	
		1PZ				59.0					+	3	
		1XE	22			06.9	2.1		+0.7			6	
		1XZ				13.8	1.7				-0.5	8	
		eXE	24			21.4	1.5		+2.8			1	
		1XZ				24.2	1.4				-1.2	3	
		1SE	29			31.3	4.1		+0.5			4	
		1SN				32.8	7.1	-1.1				5	
		eSZ				30.4	1.8				+0.8	3	
		1XE				37.3	2.5			-5.9		1	
		1XN				36.5	1.9	-2.6				2	
		1XN	39			00.	40.		+3.0			4	
1XE	41			37.	28.	+1.1				5			
323	21st	ePE	06	23		03.8	1.6		+1.2		44°	1	
		ePN				04.4	0.5	+0.4				2	
		ePZ				02.6	1.1				+0.7	3	
		1XN				20.4	0.8	-1.8				1	
		eSE	29			28.9	1.0		+0.7			1	
		1XE	33			43.	22.		+1.8			4	SSS?
		eXN				40.	17.	-0.7				5	SSS?
		1XE	34			37.	22.		-1.3			4	
		1XN				33	26.	+1.9			5		
324	28th	ePE	10	55		00.3	1.9		-0.5		46°	1	
		ePN				03.7	2.2	+0.1				6	
		ePZ	54			57.6	1.6				+0.4	3	
		1XE	55			20.4	1.3		-3.8			1	
		1XZ				16.1	1.5				-1.2	3	
		1SE	11	01		41.	15.6		+0.7			4	
		eXE	11			12.	28.		-1.1			4	
		1XN				13.	30	+2.8				5	
		eXE	12			27.	15.3		-0.8			4	
		eXN				27.	16.3	+1.9				5	
		1XE	15			08.	19.0		+1.2			4	
325	29th	ePE	07	50		25.1	1.5		+1.4		30°	1	
		ePN				23.3	2.1	+1.1				2	
		ePZ				19.2	1.7				+0.3	3	
		1XE	51			33.8	1.8		+3.6			1	
		1SE	55			17.9	19.3		-2.7			4	
		1SN				16.3	20.6	-1.8				5	
		1XN	56			37.	30.	+7.2				5	
		1XN	57			17.	20.	+17.4				5	
		eXN	58			04.	29.	-4.				5	
		1XE	59			00.	22.4		-3.5			4	

SEISMOLOGICAL REPORT
for
I. G. Y.

Nov., 1958

Seismological Observatory.

Tôhoku University.

Sendai, Japan.

Station: Seisrological Observatory, (Mukaiyama Observatory),
Tôhoku University, Sendai, Japan.

Longitude: 140° 51' 30" E.

Latitude: 38° 14' 32" N.

Elevation: 128 m

Foundation: Sandstone.

Instrument:

No	Name	Comp- onent	Vmax	T ₁	T ₂	h ₁	h ₂	ρ	α	Date of Cali- bration
1.	Short-Period Electromagnetic Seismograph	EW	9,600*	0.93	1.2	1.8	1.0		0.00	April 16, 1958
2.	"	NS	9,100*	0.99	1.2	2.1	1.1		0.00	"
3.	"	UD	9,200*	1.00	1.0	2.1	1.0		0.00	"
4.	Long-Period Electromagnetic Seismograph	EW	200	25.2	37.1	0.96	0.70		0.00	Nov. 5, 1958
5.	"	NS	154	25.8	47.4	1.54	0.78		0.00	
6.	Wiechert Seis- mograph (200Kg)	EW EW	135 135	3.8 3.8		0.48		0.17		Nov. 5, 1958
7.	"	NS	123	3.8		0.55		0.21		"
8.	" (1,200Kg)	UD	109	3.8		0.60		0.16		"

Vmax: Maximum magnification.

T₁ : Period of Pendulum.

T₂ : Period of Galvanometer.

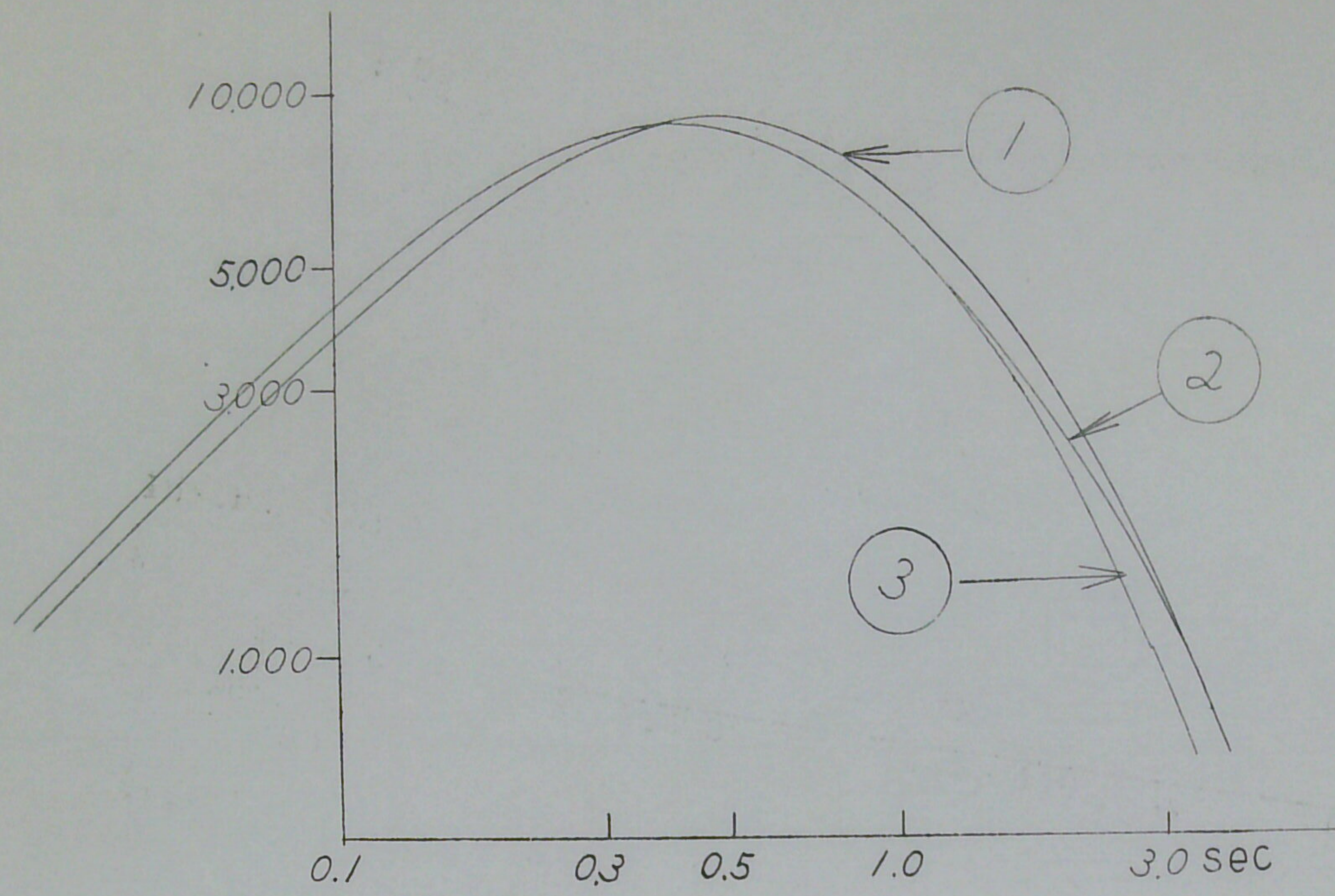
h₁ : Damping constant of Pendulum.

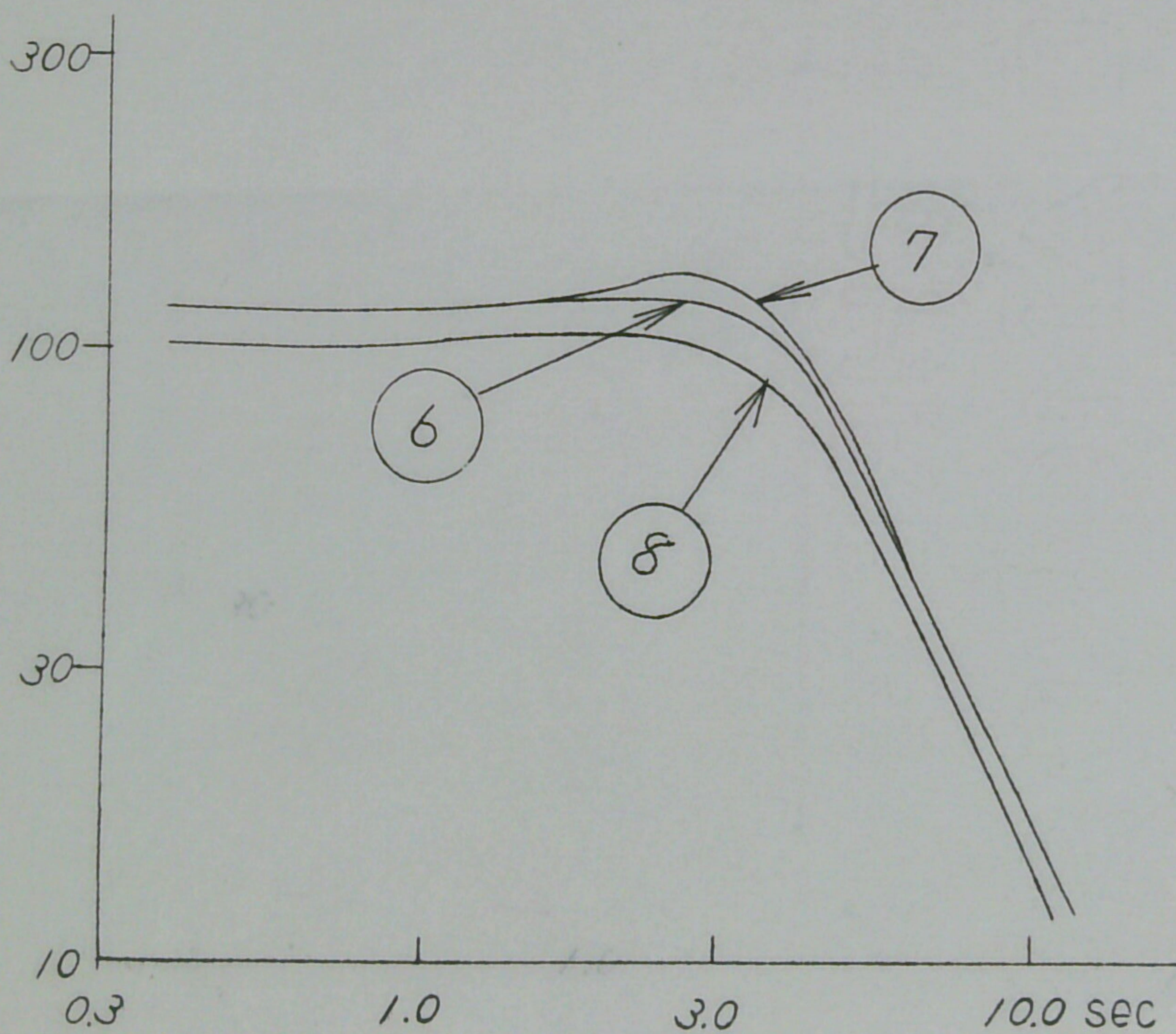
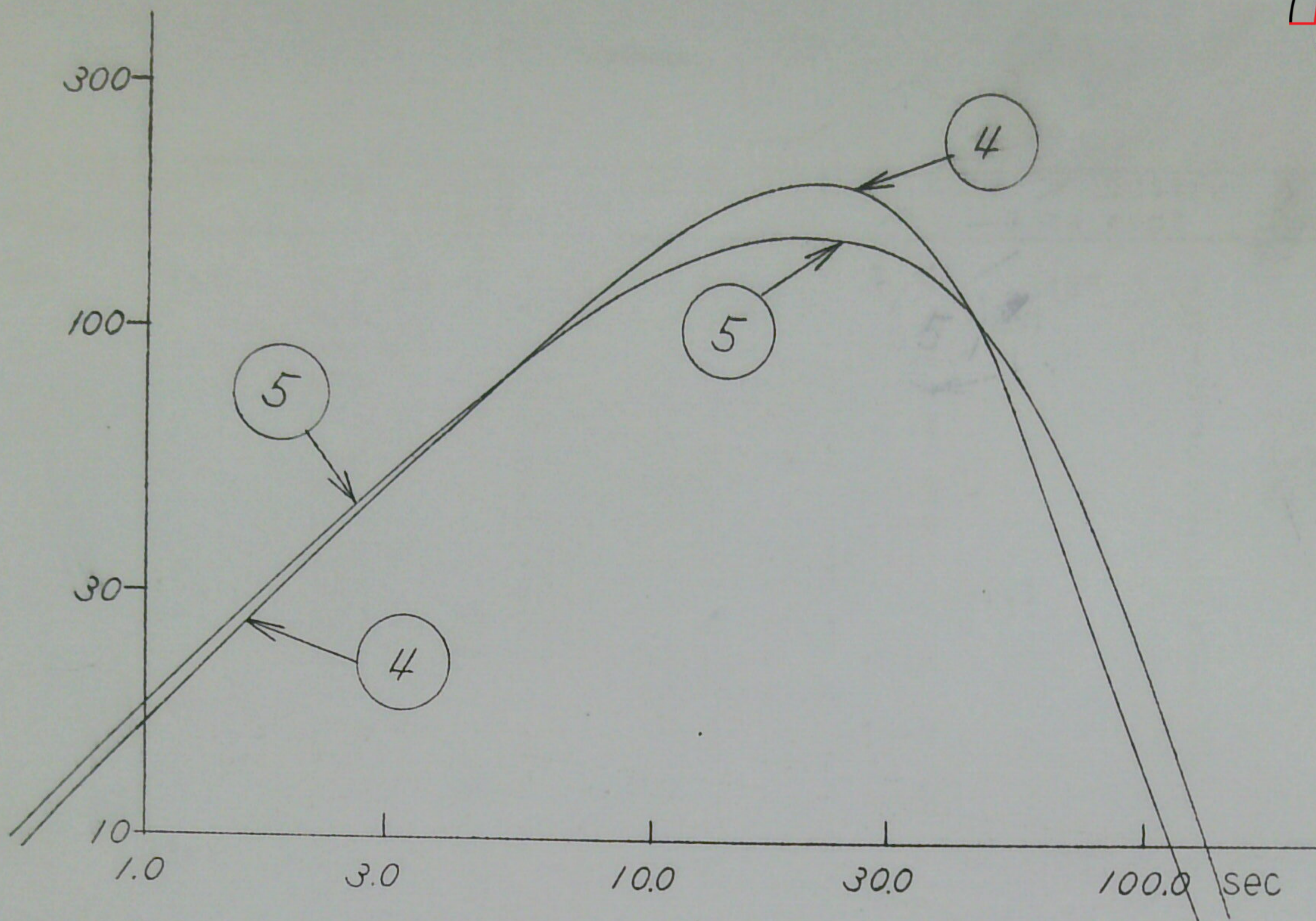
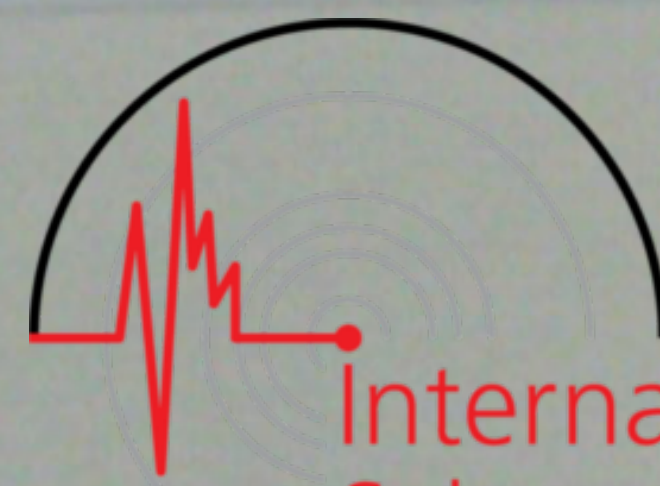
h₂ : Damping constant of galvanometer.

ρ : Solid friction.

α : Coupling factor.

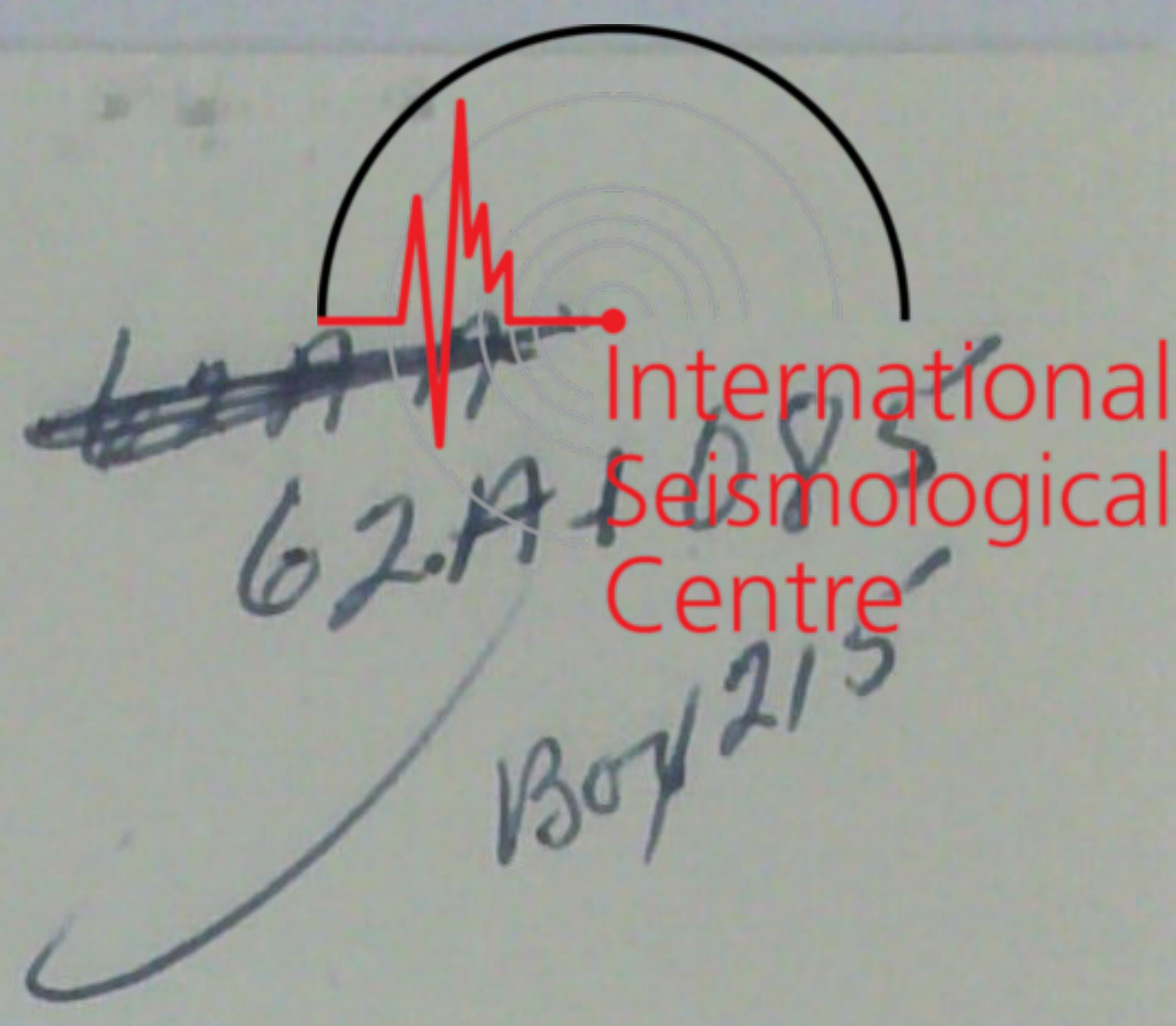
* : Magnification for the amplitudes read on
microfilm-reader (magnification 8.4).





Serial No.	Date	Phase	Time G.M.T.			Period	Amplitude			Instrument	Remarks
			h	m	s		N	E	Z		
326	1st	ePE	03	46	35.4	2.3		-0.8	42°	1	
		ePZ			32.0	3.6			-1.0	3	
		eXE			51.7	2.3		+2.4		1	
		eXN			49.1	1.2	-2.8			2	
		eXE	48	40.0	4.2		-0.1			6	PPP?
		eXN		41.2	6.5	+4.1				2	PPP?
		eXZ		41.2	1.7		-1.9			3	PPP?
		eXE		55.6	2.3		-1.9			1	
		iXN		55.9	2.9	-3.6				2	
		eXZ		56.1	1.7				-1.1	3	
		eSN	52	50.	18.0	+1.3				5	
		iXE	56	08.	26.4		+5.8			4	
		eXN		01.	23.	+1.8				5	
		eXE	04	01 13.	22.		+0.9			4	
		eXN		20.	23.	-1.7				5	
		eXN	04	45.	19.		+3.0			5	
327	1st	ePZ	12	26	49.2	1.0		+0.4	61°	3	
		eXE			52.3	2.0		-0.1		6	
		eXN			53.9	1.7	-0.1			7	
		eXZ			53.1	1.7			-0.8	8	
		iSE	35	04.8	13.7		+1.2			4	
		iSN		05.0	13.5	-1.7				5	
		eXE	43	24.	21.		-1.9			4	
		eLE	50	19.	16.6		+1.6			4	
328										No trace	
329	6th	ePE	23	00	06.7	1.9		-2.6	8°	1	
		ePN			06.9	2.0	-0.9			2	
		ePZ			06.4	1.2			+0.7	3	
		eXE			09.6	2.0		+0.1		6	
		iXN			09.3					2	
		iXZ			09.3				+	3	
		iSZ	01	46.						8	
330	7th	ePE	07	42	48.0	2.1		+1.2	9°	1	
		ePN			46.7	2.5	+1.0			2	
		ePZ			43.3	1.8			+0.4	3	
		iSE	44	13.2	2.0		-1.6			4	
		iSN		13.2	3.9	+1.6				5	
		eSZ		13.	1.4					8	
331	8th	iPE	09	27	17.5	1.4		+3.1	19°	1	
		iPN			18.4		+			2	
		iPZ			17.6					3	
		iXZ			19.8	2.4			+0.7	6	
		iPPE			42.3	1.9		+0.6		6	
		iPPN			45.6	1.3	-1.1			7	
		eSE	30	51.2	5.1		-0.3			4	
		eSN		55.2	3.9	-0.3				5	
		eXE	42	34.	31.		-1.2			4	
		eXN	43	41.	21.	+1.8				5	

Serial No.	Date	Phase	Time G.M.T.			Period sec	Amplitude			Instru- ment	Remarks
			h	m	s		N mm	E mm	Z Δ ca mm		
332	12th	ePE	20	25	31.3	2.9		+2.1	9°	1	
		ePN			31.1		+3.2			2	
		ePZ			30.4	4.0			+0.9	3	
		iXE			32.9			-5.3		1	
		iXN			32.9		-			2	
		iXZ			32.1				+	3	
		iXE	26	15.5		2.5		+4.7		6	
		iXN			17.2	2.2	-5.9			7	
		iXZ			17.4	2.0			+4.9	8	
		eSE	27	07.				-		4	
eSN		07.				-		5			
333	14th	ePE	13	56	43.0	1.9		-1.8	48°	1	
		ePN			43.3	1.2	-1.2			2	
		ePZ			41.7	1.6			+2.9	3	
		iPPE	58	23.4		1.7		+0.8		6	
		iPPN			25.2	1.6	-0.6			7	
		iSE	14	03	15.1	7.7		-0.9		4	
		iSN			15.7	12.2	+2.7			5	
		iXE	08	44.		25.		-2.1		4	
334	15th	iPE	09	02	53.9	1.5		+1.3	9°	1	
		iPN			54.7		+2.8			2	
		iPZ			52.2	1.6			-1.4	3	
		iSE	04	17.9		4.9		+2.8		4	
		iSN			18.1	4.9	-2.3			5	
		iSZ			20.5	3.6			-2.5	8	
		iXZ	08	13.4		1.0			+3.3	3	
335										No trace	
336	17th	ePE	09	56	49.9	1.7		+1.0	53°	1	
		ePN			52.6	1.2	+1.1			2	
		ePZ			45.8	1.5			+0.3	3	
		eXE	10	10	30.	23.		+1.7		4	
		eXE		13	43.	12.		-0.4		4	
337	20th	ePE	05	40	56.4	2.1		-0.1	19°	6	
		ePN			57.8	0.8	+0.1			7	
		ePZ			57.3	1.6			-0.3	8	
		eXE	47	30.		24.		-1.0		4	
		eXN		20.		22.	+2.4			5	
		iLE	48	04.		22.9		+2.2		4	
		eLN		02.		22.9	+2.4			5	
338	30th	ePE	01	34	14.1	1.6		-0.9	7°	1	
		ePN			14.0	1.8	+1.6			2	
		iPZ			14.1				-	3	
		iXE			15.2	1.4		+2.3		1	
		iXN			15.1	1.8	-1.1			2	
		iSE	35	20.6		4.9		+5.1		4	
		iSN			19.9	1.6	+2.2			5	
		iXE			30.9			-		4	
		iXZ			32.7	2.8			-1.5	8	



SEISMOLOGICAL REPORT

for

I. G. Y.

SEN

Dec., 1958

Seismological Observatory.

Tôhoku University.

Sendai, Japan.

Station: Seismological Observatory, (Mukaiyama Observatory),
Tōhoku University, Sendai, Japan.

Longitude: 140° 51' 30" E.

Latitude: 38° 14' 32" N.

Elevation: 128 m

Instrument:

Foundation: Sandstone.

Instrument:

No	Name	Component	Vmax	T ₁ sec	T ₂ sec	h ₁	h ₂	ρ	\sim	Date of Calibration
1.	Short-Period Electromagnetic Seismograph	EW	9,600*	0.93	1.2	1.8	1.0		0.00	April 16, 1958
2.	"	NS	9,100*	0.99	1.2	2.1	1.1		0.00	"
3.	"	UD	9,200*	1.00	1.0	2.1	1.0		0.00	"
4.	Long-Period Electromagnetic Seismograph	EW	205	24.2	37.1	0.92	0.70		0.00	Jan. 12, 1959
5.	"	NS	125	23.5	47.2	0.93	0.78		0.00	
6.	Wiechert Seis- mograph (200Kg)	EW	128	3.8		0.53		0.20		Dec. 6, 1958
7.	"	NS	131	3.8		0.59		0.21		"
8.	" (1,200Kg)	UD	106	4.0		0.56		0.26		"

Vmax: Maximum magnification.

T₁: Period of Pendulum.

T₂: Period of Galvanometer.

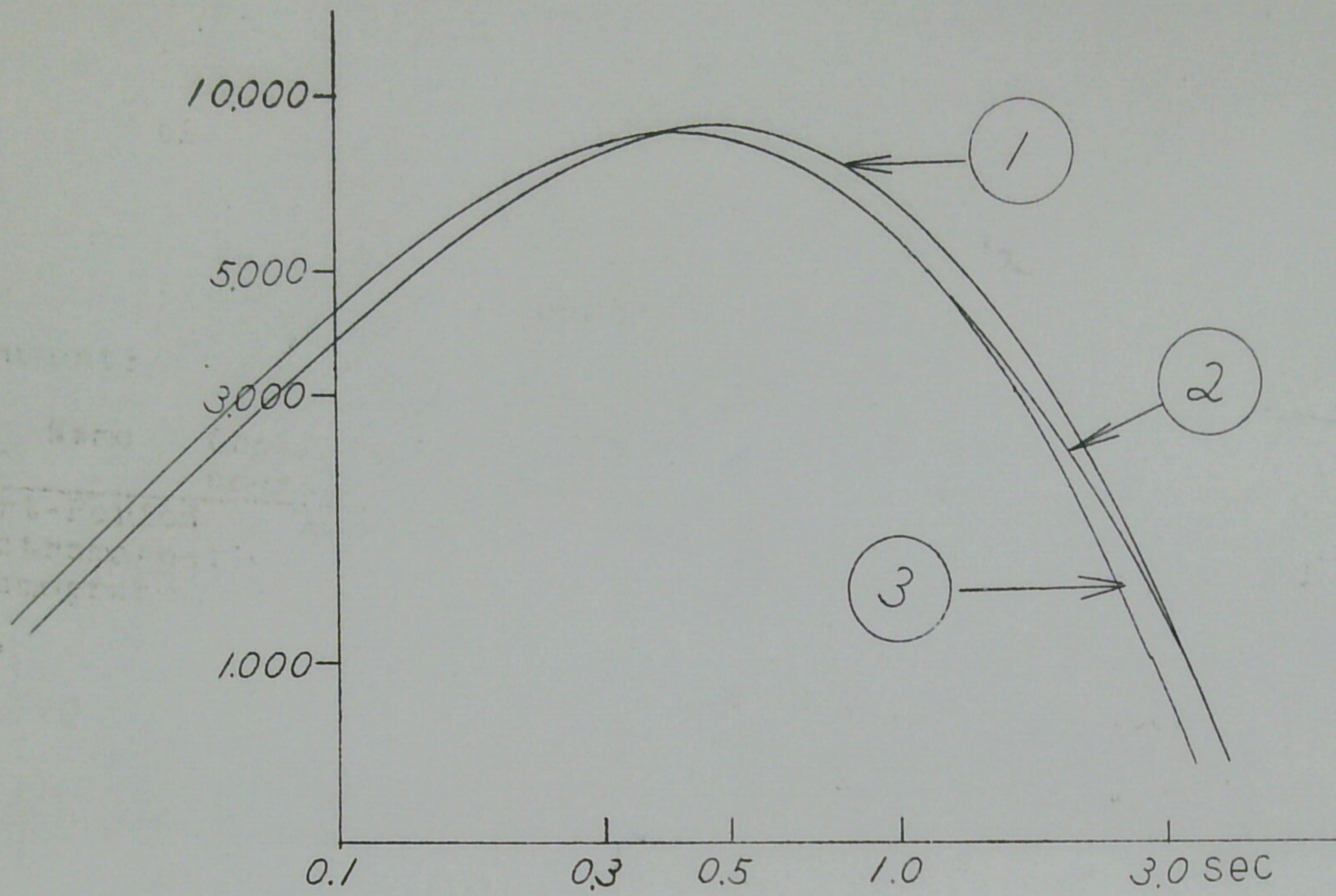
h₁: Damping constant of Pendulum.

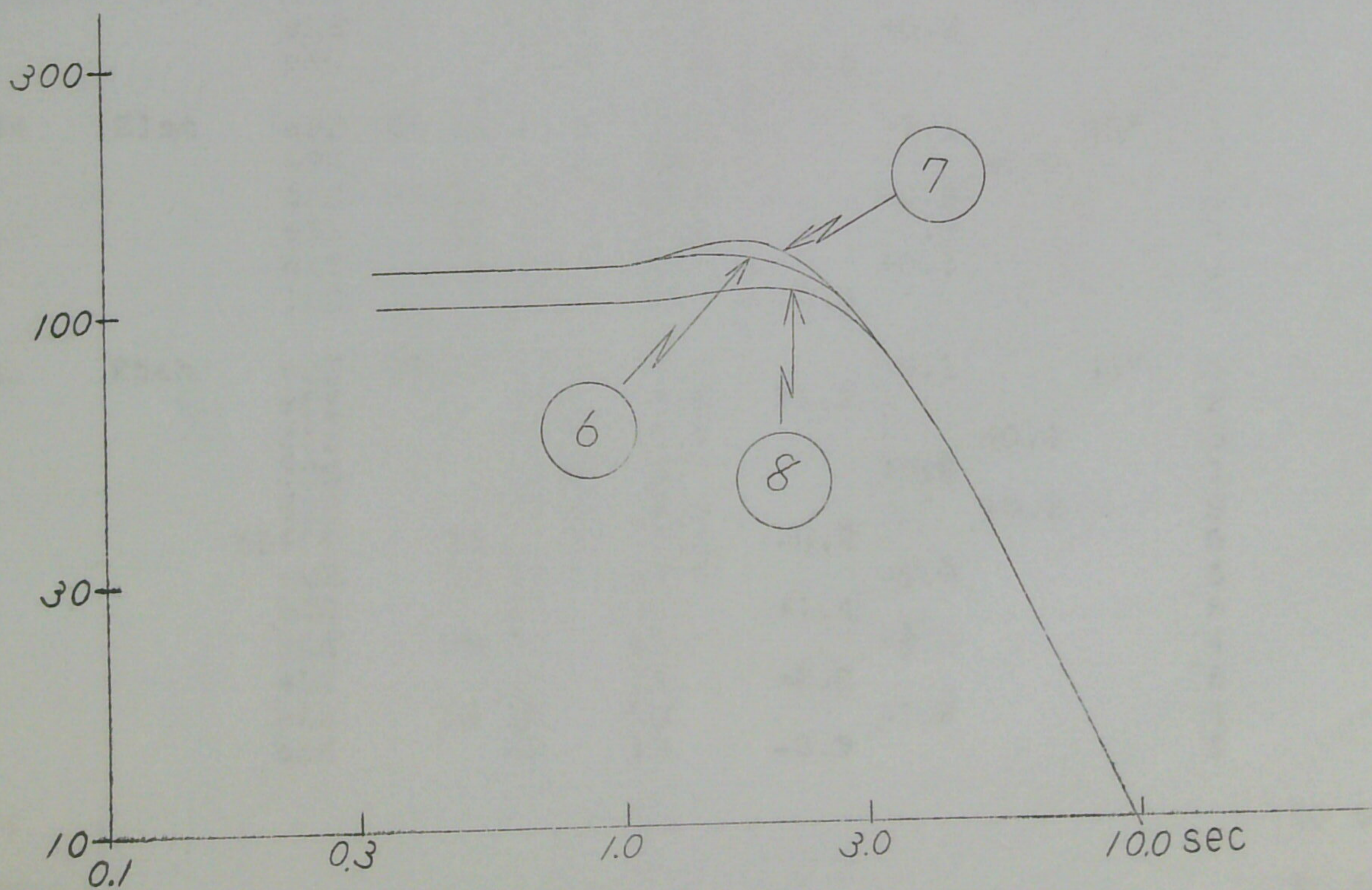
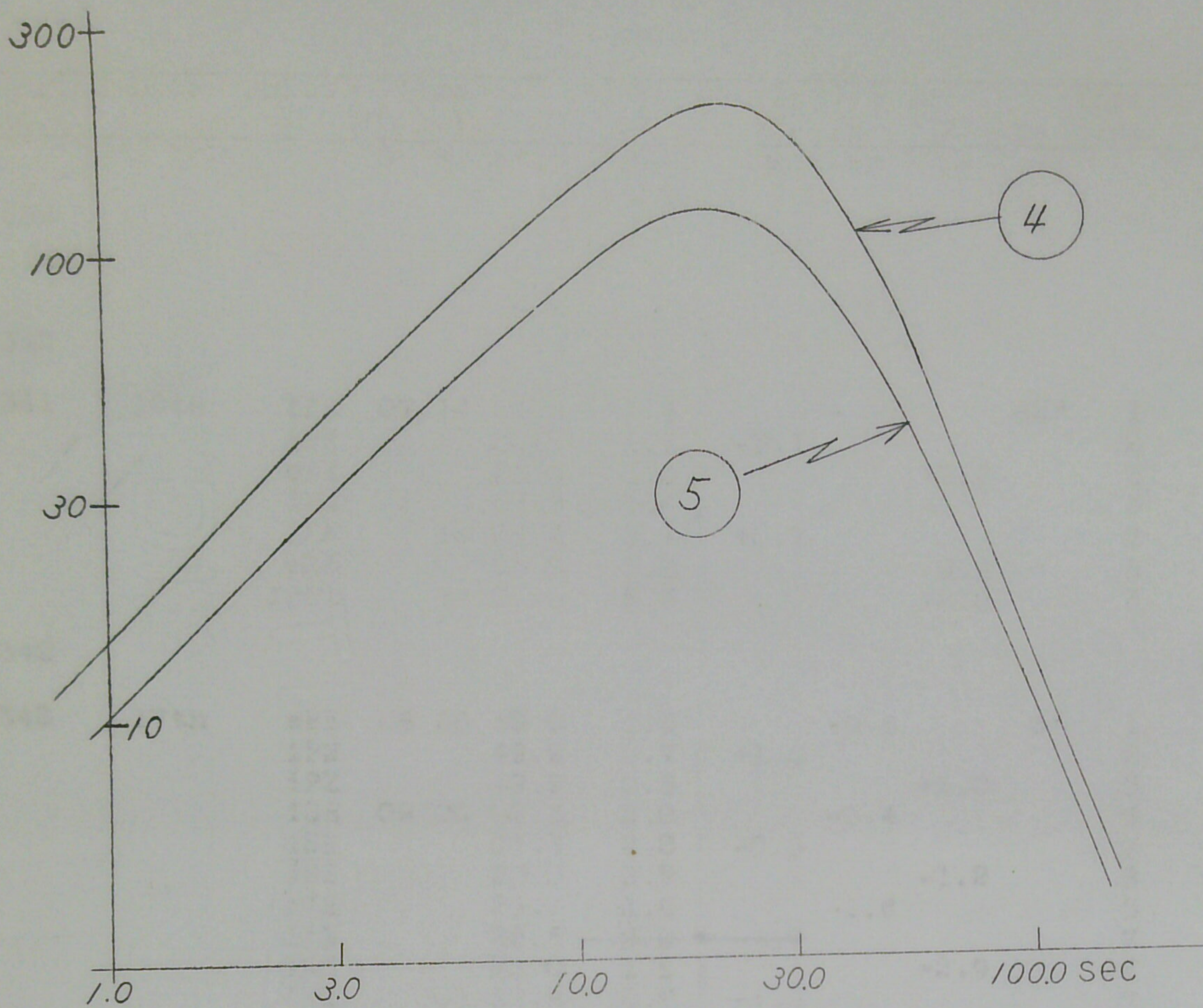
h₂: Damping constant of galvanometer.

ρ : Solid friction.

\sim : Coupling factor.

*: Magnification for the amplitudes read on
microfilm-reader (magnification 8.4).





Serial No.	Date	Phase	Time			Period sec	Amplitude				Instrument	Remarks
			G.M.T.				N	E	Z	Δca		
			h	m	s							
339												Overlapped by another shock.
340												No trace
341	10th	iPE	07	14	53.3	1.4				82°	1	
		iPN			53.2	1.7	-3.1				2	
		ePZ			51.0	1.3			+1.2		3	
		iXZ			52.2	1.4			-		3	
		iXN	15	08	08.4	3.1	+0.7				7	
		eXZ			05.2	1.8			-0.4		8	
		iPPZ	18	06	06.8	2.3			+2.0		3	
342												No trace
343	17th	ePE	08	58	50.0	0.5		-0.6		6°	1	
		iPN			49.9	0.7	+1.0				2	
		iPZ			49.9	0.5			+2.0		3	
		iSE	09	00	02.3	2.0		-0.4			6	
		iSN			01.6	2.2	-0.6				7	
		iSZ			03.5	0.9			-1.2		8	
		eXE			26.7	1.8		-1.6			6	
		iXN			25.5	2.0	-3.7				7	
		iXZ			29.0	1.8			-2.9		8	
		iXN	01	17	17.8	1.9	-1.0				7	
		iXZ			13.7	1.5			+1.9		8	
		eXE			48.7	1.8		+0.8			6	
		eXN			51.2	1.8	+0.5				7	
344	21st	ePE	05	54	43.6	0.5		+1.1		45°	1	
		ePZ			41.3	0.6			-1.0		3	
		iXE	06	12	33.	18.2		-0.8			4	
		eXE		17	37.	11.6		-1.8			4	
		eXE		19	15.	13.		+0.5			4	
		iXN			12.	16.7	-0.6				5	
345	25th	ePE	08	13	53.0	1.4		-0.1		45°	6	
		ePN			49.1	1.5	+1.2				2	
		ePZ			46.7	1.7			+0.8		3	
		eXE			58.7	2.0		+0.8			1	
		eXZ			59.8	2.5			-0.1		8	
		ePPPN	16	08	08.5	3.3	-0.2				5	
		eSE	20	12.		49.		-1.3			4	
		eSN		20.		37.	+1.4				5	
		eLE	28	19.		25.		-1.0			4	
		eLN		15.		21.	+2.9				5	
		eXE	34	18.		20.		-1.2			4	
		eXN		29.		18.	-0.7				5	
346												No trace
347												No trace

REPORT OF MICROSEISMS
for
I. G. Y.

Dec., 1958 (SEN)

Seismological Observatory,

Tohoku University .

Sendai, Japan.

Station: . . .

Station: Seismological Observatory, (Mukaiyama Observatory),
Tôhoku University, Sendai, Japan.

Longitude: 140° 51' 30" E.

Latitude: 38° 14' 32" N.

Elevation: 128 m.

Foundation: Sandstone.

Instrument

No.	Name	Component	Vmax	T ₁ sec	T ₂ sec	h ₁	h ₂	~	Date of Calibration
1.	Short-Period Electromagnetic Seismograph	EW	9,600*	0.93	1.2	1.2	1.0	0.0	16th, April.
2.	"	NS	9,100*	0.92	1.2	1.4	1.1	0.0	"
3.	"	UD	9,200*	1.0	1.0	1.4	1.0	0.0	"

Vmax: Maximum Magnification.

T₁ : Period of Pendulum.

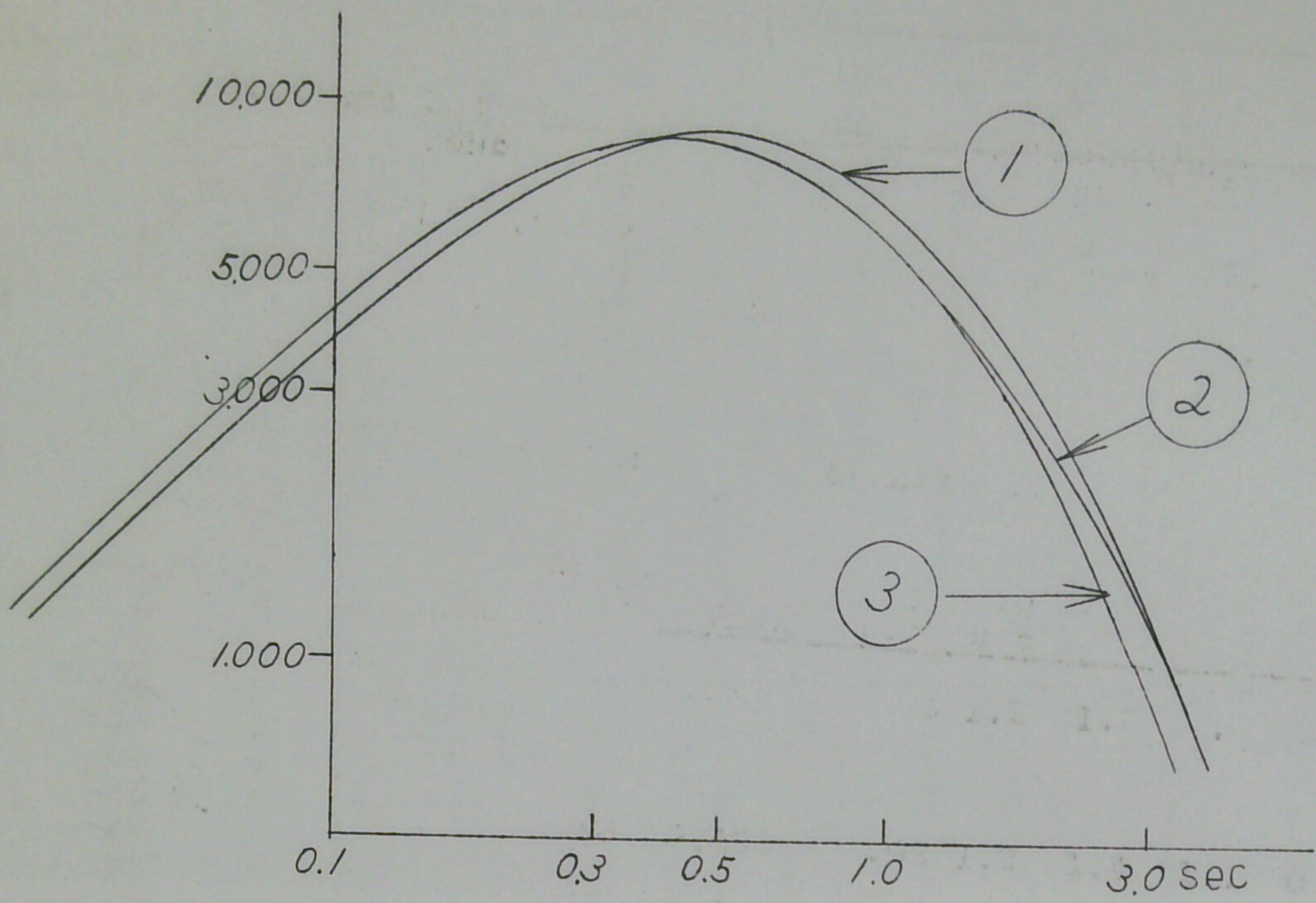
T₂ : Period of Galvanometer.

h₁ : Damping constant of pendulum.

h₂ : Damping constant of galvanometer.

~ : Coupling factor.

* : Magnification for the amplitude read on microfilm-reader (magnification 8.4).



Date	Time	K	N-S		K	E-W		K	U-D		Remarks
			A μ	T sec		A μ	T sec		A μ	T sec	
1	0	3	1.4	2.8	3	1.1	2.7	3	0.2	1.5	
	6	3	1.7	2.9	3	0.8	2.4	3	0.2	1.6	
	12	3	0.9	2.4	3	0.6	2.2	3	0.2	1.7	
	18	3	0.8	2.5	3	0.5	2.2	3	0.1	1.7	
2	0	3	0.7	2.3	3	0.5	2.4	3	0.1	1.7	
	6	3	0.6	2.0	3	0.4	1.9	3	0.2	1.6	
	12	3	1.1	2.7	3	0.9	2.6	3	0.3	2.2	
	18	3	0.6	2.4	3	0.4	2.3	3	0.2	1.8	
3	0	3	0.4	1.6	3	0.3	1.6	3	0.2	1.6	
	6	3	0.7	2.6	3	0.6	2.8	3	0.1	1.8	
	12	3	0.7	2.3	3	0.6	2.9	3	0.1	1.6	
	18	3	1.1	2.8	3	0.7	2.6	3	0.2	1.8	
4	0	3	0.5	1.9	3	0.6	2.1	3	0.3	1.7	
	6	3	0.7	2.4	3	0.5	2.5	3	0.2	1.7	
	12	3	0.9	2.6	3	0.6	2.4	3	0.2	1.7	
	18	3	0.7	2.5	3	0.5	2.5	3	0.2	1.7	
5	0	3	0.7	2.6	3	0.4	2.3	3	0.2	1.7	
	6	3	0.8	2.7	3	0.4	2.5	3	0.2	1.7	
	12	3	0.6	2.4	3	0.5	2.6	3	0.1	1.6	
	18	3	0.5	2.5	3	0.4	2.4	3	0.1	1.6	
6	0	3	0.3	2.1	3	0.3	2.2	3	0.1	1.5	
	6	3	0.4	2.1	3	0.2	1.8	3	0.1	1.5	
	12	3	0.4	1.7	3	0.4	1.9	3	0.3	1.8	
	18	3	0.5	2.0	3	0.4	1.9	3	0.2	1.7	
7	0	3	0.8	2.5	3	0.3	2.1	3	0.2	1.8	
	6	3	0.6	2.5	3	0.3	2.2	3	0.1	1.6	
	12	3	0.3	2.2	3	0.3	2.2	3	0.1	1.5	
	18	3	0.3	2.4	3	0.2	2.2	3	0.0		
8	0	3	0.3	1.8	3	0.2	1.9	3	0.1	1.8	
	6	3	0.3	1.8	3	0.3	1.8	3	0.2	1.8	
	12	3	1.0	2.3	3	0.6	2.5	3	0.1	1.3	
	18	3	2.2	3.1	3	1.6	2.8	3	0.2	1.8	
9	0	3	2.0	3.1	3	1.5	3.1	3	0.2	2.1	
	6	3	1.6	2.9	3	1.1	3.0	3	0.3	2.3	
	12	3	2.2	3.1	3	1.8	3.0	3	0.5	2.4	
	18	3	1.6	2.7	3	0.9	2.4	3	0.4	2.0	
10	0	3	1.8	2.8	3	1.6	2.9	3	0.3	1.8	
	1	3	1.8	2.7	3	1.3	2.6	3	0.3	1.7	
	2	3	1.9	2.5	3	1.4	2.6	3	0.3	1.8	
	3	3	2.0	2.4	3	1.4	2.5	3	0.4	1.9	
	4	3	1.9	2.3	3	1.4	2.5	3	0.5	2.0	
	5	3	2.3	2.7	3	1.6	2.5	3	0.4	2.0	
	6	3	2.5	2.9	3	2.0	2.7	3	0.3	1.7	
	7	3	2.5	3.0	3	1.3	2.6	3	0.3	1.8	
	8	3	2.0	2.8	3	1.3	2.5	3	0.3	1.8	
	9	3	2.0	2.8	3	1.0	2.3	3	0.4	2.0	
	10	3	1.8	2.8	3	1.2	2.6	3	0.4	2.0	
	11	3	1.6	2.7	3	1.1	2.5	3	0.4	2.0	
	12	3	1.3	2.6	3	1.0	2.5	3	0.4	2.0	
	13	3	1.3	2.6	3	1.1	2.6	3	0.3	1.8	
	14	3	1.3	2.6	3	1.2	2.7	3	0.3	1.9	
	15	3	1.2	2.5	3	1.0	2.5	3	0.4	2.0	

Date	Time	K	N-S		K	E-W		K	U-D		Remarks
			A μ	T sec		A μ	T sec		A μ	T sec	
10	16	3	1.2	2.7	3	1.1	2.5	3	0.3	1.8	
	17	3	1.1	2.5	3	1.2	2.7	3	0.3	1.9	
	18	3	1.3	2.6	3	1.1	2.6	3	0.3	1.8	
	19	3	1.3	2.6	3	1.1	2.6	3	0.3	1.9	
	20	3	1.2	2.5	3	1.2	2.7	3	0.3	1.9	
	21	3	1.2	2.5	3	1.1	2.7	3	0.3	1.8	
	22	3	1.2	2.6	3	1.0	2.6	3	0.3	2.0	
	23	3	1.2	2.6	3	1.1	2.7	3	0.2	1.7	
11	0	3	1.2	2.6	3	1.1	2.6	3	0.3	1.9	
	1	3	1.5	2.8	3	1.1	2.6	3	0.3	1.8	
	2	3	1.5	2.9	3	1.2	2.7	3	0.3	1.8	
	3	3	1.1	2.5	3	1.0	2.6	3	0.2	1.7	
	4	3	1.0	2.5	3	0.9	2.5	3	0.2	1.7	
	5	3	1.0	2.5	3	1.0	2.7	3	0.2	1.7	
	6	3	0.9	2.4	3	0.6	2.4	3	0.2	1.7	
	7	3	1.1	2.7	3	0.6	2.5	3	0.2	1.7	
	8	3	1.1	2.7	3	0.6	2.4	3	0.2	1.6	
	9	3	1.0	2.6	3	0.6	2.4	3	0.2	1.6	
	10	3	0.9	2.5	3	0.7	2.5	3	0.2	1.8	
	11	3	1.1	2.6	3	1.0	2.7	3	0.2	1.7	
	12	3	1.1	2.6	3	1.3	3.0	3	0.2	1.8	
	13	3	1.2	2.5	3	1.5	2.8	3	0.2	1.6	
	14	3	1.6	2.8	3	1.2	2.5	3	0.2	1.7	
	15	3	1.4	2.2	3	1.7	2.4	3	0.4	1.8	
	16	3	1.1	1.7	3	1.5	1.9	3	0.7	1.8	
	17	3	2.1	2.4	3	2.5	2.7	3	0.6	1.9	
	18	3	2.4	2.5	3	2.1	2.9	3	0.4	2.0	
	19	3	2.1	2.5	3	1.7	2.7	3	0.5	2.2	
	20	3	1.6	2.7	3	1.6	2.9	3	0.3	1.8	
	21	3	1.2	2.5	3	1.3	2.7	3	0.2	1.8	
	22	3	1.1	2.6	3	0.9	2.7	3	0.2	1.7	
	23	3	1.0	2.5	3	0.9	2.7	3	0.3	2.1	
12	0	3	1.1	2.5	3	0.8	2.4	3	0.3	1.9	
	1	3	1.0	2.5	3	0.9	2.6	3	0.2	1.7	
	2	3	1.0	2.5	3	0.8	2.5	3	0.2	1.6	
	3	3	1.0	2.6	3	0.7	2.5	3	0.2	1.7	
	4	3	0.8	2.4	3	0.7	2.5	3	0.2	1.6	
	5	3	0.9	2.5	3	0.7	2.5	3	0.2	1.7	
	6	3	0.8	2.5	3	0.6	2.3	3	0.2	1.7	
	7	3	0.8	2.3	3	0.6	2.2	3	0.2	1.7	
	8	3	0.8	2.2	3	0.6	2.1	3	0.3	1.8	
	9	3	0.9	2.3	3	0.6	2.1	3	0.3	1.8	
	10	3	1.1	2.4	3	0.7	2.3	3	0.3	1.8	
	11	3	1.0	2.5	3	0.6	2.2	3	0.3	1.8	
	12	3	0.8	2.4	3	0.6	2.3	3	0.2	1.7	
	13	3	1.0	2.7	3	0.7	2.5	3	0.3	1.8	
	14	3	1.0	2.7	3	0.6	2.3	3	0.2	1.8	
	15	3	0.8	2.4	3	0.6	2.3	3	0.2	1.9	
	16	3	0.6	2.1	3	0.6	2.3	3	0.2	1.9	
	17	3	0.6	2.2	3	0.7	2.4	3	0.2	1.9	
	18	3	0.7	2.3	3	1.0	2.8	3	0.2	1.8	
	19	3	0.8	2.5	3	0.7	2.5	3	0.2	1.7	
	20	3	0.9	2.7	3	0.7	2.5	3	0.2	1.8	

Date	Time	K	N-S		K	E-W		K	U-D		Remarks
			A μ	T sec		A μ	T sec		A μ	T sec	
12	21	3	0.7	2.5	3	0.7	2.5	3	0.2	1.8	
	22	3	0.7	2.5	3	0.6	2.4	3	0.2	1.7	
	23	3	0.7	2.5	3	0.7	2.5	3	0.2	1.7	
13	0	3	0.7	2.3	3	0.7	2.5	3	0.2	1.7	
	1	3	0.8	2.5	3	0.7	2.5	3	0.2	1.7	
	2	3	0.8	2.4	3	0.7	2.5	3	0.2	1.7	
	3	3	0.7	2.3	3	0.7	2.5	3	0.2	1.7	
	4	3	0.8	2.4	3	0.6	2.3	3	0.2	1.7	
	5	3	0.8	2.4	3	0.7	2.4	3	0.2	1.7	
	6	3	0.8	2.5	3	0.8	2.6	3	0.3	1.8	
	7	3	0.9	2.5	3	0.7	2.5	3	0.2	1.6	
	8	3	0.9	2.5	3	0.7	2.5	3	0.2	1.6	
	9	3	0.8	2.5	3	0.7	2.5	3	0.2	1.7	
	10	3	0.8	2.4	3	0.6	2.5	3	0.2	1.7	
	11	3	0.7	2.5	3	0.6	2.5	3	0.2	1.8	
	12	3	0.8	2.6	3	0.5	2.4	3	0.2	1.7	
	13	3	0.7	2.5	3	0.6	2.5	3	0.2	1.7	
	14	3	0.7	2.5	3	0.5	2.3	3	0.2	1.7	
	15	3	0.6	2.4	3	0.5	2.4	3	0.2	1.8	
	16	3	0.7	2.5	3	0.5	2.4	3	0.2	1.8	
	17	3	0.6	2.5	3	0.5	2.5	3	0.1	1.7	
	18	3	0.6	2.4	3	0.5	2.5	3	0.1	1.7	
	19	3	0.6	2.4	3	0.5	2.6	3	0.1	1.7	
	20	3	0.5	2.4	3	0.5	2.5	3	0.1	1.7	
	21	3	0.4	2.2	3	0.5	2.5	3	0.1	1.7	
	22	3	0.5	2.3	3	0.4	2.4	3	0.1	1.7	
23	3	0.5	2.4	3	0.4	2.4	3	0.1	1.7		
14	0	3	0.5	2.3	3	0.5	2.5	3	0.1	1.7	
	1	3	0.6	2.5	3	0.4	2.3	3	0.2	1.8	
	2	3	0.6	2.5	3	0.3	2.1	3	0.2	1.9	
	3	3	0.5	2.3	3	0.3	2.0	3	0.2	1.8	
	4	3	0.6	2.4	3	0.3	2.1	3	0.2	1.8	
	5	3	0.6	2.4	3	0.3	2.2	3	0.1	1.7	
	6	3	0.7	2.5	3	0.4	2.4	3	0.1	1.7	
	7	3	0.6	2.4	3	0.3	2.2	3	0.1	1.8	
	8	3	0.6	2.5	3	0.3	2.1	3	0.1	1.7	
	9	3	0.5	2.2	3	0.4	1.9	3	0.2	1.8	
	10	3	0.6	1.9	3	0.3	1.6	3	0.2	1.6	
	11	3	0.6	2.1	3	0.5	2.2	3	0.2	1.7	
	12	3	0.5	2.1	3	0.3	1.7	3	0.2	1.7	
	13	3	0.4	1.9	3	0.4	2.2	3	0.2	1.7	
	14	3	0.4	2.1	3	0.4	2.4	3	0.2	1.8	
	15	3	0.4	2.2	3	0.3	2.3	3	0.1	1.7	
	16	3	0.4	2.1	3	0.4	2.4	3	0.2	1.9	
	17	3	0.4	2.2	3	0.3	2.4	3	0.1	1.8	
	18	3	0.5	2.4	3	0.3	2.3	3	0.1	1.7	
	19	3	0.7	2.6	3	0.3	2.2	3	0.1	1.7	
	20	3	0.7	2.4	3	0.4	2.2	3	0.1	1.8	
	21	3	0.7	2.4	3	0.6	2.4	3	0.1	1.8	
	22	3	0.7	2.5	3	0.7	2.5	3	0.2	1.9	
23	3	0.7	2.5	3	0.6	2.5	3	0.1	1.8		
15	0	3	0.5	2.0	3	0.6	2.4	3	0.2	1.7	
	1	3	0.5	2.0	3	0.6	2.2	3	0.3	1.8	
	2	3	0.6	2.1	3	0.8	2.2	3	0.3	1.8	
	3	3	0.8	2.2	3	1.1	2.3	3	0.4	1.9	
	4	3	1.3	2.1	3	1.4	2.5	3	0.6	2.1	
	5	3	1.0	2.2	3	1.4	2.5	3	0.4	2.1	

Date	Time	N-S			E-W			U-D			Remarks	
		K	A μ	T sec	K	A μ	T sec	K	A μ	T sec		
15	6	3	1.3	2.6	3	1.0	2.5	3	0.3	1.8		
	7	3	1.1	2.4	3	1.0	2.5	3	0.3	2.0		
	8	3	1.2	2.6	3	1.0	2.6	3	0.3	2.2		
	9	3	1.0	2.5	3	0.9	2.5	3	0.2	1.9		
	10	3	1.0	2.6	3	0.9	2.6	3	0.2	1.8		
	11	3	0.8	2.5	3	0.6	2.4	3	0.2	1.7		
	12	3	0.7	2.4	3	0.8	2.5	3	0.2	2.0		
	13	3	0.9	2.7	3	0.5	2.2	3	0.2	1.8		
	14	3	0.9	2.7	3	0.4	2.1	3	0.2	1.7		
	15	3	0.7	2.5	3	0.5	2.2	3	0.2	1.7		
	16	3	0.7	2.5	3	0.4	2.1	3	0.2	1.8		
	17	3	0.7	2.6	3	0.7	2.6	3	0.2	1.7		
	18	3	0.7	2.5	3	0.7	2.6	3	0.2	1.8		
	19	3	0.6	2.4	3	0.7	2.6	3	0.1	1.6		
	20	3	0.7	2.6	3	0.6	2.6	3	0.2	1.8		
	21	3	0.4	2.2	3	0.5	2.4	3	0.1	1.8		
	22	3	0.5	2.4	3	0.4	2.2	3	0.1	1.8		
	23	3	0.5	2.5	3	0.4	2.4	3	0.1	1.7		
	16	0	3	0.5	2.3	3	0.4	2.1	3	0.2	2.0	
		1	3	0.5	2.4	3	0.3	2.0	3	0.2	2.0	
		2	3	0.5	2.4	3	0.3	2.0	3	0.2	1.8	
		3	3	0.4	2.3	3	0.3	2.1	3	0.1	1.7	
		4	3	0.4	2.3	3	0.3	2.1	3	0.1	1.8	
5		3	0.4	2.2	3	0.2	2.0	3	0.1	1.8		
6		3	0.5	2.1	3	0.2	2.1	3	0.1	1.8		
7		3	0.3	2.2	3	0.3	2.3	3	0.0			
8		3	0.3	2.4	3	0.3	2.3	3	0.0			
9		3	0.3	2.4	3	0.3	2.6	3	0.0			
10		3	0.3	2.5	3	0.3	2.5	3	0.0			
11		3	0.3	2.4	3	0.3	2.7	3	0.0			
12		3	0.3	2.4	3	0.2	2.5	3	0.0			
13		3	0.3	2.3	3	0.2	2.5	3	0.0			
14		3	0.2	2.2	3	0.2	2.5	3	0.0			
15		3	0.2	2.3	3	0.2	2.4	3	0.0			
16		3	0.3	2.5	3	0.2	2.3	3	0.0			
17		3	0.2	2.2	3	0.2	1.9	3	0.0			
18		3	0.2	2.0	3	0.1	1.8	3	0.1	1.7		
19		3	0.2	1.9	3	0.2	1.8	3	0.1	1.7		
20		3	0.2	2.0	3	0.2	1.8	3	0.1	1.6		
21		3	0.2	1.9	3	0.2	1.9	3	0.1	1.7		
22		3	0.3	2.1	3	0.2	1.7	3	0.1	1.7		
23	3	0.3	2.1	3	0.2	1.8	3	0.1	1.8			
17	0	3	0.2	1.8	3	0.2	2.0	3	0.0			
	1	3	0.2	1.8	3	0.2	2.0	3	0.0			
	2	3	0.2	1.9	3	0.2	2.0	3	0.0			
	3	3	0.2	2.0	3	0.2	2.2	3	0.0			
	4	3	0.2	1.9	3	0.3	2.4	3	0.0			
	5	3	0.3	2.2	3	0.3	2.5	3	0.0			
	6	3	0.3	2.4	3	0.3	2.7	3	0.0			
	7	3	0.4	2.5	3	0.6	2.5	3	0.0			
	8	3	0.4	2.5	3	0.3	2.5	3	0.0			
	9	3	0.3	2.3	3	0.3	2.3	3	0.0			
	10	3	0.3	2.5	3	0.3	2.3	3	0.1	1.5		

Date	Time	K	N-S		K	E-W		K	U-D		Remarks
			A μ	T sec		A μ	T sec		A μ	T sec	
17	11	3	0.3	2.0	3	0.2	2.1	3	0.1	1.6	
	12	3	0.3	2.0	3	0.2	1.9	3	0.1	1.6	
	13	3	0.3	2.0	3	0.2	1.8	3	0.1	1.5	
	14	3	0.3	2.1	3	0.2	1.8	3	0.1	1.4	
	15	3	0.3	2.0	3	0.3	2.1	3	0.1	1.6	
	16	3	0.3	2.1	3	0.3	2.1	3	0.1	1.6	
	17	3	0.3	2.1	3	0.3	2.1	3	0.1	1.7	
	18	3	0.4	2.2	3	0.2	2.0	3	0.1	1.8	
	19	3	0.3	1.9	3	0.3	1.9	3	0.1	1.5	
	20	3	0.4	1.8	3	0.3	1.8	3	0.1	1.5	
	21	3	0.4	1.9	3	0.3	1.9	3	0.2	1.7	
	22	3	0.5	2.0	3	0.3	2.0	3	0.2	1.6	
	23	3	0.5	2.1	3	0.3	2.0	3	0.2	1.8	
18	0	3	0.4	2.0	3	0.3	2.0	3	0.2	2.0	
	1	3	0.4	2.1	3	0.2	1.8	3	0.2	1.8	
	2	3	0.4	2.2	3	0.2	1.8	3	0.2	1.8	
	3	3	0.6	2.3	3	0.3	2.0	3	0.2	1.8	
	4	3	0.7	2.3	3	0.3	2.1	3	0.2	1.9	
	5	3	0.7	2.4	3	0.5	2.5	3	0.2	1.9	
	6	3	0.8	2.4	3	0.6	2.5	3	0.2	1.9	
	7	3	0.9	2.5	3	0.7	2.5	3	0.2	1.6	
	8	3	1.1	2.7	3	0.9	2.8	3	0.2	1.7	
	9	3	1.5	2.8	3	1.1	2.8	3	0.1	1.3	
	10	3	1.8	2.9	3	1.2	2.7	3	0.2	1.4	
	11	3	1.2	2.5	3	1.2	2.7	3	0.2	1.6	
	12	3	1.2	2.5	3	1.2	2.7	3	0.2	1.5	
	13	3	1.5	2.5	3	1.0	2.6	3	0.2	1.5	
	14	3	1.5	2.6	3	0.8	2.4	3	0.3	1.7	
	15	3	1.0	2.1	3	0.6	1.9	3	0.3	1.7	
	16	3	0.8	1.7	3	0.7	1.7	3	0.4	1.7	
	17	3	1.2	1.9	3	0.9	1.8	3	0.5	1.8	
	18	3	1.2	1.8	3	1.0	1.8	3	0.5	1.7	
	19	3	1.2	1.7	3	1.0	1.8	3	0.6	1.8	
	20	3	1.3	1.7	3	1.3	2.0	3	0.6	1.7	
	21	3	1.6	1.9	3	1.2	1.9	3	0.8	2.0	
	22	3	1.5	1.8	3	1.2	1.8	3	0.9	2.1	
	23	3	1.7	2.1	3	1.2	1.9	3	0.7	2.0	
19	0	3	1.5	2.1	3	1.0	1.8	3	0.5	1.8	
	1	3	1.5	2.1	3	1.1	2.1	3	0.4	1.7	
	2	3	1.2	2.2	3	1.2	2.4	3	0.5	1.8	
	3	3	1.4	2.4	3	1.0	2.4	3	0.3	1.8	
	4	3	1.3	2.5	3	0.9	2.5	3	0.4	2.2	
	5	3	1.5	2.6	3	0.8	2.4	3	0.3	1.9	
	6	3	1.6	2.7	3	0.6	2.3	3	0.2	1.8	
	7	3	1.5	2.6	3	0.5	2.2	3	0.2	1.7	
	8	3	1.6	2.9	3	0.5	2.1	3	0.2	1.8	
	9	3	1.4	2.7	3	0.7	2.4	3	0.2	2.0	
	10	3	1.3	2.7	3	0.9	2.5	3	0.2	1.9	
	11	3	1.4	2.9	3	0.7	2.5	3	0.2	1.8	
	12	3	1.8	3.3	3	0.7	2.6	3	0.2	1.7	
	13	3	1.7	3.2	3	0.8	2.6	3	0.2	1.7	
	14	3	1.9	3.2	3	1.4	3.1	3	0.1	1.6	
	15	3	1.7	3.1	3	1.0	2.9	3	0.2	1.7	



Date	Time	K	N-S		K	E-W		K	U-D		Remarks
			A μ	T sec		A μ	T sec		A μ	T sec	
19	16	3	1.6	3.0	3	0.9	2.9	3	0.2	1.7	
	17	3	1.4	2.9	3	0.7	2.7	3	0.1	1.6	
	18	3	1.0	2.5	3	0.6	2.6	3	0.1	1.5	
	19	3	1.0	2.5	3	0.1	2.5	3	0.1	1.6	
	20	3	1.1	2.6	3	0.9	2.7	3	0.2	1.6	
	21	3	0.9	2.4	3	0.6	2.2	3	0.2	1.7	
	22	3	0.7	2.1	3	0.4	1.9	3	0.2	1.6	
	23	3	0.8	2.2	3	0.5	2.1	3	0.2	1.7	
20	0	3	1.3	2.5	3	1.2	2.4	3	0.5	2.0	
	1	3	1.2	2.2	3	1.0	2.2	3	0.4	1.9	
	2	3	1.1	2.1	3	1.0	2.2	3	0.4	1.8	
	3	3	1.2	2.2	3	1.0	2.2	3	0.4	1.8	
	4	3	1.4	2.3	3	1.0	2.2	3	0.4	1.8	
	5	3	1.4	2.4	3	1.4	2.5	3	0.4	1.8	
	6	3	1.4	2.4	3	1.7	2.7	3	0.4	1.9	
	7	3	1.5	2.5	3	1.4	2.5	3	0.3	1.8	
	8	3	1.7	2.7	3	1.4	2.5	3	0.3	1.8	
	9	3	1.6	2.6	3	1.5	2.6	3	0.3	1.9	
	10	3	1.5	2.6	3	1.5	2.7	3	0.3	2.0	
	11	3	1.7	2.8	3	1.4	2.7	3	0.3	2.0	
	12	3	1.9	3.0	3	1.4	2.9	3	0.3	2.1	
	13	3	1.5	2.8	3	0.9	2.5	3	0.3	2.1	
	14	3	1.2	2.6	3	0.8	2.4	3	0.3	2.2	
	15	3	1.2	2.6	3	0.9	2.5	3	0.3	2.0	
	16	3	1.3	2.6	3	0.8	2.4	3	0.3	1.8	
	17	3	1.2	2.6	3	0.9	2.5	3	0.3	1.8	
	18	3	1.1	2.5	3	1.2	2.7	3	0.3	1.9	
	19	3	1.2	2.5	3	1.1	2.7	3	0.3	1.9	
	20	3	1.4	2.7	3	1.1	2.7	3	0.2	1.8	
	21	3	1.2	2.5	3	0.9	2.5	3	0.3	1.9	
	22	3	0.8	2.0	3	0.8	2.3	3	0.3	1.9	
	23	3	0.8	2.0	3	0.8	2.3	3	0.3	2.0	
21	0	3	1.4	2.6	3	0.7	2.1	3	0.3	1.8	
	1	3	1.3	2.5	3	0.8	2.2	3	0.3	1.8	
	2	3	1.2	2.5	3	0.8	2.3	3	0.3	1.8	
	3	3	1.2	2.5	3	0.9	2.4	3	0.3	1.8	
	4	3	1.1	2.5	3	1.0	2.5	3	0.3	1.8	
	5	3	1.1	2.5	3	1.0	2.5	3	0.3	1.8	
	6	3	1.2	2.6	3	1.0	2.5	3	0.3	1.8	
	7	3	1.1	2.5	3	0.8	2.4	3	0.3	1.9	
	8	3	1.0	2.4	3	0.7	2.2	3	0.3	1.8	
	9	3	1.2	2.7	3	0.8	2.4	3	0.3	1.8	
	10	3	1.2	2.7	3	1.0	2.6	3	0.3	1.8	
	11	3	1.4	2.7	3	0.9	2.5	3	0.2	1.8	
	12	3	1.4	2.7	3	0.9	2.5	3	0.2	1.8	
	13	3	1.1	2.5	3	0.8	2.5	3	0.2	1.9	
	14	3	1.0	2.6	3	0.8	2.5	3	0.2	1.9	
	15	3	1.1	2.7	3	0.8	2.5	3	0.2	1.8	
	16	3	1.3	2.9	3	0.8	2.5	3	0.2	1.8	
	17	3	1.1	2.7	3	0.8	2.5	3	0.2	1.8	
	18	3	1.0	2.7	3	0.8	2.5	3	0.2	1.8	
	19	3	1.0	2.7	3	0.8	2.5	3	0.2	1.8	
	20	3	1.0	2.8	3	0.7	2.5	3	0.2	1.8	
	21	3	1.0	2.8	3	0.7	2.5	3	0.2	1.8	
	22	3	1.0	2.8	3	0.8	2.6	3	0.2	1.8	
	23	3	0.8	2.6	3	0.8	2.6	3	0.2	1.8	

Date	Time	K	N-S		K	E-W		K	U-D		Remarks
			A μ	T sec		A μ	T sec		A μ	T sec	
22	0	3	1.0	2.6	3	0.4	2.1	3	0.2	1.8	
	6	3	0.6	2.1	3	0.7	2.4	3	0.2	1.6	
	12	3	0.5	2.0	3	0.6	2.3	3	0.2	1.7	
	18	3	0.6	2.1	3	0.4	1.9	3	0.2	1.8	
23	0	3	0.5	2.2	3	0.4	2.2	3	0.1	1.5	
	6	3	0.4	2.3	3	0.3	2.6	3	0.0		
	12	3	0.6	2.5	3	0.2	1.7	3	0.1	1.3	
	18	3	1.5	2.0	3	1.0	1.7	3	0.7	1.8	
24	0	3	3.5	3.0	3	2.6	2.7	3	0.9	2.2	
	6	3	2.8	3.1	3	2.2	3.0	3	0.6	2.2	
	12	3	1.9	3.0	3	1.5	3.0	3	0.4	2.3	
	18	3	0.8	2.5	3	0.8	2.6	3	0.2	1.9	
25	0	3	0.9	2.2	3	0.6	2.1	3	0.3	1.9	
	6	3	0.5	2.0	3	0.6	2.4	3	0.2	1.8	
	12	3	0.6	2.5	3	0.3	2.2	3	0.2	1.9	
	18	3	0.3	2.0	3	0.3	2.2	3	0.1	1.3	
26	0	3	0.9	2.0	3	0.6	1.8	3	0.4	1.8	
	6	3	2.2	2.5	3	1.3	2.1	3	0.7	1.9	
	12			
	18			
27	0	3	7.4	3.1	3	8.0	3.4	3	5.7	4.4	
	6	3	7.0	3.3	3	8.3	3.8	3	5.1	4.4	
	12	3	5.8	3.6	3	3.6	3.2	3	3.6	4.5	
	18	3	2.6	2.8	3	2.9	3.2	3	1.7	3.5	
28	0	3	2.7	3.0	3	1.3	2.3	3	0.4	1.8	
	6	3	2.4	2.7	3	1.1	2.0	3	0.5	1.7	
	12	3	1.6	2.1	3	1.4	2.2	3	0.6	1.9	
	18	3	1.3	2.2	3	1.0	2.1	3	0.4	1.8	
29	0	3	1.2	2.6	3	1.3	2.6	3	0.4	1.8	
	6	3	1.7	2.8	3	1.3	2.6	3	0.3	1.7	
	12	3	1.3	2.7	3	1.1	2.6	3	0.3	1.8	
	18	3	0.8	2.9	3	0.7	2.7	3	0.2	1.9	
30	0	3	0.7	2.7	3	0.4	2.3	3	0.1	1.5	
	6	3	0.7	2.6	3	0.5	2.4	3	0.1	1.5	
	12	3	1.5	2.8	3	1.2	2.8	3	0.1	1.5	
	18	3	1.2	2.9	3	0.8	2.6	3	0.2	1.6	
31	0	3	1.3	2.9	3	0.6	2.3	3	0.3	1.8	
	6	3	1.1	1.9	3	0.8	1.7	3	0.5	1.7	
	12	3	2.8	2.8	3	2.2	2.8	3	0.6	2.3	
	18	3	2.1	2.9	3	1.5	3.0	3	0.5	2.8	

