

Seismological Report for I. G. Y.

Station : Nagasaki (Japan) February, 1958



Longitude : 129°53' E
 Latitude : 32°44' N
 Elevation : 25 m
 Foundation : Volcanic Breccia

Instrument

NO	Name	Component	Vmax	T ₁ sec	T ₂ sec	h ₁	h ₂	ρ mm	σ	Date of Calib.
1	Electro-Magnetic Seismograph	N S	2,700	1.0	20	0.9	1.1		0.1	Dec. 1, 1957
2	"	E W	2,100	1.0	21	0.9	1.1		0.1	" "
3	"	U D	5,000	1.0	10	1.0	1.0		0.1	Jan. 6, 1958

T₁ : Period of pendulum

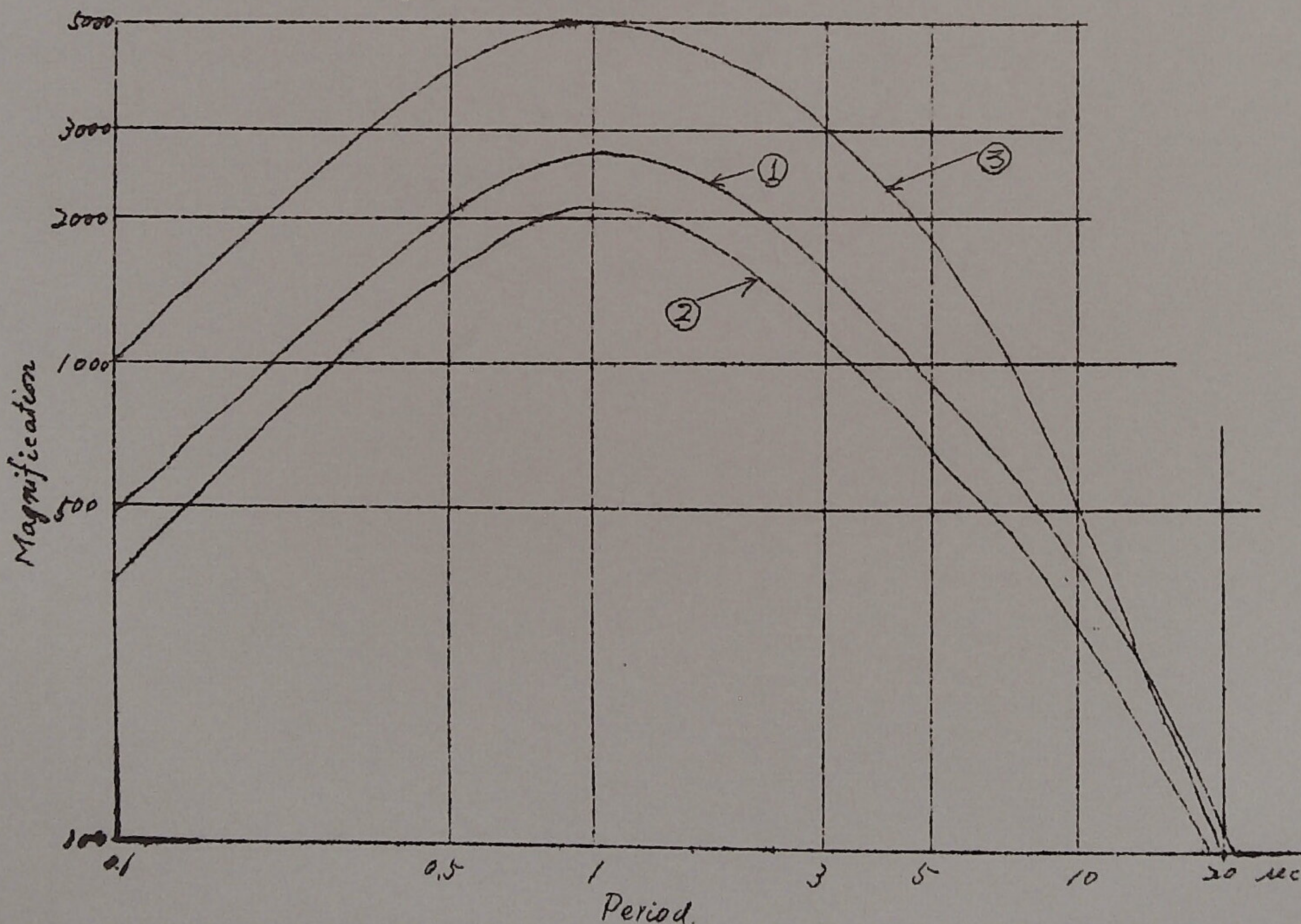
T₂ : Period of galvanometer

h₁ : Damping constant of pendulum

h₂ : Damping constant of galvanometer

ρ : Solid friction

σ : Coupling factor



Serial NO.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Instr.	Remarks
					N mm	E mm	Z mm		
181.	Feb. 1.	PKPZ	16 ^h 29 ^m 39.1 ^s	3.8		-1.3	137°	3	
		XZ	30 54.6	3.2		+2.1		3	
		XZ	31 35.0	3.2		-0.8		3	
		eXZ	32 12.6					3	
		eXE	33 06.5					2	
		eXZ	06.9					3	
		eXN	03.-					1	
		MZ	09.4	15.8		2.5		3	
		eXZ	54.5					3	
		eXZ	41 53.-					3	
		eXZ	43 38.3	5.0		+2.1		3	
		eXZ	44 18.-					3	
		eXE	50.-					2	
		eXN	45 10.-					1	
		SSN	50 13.-					1	
		SSZ	15.-					3	
		SSE	16.-					2	
		eXE	54 40.-					2	
		eXN	55.-					1	
		eXZ	55 03.-					3	
		eXN	17 32 50.-	30.-				1	
		eXZ	33 09.-	24.-				3	
		eXE	11.-	24.-				2	
		ME	18 11 10.0	20.4	1.6			2	
		MN	19 47.4	16.3	1.5			1	
182.	1.	ePKPZ?	18 21 45.-					3	Disturbed by previous shock
		FPZ	25 34.6	3.4		+3.2		3	
		eXE	41 20ca					2	
		eXN	19 19 20ca					1	
		eXE	20ca					2	
183.									No trace
184.	2.	iPN	08 17 12.7	3.2	-4.0		25°	1	Large microseisms
		iPZ	12.7	2.3		+4.5		3	
		iPE	12.9	2.4		-2.4		2	
		eSE	21 27.-					2	
		eSN	29.-					1	
185.	7.	P ₁ E	23 23 23.3	1.6		+0.3	22°	2	
		iP ₂ Z	25.7	1.8				3	
		XE	27.8	2.0		+2.6		2	
		XZ	27.8	1.6			+2.0	3	
		iXE	23.9	2.0		+3.7		2	
		eXN	30.9					1	
		iXE	37.3	2.4		+2.4		2	
		iXZ	37.5	2.6			+2.7	3	
		XN	44.3	1.4	-1.5			1	
		eXZ	45.5					3	
		XE	48.5	1.8		+3.5		2	
		XN	29 31.5	3.2	+1.8			1	
		XN	30 00.9					1	

(cont.)

Serial NO.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.	Remarks
					N mm	E mm	Z mm			
cont.										
135.	7.	XE	h m 46.9	2.2		-2.3			2	
		eSN	32 22.5	2.6	-1.6				1	
		eSZ	26.1	3.2			+2.4		3	
		eSN	28.5	2.0		-0.3			2	
		eXZ	35 15.1	3.0			+2.9		3	
		XN	19.5	3.2	-1.2				1	
		XE	34.0	3.4		-3.2			2	
		MN	36 24.7	14.0	11.6				1	
		eXN	37 05.-						1	
		eXE	03.-						2	
		MZ	50.9	12.0				13.0	3	
		ME	58.1	13.4		11.0			2	
		eXN	39 34.-						1	
136.	9.	iPN	22 34 13.3	2.6	+1.2			22°	1	
		iPZ	13.3	2.4			+2.1		3	
		ePE	18.4	2.2		-0.5			2	
		iXZ	26.5	1.8			+3.0		3	
		MZ	26.7	2.4			3.4		3	
		iXN	29.3	2.2	-3.7				1	
		iXE	31.9	1.8		+2.7			2	
		MN	33.7	2.4	2.6				1	
		iXZ	35 02.1	2.4			-5.0		3	
		iXE	12.5	2.0		+2.5			2	
		eXE	58.3						2	
		iXZ	58.9	2.6			-2.5		3	
		eXN	38 05.3						1	
		iSE	22.3	3.2	-2.4				2	
		iSN	22.7	3.4		-2.0			1	
		SZ	23.0						3	
		ME	52.1	10.4		2.6			2	
		XE	39 44.9	7.8		-1.9			2	
		eLE	40 42.-						2	
		eLN	50.-						1	
		eLZ	52.-						3	
137.										No trace, large microseisms
138.	15.	iSN	01 54 14.4	7.6	+1.2				1	Changing record
		SZ	14.4	6.8			+2.7		3	
		eXN	56 12.6	20.6	+1.0				1	
		eXZ	20.6	20.-			+2.-		3	
		MZ	57 12.6	21.3			2.6		3	
		MN	58 22.0	13.4	1.9				1	
139.	16.	PN	06 06 56.3	1.2				12°	1	
		PZ	56.5				(-)		3	
		ePE	56.7						2	
		eSN	09 11.9	6.6	+2.7				1	
		eSZ	14.5						3	
		MN	11 10.9	14.6	11.5				1	
		MZ	34.5	15.8			10.7		3	



Serial NO.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.
					N	E	Z		
					mm	mm	mm		



190.	17.	ePN	05 ^h 27 ^m 02 ^s .0	1.4				49°	1	
		iPE	02.0	1.4		+0.3			2	
		iPZ	02.0	1.6			+1.8			3
		MZ	04.6	1.2			5.3			3
		ipPZ	51.2	1.4			-1.8			3
		isPZ	28 09.0	2.4			-1.7			3
		iPoPZ	24.2	4.0			+2.5			3
		eXZ	30 01.2							3
		eXN	36.6							1
		eXZ	31 53.-							3
		eSZ	33 44.-							3
		eSN	48.-							1
		eXZ	34 56.6							3
		sSN	35 07.0	8.4	-0.7					1
		MN	11.4	4.6	2.2					1
		eSeSN	36 22.-							1
		eSSN	37 38.-							1
		eSSZ	40.-							3
		sSSN	38 38.0	3.6	+1.2					1
		eXN	57 22.-							1
eXZ	40.-						3			

191.	18.	PZ	19 52 12.5	3.6			+1.5		3
		PN	12.9	3.2	+1.2				1
		XZ	20.7	1.2			+1.2		3
		XN	22.1	1.4	+1.2				1
		eXE	22.9						2
		eXN	53 30.1	5.6	+2.0				1
		SN	55 16.1	3.4	+0.9				1
		SZ	16.7	4.4			+1.9		3
		eXZ	48.-						3
		eXN	50.-						1
		eXN	59 57.-						1
		MN	20 01 42.9	13.6	3.4				1
		MZ	04 14.7	10.6			6.3		3
		XZ	06 32.7	8.0			+3.0		3
		XN	07 19.3	10.4	-3.0				1

192.

Disturbed by previous shock

193.	19.	iPN	19 33 45.6	2.2	+1.2			45°	1	
		iPZ	45.6	2.0			+2.5			3
		PE	46.1	2.6		-2.0				2
		iXN	58.5	2.2	+2.2					1
		iXZ	58.5	2.2			+4.2			3
		XE	34 00.1	1.8		+0.7				2
		ME	02.1	2.0		1.4				2
		MN	03.6	1.8	1.6					1
		iPPZ	35 24.4	1.4			+5.0			3
		MZ	25.4	1.4			3.8			3
		PPN	26.0	1.6	+1.0					1
		iXE	36 08.3	2.0		-1.2				2

(cont.)

Serial NO.	Date	Phase	Time G.M.T.	Period sec.	Amplitude			Δ	Instr.
					N	E	Z		
					mm	mm	mm		



cont.									
193.	19.	iXZ	h m s	2.2			-1.7		3
		iSN	40 23.8	3.6	+1.4				1
		eSZ	24.0						3
		eXZ	43 54.-						3
		eXN	55.1						1
194.	22.	iPE	10 53 29.7	2.0		+0.5		45°	2
		iPZ	29.7	2.1			-2.8		3
		iPN	29.8	1.3	+0.7				1
		MZ	34.5	1.9			6.2		3
		ME	36.1	3.0		2.5			2
		eXN	11 00 00.9						1
		iXZ	04.1	4.4			+2.2		3
		eXZ	02 53.1						3
		eXZ	04 07.5						3
		eXN	12.1						1
		eXZ	56.3	6.0			+0.3		3
		iSN	05 04.1	4.4	-1.8				1
		iSE	04.4	6.8		-2.0			2
		MN	11.8	10.2	2.6				1
195.	23.	iPE	09 14 38.4	2.7		-1.4			2
		iPZ	38.4	2.5			-4.2		3
		eXN	39.2	1.0	-0.2				1
		eXE	39.7	2.2		-4.6			2
		iXN	39.8	1.3	+1.4				1
		eXE	16 20.4						2
		iXN	21.4	5.2	-1.3				1
		iSZ	25.4	5.3			+6.6		3
		iSN	25.6	4.2	-14.2				1
		iSE	25.6	3.6		-1.0			2
		iXE	27.2	6.4		-9.3			2
		MN	28.6	4.4	12.0				1
		MZ	28.8	4.6			7.9		3
		ME	31.6	5.8		7.0			2
		XE	57.8	4.0		+3.1			2
		XN	17 15.4	5.0	-2.0				1
		XZ	16.6	4.0			+2.2		3
		eXZ	19 04.-						3
		eXN	06.-						1
		eXE	10.-						2
196.	23.	iPN	10 51 07.6	4.0	-2.3				1
		iPZ	07.6	3.6			-6.0		3
		iPE	07.9	3.4		+3.5			2
		MZ	09.6	2.8			6.9		3
		ME	10.0	2.4		3.7			2
		MN	13.6	3.6	3.0				1
		XZ	35.9	2.2			-5.2		3
		XN	37.1	1.8	+3.6				1
		XE	37.1	2.0		-3.6			2
		iXZ	47.5	4.2			+7.3		3
		eXE	53 42.-						2

(cont.)

Serial NO.	Date	Phase	Time		Period sec	Amplitude			Δ	Instr.	Remarks	
			G.M.T.			N	E	Z				
			h	m		mm	mm	mm				
196.	cont. 23.	eXZ		42 ^s .-						3		
		eXN		43.3						1		
		iXZ	10	53	50.0	2.8			+3.0		3	
		eXN		56	10.-						1	
		eXE			12.-						2	
197.	24.	iPZ	12	32	45.9	1.8			+3.3	27°	3	
		iPN			46.0	1.6	-0.7				1	
		iPE			46.0	1.6		+0.6			2	
		XE	33		01.2	1.6		-1.0			2	
		XZ			01.8	1.4			+1.8		3	
		XN			02.0	1.4	-1.2				1	
		XZ			30.7	2.0			-1.0		3	
		iXE			33.9	1.4		-1.4			2	
		eXN	34		24.3						1	
		eSN	37		20.-						1	
		eSE			22.-						2	
		eSZ			28.-						3	
		eXE	38		22.-						2	
		eXN	39		42.-						1	
		XZ	41		13.-						3	
		XE			14.-						2	
		XN			16.-						1	
		eXN	43		30.-						1	
		eXZ			32.-						3	
		eXE			34.-	8.6		+5.6			2	
		MN			36.4	11.4	5.6				1	
		ME	44		19.1	12.4		6.0			2	
		MZ			20.1	15.6			9.9		3	
		eXN	48		35.4						1	
		eXZ	49		38.-						3	
198.	27.	iPN	23	31	20.2	7.6	+2.6			15°	1	
		ePE			20.4	3.0		+1.0			2	
		iPZ			20.4	6.8			+3.5		3	
		iXN			34.3	1.8	+1.8				1	
		iSE	34		10.2	8.8		-3.7			2	
		iXN			21.6	4.6	+6.0				1	
		iXZ			26.0	6.2			-13.0		3	
		eXZ	35		28.-						3	
		XE			41.5	11.4		-4.1			2	
		eXN			44.-						1	
		ME	39		53.7	13.2		26.0			2	
		MN	41		14.2	12.8	14.3				1	
		MZ	42		24.4	11.2			19.7		3	

Seismological Report for I. G. Y.

STATION : NAGASAKI (Japan) March, 1958



Longitude : 129°53' E
 Latitude : 32 44 N
 Elevation : 25 M
 Foundation : Volcanic Breccia

Instrument

No	Name	Component	Vmax	T ₁ sec	T ₂ sec	h ₁	h ₂	φ mm	σ	Date of Calib.
1	Electro-Magnetic Seismograph	N - S	2,700	1.0	20	0.9	1.1	0.1		Dec. 1, 1957
2	" "	E - W	2,100	1.0	21	0.9	1.1	0.1		" "
3	" "	U - D	5,000	1.0	10	1.0	1.0	0.1		Jan. 6, 1958
3a	" "	U - D	2,200	0.91	16	0.7	0.7	0.1		Mar. 27, 1958

T₁ : Period of pendulum

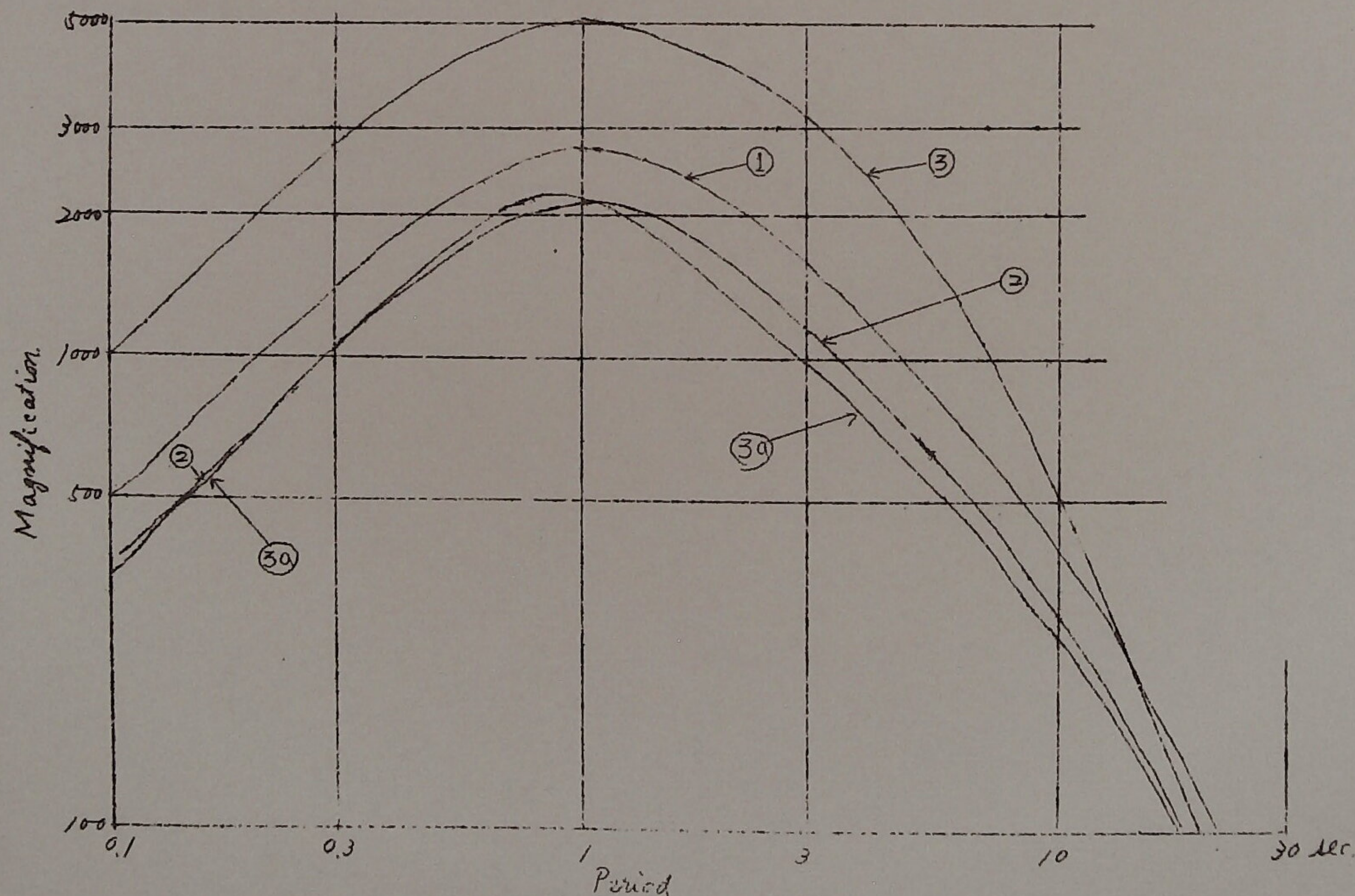
T₂ : Period of galvanometer

h₁ : Damping constant of pendulum

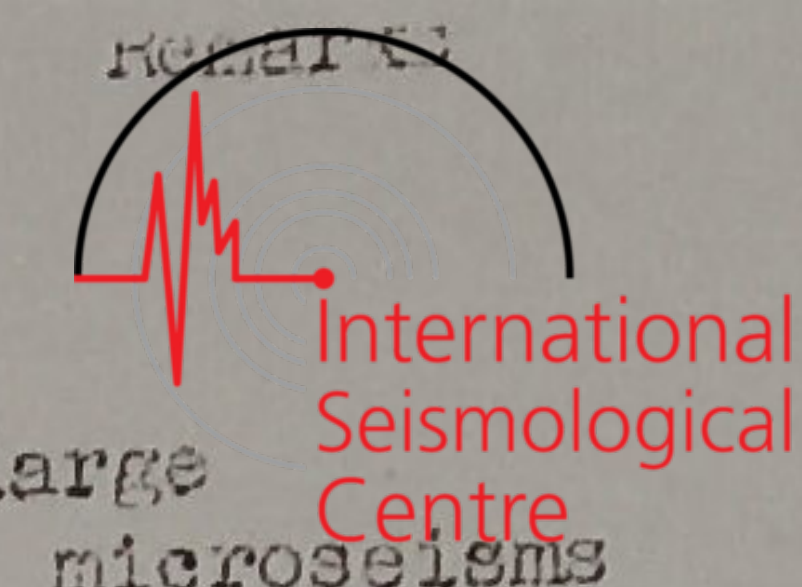
h₂ : Damping constant of galvanometer

φ : Solid friction

σ : Coupling factor



Serial NO.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.
					N mm	E mm	Z mm		
199.	Mar. 3.	P ₁ E	16 ^h 25 ^m 06. ^s 5	1.8		-1.0		33°	2
		P ₁ N	06.7	2.2	-1.1				1
		P ₂ Z	07.1	2.0		-11.0			3
		iP ₂ N	07.3	2.0	+4.7				1
		iP ₂ E	07.3	2.2		+2.7			2
		eSN	30 06.-						
200.	9.	PZ	10 34 43.7	2.4			+0.9	83°	3
		ePE	54.-						2
		eSE	44 45.-						2
		eSZ	45.-						3
		eSN	46.-						1
		SKPPKPZ	11 04 46.-	8.0			-0.5		
201.									changing record
202.	20.	P ₁ Z	01 46 21.8	1.2			-0.5	45°	3
		eP ₁ E	22.7						2
		eP ₁ N	22.3						1
		iP ₂ Z	24.9	1.2		-4.6			3
		iP ₂ E	25.0	1.2		+2.4			2
		iP ₂ N	25.1	1.2	+1.5				1
		MZ	29.4	4.8			3.8		3
		PPE	43 09.6	3.3		-2.0			2
		PPZ	09.6	2.4			+1.8		3
		eSZ?	52 53.9						3
		eSE	53 03.6						2
		eSN?	11.6						1
		eXZ	13.6						3
		eXN	19.8						1
		MN	32.0	4.1	2.1				1
		eXE	56 27.4						2
		eXN	38.-						1
		ME	57 02.3	15.6			2.1		
203.	22.	iPE	10 18 03.0	1.7		+1.2		32°	2
		iPZ	03.0	1.6			+2.6		3
		cPN	03.0		(+)				1
		eSE	23 10.-						2
		eSZ	14.-						3
		eSN	16.-						1
		eXN	24 05.-						1
		eXZ	16.-						3
		eXN	48.-						1
		eYZ	48.-						3
		eXZ	26 34.-						2
		eXZ	29 03.-	6.8					3
		MN	30 28.8	11.4	4.4				1
		eXZ	32 01.-						3
		ME	30.6	13.9		2.7			2
		MZ	34 02.6	14.4			3.4		3
		eXN	36 59.0						1



NO.		G.M.T.	sec	N	E	E	
				mm	mm	mm	
204.	Mar. 22.	eXZ	11 ^h 25 ^m 08 ^s .-				3
		eXE	12.-				2
		eXN	14.-				1
		eXN	36 02.-				1
		eXE	16.-				2
		MZ	40 56.7	14.2		1.2	3
		ME	43 42.4	12.4	1.1		2
		MN	46.8	16.1	1.8		1
205.	23.	iPN	10 18 40.5	3.0	-1.9		13 ^o 1
		ePE	40.5	3.0	-0.7		2
		iPZ	40.5	2.9		-1.7	3
		MZ	46.6	2.4		3.1	3
		MN	48.8	2.2	2.3		1
		iXZ	58.2	3.0		-4.2	3
		XN	58.4	2.0	-1.8		1
		XE	19 02.8	1.8	-1.3		2
		XN	21.1	2.4	+2.6		1
		XZ	24.9	2.0		-1.3	3
		XE	27.7	1.3	+1.1		2
		XE	33.5	2.0	+1.2		2
		eSE	21 58.4				2
		eSN	58.6				1
		eSZ	59.3				3
		XN	22 14.8				1
		XZ	16.4				3
		XE	16.8				2
		eLE	24 17.-				2
		eLN	27.-				1
		ME	28 19.8	15.4		2.2	2



206.

no trace

Station : Nagasaki (Japan) April, 1958



Longitude : 129°53' E
 Latitude : 32 44 N
 Elevation : 25 M
 Foundation : Volcanic Breccia

Instrument

No	Name	Component	Vmax	T ₁ sec	T ₂ sec	h ₁	h ₂	ρ mm	σ	Date of Calib.
1	Electro-Magnetic Seismograph	N - S	2,300	0.95	20	0.8	0.8		0.14	Mar. 27, 1958
2	"	E - W	2,100	1.00	21	1.0	1.2		0.13	" "
3	"	U - D	2,200	0.91	16	0.7	0.7		0.12	" "

T₁ : Period of pendulum

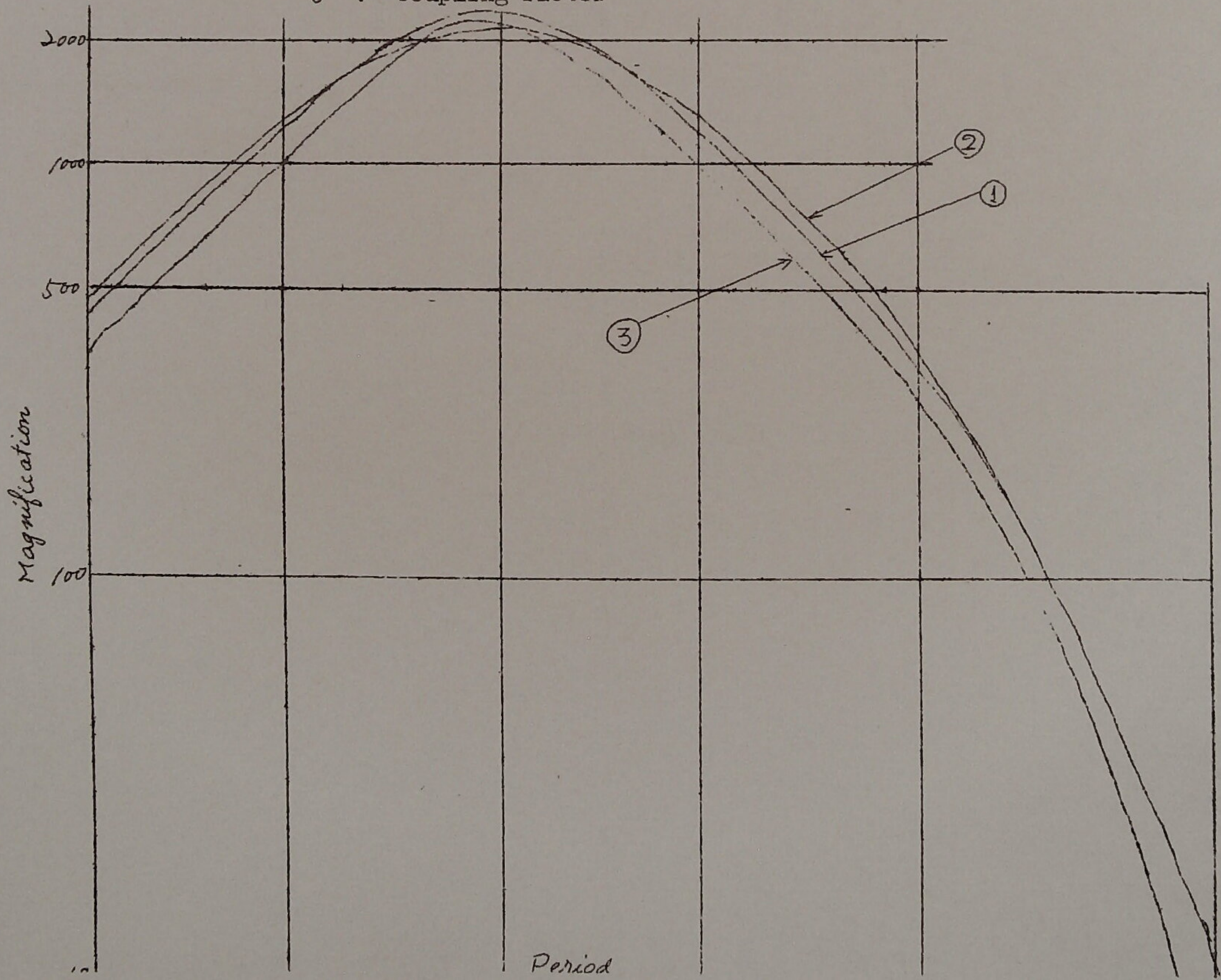
T₂ : Period of galvanometer

h₁ : Damping constant of pendulum

h₂ : Damping constant of galvanometer

ρ : Solid friction

σ : Coupling factor





Serial No.	Date	Phase	Time		Period sec	Amplitude			Instr.	Remarks
			G.M.T.			N	E	Z		
						mm	mm	mm		
207.	Apr. 4.	eXN	07 ^h 37 ^m ca ^s						1	very small
		eXE	37 ca						2	
		eXZ	38 ca						3	
		MZ	54 22.-	20.-				0.8	3	
208.	4.	ePE?	15 45 50.-						2	
		ePZ?	54.-						3	
		ePN?	46 02.-						1	
		eXZ	51 50.-						3	
		eXN	52 10.-						1	
		eSZ	32.-						3	
		eSE	36.-						2	
		MN	53 10.1	16.6	1.7				1	
		ME	10.5	16.2		1.5			2	
		eXE	54 15.-						2	
		eXE	59 04.-						2	
		eXN	20.-						1.	
		MZ	16 07 20.7	14.3				2.0	3	
		eXZ	08 00.-						3	
		eXN	02.-						1	
		209.	7.	iP ₁ Z	15 40 07.4	1.7				-1.1
iP ₁ N	07.6			1.6	+0.6				1	
iP ₂ N	09.1			2.1	+2.0				1	
iP ₂ Z	09.1			2.2				-4.7	3	
iP ₂ E	09.3			2.5		+2.1			2	
PPP!	43 33.3			3.2	+3.2				1	
ePPIE	35.1								2	
eSZ	47 43.8			10.4				-4.3	3	
eSN	47.4			6.6	-1.7				1	
iSE	48.4			7.4		+4.8			2	
eLE	55, 20ca			50ca					2	
eLN	35ca			60ca					1	
eLE	16 00 01.-			20-					2	
eLN	11.-			20-					1	
eLZ	40.-			16.-					3	
ME	02 16.8			15.6		48			2	
MN	04 43.0			15.2	41				1	
MZ	54.-			15.8				68	3	
eXN	05 55.-								1	
eXZ	06 05.-								3	
210.	7.	iP ₁ E	18 07 57.9	2.4			-0.4		11½°	2
		eP ₁ N	58.4	2.2	-0.7				1	
		iP ₁ Z	58.8	2.0				+1.5	3	
		iP ₂ E	59.7	1.6		+0.3			2	
		iP ₂ Z	59.9	1.4				-0.5	3	
		iP ₂ N	08 01.3!	1.7	+1.2				1	
		iXE	04.1	1.4		+3.5			2	
		eSE	10 15.-						2	
		eSN	17.-						1	
		eSZ	18.-						3	
		MN	11 57.5	14.0	50.1				1	
		*iXZ	51.3	3.4				-29.0	3	
		MZ	13 21.7	13.8				79.3	3	
		ME	23.1	13.6		41.4			2	
		XZ	12 00.5						3	

Serial No.	Date	Phase	Time		Period sec	Amplitude			Instr.	Remarks
			G.M.T.			N	E	Z		
						mm	mm	mm		
211.	7.	ePZ? ePE? ePN?	18 ^h 33 ^m 24. ^s 2							} Can not read 2 } for the 1 } disturbance of the previous shocks.
212.										
213.	7.	PN iPE iPZ eSZ eSN eSE XZ XE XE XN XE ME MZ MN	19 19 07.8 07.8 07.8 2.0 23 41.6 13.6 51.4 12.0 54.6 13.4 25 15.- 17.- 5.8 26 23.4 25.4 6.2 27 51.- 30 07.- 8.8 57.- 11.9 59.- 10.9		(-) -2.3 +5.2 -3.2 +9.0 40.7 24.0			30°	1 2 3 1 2 3 2 2 1 2 2 3 1	1 Disturbed by 2 previous 3 shocks.
214.	8.	ePE ePN ePZ eSN eSE eXZ eXN eLN eLE eXZ ME MZ MN	00 23 43.- 45.- 45.- 31 25.- 25.- 57.- 33 49.- 38 21.- 25.- 44 31.- 45 37.5 15.8 48 31.1 15.8 49 45.7 12.6				0.3 0.9 0.6	54°	2 1 3 1 2 3 1 1 2 3 2 3 1	
215.	10.	ePZ ePN ePE XN XN eXN eSE eSN eSZ eXE eXN eXZ ME MN MZ	11 53 00.4 1.8 00.6 00.8 54 05.0 2.2 36.4 1.8 55 11.6 33.- 35.- 39.- 56 31.- 45.- 53 15 04.4 15.4 13.4 13.6 20.4 12.6			+1.5 +1.3		+0.7 12°	3 1 2 1 1 1 2 1 3 2 1 3 2 1 3	
216.										No trace.



Serial No.	Date	Phase	Time G.M.T.	Period	Amplitude			Δ	Instr.	Remarks	
					N mm	E mm	Z mm				
217.	11.	P ₁ E	01 ^h 01 ^m 10 ^s .0	5.0		-1.0		12½°	2		
		P ₁ N	10.4	4.0	-0.8				1		
		P ₁ Z	10.8	2.6			+1.0		3		
		iP ₂ N	13.4	2.8	+1.4				1		
		iP ₂ E	13.5	2.6		+1.2			2		
		iP ₂ Z	13.5	2.8			-1.7		3		
		eSN	03 43.-							1	
		eSE	47.-							2	
		iXE	04 10.2	2.7		-2.7				2	
		iXZ	10.8	4.0			+4.8			3	
		MN	05 17.6	17.0	17.4					1	
		XZ	06 08.-							3	
		XN	11.-							1	
		XE	22.-							2	
		ME	30.0	12.0		13.3				2	
		MZ	37.3	16.4			17.5			3	
218.	11.	iPE	23 16 27.4	2.6		-2.6		23°	2		
		iPN	27.5	2.4	-3.4				1		
		iPZ	27.5	2.6			+5.7		3		
		XZ	17 14.7	1.6			-6.6		3		
		iSE	20 27.9	4.2		-3.8			2		
		iSN	28.1	4.0	+3.2				1		
		iSZ	28.5	4.2			+1.3		3		
		MZ	41.1	6.4			5.2		3		
		MN	42.5	7.2	6.0				1		
		sSE	21 15.1	15.2		-7.5			2		
		sSZ	15.1						3		
		sSN	17.7	14.0	+4.2				1		
		ME	23.2	17.1	6.7				2		
		eXZ	23 39.4						3		
		eXE	46.-						2		
		eXN	49.-						1		
		iScSE	27 21.1	4.0		-2.3			2		
		iScSN	22.5	3.8	-4.1				1		
		eScSZ	23.-						3		
219.	12.	eXN	12 00 00ca						1	Very small.	
		eXE	00ca					2			
		eXZ	10ca					3			
		eXZ	04 30ca					3			
		eXE	11 20ca					2			
		eXN	40ca					1			
		eXZ	12 10ca					3			
		MZ	53 49.-	18.-			0.5		3		
		220.	12.	iPZ	13 27 31.6	1.4			-1.0		
iPN	31.8			1.6	-1.3				1		
PE	32.0			1.2		-0.3			2		
XE	50.6								2		
XZ	51.8								3		
XZ	28 49.2			3.6			+4.3		3		
eSZ?	29 05.-								3		
eSE?	07.-								2		
XN	34.6			6.0	+4.6				1		
ME	30 18.6			20.2		6.2			2		
MN	32 01.8			13.2	5.4				1		
MZ	34 03.4	9.0			8.4		3				



No.			G.M.T.	sec	N mm	E mm	Z mm	Δ	
221.	13.	iPZ	09 ^h 16 ^m 55. ^s 1	2.4			-1.0	55°	3
		ePE	56.-						2
		ePN	57.-						1
		eSE	24 30.-						2
		eSN	33.-						1
		eSZ	39.-						3
		ME	42 46.9	13.6		2.6			2
		MZ	54.7	15.6			2.7		3
		MN	43 07.9	12.2	2.0				1
222.	13.	iPZ	12 35 17.8	1.4			+1.2	30°	3
		PN	13.6	1.8	-2.0				1
		PE	19.0	1.4		-0.7			2
		XE	37 59.7	2.7		-1.1			2
		eSN	40 15.0						1
		iSE	16.4	8.8		-3.1			2
		eSZ	23.-						3
		XN	43 05.0	10.0	+6.0				1
		XE	05.4	10.6		+5.7			2
		XZ	07.0	14.0			-4.7		3
		MN	46 38.9	17.3	10.0				1
		ME	50 39.0	14.4		14.3			2
		MZ	54 58.5	14.2			16.1		3
223.									Seismograph in adjustment.
224.									■ ■
225.	15.	eXZ	01 52 46ca						3
		eXE	54ca						2
		eXN	58ca						1
226.	15.	eXN	04 13 08.-						1
		eXE	12.-						2
		eXZ	28.-						3
		MZ	15 56.-	13.6			1.0		3
		ME	05 10 20.-	19.8		0.9			2
		MN	17 22.-	16.3	0.7				1
227.	17.	iPZ	11 35 20.4	2.4			+1.2	12°	3
		iPE	20.5	2.2		-0.9			2
		ePN	20.6	2.0	-0.6				1
		XZ	32.6	1.2			+0.3		3
		eSE	37 35.-						2
		eSN	36.-						1
		eSZ	36.-	2.8			-0.6		3
		MN	38 31.0	4.2	3.7				1
		MZ	34.8	3.8		2.6			3
		ME	45.6	3.8			2.6		2
		XE	39 42.4	5.6		+2.5			2
		XZ	41 29.-						3
228.									No trace.



Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude'			Δ	Instr.	Remarks	
					N mm	E mm	Z mm				
229.	21.	ePZ?	20 ^h 26 ^m 15 ^s ca					71°	3		
		ePN?	20ca				1				
		eSN	35 25.-				1				
		eSE	26.-				2				
		eSZ	31.-				3				
		eLN	44 31.-				1				
		eLZ	45 35.-				3				
		eLE	46 11.-				2				
		MN	50 09.0	22.6	1.1		1				
		MZ	54 28.2	19.8		1.7	3				
		ME	59.2	19.2		1.1	2				
		eXZ	21 00 45.-				3				
		eXE	47.-				2				
		230.	21.	iPN	22 45 35.0	2.4	+1.4				
iPE	35.0			2.2		+0.9		2			
iPZ	35.1			1.8			+1.8	3			
XN	46 30.4			4.2	+2.8			1			
iXZ	30.7			4.6			+3.1	3			
eXE	33.-							2			
MZ	35.2			4.8			4.7	3			
MN	35.3			4.6	2.4			1			
iXZ	47 24.2			5.2			-3.0	3			
iXZ	48 26.2			5.0			-4.8	3			
eXE	51 51.-							2			
eXN	52 03.-							1			
eXE	37.-							2			
eXE	53 00.9							2			
eXN	07.-							1			
eXE	07.3							2			
eXZ	08.-							3			
eXN	14.7			9.2	-3.5			1			
ME	15.7			10.6		2.5		2			
XN	56 21.6			4.4	-2.1			1			
XE	26.2			9.6		+3.1		2			
eXZ	27.-							3			
eXZ	23 07 49.-							3			
eXE	53.-					2					
eXN	08 08.3	14.2	-1.0			1					
eXN	09 51.-					1					
XN	11 11.3	4.2	+1.2			1					
231.	22.	ePZ	00 04 38.5				38°	3			
		ePE	39.2							2	
		ePN	41.8							1	
		iXZ	45.6	3.0						-1.6	3
		eSN	10 25.-							1	
		eSE	27.-							2	
		eSZ	27.-							3	
		eXE	13 17.-							2	
		eXZ	27.-							3	
		eXN	35.-							1	
		eXN	14 15.-							1	



Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.	Remarks	
					N mm	E mm	Z mm				
232.	28.	PKPZ	12 ^h 07 ^m 25 ^s .7	3.8			-0.3		3	International Seismological Centre	
		ePKPE							2		
		MZ		27.2	3.4			1.0			3
		ePKPN		30.-							1
		ME		44.3	2.0	0.8					2
		eXZ	30	02.-							3
		eXE		12.-							2
		eXN		16.-							1
eLNEZ		59 ca						1, 2, 3			
233.									No trace.		

Seismological Report for I. C. W.



Station : Nagasaki (Japan) May, 1958

Longitude : 129°53' E
 Latitude : 32°44' N
 Elevation : 25 M
 Foundation : Volcanic Breccia

Instrument

No	Name	Component	V _{max}	T ₁ sec	T ₂ sec	h ₁	h ₂	φ mm	σ	Date of Calib.
1	Electro-Magnetic									
	Seismograph	N - S	2,300	0.95	20	0.8	0.8		0.14	Mar. 27, 1958
2	"	E - W	2,100	1.00	21	1.0	1.2		0.13	" "
3	"	U - D	2,200	0.91	16	0.7	0.7		0.12	" "

T₁ : Period of pendulum

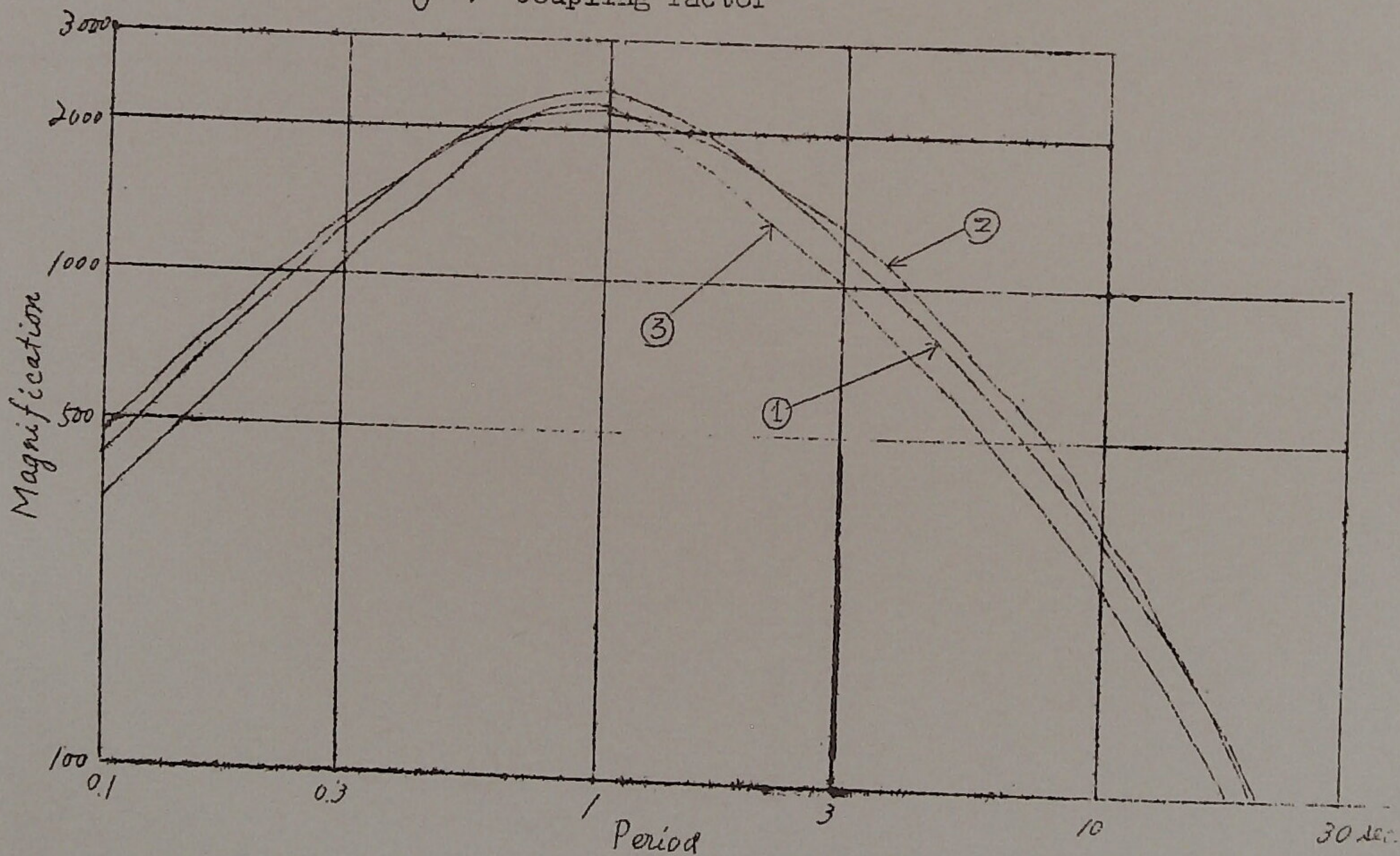
T₂ : Period of galvanometer

h₁ : Damping constant of pendulum

h₂ : Damping constant of galvanometer

φ : Solid friction

σ : Coupling factor



Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.	Remarks									
					N mm	E mm	Z mm												
234.	May.	1.	00 ^h 38 ^m 53 ^s .8	2.1	+1.5			58°	1										
											iPN								
											iPE					-2.3			
											iPZ						+5.6		
											MZ						5.0		
											ME					2.6			
											PeP or pPZ	39	40.0						
											XZ		59.2	3.6			-1.3		
											eXN	40	00.-						
											XZ	41	24.4	2.6			-1.2		
											SN	46	39.8	3.4	+2.6				
											eSE		40.6	3.0		-2.0			
											SZ		44.0	7.0			+3.1		
											MN		45.5	5.8	4.3				
											eSSSN	53	08.-						
XZ	54	26.-																	
235.		1.	12 36	13.0				12°	3										
											P ₁ Z								
											eP ₁ E		13.2						
											iP ₂ E		13.7	0.6		-0.9			
											iP ₂ Z		13.7	0.4			+1.6		
											P ₂ N		13.8	0.4	+0.5				
											iSN	38	17.8	2.0	+2.1				
											iSZ		17.9	3.0			+2.2		
											iSE		19.2	2.8		+2.0			
											MN		19.8	4.9	2.5				
ME		21.4	6.0		2.6														
236.										no trace									
237.		8.	13 00	30.2	3.4				3										
											PKPZ					-1.2			
											eXZ	02	08.0						
											ePPZ	05	05.-						
											eXZ	10	20.-						
											eXZ	19	03.-						
											eSSN	24	40.-						
											eSSZ		57.-						
											eXN	26	19.-						
eXZ	27	55.-																	
238.										no trace									
239.		9.	05 00	14.-	4.0				3										
											PKPZ				+0.7				
											eXN	01	01.-						
											XZ		02.-	4.0		-1.3			
eXZ	04	56.-																	
240.		10.	23 04	21.-				56°	3										
											ePZ								
											ePE		24.-						
											eSN	12	09.-						
											eSE		11.-						
											eSZ		11.-						
											eXN	16	11.-						
											ME	28	19.0	14.2		1.7			
											eXZ	29	05.-						
											eXN		49.-						
											MN	31	13.4	12.4	1.7				
eXZ	32	39.-																	
MZ	33	42.2	12.0			1.6													



Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.	Remarks
					N mm	E mm	Z mm			
241.	May. 11.	eXE	05 ^h 41 ^m 30 ^s .-						2	large microseisms
		eXN	48.-					1		
		eXZ	46 10.-					3		
		eXE	16.-					2		
		eXN	20.-					1		
		eLN	50 26.-					1		
		eLE	48.-					2		
		MN	58 41.5	14.-	1.7			1		
		ME	06 00 12.5	12.-		1.5		2		
		MZ	02 22.5	12.-			1.6	3		
242.	18.	P ₁ N	02 42 45.9		(+)			58°	1	
		P ₁ E	45.9		(-)			2		
		iP ₁ Z	45.9	0.8			+0.5	3		
		iP ₂ E	48.4	3.2	+2.4			2		
		iP ₂ Z	48.4	2.6		-5.3		3		
		iP ₂ N	48.5	2.4			-1.9	1		
		MZ	48.8	2.8			2.5	3		
		SE	50 41.1	9.0		-1.2		2		
		SN	42.3	9.6	+1.1			1		
		SZ	43.1	7.4			-0.7	3		
		MN	48.5	7.2	1.7			1		
		eXN	52 50.-					1		
		eXZ	56 50.-					3		
		ME	03 02 41.1	20.0		1.7		2		
		243.	18.	iPN	12 31 10.5	2.5	+0.4			58°
iPE	10.5			2.6		-0.6		2		
iPZ	10.5			2.4			+1.3	3		
eSN	39 06.-							1		
eSE	06.-							2		
eSZ	08.-							3		
MN	17.7			9.6	1.3			1		
eXN	41 02.-							1		
eLN	45 30.-							1		
eLE	32.-							2		
eLZ	36.-							3		
MZ	52 20.5			17.4			1.6	3		
ME	33.6			17.8		1.2		2		
244.	22.	ePZ	15 15 41.-					38°	3	
		ePN	42.-					1		
		eSN?	21 25.-					1		
		eSZ?	25.-					3		
		eLN	24 19.-					1		
		eLZ	47.-					3		
		MN	29 55.1	17.6	1.0			1		
		ME	56.5	17.2			1.0	3		



Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.	Remarks
					N mm	E mm	Z mm			
245.	May. 25.	iP ₁ Z	17 ^h 41 ^m 16. ^s 9	0.8			+0.6	1.2°	3	International Seismological Centre
		iP ₁ N	17.1	1.0	+0.6				1	
		iP ₂ Z	17.2	0.8			-3.0		3	
		iP ₂ N	17.3	1.0	-2.7				1	
		eP ₂ E	17.3						2	
		iXE	18.0	0.8		-3.4			2	
		M								
246.	25.	ePKPZ	21 31 04.-					143°	3	
		ePKPN	09.-						1	
		ePKPE	09.-						2	
		ePPE?	34 03.-						2	
		ePPN	11.-						1	
		ePPZ	15.-	4.4			-0.9		3	
		eXZ	36 53.-						3	
		eXE	37 15.-						2	
		eXZ	38 49.-						3	
		eXZ	42 47.-						3	
		eXZ	44 07.-						3	
		eXZ	46 43.-						3	
		eXN	52 39.-						1	
		eXE	47.-						2	
		eXZ	55.-						3	
247.	29.	iPZ	05 23 51.8	0.9			-2.1	10°	3	
		iPN	51.9	0.8	-0.6				1	
		iPE	51.9	0.8		+1.0			2	
		MZ	53.5	1.6			3.1		3	
		iSN	25 46.8	1.8	-2.1				1	
		iSZ	46.8	2.0			+2.0		3	
		iSE	49.3	2.4			-3.8		2	
		MN	51.3	3.4	2.5				1	
		ME	52.1	2.6			3.1		2	
248.	30.	ePE	18 13 28.3			(-)		47°	2	
		ePZ	28.5				(+)		3	
		ePN	28.9				(-)		1	
		ME	49.3	2.2			1.7		2	
		MZ	49.3	1.8			3.2		3	
		MN	52.1	1.9	2.9				1	
		XE	14 24.3						2	
		eSE	20 30.7	4.2			0.9		2	
		iSN	32.9	4.0	-3.0				1	
		eSZ	35.-						3	
		eLN	26 17.-						1	
		eLE	23.-						2	
		eLN	31 15.-						1	
		eLZ	23.-						3	

Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.	Remarks
					N mm	E mm	Z mm			
249.	May. 31.	ePN	19 ^h 42 ^m 41 ^s .6					61°	1	
		ePE	41.6						2	
		ePZ	42.-			(+)			3	
		XZ	43 11.6	3.0		+7.2			3	
		XE	13.0	2.6		+6.7			2	
		XN	20.4	3.4	+5.1				1	
		ePPPE	46 24.-						2	
		XE	50 16.2	9.8		+2.6			2	
		SN	57.4	6.4	+6.1				1	
		SZ	51 00.4	5.2		+5.7			3	
		SE	02.4						2	
		eLN	57 32.-						1	
		eLE	32.-						2	
		eLZ	52.-						3	
		ME	20 03 01.6	19.8		14.4			2	
		MN	14.4	17.8	12.2				1	
		MZ	15.0	19.2		13.5			3	
		XZ	11 16.-	15.0		+14.3			3	
		ePKPPKPE	12 10.-						2	
		ePKPPKPN	12.-						1	
		ePKPPKPZ	12.-						3	



Seismological Report of I. G. Y.

Station : Nagasaki (Japan) June, 1958



Longitude : 129°53' E
 Latitude : 32°44' N
 Elevation : 25 M
 Foundation : Volcanic Breccia

Instrument

No	Name	Component	Vmax.	T ₁ sec	T ₂ sec	h ₁	h ₂	ρ mm	σ	Date of Calib.
1	Electro-Magnetic Seismograph	N - S	2,300	0.95	20	0.8	0.8	0.14		Mar. 27, 1958
2	"	E - W	2,100	1.00	21	1.0	1.2	0.13		" "
3	"	U - D	2,200	0.91	16	0.7	0.7	0.12		" "

T₁ : Period of pendulum

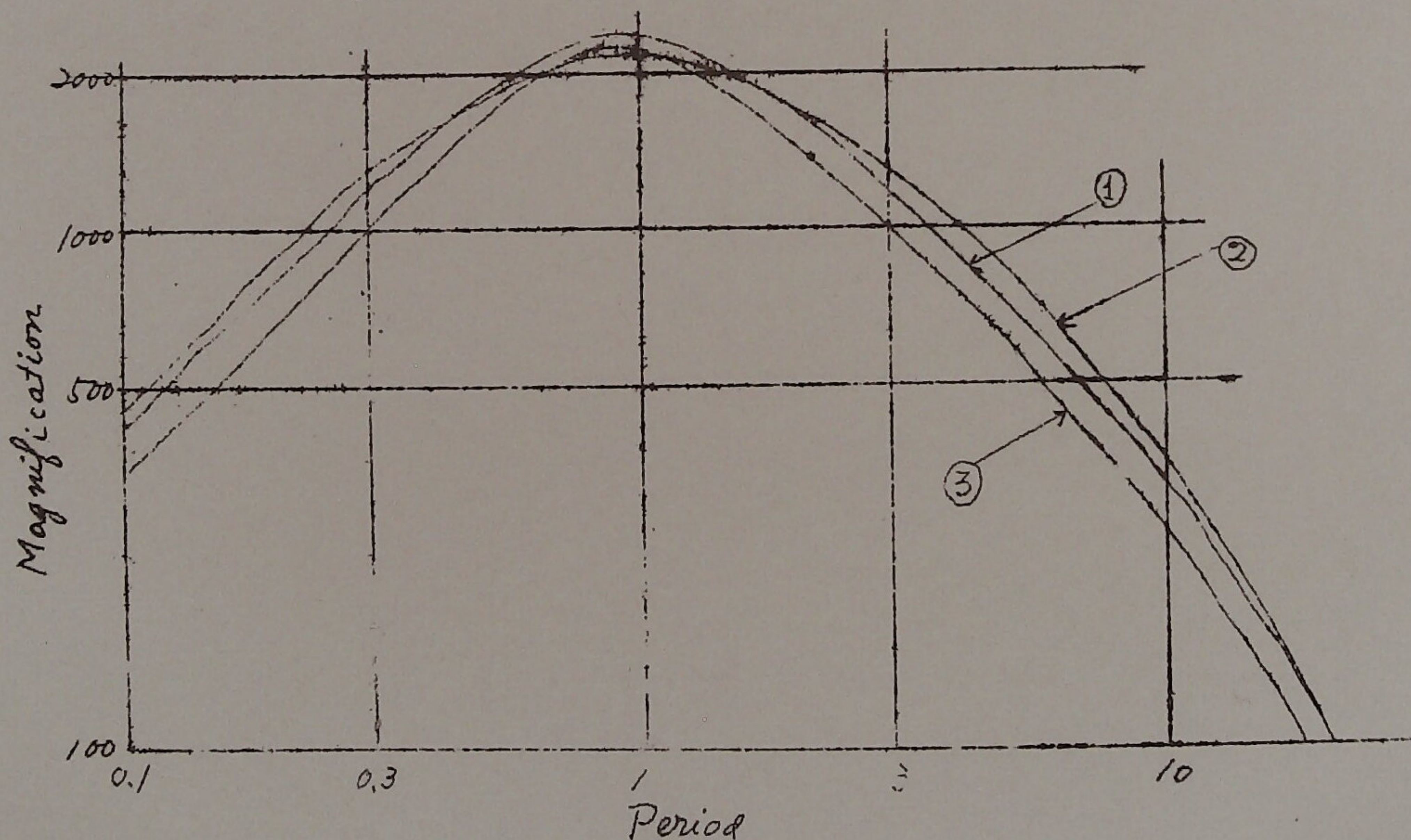
T₂ : Period of galvanometer

h₁ : Damping constant of pendulum

h₂ : Damping constant of galvanometer

ρ : Solid friction

σ : Coupling factor



Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.	REMARKS
					N mm	E mm	Z mm			
250.	June. 3.	iPE	19 ^h 42 ^m 04. ^s 1	3.6		-1.0		61°		
		iPZ	04.2	2.2			+1.6			
		iPN	04.4	2.0	-0.5					
		ME	15.2	3.8		1.5				
		MZ	15.6	4.0			2.9			
		eSE	50 18.4	10.6		-1.0				
		eSZ	20.2	8.6			-0.4			
		SN	20.4	7.8	+0.9					
		XN	51 02.8	7.0	-1.0					
		eXZ	03.-							
		eXE	05.-							
		MN	14.4	9.8	1.4					
		eXE	57 13.-							
		251.	4.	iPE	14 38 37.3	2.2				
iPZ	37.3			2.2			+1.5			
iPN	37.4			2.0	-0.7					
XN	51.3			1.8	+1.1					
XE	51.7			2.4		-1.8				
XZ	51.7			2.2			+2.2			
XE	39 05.4			2.0		-0.7				
XZ	05.4			2.4			-2.0			
XN	05.8			1.6	-1.0					
eXN	40 39.-									
SN	45 37.9			6.6	-0.6					
SE	39.7			8.6		-0.7				
eSZ	41.-									
MN	59.0			6.5	2.8					
eXN	49 27.-									
eXE	51 05.-									
eXN	23.-									
eXZ	35.-									
MZ	58 51.5			18.0			2.0			
ME	57.5			17.8		1.7				
eXE	15 01 33.-									
252.	6.	ePKPN	09 30 25.-					130°		
		ePKPE	27.-							
		ePKPZ	33.-							
		PPN	32 31.-							
		PPE	31.-							
		PPZ	31.-							
		eXZ	42 40.-							
		eXN	45.-							
		eXE	47.-							
		eXZ	45 19.-							
		eXZ	49 15.-							
		eSSN	27.-							
		eSSE	27.-							
		eXE	53 51.-							
		eXN	54 16.-							
		ME	10 29 07.-	19.-		1.5				
		MZ	35 31.-	19.-			1.0			
MN	53.-	18.-	1.2							

Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Instr.	Remarks
					N mm	E mm	Z mm		
253. June.									
254.	8.	eXE	01 ^h 00 ^m 30 ^s ca					2	changing record
		eXE	03 20ca				2		
		eXZ	20ca				3		
		MZ	06 50.6	20.0		1.0	3		
		eXE	13 59.-				2		
		eXZ	14 01.-				3		
		ME	28.2	12.2		1.3	2		
255.	10.	iPE	04 55 58.7	1.6	+2.1		10°	2	no trace
		iPZ	58.7	1.4		-2.0	3		
		eSZ	57 51.4				3		
		iSE	52.7	2.4	+2.8		2		
		ME	55.9	2.4	2.7		2		
257.	12.	iPZ	21 01 45.8	2.3		+1.0	49°	3	no trace
		PE	46.0	2.4	-0.4		2		
		ePPZ	03 38.-				3		
		SE	08 48.6	9.0	-1.4		2		
		eSZ	51.-				3		
		eXE	19 25.-				2		
		eXZ	46.-				3		
		MZ	21 44.2	20.5		5.1	3		
		ME	49.4	18.9	3.6		2		
258.	15.	eP ₁ E	15 04 57.8		(-)		70°	2	no trace
		eP ₁ Z	58.1			(+)	3		
		eP ₁ N	58.4		(+)		1		
		iP ₂ Z	05 00.0	1.6		-2.6	3		
		eP ₂ N	00.1		(-)		1		
		iP ₂ E	00.2	2.2	+1.6		2		
		epPZ	06 54.-				3		
		epPE	58.-				2		
		epPN	07 01.-				1		
		ePPPZ	09 43.-				3		
		SZ	13 29.2	5.2		-0.8	3		
		iSN	31.1	5.8	+1.2		1		
		iSE	31.1	6.2		+2.8	2		
		ME	34.4	6.4		4.4	2		
		MN	34.6	5.6	1.5		1		
		eXE	54.-				2		
		eXZ	14 11.-				3		
		eXN	13.-				1		
		MZ	16.3	6.6		1.3	3		
		ePKPPKPZ	32 49.-				3		

Serial No.	Date	Phase	Time		Period sec	Amplitude			Δ	Instr.	Remarks
			G.M.T.	L.T.		N mm	E mm	Z mm			
259.	June, 17.	iP ₁ E	19 ^h 09	59 ^m 8.7	3.2		-2.2		14°	2	
		iP ₁ N		59.9	3.4	+1.8				1	
		iP ₁ Z		59.9	2.8			+2.7		3	
		iP ₂ Z	10	01.7	1.8			-9.6		3	
		iP ₂ E		01.8	2.3			-7.8		2	
		eP ₂ N		01.9	2.4	-6.2				1	
		ME		02.3	2.3			3.9		2	
		MZ		02.3	1.8				4.8	3	
		MN		05.7	3.6	4.0				1	
		SN	12	36.7	5.0	-1.3				1	
		SE		38.9	5.0			+3.0		2	
		SZ		40.9	3.8				+1.2	3	
		eXN	13	21.-						1	
		eXZ		45.-						3	
		eXE		53.-						2	
260.	19.	eP ₁ N	05	23	33.3				26°	1	
		eP ₁ E			33.3					2	
		eP ₁ Z			33.3	1.0			+0.5	3	
		iP ₂ E			35.3	1.5		-0.7		2	
		iP ₂ Z			35.4	1.4			+1.8	3	
		iP ₂ N			35.6	1.4	-1.0			1	
		MZ			37.9	1.4			4.4	3	
		ME	24	02.4	3.6			2.3		2	
		eSE	27	58.8						2	
		eSN	28	00.6						1	
		eSZ		02.-						3	
		MN		29.9	6.0	2.8				1	
		eXN	30	28.-						1	
		eXZ		44.-						3	
		eXE	31	06.-						2	
261.	23.	ePN	05	15	34.-				27°	1	
		ePZ			34.-					3	
		ePE			35.-					2	
		eSE	20	04.-						2	
		eSN		05.-						1	
		eSZ		07.-						3	
		eLN	22	37.-						1	
		eLE		39.-						2	
		eLZ	23	05.-						3	
		LgZ		41.-	2.4					3	
		LgN		45.-	2.4					1	
		LgE		46.-	2.4					2	
		MN	24	23.2	8.4	7.3				1	
		ME		45.2	10.4			10.6		2	
		MZ		51.4	4.6				4.0	3	



Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.	Remarks
					N mm	E mm	Z mm			
262.	June 25.	eP ₁ N	09 ^h 43 ^m 55 ^s .2		(+)			36°	1	
		eP ₁ Z	55.3				(+)		3	
		eP ₂ N	58.4						1	
		eP ₂ E	58.6						2	
		XZ	40 00.8	2.8			-1.7		3	
		XE	01.8	2.8			-1.5		2	
		PPB	45 32.-						3	
		PcPZ?	46 08.-						3	
		XN	10.-						1	
		eSN	49 31.-						1	
		eSZ	31.-						3	
		eSE	35.-						2	
		eLZ	52 37.-						3	
		eLE	41.-						2	
		eLN	53.-						1	
		ME	53 05.5	15.2			15.3		2	
		MN	57 50.1	17.5	15.3				1	
		MZ	58 01.7	18.1			32.0		3	
263.	26.	iPZ	04 44 23.2	1.8			-2.8	30°	3	
		iPN	23.3	20	+1.5				1	
		iPE	23.4	2.0			+1.3		2	
		MN	24.9	2.0	1.6				1	
		MZ	24.9	2.4			3.6		3	
		XN	49.0						1	
		XZ	51.4						3	
		XE	52.2						2	
		eXN	47 17.-						1	
		eXE	18.-						2	
		eSN	49 02.7						1	
		eSE	06.-						2	
		eSZ	08.-						3	
		iXE	50 04.0	8.4			+2.6		2	
		eXN	06.-						1	
		eXZ	08.4						3	
		ME	08.8	7.4			1.9		2	
		XZ	51.7						3	
		XE	53.-						2	
		XN	55.-						1	
		eXN	51 41.-						1	
		eXE	47.-						2	
		eXZ	47.-						3	
		ScSN	54 47.-	4.0	+1.6				1	
		ScSE	47.-	4.0			+1.1		2	
264.										no trace
265.										no trace



Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.	Remarks		
					N mm	E mm	Z mm					
266.	June, 30.	iPZ	18 ^h 28 ^m 52. ^s 2	6.2			+2.7	10 ⁰		3		
		iPE	52.4	6.0	-2.7					2		
		ePN	52.8								1	
		SN	30 53.6	11.2	+3.1						1	
		eSZ	58.5	7.4			+4.5				3	
		eSE	31 05.-								2	
		eXZ	27.-								3	
		eXN	33.-								1	
		eXE	35.-								2	
		ME	33 43.0	13.4		23.4					2	
		MZ	53.4	16.2			19.3				3	
		MN	57.3	11.2	12.1						1	



Seismological Report of I. G. Y.

Station : Nagasaki (Japan)

October, 1958



Longitude : 129°53' E
 Latitude : 32°44' N
 Elevation : 25 M
 Foundation : Volcanic Breccia

Instrument

No	Name	Component	V _{max.}	T ₁ sec	T ₂ sec	h ₁	h ₂	φ mm	σ	Date of Calib.
1	Electro-Magnetic Seismograph	N - S	2,100	1.0	20	0.9	0.9	0.14		Oct. 9, 1958
2	"	E - W	2,100	1.0	13	0.9	0.7	0.13		" "
3	"	U - D	2,500	1.0	13	0.9	0.7	0.12		" "

T₁ : Period of pendulum

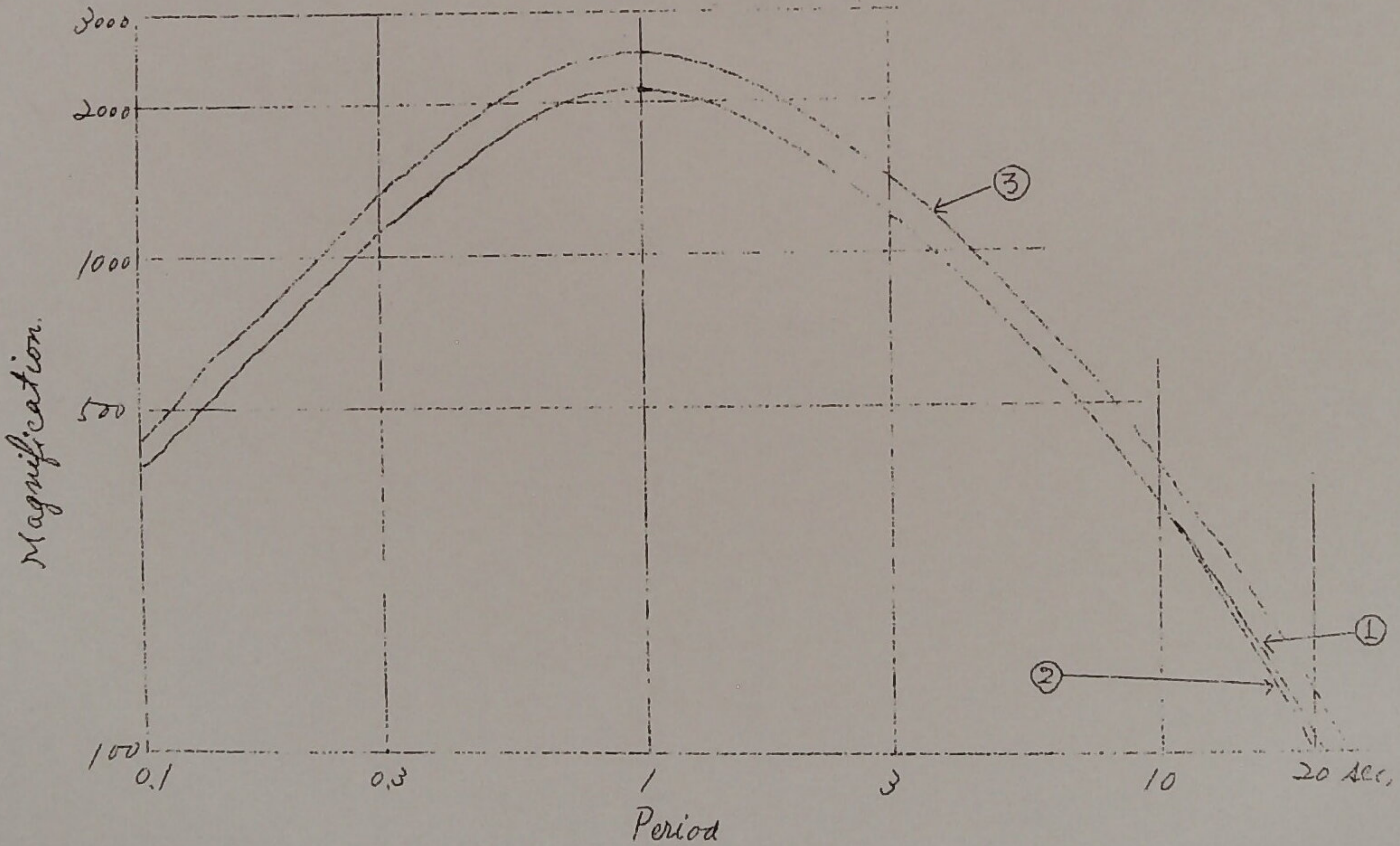
T₂ : Period of galvanometer

h₁ : Damping constant of pendulum

h₂ : Damping constant of galvanometer

φ : Solid friction

σ : Coupling factor





Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.		
					N	E	Z				
315.	Oct. 1.	eXZ	09 ^h 42 ^m 36. ^s -							3	very small
		eXN	46 20.-							1	
		eXE	22.-							2	
		eXZ	22.-							3	
316.	1.	ePE	17 56 10.-					50°		2	very small
		ePZ	11.6							3	
		ePN	14.-							1	
317.	7.	ePE	12 40 46.2					43°		2	
		ePN	46.4	5.0	+0.7					1	
		iPZ	46.4	5.6			+1.1			3	
		ePPZ	42 21.-							3	
		ePPE	26.-							2	
		ePPN	26.3		(-)					1	
		eSN	47 03.-							1	
		eSE	04.-	10.0			+0.5			2	
		eSZ	04.-							3	
		eLN	50 21.-							1	
		eLE	24.-							2	
		eLZ	26.-							3	
		ME	55 10.1	20.4			2.0			2	
		MN	16.6	22.4	2.6					1	
		MZ	13 02 51.4	17.8				3.2		3	
318.	9.	eXN	11 39 53ca							1	
		eXE	57ca							2	
319.	10.	iPZ	08 36 31.3	1.6				+2.2		3	
		iPE	31.4	2.0			-0.9			2	
		iPN	31.5	1.6	-0.3					1	
		MZ	32.2	1.6				1.8		3	
		MN	48.2	1.8	1.1					1	
		ME	54.3	3.0			0.3			2	
		ePPN	37 37.-							1	
		ePPZ	37.-							3	
		eXN	39 59.-							1	
		eSN	41 20.-							1	
		eSZ	21.-							3	
		eSE	24.-							2	
		eLN	44 01.-							1	
		eLE	22.-							2	
		eLZ	23.-							3	
320.											no trace

Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.
					N	E	Z		
					mm	mm	mm		
321.	Oct. 12.	iPN	15 ^h 20 ^m 14. ^s 4	1.4	+16.4				1
		iPE	14.4	1.4		+6.9		2	
		iPZ	14.4	0.8			+16.6		3
		iSE	21 22.4	3.6		+24.0			2
		iSN	22.6	1.4	-7.6				1
		iSZ	25.0	3.2			+7.9		3
		ME	28.5	5.0		29.5			2
		MN	29.5	5.4	35.2				1
		MZ	31.7	4.8			20.9		3
		SeSN	33 29.1	5.0	-2.6				1
		SeSE	29.5	4.2		+2.4			2



322.	20.	iPZ	01 20 50.6	2.2			+9.8	45°	3
		iPN	50.8	1.8	+5.7				1
		iPE	50.9	1.8		+0.3			2
		MZ	52.3	2.2			7.7		3
		ME	54.3	1.6		4.1			2
		MN	55.3	1.8	7.3				1
		ePPN	22 33.2						1
		ePPZ	33.6						3
		ePPE	33.8						2
		eSE	27 18.9						2
		eSN	20.-	3.0		-0.7			1
		eSZ	24.-	3.5			-1.5		3
		eSSN	30 41.8	4.2	-1.0				1
		eSSE	41.8	2.6		+1.9			2
		eLN	37 20ca	35.-					1

323.	21.	iPZ	06 22 42.6	1.0			-0.4	42°	3
		PN	42.9						1
		iXZ	23 19.1	3.4			+0.8		3
		iXN	19.5	3.2	+0.5				1
		iXE	20.0	3.2		-0.5			2
		iZ	21.1	2.8			0.9		3
		MN	24.7	3.6	0.8				1
		eXN	58.-						1
		eXZ	59.-						3
		eXN	24 46.-						1
		eSZ	28 43.-						3
		eSN	44.-						1
		eXZ	32 40.-						3
		eXN	33 32.-						1

Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.	Remarks	
					N	E	Z				
					mm	mm	mm				
324.	Oct. 28.	ePN	10 ^h 53 ^m 52.1 ^s							1	
		PE	53.7	2.2		-0.6				2	
		iPZ	53.7	2.2				-1.0		3	
		ePPZ	55 18.-							3	
		ePPE	24.-							2	
		eSE	59 47.7	13.0		-1.3				2	
		eSZ	43.-							3	
		eSN	48.1	9.6	+0.6					1	
		eXE	11 02 41.5	13.-		-2.0				2	
		eXN	42.-							1	
		eXZ	42.7	14.-				-3.7		3	
		eXZ	05 30.-							3	
		MN	09 47.5	14.4	6.9					1	
		MZ	11 33.6	10.4				13.3		3	
		ME	41.9	9.4				7.3		2	
		325.	29.	iPZ	07 51 50.7	1.6			+0.8	40°	3
PE	50.8			1.8		-0.7			2		
iPN	50.9			1.3	-0.7				1		
ePPE	53 25.5			4.4		-1.5			2		
ePPN	27.3			3.0	-1.0				1		
ePPZ	28.9			2.6				-4.3	3		
iSE	57 56.3			9.0		-3.6			2		
iSN	58 00.7			5.3	+2.0				1		
eSZ	01.-								3		
eSSN	03 01 03.-								1		
eSSE	03.6			17.0		-3.-			2		
MN	05 55.2			15.4	7.2				1		
ME	55.6			15.2				5.4	2		
MZ	06 37.3			20.2				7.9	3		



Seismological Report for I. G. Y.

Station : Nagasaki (Japan)

November, 1958

Longitude : 129°53' E
 Latitude : 32°44' N
 Elevation : 25 M
 Foundation : Volcanic Breccia

Instrument

No	Name	Component	Vmax.	T ₁ sec	T ₂ sec	h ₁	h ₂	ρ mm	σ	Date of Calib.
1	Electro-Magnetic Seismograph	N - S	2,100	1.0	20	0.9	0.9		0.14	Oct. 9, 1958
2	"	E - W	2,100	1.0	18	0.9	0.9		0.13	" "
3	"	U - D	2,500	1.0	18	0.9	0.7		0.12	" "

T₁ : Period of pendulum

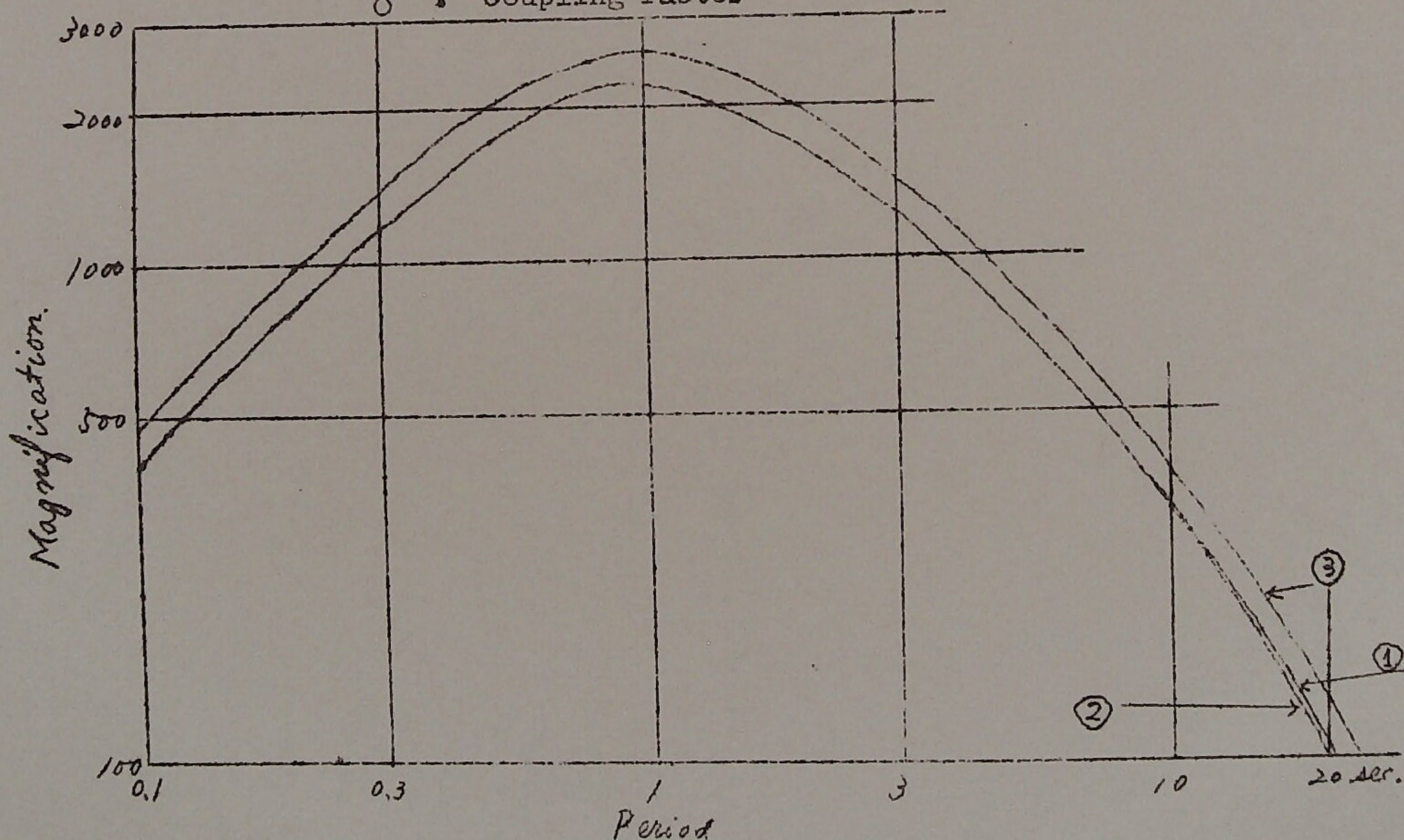
T₂ : Period of galvanometer

h₁ : Damping constant of pendulum

h₂ : Damping constant of galvanometer

ρ : Solid friction

σ : Coupling factor



Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.	Remarks	
					N mm	E mm	Z mm				
326.	Nov. 1.	ePZ	03 ^h 46 ^m 20 ^s .8	2.0			+2.7	39°	3	large microseisms	
		ePE		21.-							
		ePN		22.-							
		ePPE	48	08.-							
		ePPZ		10.-							
		ePPN		12.-							
		eSE	52	16.-							
		eSN		18.0							
		eSZ		19.-							
		eXN	57	08.-							
		eXE		14.-							
		eXZ		54.-							
		MN	04 00	00.8	24.5	5.9					
		MZ		06.8	21.3		6.6				
		eXE	01	56.-							
		eXZ	02	10.-							
		eXN		12.-							
ME	03	38.9	16.5		5.0						
327.	1.	eSN	12 35	17.-				1	large microseisms		
		eSE		21.-							
		eSZ		23.-							
		eXE	42	17.-							
		eXZ	45	19.-							
		eXN	47	11.-							
		MZ	51	59.4	18.2		2.1				
328.									no trace		
329.	6.	iP ₁ E	23 02	25.2	2.1		-2.0	19°	2		
		iP ₁ Z		25.2	1.4		+2.8				
		iP ₁ N		25.3	2.2	-2.0					
		iP ₂ Z		26.4	1.8		+31.3				
		iP ₂ N		26.8	2.4	-18.5					
		iP ₂ E		26.8	2.4		-19.1				
330.	7.	ePZ?	07 45	01.5	1.4		-1.0	19°	3		
		ePN?		01.9							
		ePE?		02.7							
		eXE		58.-							
		eXN	46	00.-							
		eSZ	48	29.-							
		eSN		30.-							
		eSE		30.-							
		MZ		39.1	5.2		1.0				
		MN		42.3	5.0	1.1					
		ME	49	21.1	4.8		1.1				



Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.	Remarks	
					N mm	E mm	Z mm				
331.	8.	iPN	09 ^h 28 ^m 54 ^s .9	2.2	-1.5			28°	1		
		iPE	54.9	2.3		-1.0					2
		iPZ	54.9	2.4			+2.5				3
		eSZ	33 43.-								3
		eSN	45.-								1
		eSE	47.-								2
		eXN	39 36.-								1
		eXE	37.-								2
		eXZ	37.-								3
		MN	39.9	19.5	2.8						1
		ME	42 56.9	19.3		2.2					2
		MZ	43 04.6	15.6			2.8				3
		332.	12.	iPE	20 27 48.3	2.4					-5.4
iPZ	48.3			2.4		+7.9	3				
iPN	48.5			2.6	-6.3		1				
XN	31 17.7			3.4	-21.1		1				
iSN	23.5			?	+ ?		1				
iSE	23.7			5.8		-28.3	2				
SZ	25.7			6.4			+60.2	3			
scale out											
333.	14.	PZ	13 55 48.6	2.2			-2.2	38°	3		
		ePN	49.0								1
		ePE	49.-								2
		SN	14 01 39.3	8.7	+4.7						1
		iSE	40.7	7.2		-4.2					2
		iSZ	44.0	6.0			+4.1				3
		MN	45.2	9.9	3.8						1
		MZ	47.2	8.2			3.7				3
		ME	47.4	10.8		5.6					2
		eXE	04 27.-								2
		eXN	30.-								1
334.	15.	ePN	09 05 10.4					19°	1		
		ePE	10.4								2
		iPZ	10.6	1.6			-1.9				3
		XN	06 10.8	1.6	-1.9						1
		eSZ	08 39.-								3
		SN	40.7	5.8	+2.9						1
		SE	40.7	5.0		-2.5					2
		MZ	45.6	5.8			2.9				3
		MN	49.8	4.4	3.9						1
		ME	09 22.6	5.6		3.4					2
335.									no trace		



Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.	Remarks	
					N mm	E mm	Z mm				
336.	17.	ePE	09 ^h 55 ^m 47 ^s .9	2.0				53°	2	International Seismological Centre	
		iPZ	47.9				+1.0				
		ePN	48.1								
		eSE	10 03 13.-								2
		eSZ	15.-								3
		eSN	17.-								1
		eXE	11 17.-								2
		eXN	36.-								1
		eXZ	12 25.-								3
337.	20.	ePN	05 42 36.3	1.0				29°	1		
		iPZ	36.3				+0.5				
		ePE	36.5								
		eSN	47 20.-								1
		eSZ	21.-								3
		eSE	27.-								2
		eLE	50 09.-								2
		eLN	26.-								1
		eLZ	27.-								3
		ME	30.6	18.1		1.0					2
		MN	40.5	20.7	1.6						1
		MZ	43.3	14.2			1.6				3
		338.	30.	iPZ	01 35 21.9	1.4					
iPN	22.3			2.8	-1.1						
iPE	22.7			1.2		+1.3					
iSN	37 21.1			5.6	-2.7			1			
eSE	21.1							2			
iSZ	26.9			3.6			+3.2	3			
ME	40 19.8			15.1		7.2		2			
MZ	22.7			15.5			7.6	3			
MN	53.1			13.0	8.0			1			

Seismological Report for I. G. Y.

Station : Nagasaki (Japan)

December, 1958

Longitude : 129°53' E
 Latitude : 32°44' N
 Elevation : 25 M
 Foundation : Volcanic Breccia

Instrument

No	Name	Component	Vmax	T ₁ sec	T ₂ sec	h ₁	h ₂	ρ mm	σ	Date of Calib.
1	Electro-Magnetic Seismograph	N - S	2,100	1.0	20	0.9	0.9	0.14		Oct. 9, 1958
2	" "	E - W	2,100	1.0	18	0.9	0.9	0.13		" "
3	" "	U - D	2,500	1.0	18	0.9	0.7	0.12		" "

T₁ : Period of pendulum

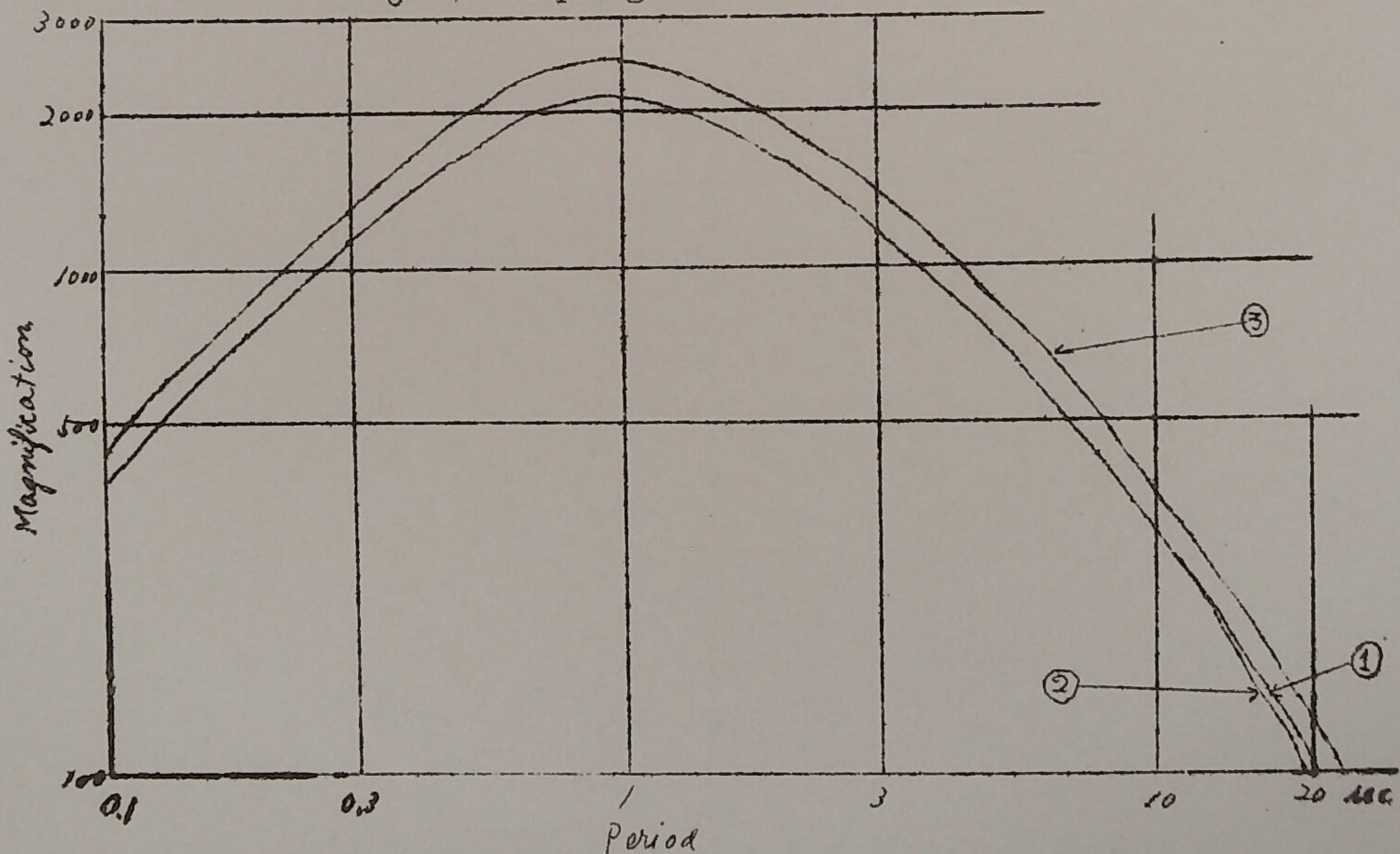
T₂ : Period of galvanometer

h₁ : Damping constant of pendulum

h₂ : Damping constant of galvanometer

ρ : Solid friction

σ : Coupling factor



Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Instr.	Remarks
					N mm	E mm	Z mm		
339.	Dec.								no trace
340.									no trace
341	10.	iPN	07 ^h 14 ^m 30 ^s .4	2.4	+1.2		84°	1	
		iPZ	30.4	1.4		+3.6		3	
		PE	30.8	4.0		-2.7		2	
		MZ	33.2	3.0			11.9	3	
		ME	35.0	3.0		6.1		2	
		MN	37.2	2.0	5.1			1	
		PPZ	17 40.6	3.6		+2.6		3	
		eSN	24 18.2	6.4	+2.2			1	
		eSZ	18.2					3	
		eSE	18.8	5.6		+2.7		2	
		esSZ	26 21.2	5.8		+2.1		3	
		esSN	26.6	8.4	+3.2			1	
		eXN	37 37.-					1	
		eXZ	38 54.-					3	
		eXZ	43 49.-					3	
		eXN	44 29.-					1	
342.	14.	eXZ	08 16 Ca					3	very small
		eXE	21 Ca					2	
		eXN	33 Ca					1	
		eXZ	33 Ca					3	
		eXE	34 Ca					2	
343.	17.	iPE	08 58 50.3	1.2		-2.0	7°	2	
		iPZ	50.4	1.3		+2.6		3	
		PN	50.5	0.8	-0.2			1	
		iSN	09 00 07.3	3.6	-5.2			1	
		iSE	07.6	4.8		+7.1		2	
		iSZ	07.7	3.4		+10.1		3	
		MN	08.9	3.6	8.1			1	
		MZ	11.1	3.4			6.8	3	
		ME	12.9	4.8		8.8		2	
344.	21.	ePZ	05 53 55.-				40°	3	
		ePN	58.-					1	
		ePE	59.-					2	
		ePPN	55 33.-					1	
		ePPE	33.-					2	
		PPZ	34.0	5.0		+1.7		3	
		eSE	06 00 02.8					2	
		eSN	03.0					1	
		eLE	02 38.-					2	
		eLZ	42.-					3	
		eLN	44.-					1	
		eXN	06 20.-					1	
		eXZ	26.-					3	
		eXE	42.-					2	

(cont.)

Serial No.	Date	Phase	Time G.M.T.	Period sec	Amplitude			Δ	Instr.	Remarks	
					N mm	E mm	Z mm				
(cont.)											
344.	Dec. 21.	ME	06 ^h 12 ^m 24 ^s .8	12.0		4.4				2	
		MZ		26.8	12.6			13.0		3	
		MN		30.2	11.4	3.1				1	
		eXZ		27 22.-						3	
		eXE		26.-						2	
345.	25.	ePN	08 13 36.0					42°		1	
		ePZ		36.0						3	
		ePE		36.8						2	
		eXZ		15 27.-						3	
		eXE		31.-						2	
		eSN		19 58.-						1	
		eSZ		58.-						3	
		eSE		59.-						2	
		eLN		23 17.-						1	
		eLE		17.-						2	
		eLZ		21.-						3	
		eXN		25 25.-						1	
		eXZ		35.-						3	
		MN		28 13.2	21.1	4.3				1	
		eXN		29 37.-						1	
MZ		32 24.0	17.9				5.8	3			
ME		29.0	16.7		2.9			2			
346.	28.	ePZ	05 42 36.-						3	} very small large micro- seisms	
		ePN		40.-					1		
		eSZ		49 53.-					3		
		eSE		55.-					2		
347.									no trace		

