

NOTA TÉCNICA SOBRE EL SISMO DEL 25 DE ABRIL DE 1989

Según datos de la Coordinación de Sismología e Instrumentación Sísmica del Instituto de Ingeniería de la UNAM, el sismo ocurrió en la costa de Guerrero en las proximidades a las poblaciones de Copala y San Marcos; tuvo una magnitud $M_5 = 6.8$ y se sintió con intensidad Mercalli MM = 5 en la ciudad de México.

Los parámetros provisionales del evento principal son:

Fecha	Abril 25, 1989
Hora en el origen:	14 h:29 m:01 s(UT) (08:29:01 local)
Latitud	16.5°N
Longitud	99.5°W
Magnitud	6.0M _C 6.3 mb(NEIS), 6.8M _S (NEIS)
Profundidad:	15 km (fig)

En la fig 1 se muestra con una estrella la posición:



Figura 1

ESTACION	CLAVE	LATITUD NORTE	LONGITUD OESTE	TIPO Y No.	ACELEROGRAFO COMPO- F _n d NENTE	TIPO DE TERRENO
C.U. D.F.	CU01	19.330	99.183	DCA333 -144	N00E 30 0.75 VERT 30 0.66 N90E 30 0.70	Roca basáltica. Planta baja del edificio del IdeI
Roma D.F.	DFRO	19.405	99.166	DCA333 -204	N22W 30 0.76 VERT 30 0.75 N68E 30 0.75	Suelo arcilloso Zona de Lago
Secretaría de Comunicaciones y Transportes	SCT1	19.393	99.147	DCA333 -169	N00E 30 0.70 VERT 30 0.70 N90E 30 0.70	Suelo arcilloso Zona de Lago
Sismex Viveros	SXVI	19.358	99.171	DCA310 -137	N00E 31.2 0.69 VERT 29.3 0.71 N90E 30.0 0.72	Suelo arcilloso Zona de Transi- ción.
C.de Abasto Oficinas	CDAO	19.368	99.088	DCA333 -115	N00E 31 0.70 VERT 31 0.70 N90E 31 0.70	Zona de Lago
Preparatoria No.7 la Viga	DFVG	19.419	99.126	DCA310 -154	N00E 30 0.70 VERT 30 0.70 N90E 30 0.70	Zona de Lago
Tacubaya D.F.	TACY	19.403	99.194	DCA333 -168	S11E 30 0.70 VERT 30 0.70 N79W 30 0.70	Zona de Lomas
Tláhuac Bombas	TLHB	19.167	99.010	DCA333 -145	N00E 31 0.70 VERT 31 0.66 N90E 30 0.75	Zona de Lago Xochimilco-Chalco

F_n Frecuencia natural del sensor, en Hz
d Amortiguamiento, fracción del crítico

TABLA 1. LOCALIZACION DE ESTACIONES Y CARACTERISTICAS DE LOS ACELEROGRAFOS

ESTACION	COMP	DUR (s)	Amax (gals)	Tamx (s)	Amin (gals)	Tamn (s)	Vmax (cm/s)	Tvmx (s)	Vmin (cm/s)	Tvmn (s)	Dmax (cm)	Tdmx (s)	Dmin (cm)	Tdmn (s)
CU01	N00E	54.2	13.1	10.72	-10.6	9.60	4.40	11.32	-4.40	9.90	2.01	28.42	-2.27	10.66
	VERT	54.2	5.2	8.56	-4.3	20.36	1.75	19.98	-2.21	24.60	1.41	31.74	-1.55	27.30
	N90E	54.2	8.1	15.34	-10.0	11.54	2.94	11.12	-2.57	16.94	1.38	11.58	-1.15	10.14
DFRO	N22W	165.2	35.9	61.41	-45.6	39.21	10.20	38.76	-10.46	39.57	3.89	39.15	-3.57	52.23
	VERT	165.2	7.2	47.13	-8.9	42.18	2.08	48.72	-2.48	53.10	1.47	49.29	-1.38	53.73
	N68E	165.2	55.0	40.59	-50.8	41.22	12.63	40.95	-9.05	40.32	2.83	41.25	-2.90	40.59
SCT1	N00E	160.7	37.6	60.45	-34.8	59.55	9.79	60.93	-10.92	59.94	4.45	52.53	-3.48	33.63
	VERT	160.7	13.5	34.11	-18.9	35.19	2.47	35.01	-2.83	36.12	1.62	45.21	-1.61	49.83
	N90E	160.7	30.6	59.46	-37.9	58.47	9.04	33.18	-9.78	50.49	3.51	33.81	-3.07	51.03
SXVI	N00E	44.3	14.6	6.95	-23.4	8.27	4.69	7.56	-5.40	8.98	2.15	8.27	-2.26	9.65
	VERT	44.3	6.6	7.26	-5.1	8.58	1.43	31.49	-1.55	6.79	1.08	18.93	-1.15	22.81
	N90E	44.3	16.3	2.95	-14.9	12.94	2.81	6.57	-3.30	13.62	1.31	12.93	-1.12	5.51
CDAO	N00E	237.2	27.9	73.14	-24.8	111.24	12.76	86.97	-12.65	88.62	7.27	91.29	-6.38	89.49
	VERT	237.2	7.9	66.09	-9.5	64.59	2.51	64.17	-2.44	62.88	1.11	64.65	-1.25	66.09
	N90E	237.2	32.1	49.38	-34.2	58.53	13.47	47.22	-13.17	48.72	7.30	47.97	-6.63	49.53
DFVG	N00E	114.2	33.8	16.80	-29.1	17.60	11.83	32.74	-10.35	33.94	4.60	30.66	-4.80	32.14
	VERT	114.2	6.2	28.94	-7.0	24.16	1.62	29.26	-1.66	13.24	1.20	21.98	-1.57	27.98
	N90E	114.2	30.4	12.58	-32.6	16.86	13.76	16.28	-12.54	11.72	5.91	16.82	-5.47	12.46
TACY	S11E	140.0	10.0	46.21	-15.2	45.55	3.61	44.60	-3.41	45.77	1.90	45.13	-2.01	64.37
	VERT	140.0	4.9	45.85	-5.5	44.30	1.61	55.99	-1.43	60.23	1.97	56.81	-1.81	62.37
	S79W	140.0	10.7	48.37	-9.4	50.45	2.43	49.97	-2.00	45.27	0.87	44.18	-0.99	45.77
TLHB	N00E	88.0	33.7	10.82	-34.1	5.62	14.37	28.54	-15.31	6.06	8.00	23.42	-8.47	27.70
	VERT	88.0	16.1	15.16	-15.3	16.42	6.15	15.70	-4.91	14.62	2.54	16.38	-2.25	15.10
	N90E	88.0	42.7	11.82	-48.1	22.08	19.75	21.60	-14.91	11.20	10.12	22.22	-6.98	24.66

COMP = dirección componente
 Amax = aceleración máxima
 Amin = aceleración mínima
 Vmax = velocidad máxima
 Vmin = velocidad mínima
 Dmax = desplazamiento máximo
 Dmin = desplazamiento mínimo

DUR = duración registro
 Tamx = tiempo de Amax
 Tamn = tiempo de Amin
 Tvmx = tiempo de Vmax
 Tvmn = tiempo de Vmin
 Tdmx = tiempo de Dmax
 Tdmn = tiempo de Dmin

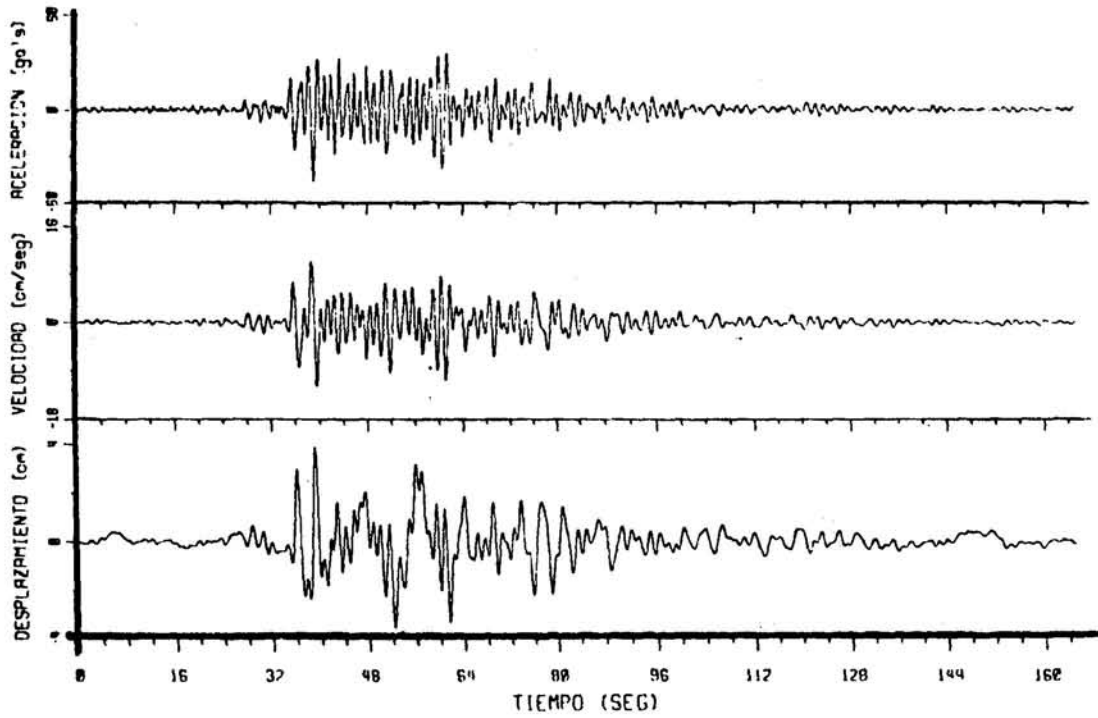
Los tiempos indicados se
 consideran respecto al
 inicio del registro.

Tabla 2 Valores máximas y mínimos medidos en las estaciones de medición
 del Instituto de Ingeniería

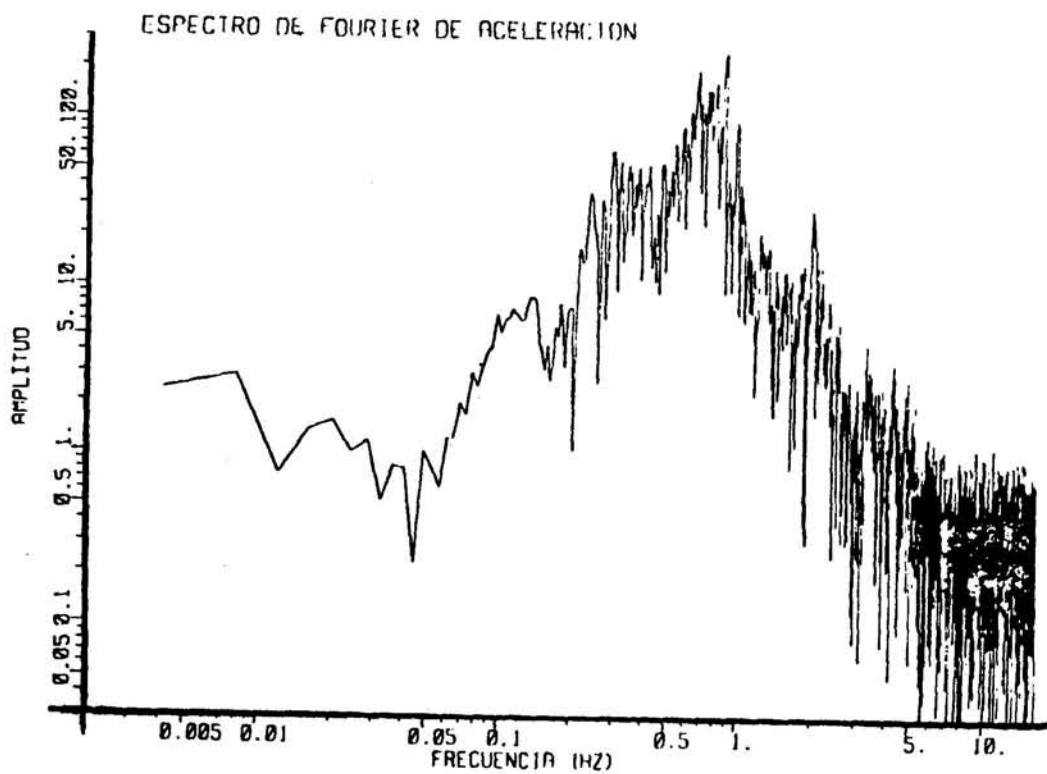
CLAVE	COMPONENTE	S.A.		S.V.		S.D.	
		Max. (gals)	Per. (s)	Max. (cm/s)	Per. (s)	Max. (cm)	Per. (s)
CDAO	N00E	159.10	3.20	87.48	3.40	45.64	3.40
	VERT	32.58	1.10	14.03	2.80	5.84	2.80
	N90E	153.72	1.20	77.13	3.60	40.10	3.60
CU01	N00E	46.38	2.40	18.31	2.60	7.41	11.00
	VERT	18.61	1.20	5.66	2.80	5.30	9.50
	N90E	39.86	1.50	11.40	3.00	5.18	3.20
DFRO	N22W	218.49	1.20	42.80	1.50	11.05	2.80
	VERT	35.21	0.46	8.45	3.20	3.98	9.50
	N68E	249.19	1.20	50.98	1.30	10.35	1.30
DFVG	N00E	127.33	2.60	53.42	2.60	23.23	3.00
	VERT	28.67	0.86	7.09	3.00	4.40	10.00
	N90E	186.79	2.80	84.08	2.80	36.91	2.80
SCT1	N00E	170.98	2.20	61.50	2.20	20.84	2.20
	VERT	101.87	0.74	11.85	0.74	4.96	10.00
	N90E	184.01	2.00	59.64	2.20	19.76	2.20
SXVI	N00E	66.96	0.50	24.56	2.80	10.45	2.80
	VERT	15.04	1.10	5.57	3.40	4.51	9.50
	N90E	63.68	0.58	13.84	2.80	5.51	2.80
TACY	S11E	36.70	0.42	11.63	2.80	6.87	9.00
	VERT	15.94	0.44	5.15	3.00	4.91	11.00
	S79W	34.04	0.46	9.38	3.20	4.53	3.60
TLHB	N00E	162.00	2.20	54.47	3.00	36.83	4.20
	VERT	59.51	1.90	23.51	3.00	9.93	3.00
	N90E	240.11	1.90	83.62	3.00	36.86	2.80

VALORES ESPECTRALES MAXIMOS PARA 5% DE AMORTIGUAMIENTO.

REGISTROS OBTENIDOS EN LA COLONIA ROMA



ACELEROGRAMA



Centro de Instrumentación y Registro Sísmico, A.C.
(Fundación Javier Barros Sierra)
Información sobre las estaciones y los registros
del sismo de abril 25

No.	Ubicación	Máximo Absoluto (gals)
D02	Aeropuerto norte vía TAPO	
D04	Antonio M. Anza y Orizaba, Col. Roma	
D06	5 de febrero y Lucas Alaman, Centro	57.2 (E-W)
D08	Nonoalco - Tlatelolco	47.5 (E-W)
D10	Plutarco E. Calles esq. Santiago	53.0 (N-S)
D12	Oriente 164 y Norte 25 Col. Moctezuma	25.3 (N-S)
D14	Puebla 2, Providencia	
D16	Eje 5 Norte y San Pablo Ctl. Rosario	22.8 (E-W)
D20	Deportivo Neza-IMSS	46.4 (N-S)
D22	C. del Creston y Mezontepec Col. Churub.	23.9 (E-W)
D24	Rio Churubusco y Div. del Norte P. M. Anaya	
D26	Av. Sta. Cruz Topilejo	
D28	Peñon de los Baños	12.2 (E-W)
D30	Pensylvania y Georgia, Nápoles	17.1 (E-W)
D32	Av. Tepalcates y Verduzco, Tepalcates	20.5 (N-S)
D34	Cuauhtemoc 28, S.P. Actopan	10.5 (N-S)
D36	Club España Remo y Chicoco	
D38	Culhuacan Manuela Medina y Guarderia	
D40	Ant. camino a Acapulco	
D42	Rio Churubusco y Añil, Granjas México	25.8 (E-W)
D44	Villalongin 117, Sn Rafael	52.7 (N-S)
D46	Angel Urraza y Coyoacan	30.3 (N-S)
D48	Loreto y San Idelfonso, Centro	47.9 (E-W)
D50	Reforma Y Gandhi, Chapultepec	16.2 (N-S)
D52	Del. Miguel Hidalgo	20.8 (E-W)
D54	Dalias e Iris	29.9 (N-S)
D56	Cordoba 68, Roma	72.9 (N-S)
D58	Liveerpol 40, Juárez	40.9 (N-S)
D60	Xola y Universidad	
D62	Eje Central 10, Centro	52.6 (N-S)
D64	Mariano Salas s/n esq. Cantera, Estanzuela	5.2 (N-S)
D66	Central de Abastos Oficina	
D68	Canal de Apatlaco y Ahuehuetes, Iztapalapa	33.3 (E-W)
D70	Ant. camino a Acapulco (Estac. de Pozo)	
D72	Jesús Maria, Centro, Sn Pedro	48.4 (E-W)
D74	Carr. al Ajusco 203, H. de Padierna	16.1 (N-S)
D76	Cda. Bolivares esq. Marx, Col. A.S. Bolivar	
D78	Colinas de Sur	15.7 (N-S)
D80	Periférico Sur (Cuemanco)	53.6 (E-W)
D82	Esc. Prim. Fed. "I. Ramirez"	
D84	Esc. Prim. "José L. Portillo W."	29.9 (E-W)
D86	Esc. Prim. "José Ma. Morelos"	
E08	Est. Experimental en estructura	62.2 (N-S)
E09	Est. Experimental en estructura	53.4 (N-S)
E10	Est. Experimental en estructura	

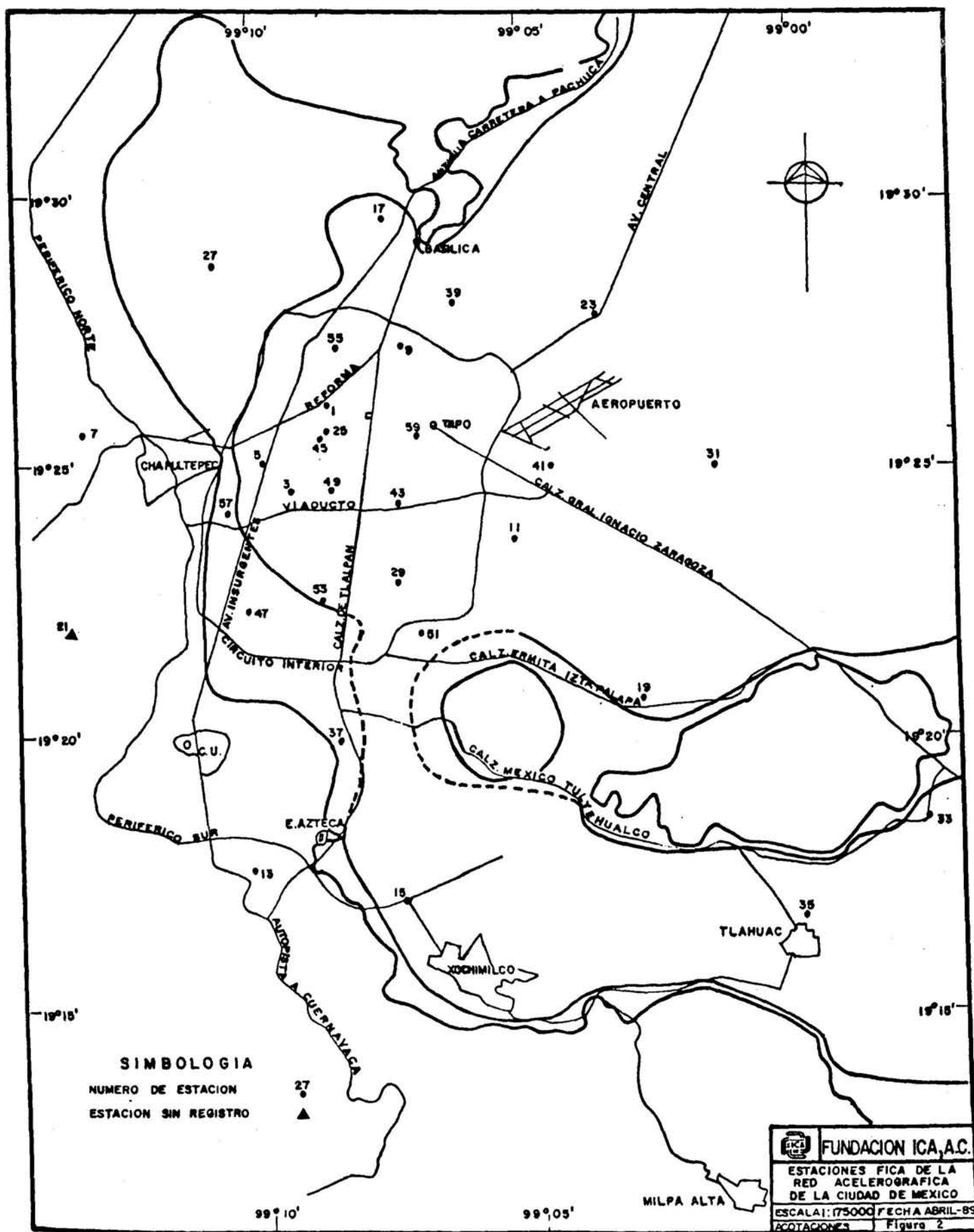


TABLA 1

VALORES REGISTRADOS EN ESTACIONES DE MEDICION

No.	ESTACION FICA			ACELERACION (GALS = cm/seg^2)			
	CLAVE	NOMBRE	TIPO SUELO	N-S	VERT.	E-O	RAH*
1	AL	ALAMEDA	III	46	10	37	46
3	CJ	C.U.JUAREZ	III	41	10	37	50
5	CI	CIBELES	III	54	14	46	65
7	TC	TECAMACHALCO	I	8	4	9	9
9	VG	VALLE GOMEZ	III	38	8	47	50
11	AU	AUTODROMO	III	19	6	20	22
13	TP	TLALPAN	I	18	7	12	18
15	MI	MIRAMONTES	III	40	7	27	41
17	MA	MIGUEL ALEMAN	III	32	10	32	35
19	MY	MEYEHUALCCO	II	54	20	30	54
21	CL	COLINA DEL SUR	I	-	-	-	-
23	AR	ARAGON	III	24	7	17	24
25	PC	PCC	III	42	16	43	50
27	GR	GRANJAS	II	29	6	38	48
29	VM	VILLA DEL MAR	III	50	10	47	51
31	NZ	NEZAHUALCOYOTL	III	34	9	40	45
33	LI	LICONSA	III	38	19	50	50
35	TH	TLAHUAC	III	54	18	72	73
37	XO	XOTEPINGO	II	33	7	31	39
39	BO	BONDOJITO	III	34	12	37	48
41	AE	AEROFOTO	III	33	9	35	44
43	PI	PINO SUAREZ	III	35	8	31	44
45	RE	REVOLUCION	III	43	19	52	66
47	CO	COYOACAN	II	17	5	13	17
49	BA	BUENOS AIRES	III	54	14	59	66
51	SP	SECTOR POPULAR	III	47	8	39	48
53	SI	SAN SIMON	III	40	11	33	40
55	TL	TLATELOLCO	III	45	11	31	47
57	ES	ESCANDON	II	22	6	19	23
59	VC	VENUST.CARRANZA	III	29	10	47	50

TABLA 2 AMPLITUDES MAXIMAS DE ESPECTROS DE RESPUESTA
 EVENTO: 25 DE ABRIL DE 1989
 RED ACELEROMETRICA DE FUNDACION ICA

	Periodo y Aceleración Absoluta						Periodo y Velocidad Relativa						Periodo y Desplazamiento Relativo					
	N00E		VERT		N90E		N00E		VERT		N90E		N00E		VERT		N90E	
Registro: AL007																		
Amort: .00	2.06	950.4	.75	125.3	2.06	612.8	2.06	310.40	2.56	29.30	2.06	198.40	2.06	102.30	2.56	11.96	2.06	65.88
Amort: .02	2.06	393.7	.75	65.7	2.06	269.7	2.06	132.00	2.56	14.32	2.16	88.52	2.06	43.13	2.56	5.51	2.16	29.83
Amort: .05	2.06	236.9	.75	43.3	2.06	161.4	2.16	81.53	2.56	9.64	2.16	54.68	2.16	27.21	3.07	3.88	2.16	18.03
Amort: .10	2.06	147.7	.75	27.3	2.06	101.0	2.16	49.76	2.56	6.08	2.16	34.31	2.36	16.91	3.07	2.79	2.46	11.88
Amort: .20	1.96	90.5	.75	15.7	1.66	65.9	2.36	30.28	3.27	4.03	2.66	20.96	2.36	10.23	3.17	1.70	2.46	7.36
Registro: CJ007																		
Amort: .00	2.16	618.6	1.56	144.2	2.06	553.9	2.16	214.10	1.56	35.68	2.16	185.00	2.16	73.55	3.17	9.18	2.16	64.25
Amort: .02	2.16	262.7	1.56	67.3	2.16	249.3	2.16	91.76	1.56	16.83	2.16	92.56	2.16	31.77	3.17	6.02	2.16	29.92
Amort: .05	2.16	152.9	.75	38.9	2.06	165.4	2.56	58.50	2.66	8.99	2.06	54.39	2.66	23.78	3.27	3.91	2.06	17.69
Amort: .10	2.46	107.5	.75	26.0	1.76	117.5	2.66	42.92	2.66	6.73	2.06	35.44	2.86	17.63	2.96	2.85	2.06	11.13
Amort: .20	2.26	73.1	.75	16.1	1.76	76.9	2.66	28.36	3.17	4.58	1.96	21.75	2.96	12.30	2.96	1.87	2.06	6.84
Registro: CI007																		
Amort: .00	2.06	976.4	.95	201.6	.95	669.6	2.06	318.00	2.06	37.32	1.86	168.70	2.06	105.00	2.06	12.12	2.06	54.49
Amort: .02	2.16	419.3	.75	86.5	1.86	252.1	2.26	146.90	2.06	15.73	1.86	74.05	2.26	51.48	3.17	6.68	2.16	22.27
Amort: .05	2.16	256.5	.75	57.6	.95	166.5	2.26	91.14	2.06	10.39	2.06	43.79	2.26	32.95	3.17	4.41	2.26	15.18
Amort: .10	2.16	156.7	.75	40.1	.85	122.9	2.26	55.65	3.27	6.91	2.06	31.95	2.66	19.67	3.37	2.83	2.36	10.05
Amort: .20	.95	98.1	.45	25.7	.85	89.6	2.46	37.07	2.66	4.67	2.06	22.12	3.07	14.10	3.57	1.91	3.37	7.15
Registro: TE007																		
Amort: .00	.56	82.3	.90	53.3	1.06	100.6	2.62	25.33	2.77	13.96	2.92	23.31	2.77	10.78	4.03	6.54	2.92	10.80
Amort: .02	.56	31.7	.90	23.4	1.06	46.9	2.77	13.16	2.77	5.95	3.62	11.85	7.65	6.58	7.25	3.96	3.62	6.22
Amort: .05	2.01	24.3	.90	14.7	.95	31.4	2.23	7.96	2.62	3.89	3.43	8.30	7.65	5.44	8.52	3.18	3.25	4.37
Amort: .10	2.01	17.5	.90	9.5	.95	21.5	2.36	6.30	2.62	3.05	3.25	6.13	8.07	4.16	8.98	2.51	3.43	3.05
Amort: .20	2.01	11.6	1.06	6.6	.85	14.0	3.08	4.44	5.86	2.13	4.03	4.28	8.07	2.71	9.48	1.78	3.62	2.14
Registro: VG007																		
Amort: .00	2.66	806.5	.75	129.4	2.76	976.9	2.66	341.90	2.06	34.33	2.76	433.10	2.66	145.30	2.06	11.27	2.76	189.00
Amort: .02	2.66	348.3	.95	41.7	2.76	421.2	2.66	149.20	2.06	13.18	2.76	191.10	2.66	62.53	2.46	4.67	2.76	82.16
Amort: .05	2.56	208.1	.95	27.0	2.66	266.8	2.66	89.39	2.06	7.71	2.76	119.70	2.66	37.07	2.76	2.81	2.76	50.64
Amort: .10	2.56	132.5	1.05	18.4	2.56	172.2	2.66	56.06	2.46	5.01	2.76	74.50	2.66	23.76	2.86	2.11	2.76	30.95
Amort: .20	2.46	83.4	1.05	12.7	2.56	101.3	2.76	34.19	3.17	3.56	2.76	42.86	2.76	14.02	7.69	1.43	2.76	17.24
Registro: AU007																		
Amort: .00	.95	463.1	1.46	104.0	1.46	334.4	4.47	192.00	2.16	32.91	4.47	126.50	4.57	136.00	4.47	12.22	4.57	93.01
Amort: .02	.95	180.2	1.46	40.7	1.56	126.3	4.57	104.30	2.16	12.16	4.57	75.11	4.57	73.30	4.47	6.15	4.57	54.02
Amort: .05	.95	95.9	1.46	25.9	1.56	90.8	4.57	57.21	2.46	7.61	4.67	46.08	4.57	41.49	4.57	3.59	4.57	33.15
Amort: .10	.95	56.5	1.46	17.6	1.56	56.3	4.57	34.38	2.36	5.57	4.67	28.03	4.57	25.35	7.89	2.36	4.57	19.30
Amort: .20	.85	35.8	1.46	11.5	.95	36.1	4.87	19.60	2.26	3.68	5.18	16.26	4.77	14.56	8.19	1.79	4.57	10.29
Registro: TP007																		
Amort: .00	1.16	201.4	2.16	68.1	.65	116.9	3.17	37.10	2.16	23.22	2.86	30.03	3.17	18.68	3.57	9.35	2.86	13.67
Amort: .02	1.16	77.3	2.06	34.2	.95	49.5	2.56	22.20	2.16	11.24	2.86	17.65	3.07	9.81	3.57	5.25	2.76	7.57
Amort: .05	1.05	50.7	2.16	20.6	.95	30.2	3.07	17.87	2.26	7.63	2.86	13.21	3.07	7.87	8.89	3.67	2.86	5.63
Amort: .10	1.05	33.2	.95	14.6	.75	22.1	3.07	14.15	2.26	5.50	2.86	9.41	3.47	6.07	8.89	2.86	3.07	3.97
Amort: .20	2.36	20.9	.95	11.9	.55	16.4	2.26	7.51	2.26	3.58	2.86	6.03	3.67	4.23	6.78	2.07	3.47	2.73
Registro: MI007																		
Amort: .00	1.38	566.5	.40	90.7	1.38	537.1	1.38	124.60	2.36	24.30	1.38	117.40	2.36	28.40	2.36	9.10	1.38	25.93
Amort: .02	1.38	225.8	.40	36.8	1.46	209.7	1.54	57.09	2.36	13.14	1.46	47.57	3.25	13.53	2.36	5.05	1.46	11.27
Amort: .05	1.38	156.9	2.36	22.0	1.46	127.5	1.54	38.57	2.36	8.22	1.46	28.53	3.25	11.43	2.36	3.08	1.46	6.81

TABLA 2 (CONTINUACION)

Amort: .10	1.38	109.8	.40	14.1	1.38	80.5	1.54	26.63	2.77	5.12	1.54	18.93	2.92	9.08	3.25	2.16	3.43	4.64
Amort: .20	1.38	73.7	1.00	10.9	1.31	49.5	3.25	17.50	2.62	3.61	1.62	12.46	2.92	7.01	7.25	1.45	3.43	3.14
Registro: MA007																		
Amort: .00	1.16	441.9	.75	155.5	1.05	869.7	1.46	91.18	.75	18.74	1.05	146.30	2.06	28.84	2.66	4.78	2.06	39.20
Amort: .02	1.16	255.0	.75	74.5	1.05	305.0	1.16	45.64	.75	8.89	1.05	51.55	2.06	11.87	7.39	3.37	2.16	16.07
Amort: .05	1.16	141.7	.75	43.1	1.05	161.9	1.56	29.39	2.76	5.34	2.16	34.70	1.66	7.30	7.69	2.71	2.16	11.20
Amort: .10	1.05	89.6	.75	27.6	.95	95.5	1.66	18.72	2.86	4.34	2.06	23.35	2.86	4.75	7.89	2.03	2.26	7.58
Amort: .20	1.16	60.5	.65	17.5	1.05	60.0	1.66	11.27	2.96	3.17	2.06	15.38	3.27	3.45	9.90	1.36	2.46	4.91
Registro: MY007																		
Amort: .00	2.76	828.2	2.46	201.6	2.56	452.6	2.76	368.80	2.46	79.25	2.56	185.60	2.76	161.70	2.46	30.97	3.17	84.91
Amort: .02	2.66	335.9	2.36	107.1	2.56	228.0	2.66	142.20	2.46	42.76	3.37	96.33	2.66	60.30	2.46	16.30	3.37	48.14
Amort: .05	2.66	193.2	2.36	72.9	2.56	132.5	2.66	81.89	2.46	29.03	3.37	59.22	2.66	34.55	2.46	10.80	3.37	28.37
Amort: .10	2.56	132.9	2.36	47.4	2.36	86.4	2.96	55.26	2.46	18.67	3.37	36.99	3.37	23.64	2.46	6.67	3.37	17.34
Amort: .20	2.46	92.7	2.16	30.0	2.26	54.9	3.07	38.52	2.56	11.01	2.96	24.07	3.37	17.00	2.56	3.71	3.47	11.40
Registro: CE007																		
Amort: .00	2.96	436.7	1.46	92.8	2.46	247.8	2.96	205.50	2.36	35.29	4.57	117.10	2.96	98.39	2.56	13.47	4.57	86.88
Amort: .02	2.96	181.6	2.16	51.4	2.36	95.1	2.96	87.11	2.16	17.95	4.67	64.06	2.96	40.72	2.16	6.21	4.67	45.57
Amort: .05	2.46	101.6	2.16	33.7	3.07	62.1	2.96	50.59	2.16	11.73	4.67	43.59	2.96	23.15	2.16	4.04	4.67	29.84
Amort: .10	2.46	71.0	2.16	21.4	3.17	47.4	2.96	33.80	2.16	7.21	4.77	28.84	2.96	15.08	3.37	2.67	4.57	18.64
Amort: .20	2.36	51.7	2.16	12.9	3.27	32.2	2.96	21.47	2.76	4.16	4.77	18.11	3.07	9.34	3.37	1.64	4.57	10.75
Registro: PC007																		
Amort: .00	2.26	943.9	.55	145.1	2.26	626.7	2.26	338.90	2.56	34.86	2.66	241.10	2.26	122.30	2.56	14.03	2.66	101.30
Amort: .02	2.26	451.1	.55	76.9	2.66	230.7	2.36	168.70	1.26	13.20	2.66	101.50	2.36	63.09	2.86	7.12	2.66	41.80
Amort: .05	2.26	268.0	.65	51.6	2.66	140.8	2.46	98.30	2.56	13.10	2.66	62.45	2.46	36.79	2.86	5.26	2.66	25.16
Amort: .10	2.36	162.7	.65	37.5	2.46	97.1	2.46	64.27	2.66	9.03	2.66	40.67	2.36	23.44	2.86	3.67	2.86	16.50
Amort: .20	2.26	100.2	.65	25.2	2.16	66.8	2.46	36.82	2.66	6.21	3.07	27.33	3.07	13.62	3.17	2.36	2.96	11.49
Registro: GR007																		
Amort: .00	.95	678.5	.25	62.4	.75	707.7	.95	103.30	2.66	14.20	.85	89.68	.95	15.75	3.07	6.91	3.47	13.51
Amort: .02	.95	217.2	.85	29.0	.75	244.0	.95	34.15	2.96	7.88	.85	30.82	2.66	7.69	7.29	4.17	2.66	6.17
Amort: .05	.85	137.8	.85	18.3	.75	171.7	.95	18.69	3.07	5.45	.85	20.83	2.76	6.07	7.39	3.04	2.66	4.86
Amort: .10	.85	96.3	.45	12.8	.75	122.5	1.05	13.83	3.37	3.96	.85	16.02	2.76	4.41	8.79	2.18	3.47	3.65
Amort: .20	.85	61.0	.45	9.4	.75	80.4	3.27	10.27	2.86	2.30	.95	10.52	2.76	3.03	9.70	1.39	3.17	2.69
Registro: VM007																		
Amort: .00	3.08	972.5	1.24	179.8	2.62	665.2	3.08	491.90	2.49	59.12	2.92	284.70	3.08	238.10	2.49	23.18	2.92	129.90
Amort: .02	2.92	394.7	2.49	71.1	2.92	300.6	2.92	189.20	2.49	28.72	2.92	142.00	2.92	86.05	2.49	11.14	2.92	65.93
Amort: .05	2.92	267.2	2.49	43.2	2.92	197.1	2.92	125.40	2.49	17.95	2.92	92.63	3.08	58.73	2.49	6.74	2.92	42.85
Amort: .10	2.92	163.5	1.11	28.1	2.92	124.4	3.08	75.38	2.49	11.24	2.92	58.50	3.08	36.36	2.62	4.06	3.08	27.81
Amort: .20	2.62	102.4	.81	19.3	2.92	75.5	3.08	47.61	2.62	6.66	2.92	34.63	3.43	21.56	2.62	2.39	3.25	16.60
Registro: NZ007																		
Amort: .00	1.76	457.0	1.46	131.5	1.05	533.2	2.76	145.90	2.66	38.18	3.57	168.40	5.68	99.58	5.28	16.68	3.57	94.28
Amort: .02	.95	221.5	1.76	53.9	1.86	193.6	2.76	70.88	2.66	23.34	3.57	83.34	5.78	58.95	5.28	9.82	3.67	45.43
Amort: .05	.95	126.3	2.66	36.4	1.86	124.4	5.38	49.18	2.76	16.01	3.57	60.08	5.38	36.87	2.66	6.50	3.67	32.10
Amort: .10	1.05	83.7	2.56	24.1	1.76	88.2	5.07	35.13	2.76	10.84	3.57	40.34	5.58	26.21	2.66	4.18	3.67	20.58
Amort: .20	2.26	55.6	2.36	16.3	1.16	62.1	4.87	26.54	2.76	6.67	3.77	24.88			3.27	2.45	3.87	12.81
Registro: LI007																		
Amort: .00	1.66	509.0	.95	382.6	2.56	745.0	2.66	212.70	1.86	84.60	2.56	305.40	2.66	90.12	1.86	25.14	2.56	124.00
Amort: .02	2.66	265.8	1.86	113.6	2.46	341.0	2.66	110.80	1.86	34.64	2.76	141.80	2.66	47.70	1.86	9.94	2.76	60.93
Amort: .05	1.66	151.8	.95	82.7	2.76	205.0	2.76	67.03	1.86	20.93	2.76	96.27	2.76	29.05	2.36	5.91	2.76	39.88
Amort: .10	2.56	108.6	.95	55.9	2.66	128.0	2.86	46.66	1.86	12.25	2.76	59.97	2.76	19.58	2.36	3.82	2.86	24.68
Amort: .20	2.46	72.2	.95	34.5	2.46	80.4	2.86	29.66	2.36	7.49	2.86	33.86	2.96	12.14	3.37	2.34	2.86	14.08
Registro: TH007																		

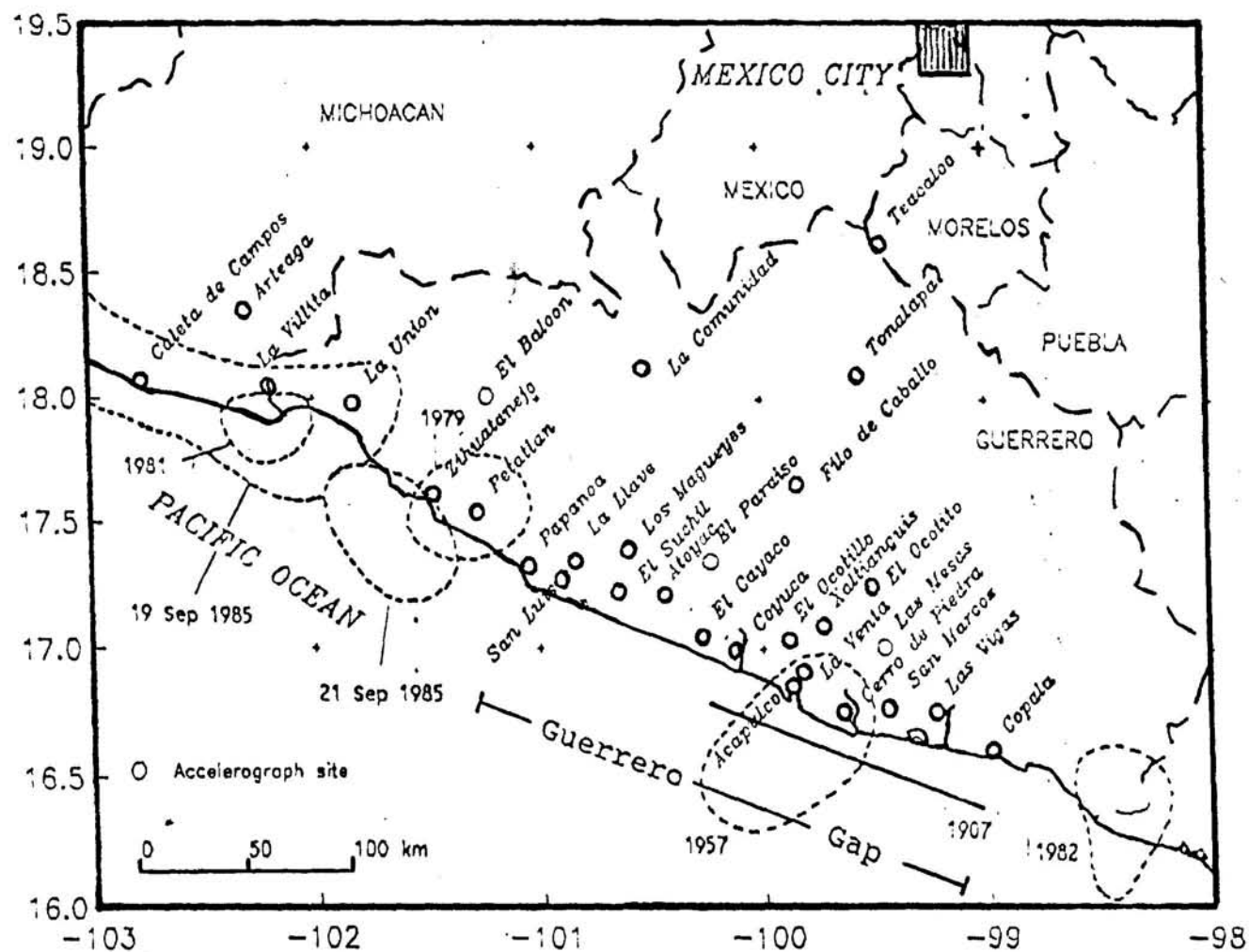
TABLA 2 (CONTINUACION)

Amort: .00	2.26	739.0	1.96	279.3	2.86	869.7	2.56	300.90	1.96	88.24	2.86	396.80	3.77	150.80	2.86	36.70	2.86	180.70
Amort: .02	2.66	348.4	1.86	96.3	2.76	413.8	2.66	150.10	2.86	41.59	2.96	187.90	3.77	72.06	2.76	18.28	2.96	87.73
Amort: .05	2.16	260.0	2.76	62.5	2.76	317.7	2.66	90.85	2.86	28.23	2.96	146.60	3.77	41.00	2.76	12.02	3.07	67.61
Amort: .10	2.16	193.9	2.66	40.1	2.76	218.4	2.36	62.59	2.86	18.03	3.07	106.80	5.07	27.56	2.86	7.38	3.07	49.30
Amort: .20	2.06	126.4	2.06	28.6	.45	78.7	2.56	39.99	3.27	10.85	3.17	69.88	5.28	20.03	3.07	4.49	3.27	31.52
Registro: DX007																		
Amort: .00	1.00	839.2	.34	84.4	1.11	925.7	1.00	134.00	2.12	22.33	1.11	164.00	1.00	21.42	2.12	7.59	1.11	29.12
Amort: .02	1.00	337.4	2.01	38.5	1.11	375.4	1.06	54.15	2.12	12.30	1.11	66.24	2.92	13.59	2.12	4.24	1.11	11.78
Amort: .05	1.06	221.9	2.01	23.6	1.11	207.4	1.06	36.48	2.01	7.47	1.11	36.55	2.92	10.82	7.65	3.21	1.11	6.53
Amort: .10	1.06	134.9	1.90	16.0	1.06	120.0	1.11	22.76	2.01	4.93	1.11	21.06	2.92	7.75	7.65	2.52	1.11	3.79
Amort: .20	1.00	75.3	1.80	10.6	1.00	75.1	2.49	13.85	3.62	3.13	1.11	11.79	3.82	5.59	8.07	1.93	3.82	2.38
Registro: B0007																		
Amort: .00	2.76	581.0	.85	120.4	2.86	755.4	2.76	257.60	2.76	46.48	2.86	345.60	2.76	112.90	2.76	20.09	2.86	157.00
Amort: .02	2.46	250.5	1.05	74.6	2.56	320.5	2.76	112.00	2.76	23.17	2.96	154.50	2.96	48.74	2.76	9.98	2.96	71.02
Amort: .05	2.66	153.3	1.05	50.7	2.96	210.0	2.96	68.24	2.76	14.35	2.96	100.50	3.07	32.76	2.76	6.01	3.07	46.79
Amort: .10	2.46	105.5	1.05	32.5	2.96	128.9	2.96	44.07	2.96	9.52	3.17	61.89	3.07	20.25	2.86	3.69	3.07	29.61
Amort: .20	2.36	65.7	.95	19.5	2.86	79.5	2.96	29.84	2.96	5.93	3.17	38.64	3.47	13.34	3.17	2.19		
Registro: AE007																		
Amort: .00	.95	486.5	2.01	149.4	1.62	451.7	2.01	143.20	2.01	48.79	2.12	147.00	4.73	99.02	2.01	15.32	4.73	72.72
Amort: .02	2.62	184.3	1.90	66.4	1.54	234.7	2.62	79.79	2.01	20.50	2.23	80.93	4.73	52.83	2.01	6.33	4.73	37.36
Amort: .05	2.12	125.1	1.90	38.0	2.01	159.6	2.62	51.85	1.90	11.90	2.23	52.57	4.73	30.00	1.90	3.53	3.08	23.93
Amort: .10	2.12	90.6	1.11	23.7	2.01	105.2	2.77	36.40	1.90	7.24	2.12	34.12	4.73	18.20	8.98	2.56	3.62	15.08
Amort: .20	2.12	59.4	1.11	16.5	2.01	65.1	2.77	23.56	2.12	4.36	3.62	21.16	5.26	10.46	8.98	1.99	4.25	9.77
Registro: P1007																		
Amort: .00	1.11	599.0	1.11	243.9	1.06	603.5	3.43	276.20	1.11	43.44	2.92	231.80	3.43	151.50	2.92	16.34	3.25	119.70
Amort: .02	2.92	274.7	1.11	78.1	3.08	248.0	3.08	132.50	2.77	16.60	3.08	119.40	3.43	68.47	2.77	6.98	3.08	59.57
Amort: .05	3.08	170.6	1.11	43.3	3.08	157.0	3.08	82.72	2.77	12.20	3.08	73.21	3.08	40.82	2.77	4.83	3.08	37.55
Amort: .10	2.92	109.5	1.11	28.7	2.92	99.7	3.08	52.71	2.77	8.31	3.08	47.71	3.08	25.79	2.92	3.06	3.08	22.68
Amort: .20	2.36	69.2	1.18	18.6	2.92	64.4	3.43	33.38	2.77	5.18	3.43	30.13	3.62	16.64	2.92	1.76	3.25	13.46
Registro: RE007																		
Amort: .00	2.23	656.5	.95	368.1	.77	551.0	2.23	232.40	.95	55.90	2.62	190.30	2.23	83.04	2.62	13.12	2.62	78.84
Amort: .02	2.36	298.0	.95	128.0	.95	247.7	2.36	112.10	2.62	20.69	2.62	89.94	2.36	41.90	2.77	7.76	2.62	37.23
Amort: .05	2.23	169.0	.95	78.1	.95	162.0	2.62	71.60	2.92	14.74	2.62	54.40	2.77	28.07	2.77	6.00	2.62	21.41
Amort: .10	2.62	113.6	.95	48.2	.90	112.0	2.62	52.32	2.92	10.90	2.62	39.64	2.77	20.72	2.77	4.16	2.77	16.48
Amort: .20	2.62	74.8	.90	34.4	.90	72.2	2.62	33.03	3.25	7.18	3.25	28.34	2.92	13.30	2.92	2.80	2.92	11.61
Registro: C0007																		
Amort: .00	.56	185.5	2.01	61.0	1.00	158.6	2.92	52.08	2.01	19.41	3.08	43.66	2.92	24.29	2.62	7.72	3.08	21.42
Amort: .02	.50	74.1	2.12	23.2	1.00	76.8	2.77	25.82	3.25	8.63	3.25	16.03	2.92	11.12	3.25	4.16	4.48	8.64
Amort: .05	.53	48.2	2.01	16.1	1.00	49.6	2.77	20.44	3.25	5.68	3.25	11.22	2.92	9.01	8.98	3.08	4.48	5.91
Amort: .10	2.62	33.7	2.01	11.3	1.00	31.9	2.92	15.04	2.62	3.94	2.77	7.87	3.08	6.61	8.98	2.42	4.48	4.02
Amort: .20	.56	22.5	2.01	7.5	1.00	20.8	3.25	9.89	3.08	2.76	4.48	5.43	3.62	4.53	8.98	1.66	3.43	2.69
Registro: BA007																		
Amort: .00	2.92	972.0	1.11	213.9	3.08	1157.0	2.92	451.80	3.08	40.68	3.08	568.60	3.08	218.00	3.08	19.58	3.08	280.10
Amort: .02	3.08	496.7	1.18	125.8	3.08	536.8	3.08	253.10	1.18	22.83	3.08	264.50	3.08	120.10	3.25	9.78	3.08	129.00
Amort: .05	3.08	317.7	1.18	77.1	3.08	315.8	3.08	162.00	1.18	13.47	3.08	155.20	3.08	75.99	3.25	6.17	3.08	75.56
Amort: .10	2.92	188.2	1.18	45.9	3.08	183.6	3.08	98.40	3.08	8.74	3.08	90.94	3.08	45.63	3.25	4.02	3.25	43.90
Amort: .20	2.77	109.2	1.18	26.9	2.92	105.3	3.08	54.21	3.62	5.59	3.25	52.05	3.25	24.94	3.25	2.47	3.43	24.02
Registro: SP007																		
Amort: .00	2.36	1219.0	2.16	114.6	2.36	1011.0	2.36	462.30	2.16	39.18	2.36	380.30	2.36	172.40	2.16	13.56	2.36	142.90
Amort: .02	2.26	523.9	2.16	46.3	2.06	397.2	2.26	187.10	2.16	16.03	2.36	135.40	2.36	68.31	2.16	5.50	2.36	50.22
Amort: .05	2.26	315.8	2.16	24.2	2.16	217.1	2.26	112.60	2.76	9.83	2.36	76.72	2.26	41.24	2.76	3.90	2.36	27.98
Amort: .10	2.26	191.2	2.26	16.2	2.06	133.9	2.26	67.70	2.76	6.76	2.36	47.27	2.36	24.55	2.76	2.68	2.36	17.04

TABLA 2 (CONTINUACION)

Amort: .20	2.16 108.1	.65 11.4	2.06 84.5	2.36 37.93	2.76 4.40	2.56 28.51	2.36 13.69	2.76 1.64	2.66 10.98
Registro: SI007									
Amort: .00	1.36 550.9	1.05 101.9	1.46 559.9	1.56 134.70	2.36 24.12	1.46 130.70	1.56 33.37	2.36 9.08	1.46 30.21
Amort: .02	1.36 345.7	2.36 40.4	1.56 233.6	1.36 72.44	2.36 15.93	1.56 58.12	1.46 16.21	2.36 5.70	1.56 14.36
Amort: .05	1.36 210.0	2.26 28.4	1.26 151.5	1.46 44.60	2.36 11.49	1.56 34.96	1.46 10.66	2.66 4.03	1.56 8.86
Amort: .10	1.36 134.4	2.06 18.9	1.36 104.3	1.46 28.52	2.36 7.68	1.56 24.03	2.16 6.96	2.86 2.85	1.56 5.51
Amort: .20	1.26 87.6	1.16 12.8	1.26 75.1	1.46 18.17	2.26 4.78	1.46 15.42	2.26 5.02	3.07 1.85	1.56 3.61
Registro: TL007									
Amort: .00	2.01 505.0	.81 116.1	2.23 482.0	2.01 161.40	2.62 19.31	2.23 172.50	2.01 51.65	2.62 8.09	2.23 61.07
Amort: .02	2.01 279.6	1.31 34.4	2.23 227.8	2.01 89.28	2.62 10.33	2.23 85.76	2.01 28.53	2.92 4.63	2.23 30.14
Amort: .05	2.01 178.3	.34 26.2	2.23 143.4	2.12 59.20	2.92 7.96	2.23 54.61	2.12 18.87	2.92 3.34	2.23 18.58
Amort: .10	1.38 90.9	.34 20.5	2.23 87.6	2.12 43.22	2.92 5.73	2.36 33.53	2.23 13.17	3.08 2.38	2.36 11.99
Amort: .20	2.12 72.4	.36 16.0	1.18 58.8	2.12 27.02	3.62 3.61	2.49 22.45	2.23 7.95	9.48 1.53	2.77 7.77
Registro: ES007									
Amort: .00	1.05 530.5	2.36 64.4	.95 407.8	1.05 88.96	2.36 24.64	.95 61.84	2.66 17.87	2.36 9.21	3.37 16.96
Amort: .02	1.05 141.1	.55 24.4	.95 168.8	1.05 24.11	3.27 10.00	.95 25.46	4.17 9.87	3.27 4.91	3.47 7.45
Amort: .05	.75 85.0	.55 18.3	.95 98.1	2.76 16.47	3.27 6.84	1.05 16.08	3.17 6.80	3.37 3.29	3.67 4.82
Amort: .10	.75 61.6	.55 12.5	.95 63.3	2.86 13.34	3.27 4.47	1.05 10.61	3.47 5.48	3.37 2.20	3.67 3.72
Amort: .20	.75 46.1	.75 8.7	.95 41.0	2.96 9.56	3.27 2.73	3.17 6.51	3.57 3.91	5.78 1.39	3.77 2.42
Registro: VC007									
Amort: .00	3.17 794.7	1.16 191.0	3.17 686.4	3.17 407.60	2.96 53.46	3.17 348.60	3.17 201.70	2.96 24.90	3.17 174.20
Amort: .02	3.17 335.1	1.16 71.6	3.17 410.1	3.17 171.90	2.96 24.66	3.17 208.90	3.17 85.00	2.96 11.52	3.17 104.30
Amort: .05	3.17 185.5	1.16 46.5	3.17 272.7	3.17 95.52	2.96 15.33	3.17 136.40	3.17 47.05	2.96 7.32	3.17 68.87
Amort: .10	3.07 113.0	1.16 29.2	3.17 170.4	3.27 56.54	3.07 10.19	3.27 82.55	3.27 27.60	3.17 4.68	3.27 42.92
Amort: .20	2.86 68.2	1.16 18.6	3.07 98.5	3.27 31.26	3.07 6.20	3.37 48.06	3.37 15.43	3.27 2.90	3.37 23.63

DISTRIBUCION DE ACELEROGRAFOS EN GUERRERO



TOMADO DE: ACCELEROGRAMS FROM THE GUERRERO, MEXICO,
STRONG MOTION ARRAY FOR THE APRIL 25,
1989 EARTHQUAKE ($M_s = 6.9$) A PRELIMINARY REPORT

UNR; INSTITUTO DE INGENIERIA, U.N.A.M.

VALORES REGISTRADOS EN ESTACIONES DE MEDICION

ESTACION	DISTANCIA HIPOCENTRAL (KM)	DURACION (SEG)	A MAX. (C1) (GALS)	A MAX. (C2) (GALS)	A MAX. (C3) (GALS)	ORIENTACION. C1-C2-C3
SAN MARCOS	27.44	30.86	127.29	132.07	-175.14	E-U-S
SAN MARCOS		10.86	-25.49	-15.09	21.06	E-U-S
CERRO DE PIEDRA	32.87	38.78	-66.04	-92.83	102.40	U-E-N
CERRO DE PIEDRA		15.12	-2.87	6.70	-3.83	U-E-N
LAS VIGAS	36.67	34.44	-310.08	128.24	345.94	E-U-S
LAS VIGAS		8.89	-10.49	11.48	-17.23	E-U-S
LAS VIGAS		7.94	25.92	8.54	-65.82	E-U-S
LAS MESAS	50.75	34.24	111.97	-63.16	-107.19	E-U-S
COPALA	55.57	35.53	34.45	61.25	-105.27	U-E-N
COPALA		16.39	4.79	9.57	-7.66	U-E-N
LA VENTA	56.33	22.73	-62.20	-40.57	28.96	E-U-S
XALTIANGUIS	66.00	95.76	-54.29	78.52	-54.83	E-U-N
OCOTILLO	70.64	26.92	-35.41	30.63	28.71	U-E-N
OCOTITO	76.44	53.14	195.23	-200.98	126.33	U-E-N
COYUCA	87.43	24.24	-47.85	85.18	-41.15	U-E-N
CAYACO	104.00	15.59	22.99	-10.26	-30.25	E-U-S
PARAISO	120.16	36.68	103.01	37.13	117.16	E-U-S
FILO DE CABALLO	126.71	64.94	15.62	12.23	14.90	E-U-N
ATOYAC	127.95	15.66	16.83	10.13	-19.05	E-U-S
TEACALCO	225.44	173.37	13.86	7.39	8.68	E-U-N
COPALA		15.85	4.79	6.70	-4.79	U-E-N
PARAISO		15.24	-32.54	-13.40	-32.38	E-U-S
XALTIANGUIS		41.19	-10.16	19.18	-21.61	E-U-N
OCOTILLO		15.59	-10.53	-10.53	-22.97	U-E-N
COYUCA		14.91	-15.31	19.14	23.93	U-E-N