



ANTIGUO MONUMENTO EN LAS INMEDIACIONES DEL RANCHO DE SAN BERNARDINO.

NO. 13

Observaciones hechas con el Altazimut de 12 pulgadas—Continuación.

Fechas.	Pares de estrellas.		Latitud.	Δ	Δ^2
1892.					
Diciembre 16..	6 Br.	C Ceti.....	31 19 55.16	0.19	0.0361
" 16..	12 Ceti.	X Cassiopea	55.31	0.04	0.0016
" 16..	3 Andromeda.	μ Andro.....	54.18	1.17	1.3689
" 16..	β Andromeda.	l Piscium	56.86	1.51	2.2801
" 16..	μ Piscium.	v Persei.....	56.65	1.30	1.6900
" 16..	501 B. A. C.	523 B. A. C.....	57.63	2.28	5.1984
			55.35	± 0.20	56.6754

Latitud obtenida con el anteojo cenital 31° 19' 55.34"
 " " " " altazimut. 55.35
 Promedio 55.345
 Reducción al Monumento 83 por 143.0 m..... 4.64
 Latitud del Monumento N° 83..... = 31° 19' 59.985"

XI.

Latitud del Monumento XXI actualmente N° 98.

Distancias cenitales meridianas combinadas por el método "Talcott."

Instrumentos. Personal.
 Altazimut de 12 pulgadas. Observador, Felipe Valle.
 Cronómetro N° 756 (tiempo medio). Ayudante, Carlos Kurczyn.

Fechas.	Estrellas.	δ	Indicación del círculo vertical.	Nivel.		Latitud.
				oc.	ob.	
1893.						
Enero 5....	1925 Safford.....	14 47 41.79	12 32 33.05	115.0	25.8	
" 5....	1939 "	48 5 22.65	12 45 21.41	123.7	35.0	31 20 3.68
" 5....	1949 "	42 45 36.39	7 25 40.80	130.8	32.0	
" 5....	1960 "	19 44 58.55	7 35 23.75	116.0	27.2	6.05
" 5....	1982 "	40 12 16.66	11 52 23.65	118.8	30.4	
" 5....	1993 "	23 3 15.93	11 17 5.95	114.1	26.1	4.90
" 5....	2003 "	20 32 25.88	6 47 54.95	113.7	25.2	
" 5....	2010 "	41 49 9.96	6 29 12.75	118.8	30.3	6.63
" 5....	l Cassiopea	36 55 23.56	31 35 15.40	118.6	30.3	
" 5....	δ Ceti.....	0 8 0.85	27 28 6.55	109.0	29.0	1.33
" 5....	β Persei.....	40 32 47.50	5 12 56.05	120.8	28.4	
" 5....	δ Arietis.....	19 19 24.60	8 1 0.50	108.8	16.2	3.42
" 5....	α Persei.....	49 29 2.05	14 8 58.55	132.0	39.0	
" 5....	F Tauri.....	12 34 15.70	14 46 4.60	109.0	16.0	0.43
" 5....	9 H Camelop.....	60 47 58.15	25 27 50.55	130.0	27.0	
" 5....	v Tauri.....	5 41 34.85	21 38 26.75	130.0	25.6	4.25
" 5....	C Persei.....	47 25 48.1	12 5 22.75	121.2	86.2	
" 5....	δ Tauri.....	17 17 34.9	10 2 44.85	117.6	22.1	3.45

XI.—Latitud del Monumento XXI actualmente No 38—Continuación.

Fechas.	Estrellas.	δ	Indicación del círculo vertical.	Nivel.		Latitud.
				oc.	ob.	
1892.						
Enero 5.....	53 Eridani.....	-14 30 49.2	41 50 31.4	114.6	19.4	
" 5.....	848 Gr.....	75 44 60.2	40 24 28.8	129.7	34.2	31 30 0.72
" 5.....	τ Tauri.....	21 26 19.55	5 53 53.45	124.3	27.6	
" 5.....	η Auriga.....	41 5 32.40	5 45 44.90	123.3	26.7	0.26
" 5.....	2 Lyncis.....	59 3 6.28	23 43 8.20	117.1	19.0	
" 5.....	8 Monocetis.....	4 38 53.60	22 41 2.65	125.7	27.8	0.27
" 5.....	10 Monocetis.....	- 4 41 42.70	32 1 30.90	125.0	27.2	
" 5.....	8 Lyncis.....	61 34 37.20	26 14 33.00	117.8	19.9	3.88
" 5.....	18 Monocetis.....	2 31 48.9	24 48 4.25	121.7	24.0	
" 5.....	15 Lyncis.....	58 33 51.9	23 13 54.40	116.0	16.5	-0.45
" 5.....	α Gemino.....	32 7 26.30	356 47 49.4	117.8	19.0	
" 5.....	β Gemino.....	28 17 7.45	359 3 12.9	129.7	28.7	5.13
" 5.....	53 Camelop.....	60 31 0.03	25 12 0.2	118.9	16.3	
" 5.....	27 Monotis.....	+ 3 23 12.69	30 43 0.55	125.9	23.1	1.67
" 5.....	27 Lyncis.....	51 48 55.00	16 29 0.55	125.8	23.0	
" 5.....	β Cancri.....	9 30 58.40	17 49 4.70	125.0	22.7	-1.80
" 5.....	31 Lyncis.....	43 31 52.7	8 11 59.70	25.8	128.0	
" 5.....	η Cancri.....	20 48 18.5	6 31 57.15	22.1	124.3	1.52
" 5.....	1460 Gr.....	53 5 10.01	17 45 11.85	125.8	23.3	
" 5.....	ϵ Hydra.....	6 48 44.44	20 31 26.70	120.0	18.1	3.57
" 5.....	ζ Hydra.....	6 21 13.2	20 58 49.05	121.6	19.9	
" 5.....	1501 Gr.....	54 42 17.17	19 22 18.75	126.0	24.2	-0.89
" 9.....	μ Ceti.....	9 39 46.45	17 40 42.3	108.7	15.5	
" 9.....	τ Persei.....	52 19 42.71	16 59 53.8	109.0	25.2	4.24
" 9.....	β Persei.....	40 32 47.74	5 13 5.65	119.0	24.0	
" 9.....	ϵ Arietis.....	19 19 24.52	8 1 10.30	110.7	15.6	5.78
" 9.....	α Persei.....	49 29 2.49	14 9 14.85	124.0	28.8	
" 9.....	F Tauri.....	12 34 15.54	14 46 12.50	127.0	31.4	0.26
" 9.....	53 Eridani.....	-14 30 49.84	41 50 44.2	115.0	16.9	
" 9.....	848 Gr.....	75 45 1.24	40 24 49.55	117.7	19.1	2.99
" 9.....	π^5 Orionis.....	2 15 57.59	25 1 15.55	119.0	120.0	
" 9.....	10 Camelop.....	60 17 21.10	24 57 26.20	19.3	20.0	3.67
" 9.....	τ Tauri.....	21 26 19.59	5 54 12.40	117.8	7.4	
" 9.....	η Auriga.....	41 5 32.88	5 45 54.90	125.6	25.0	-1.27
" 9.....	17 Camelop.....	62 58 51.17	27 38 54.4	123.9	22.6	
" 9.....	δ Orionis.....	- 0 22 39.99	27 42 55.0	117.8	16.4	1.64
" 9.....	130 Tauri.....	17 41 21.33	9 39 7.4	117.2	15.8	
" 9.....	ν Auriga.....	39 7 4.57	3 47 33.25	122.2	20.1	-2.07
" 9.....	α Orionis.....	7 23 17.47	19 56 58.25	117.0	17.0	
" 9.....	δ Auriga.....	54 16 44.20	18 56 47.50	121.3	21.0	4.93

XI.—Latitud del Monumento XXI actualmente No 38—Continuación.

Fechas.	Estrellas.	δ	Indicación del círculo vertical.	Nivel.		Latitud.
				oc.	ob.	
1892.						
Enero 9.....	10 Monocetis.....	- 4 41 43.34	32 1 52.85	116.0	15.8	
" 9.....	8 Lyncis.....	61 34 38.17	26 14 36.60	121.7	21.1	31 30 6.29
" 9.....	51 Auriga.....	39 29 12.2	4 9 37.1	121.3	21.0	
" 9.....	ϵ Geminorum.....	25 14 18.28	2 6 17.55	117.2	16.9	1.94
" 9.....	63 Auriga.....	39 29 47.0	4 10 7.95	125.0	25.0	
" 9.....	δ Geminorum.....	22 10 49.6	5 9 48.10	115.4	15.9	3.75
" 9.....	τ Geminorum.....	28 0 42.18	359 19 58.1	117.0	17.2	
" 9.....	ρ Geminorum.....	31 59 53.95	356 40 23.5	128.1	28.5	1.06
" 9.....	α Geminorum.....	32 7 26.55	356 48 4.3	117.9	18.1	
" 9.....	β Geminorum.....	28 17 7.49	359 3 29.35	123.0	23.2	2.41
" 10.....	1863 Safford.....	20 54 4.34	6 26 27.2	108.0	23.0	
" 10.....	1867 ".....	41 30 54.21	6 11 16.7	113.0	27.8	2.21
" 10.....	1906 Safford.....	44 58 15.55	9 38 36.45	110.6	26.0	
" 10.....	1909 ".....	17 15 43.31	10 4 47.10	108.2	23.9	3.87
" 10.....	1925 Safford.....	14 47 41.52	12 32 59.95	106.0	20.4	
" 10.....	1939 ".....	48 5 22.62	12 45 34.90	118.8	33.7	8.04
" 10.....	1949 Safford.....	42 45 36.14	7 25 53.6	168.0	12.0	
" 10.....	1960 ".....	19 44 58.58	7 35 39.3	101.8	18.0	2.39
" 10.....	1982 Safford.....	40 12 16.63	4 52 40.9	115.0	30.0	
" 10.....	1993 ".....	23 3 15.75	4 17 24.5	104.0	18.9	2.12
" 10.....	2003 Safford.....	20 32 25.65	6 48 10.75	103.1	18.0	
" 10.....	2010 ".....	41 49 9.96	6 29 30.30	105.0	19.2	1.41
" 10.....	ν Cassiopea.....	60 55 30.98	31 35 34.45	111.7	24.8	
" 10.....	δ Ceti.....	- 0 8 1.30	27 28 13.85	109.0	4.3	0.16
" 10.....	μ Ceti.....	9 39 46.4	17 40 37.35	111.0	23.2	
" 10.....	τ Persei.....	52 19 42.8	17 0 1.15	111.9	24.0	3.16
" 10.....	α Arietis.....	22 57 29.1	30 41 38.35	106.0	20.0	
" 10.....	O Ceti.....	65 53 38.0	27 28 13.85	106.0	24.5	-0.21
" 12.....	α Geminorum.....	32 7 26.72	356 48 2.2	118.8	23.9	
" 12.....	β Geminorum.....	28 17 7.58	359 3 38.5	117.7	22.0	6.23
" 12.....	27 Lyncis.....	51 48 56.04	16 29 16.95	117.8	22.0	
" 12.....	β Cancri.....	9 30 57.62	17 49 31.85	121.0	25.0	6.57
" 12.....	31 Lyncis.....	43 31 53.44	8 12 19.00	118.9	23.0	
" 12.....	η Cancri.....	20 48 18.14	6 32 30.85	118.9	22.6	5.71
" 12.....	1450 Gr.....	53 5 11.01	17 45 29.60	118.9	23.0	
" 12.....	ϵ Hydra.....	6 48 43.53	20 31 45.15	118.0	22.2	6.30
" 12.....	ζ Hydra.....	6 21 12.16	20 59 17.05	118.8	22.4	
" 12.....	1501 Gr.....	54 42 18.63	19 22 38.15	118.4	22.0	5.67
" 12.....	36 Lyncis.....	43 39 29.52	8 19 55.6	118.9	22.8	
" 12.....	83 Cancri.....	18 9 31.96	9 11 0.8	118.9	22.2	3.43

XI.—Latitud del Monumento XXI actualmente N^o 98—Continuación.

Fechas.	Estrellas.	δ	Indicación del círculo vertical.	Nivel.		Latitud.
				oc.	ob.	
1892.						
Enero 12.....	χ Urs. maj.....	63 31 42.06	28 11 52.1	118.8	22.9	
" 12.....	τ ² Hydra.....	- 0 42 42.41	28 3 2.1	118.9	22.8	31 20 4.68
" 18.....	β Persei.....	40 32 48.04	5 13 12.0	115.1	22.9	
" 18.....	δ Arietis.....	19 19 24.34	8 0 58.4	125.0	32.3	5.79
" 18.....	α Persei.....	49 29 3.16	14 9 20.45	115.0	22.1	
" 18.....	F Tauri.....	12 34 15.26	14 46 2.00	123.6	30.0	4.44
" 18.....	ν Persei.....	42 14 37.76	6 55 2.35	116.0	22.5	
" 18.....	η Tauri.....	23 46 34.42	3 33 51.00	125.0	31.3	3.18
" 18.....	9 H Camelop.....	60 48 0.12	6 55 2.35	118.1	24.1	
" 18.....	ν Tauri.....	5 41 34.10	3 33 51.00	116.0	22.2	4.41
" 18.....	α Orionis.....	7 23 16.84	19 57 0.85	118.0	19.1	
" 18.....	δ Auriga.....	54 16 45.84	18 56 56.65	124.1	26.0	0.79
" 18.....	2 Lyncis.....	59 3 9.19	23 43 14.3	120.6	22.1	
" 18.....	8 Monoceros.....	4 38 52.38	22 41 19.05	123.8	25.1	4.05
" 18.....	10 Monoceros.....	- 4 41 44.62	32 1 46.05	121.2	23.0	
" 18.....	8 Lyncis.....	61 34 40.16	26 14 42.55	124.1	26.0	2.00
" 18.....	51 Auriga.....	59 29 13.18	4 9 34.5	120.9	22.1	
" 18.....	ε Geminorum.....	25 14 18.46	2 6 12.6	122.0	22.2	4.10
" 18.....	18 Monoceros.....	2 31 47.42	24 48 25.85	119.0	19.0	
" 18.....	15 Lyncis.....	58 53 54.58	23 33 58.80	125.5	25.6	2.06
" 18.....	51 Cephei.....	87 13 4.69	51 52 20.4	124.3	24.4	
" 18.....	ε Can. maj.....	28 49 34.68	56 8 44.1	125.0	25.0	4.88
" 18.....	63 Auriga.....	39 29 47.98	4 10 4.8	126.0	26.1	
" 18.....	δ Geminorum.....	22 10 49.6	5 9 40.15	121.7	31.3	4.25
" 18.....	ι Geminorum.....	28 0 42.52	359 19 52.1	124.2	24.0	
" 18.....	ρ Geminorum.....	31 59 54.48	356 40 20.3	126.0	25.2	4.98
" 18.....	α ² Geminorum.....	32 7 27.08	356 47 52.85	126.0	25.7	
" 18.....	β Geminorum.....	28 17 7.82	359 3 27.30	121.7	20.9	3.61
" 18.....	4 Navis.....	-14 18 17.85	41 38 1.2	122.9	22.0	
" 18.....	1374 Gr.....	74 12 17.16	38 51 59.5	126.0	25.1	1.74
" 18.....	53 Camelop.....	60 37 4.08	25 17 5.55	126.0	25.2	
" 18.....	27 Monoceros.....	3 23 13.82	30 43 19.05	121.6	21.0	3.34
" 18.....	27 Lyncis.....	51 48 57.06	16 29 6.0	131.2	30.4	
" 18.....	β Cancri.....	9 30 57.08	17 49 26.1	120.3	19.1	2.50
" 18.....	31 Lyncis.....	43 31 54.16	8 12 8.1	126.9	25.2	
" 18.....	η Cancri.....	20 48 17.96	6 32 10.3	122.4	20.3	2.13
" 18.....	1460 Gr.....	53 5 12.14	17 45 20.45	126.0	24.0	
" 18.....	ε Hydra.....	56 48 43.01	20 31 37.50	129.0	17.0	4.27
" 18.....	3 Hydra.....	6 21 11.44	20 59 8.3	118.8	17.0	
" 18.....	1501 Gr.....	54 42 19.12	19 22 30.4	128.0	26.3	0.49

Resumen.

Pares.	Promedios de las latitudes con cada par. 31° 20' +	Peso.	Δ	Δ ²	p Δ ²
1863 y 1867 Safford.....	2.21	1	0.80	0.6400	0.6400
1906 ,, 1909	3.87	1	0.86	0.7396	0.7396
1923 ,, 1939	5.86	2	2.85	8.1225	16.2450
1949 ,, 1960	4.52	2	1.51	2.2881	4.5762
1982 ,, 1993	3.51	2	0.50	0.2500	0.5000
2038 ,, 2010	4.02	2	1.01	1.0201	2.0402
α Arietis. O Ceti.....	- 0.21	1	3.22	10.3684	10.3684
ι Cassiopea. δ Ceti.....	0.75	2	2.26	5.1076	10.2152
μ Ceti. τ Persei.....	3.70	2	0.69	0.4761	0.9522
β Persei. δ Arietis.....	5.00	3	1.99	3.9601	11.8803
α Persei. F Tauri.....	1.71	3	1.30	1.6900	5.0700
9 H Camelop. ν Tauri.....	3.18	1	0.17	0.0289	0.0289
ν Persei. η Tauri.....	4.33	2	1.32	1.7424	3.4848
ι Persei. δ Tauri.....	3.45	1	0.44	0.1936	0.1936
53 Eridani. 848 Gr.....	1.85	2	1.16	1.3456	2.6912
π ⁵ Orionis. 10 Camelop.....	3.67	1	0.66	0.4356	0.4356
ι Tauri. η Auriga.....	- 0.51	2	3.52	12.3904	24.7803
17 Camelop. δ Orionis.....	+ 1.64	1	1.37	1.8769	1.8769
3 Tauri. o Auriga.....	1.65	1	1.56	2.4336	2.4336
130 Tauri. ν Auriga.....	- 2.07	1	5.08	25.8064	25.8064
α Orionis. δ Auriga.....	2.86	2	0.15	0.0225	0.0450
2 Lyncis. 8 Monoceros.....	2.16	2	0.85	0.7225	1.4450
10 Monoceros. 8 Lyncis.....	4.06	3	1.05	1.1025	3.3075
51 Auriga. ε Geminorum.....	3.02	2	0.01	0.0001	0.0002
18 Monoceros. 8 Lyncis.....	0.81	2	2.30	4.8400	9.6800
51 Cephei. ε Can. maj.....	4.88	1	1.87	3.4969	3.4969
63 Auriga. δ Geminorum.....	4.00	2	0.99	0.9801	1.9602
ι Geminorum. ρ Geminorum.....	3.02	2	0.01	0.0001	0.0002
α ² Geminorum. β Geminorum.....	4.34	4	1.33	1.7689	7.0756
4 Navis. 1374 Gr.....	1.74	1	1.27	1.6129	1.6129
53 Camelop. 27 Monoceros.....	2.26	2	0.75	0.5625	1.1250
27 Lyncis. β Cancri.....	2.79	3	0.22	0.0484	0.1452
31 Lyncis. η Cancri.....	3.12	3	0.11	0.0121	0.0363
1460 Gr. ε Hydra.....	4.71	3	1.70	2.8900	8.6700
3 Hydra. 1501 Gr.....	1.76	3	1.25	1.5625	4.6875
36 Lyncis. 83 Cancri.....	3.43	1	0.42	0.1764	0.1764
h Urs. maj. τ ² Hydra.....	4.68	1	1.67	2.7889	2.7889
		70			171.3117

Latitud del punto de observación..... 31° 20' 3.01"

Reducción al Monumento..... 0.01

Latitud del Monumento N^o 98..... 31° 20' 3.02"

+ 0.175"