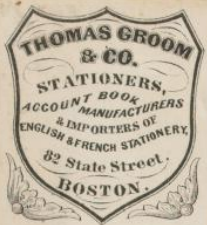


...877phae.proj.1488:

Charles W. Sever, University Bookstore, Cambridge.



Constants

1877	
Jan 13 — Mar 1	15 toni
Mar 4 — May 14	0.12416
May 16 — July 4	0.12048
July 24 — Dec 31	0.11768
	0.12260

[illegible]

K Ophiuchi
 $16^{\circ} 51' 45''$
 $+9^{\circ} 34' 15''$
 $+32^{\circ} 48' 33''$

Corr
 $+ .06$
 $+2.8346$
 $34^{\circ} 35'$
 $+ .00$
 -5.869

July 19
 $51^{\circ} 53' 38''$
 53.77
 53.73
 53.68
 53.63
 53.57
 53.50
 53.42
 53.34
 57.4
 58.3
 58.9
 59.4
 59.8
 60.2
 60.5
 60.8
 61.0
 $\log \cos \delta$ 9.29392
 $\log \sin \delta$ 0.11652
 $\tan \delta$ +0.17 1.01
 $\sin 2$ +.54

-1.38			-1.39			-1.37			-1.27			-1.30			-1.25								
July 24			July 25			July 26			Aug. 7			Aug. 8			Aug. 11								
16.51	37.8	51	48.20	51	41.6	51	48.90	51	38.9	51	46.48	51	36.4	51	55.00	51	45.1	51	53.85	51	42.6	51	58.82
	40.0		47.33		43.4		47.90		32.8		48.50		31.2		57.10		47.0		58.00		51.1		1.00
	41.7		49.40		45.3		50.00		34.5		50.60		41.2		59.27		49.1		61.0		53.3		3.00
			53.60				54.20				54.70				33.0				42.7		7.16		
			55.64				56.05				56.90				56.0				63.5		7.30		
			57.18				58.33				58.87				75.6				84.0		11.37		
52	8.6		59.80	52	16.3		0.60	52	14.4		1.00	52	40.8		26.7	52	22.4		10.50	52	30.6		13.48
	10.6		2.00		18.0		2.50		16.0		3.00		42.4		11.73		24.6		12.60		32.3		15.58
	12.3		6.20		19.9		6.63		17.8		7.20		44.3		13.86		26.0		16.80		33.6		17.64
			8.25				8.73				9.40				15.00				19.00				21.70
			10.40				10.90				11.50				20.00				21.00				24.00
			39.560				34.174				34.815				26.289				21.289				18.504
51	39.83		63.560	51	43.63		61.174	51	32.73		64.815	51	38.93		62.289	51	47.07		92.87	51	51.33		17.504
52	10.50	51	57.78	52	18.07	51	58.340	52	16.07	51	58.923	52	42.50	52	42.50	52	34.33	52	58.043	52	32.17	52	112.97
		51	53.768		51	53.760		51	53.752		53.752		51	53.752		53.752		51	53.627		51	53.391	
			+ 4.01			+ 4.58			+ 5.17		+ 5.17				+ 13.90				+ 14.82			+ 17.78	
			+ 3.95			+ 4.52			+ 5.11		+ 5.11				+ 13.84				+ 14.76			+ 17.72	
			- 3.68			- 3.25			- 4.27		- 4.27				- 13.62				- 14.48			- 17.54	
			- .23			- .24			- .23		- .23				- .22				- .22			- .21	
			- 3.04			- 3.03			- .05		- .05				- 2.91				- .06			- 2.86	
			+ 6.95			- 6.82			- 3.02		- 3.02				- 16.75				- 2.90			- 20.61	
			+ 50.83			+ 52.02			- 8.07		- 8.07				+ 50.77				- 17.66			+ 50.77	
							17.2		+ 50.85		+ 50.85								+ 50.78				
			+ 17.95			+ 14.91			+ 26.19		+ 17.15		+ 28.61		+ 34.96		+ 21.37		+ 25.89		+ 20.05		- 20.99
			1.25406			1.17348			1.29518m		1.23426m		1.40652		1.54357m		1.32980		1.41313m		1.30211		1.31785m
			1.37058			1.22101m			1.41165m		1.35078m		1.57304		1.66069m		1.44632		1.52965m		1.41863		1.43437m
			50 3			50 3			50 3		50 3		50 2		50 4		50 2		50 3		50 2		50 3
E	0.4		40.8			3.8			49.8		46.9		44.6		9.6		54.2		57.7		56.0		50.0
H	12.8		52.1			16.2			2.5		59.5		57.2		58.4		6.3		8.8		7.6		2.1
G	12.0620		53.54715			16.41010			1.15445		58.9290		56.95075		57.85210		20.71565		4.95955		7.8275		8.7235
H	7.8		48.9			11.9			57.8		56.3		53.9		54.4		18.5		2.8		5.5		58.7
	33.0		19.53			48.3			231.2		221.6		212.6		217.0		70.7		8.2		17.1		235.0
53	8.25	53	48.82	53	12.08	53	57.80	52	55.40	53	53.15	52	54.25	54	17.68	53	2.05	54	49.5	53	42.8	53	58.25
	+ 23.47		- 16.63			+ 19.50			- 25.80		+ 34.25		- 22.43		+ 37.41		- 45.72		+ 27.95		- 33.86		+ 24.19
53	31.72	53	32.19	53	31.58	53	32.00	53	29.65	53	30.72	53	31.66	53	31.96	53	30.00	53	31.09	53	30.50	53	31.86
29	16.63		16.16	29	16.77		16.35	29	18.70		17.63	29	16.69		16.39	29	18.35		17.26	29	17.85		17.29
47	50	48	38	47	54	48	40	47	37	48	33	47	36	49	00	47	44	48	42	47	46	48	40
1.56920	1.56945	1.56930	1.56950	1.56920	1.56950	1.56920	1.56950	1.56920	1.56950	1.56920	1.56950	1.56920	1.56950	1.56960	1.56920	1.56950	1.56920	1.56950	1.56920	1.56950	1.56920	1.56950	
-1607	-1607	-1488	-1488	-1165	-1165	-2158	-2158	-2158	-2158	-2158	-2158	-2158	-2158	-2158	-2158	-2158	-2158	-2158	-2158	-2158	-2158	-2158	
1.55313	1.55338	1.55442	1.55462	1.55486	1.55486	1.54762	1.54802	1.54802	1.54802	1.54802	1.54802	1.54802	1.54802	1.54802	1.54802	1.54802	1.54802	1.54802	1.54802	1.54802	1.54802	1.54802	
-35.74	-35.76	-35.84	-35.86	-36.10	-36.10	-35.29	-35.32	-35.29	-35.29	-35.29	-35.29	-35.29	-35.29	-35.29	-35.29	-35.29	-35.29	-35.29	-35.29	-35.29	-35.29	-35.29	
- .03	- .01	- .02	- .04	- .06	- .06	- .08	- .11	- .11	- .11	- .11	- .11	- .11	- .11	- .11	- .11	- .11	- .11	- .11	- .11	- .11	- .11	- .11	
- .31	- .38	- .32	- .40	- .29	- .29	- .29	- .43	- .43	- .43	- .43	- .43	- .43	- .43	- .43	- .43	- .43	- .43	- .43	- .43	- .43	- .43	- .43	
+ .19	+ .23	+ .19	+ .24	+ .17	+ .17	+ .23	+ .26	+ .26	+ .26	+ .26	+ .26	+ .26	+ .26	+ .26	+ .26	+ .26	+ .26	+ .26	+ .26	+ .26	+ .26	+ .26	
-35.89	-35.92	-35.99	-36.06	-36.28	-36.32	-35.49	-35.60	-35.60	-35.60	-35.60	-35.60	-35.60	-35.60	-35.60	-35.60	-35.60	-35.60	-35.60	-35.60	-35.60	-35.60	-35.60	
28 40.74	40.24	28 40.78	40.24	28 42.42	41.31	28 41.20	40.79	28 42.51	41.31	28 41.20	40.79	28 42.51	41.31	28 41.20	40.79	28 42.51	41.31	28 41.20	40.79	28 42.51	41.31	28 41.20	
28 40.99	+ 5 18.36	28 40.54	+ 5 18.82	28 41.86	41.87	28 41.00	+ 5 18.12	28 41.92	41.87	28 41.00	+ 5 18.12	28 41.92	41.87	28 41.00	+ 5 18.12	28 41.92	41.87	28 41.00	+ 5 18.12	28 41.92	41.87	28 41.00	
33 58.3	-0.7	33 58.4	-0.7	33 58.7	-0.7	33 59.7	-0.6	33 59.8	-0.6	33 59.8	-0.6	33 59.8	-0.6	33 59.8	-0.6	33 59.8	-0.6	33 59.8	-0.6	33 59.8	-0.6	33 59.8	
+ 5 17.8	+ 5.2	+ 5 17.9	+ 5.1	+ 5 16.8	+ 4.8	+ 5 18.7	+ 3.8	+ 5 17.9	+ 3.7	+ 5 17.9	+ 3.8	+ 5 17.9	+ 3.7	+ 5 17.9	+ 3.8	+ 5 17.9	+ 3.7	+ 5 17.9	+ 3.8	+ 5 17.9	+ 3.7	+ 5 17.9	
14.8		17.9		16.8		18.7		17.7		18.7		17.7		17.9		17.9		17.9		18.4		18.4	
	+ 5 22.86			+ 5 23.22		+ 5 22.84		+ 5 21.32		+ 5 21.32		+ 5 21.32		+ 5 21.28		+ 5 21.28		+ 5 21.28		+ 5 21.28		+ 5 21.28	
	+ 34 3.35			+ 34 3.76		+ 34 4.70		+ 34 2.32		+ 34 2.32		+ 34 2.32		+ 34 3.20		+ 34 3.20		+ 34 3.20		+ 34 3.20		+ 34 3.20	

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19 H. Camclap. L.C. 20

m	d	m	d
2	18989	2	1938
	21		2050
	1		2109
	29		2171
+	22		2233
	8		2301
	18		2370
+	97488		
	5		
	389		
54	56.1		
	1		
	+		
	.6		
	5.137		

4.	63.2	9					
	62.3	9	Log cos θ	9.27734 _n			
	61.6	7					
	61.0	6	15 cos θ tani	939994 _n			
	60.5	5				I	10.90
	60.1	4				1/2 I	5.45
	59.7	4	tang θ	* 5.18	5.89		
			Sini Z	— .85			

July				Aug. 7				Aug. 8				Aug. 12				Aug. 16			
-137 -05				-1.27				-1.30 -06				-1.23				-1.32			
5	1	13.6	57.38	1	33.8	2	7.66	1	4.20	2	8.76	2	41.4	2	-5	1	56.1	2	18.26
		18.0	2.30		4.30		12.75		5.70		13.53		5.22		35.35		6.5		23.65
		32.6	8.30		51.7		18.34		9.9		19.00		1.0		6.5		13.0		27.25
			13.50				23.90				24.46				45				34.70
			18.62				29.77				30.00				35				40.30
			24.35				35.00				35.33				55				45.40
3	0.5		29.29	3	25.0		40.00				41.20				40				50.60
	9.7		35.30		34.6		45.76				46.32				40				56.38
	23.5		40.05		43.3		57.60				52.05				20				1.70

[illegible]

+5739	-5244	+4657	-6623	+3142	-1611	+3184	-3856
1.75884	1.71966w	1.66811	1.82105w	1.49721	1.20710w	1.54208	1.58614w
1.15878w	1.11960	1.06805w	1.22099	0.89715w	0.60706	0.94202w	0.98608
30 4	30 4	30 4	30 4	30 4	30 4	30 4	

54.9	26.8	46.4	16.6	43.6	28.9	24.7								
2.4	34.2	54.2	25.1	50.5	36.1	31.2								
58.9	58.90	30.4	28.60	49.4	47.90	20.0	18.30	46.1	44.85	34.9	31.90	27.2	25.95	
58.1	30.1	50.9	21.6	46.4	34.7	28.5								
23.43	12.15	20.09	8.33	18.66	13.46	11.16								
58.58	34	30.38	34	50.22	34	20.82	34	46.55	34	33.65	34	27.00	34	27.90

34 34.14	+ 13.14	- 11.70	+ 16.62 ³	- 7.89		+ 4.05	- 8.75	+ 9.68
34 44.14	34 43.55	34 38.52	34 37.45	34 38.76		34 37.40	34 37.58	34 37.58

48	4.18	4.80	48	983	10.90	48	959	48	10.65	-	48	10.77
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30 19	30 48	30 28	30 57	30 31		30 44	30 30	30 50
199182	199184	199170	199161	199170		199185		199189

1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
-1132	-1132	-2140	-2140	-1655	-1832	-2048
196041	196055	195039	195030	195524	196353	195739

$+91.29$	$+91.32$	$+89.20$	$+89.23$	$+90.27$	$+89.85$	$+89.41$
$+ .33$	$+ .28$	$+ .23$	$+ .46$	$+ .10$	$+ .03$	$+ .16$

$$\begin{array}{r} - .50 \\ + .30 \end{array} \quad \begin{array}{r} - .45 \\ + .27 \end{array} \quad \begin{array}{r} - .48 \\ + .29 \end{array} \quad \begin{array}{r} - .43 \\ + .26 \end{array} \quad \begin{array}{r} - .48 \\ + .29 \end{array} \quad \begin{array}{r} - .46 \\ + .28 \end{array} \quad \begin{array}{r} - .45 \\ + .27 \end{array}$$

10	3142	+1	3142	+1	2924	+1	2950	+1	3013			+1	2970			+1	2939
10	3142		3142		2924		2950		3013				2970				2939

49	36.80		36.22	49	37.01		36.40	49	37.11		44	40.53		49	40.18	
49	36.26	+5	18.74	49	37.74	+5	18.12	49	37.55	+5	18.18	49	39.8	+5	17.21	
49	36.26		18.74	49	37.74		18.12	49	37.55		18.18	49	39.8		17.21	
49	36.26		18.74	49	37.74		18.12	49	37.55		18.18	49	39.8		17.21	

+5	28.2	-2.6	+5	19.7	-3.3	+5	19.8	-3.4	+5	19.4	-3.7	+5	19.9	
	206			19.1			19.2			19.8			19.3	

+5 17.64	+5 15.72	+5 15.68	+5 14.48		
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$+54.54.55$ $+54.55.46$ $+54.55.39$ $+54.54.76$ $+54.54.76$

Ε Υσσάκ Μινι

16	59		24	413.2	68	14.7	log cos δ	9.13060	log sin δ	9.99600
+ 82	15	Circle	+ .03	29	40.60	72	15.6		log cos δ	9.13060
		$\frac{d\lambda}{dt}$	-6.3723	3	39.85	75	16.4	15 cos δ tan i	9.25320	log const.
		$\frac{d\delta}{dt}$		8	37.05	80	17.1			6.73672
- 39	52	ρ_0	14	11.62	13	38.23	82			
					18	37.37	86	18.1	tan δ	+ 7.35
		Corr δ	+ .5						sin z	- .64
		$\frac{d\rho}{dt}$	-5.323							

1877

July 26				Aug 7				Aug 8				Aug 11				Aug 12				Aug 16				
16	58	199.4	58	26.00	58	21.3	58	31.70	57	42.3	58	33.70	55	42.8	58	34.60	57	200	58	34.00	58	01	58	37.60
		1.7		34.20				39.20		13.6		40.30		56.3		46.48		30.8		43.40		15.8		46.50
		12.8		416.4				46.62		7.1		47.80		7.6		49.82		41.2		50.32		24.8		51.00
				48.90				54.85				56.90				57.20				58.30				59.4
				56.00				2.25				(3.10)				3.70				6.00				9.90
				4.45				9.70				11.80				12.76				13.70				17.60
				12.30				15.80				19.60	56	40.1		20.43	58	45		21.30				25.20
				19.00				25.34				26.60		130		28.10		100		22.00				30.05
				24.00				33.60				34.00		93		36.00		217		36.44				41.35

16	59	1.40	26902 50602 58	2130	26046 2026 57	5367	27380 3380 55	5557	28649 4649 57	3067	29266 5266 58	1357	3114 27075 5044
	58		56558	59	2273	59	3618	56	5165 58	59	5851	58	5658
	58		40.996	58	59.090 167	58	39609	58	38517	58	38353	58	37684
			+ 1556		+ 2311		+ 2475		+ 2665		+ 27520		+ 3244
			+ 1553		+ 2308		+ 2472		+ 2662		+ 2747		+ 3241
		476	= 10.07		- 13.63		- 14.49		- 17.54		- 18.51		- 22.86
			10.07		- 9.33		- 9.56		- 9.19		- 9.04		- 9.70
			- 1.37		- 1.18		- .45		- 0.50		- 0.53		+ 0.34
			- 2.98		24.101		- 0.99		49		- 2.788		- 3.32
			- 26.18		38.17		- 25.49		- 27.22		+ 37.97		+ 37.81
	+ 58		38.38				+ 38.27		+ 38.74	37.94			

-484	+4097	+7009	+18959	+13436	+9518	+4878	+5656
0.684814m	1.61247	1.84566	2.27782	2.12827	1.97855	1.68824	1.75257
9.938042m	0.86567	1.09886	1.33102	1.38147	1.23175	0.94144	1.00571
10 4	10 4	10 4	10 3	10 4	10 4	10 4	10 4

E	35.11		21.9		18.9		53.5		4.1		11.1		19.8		17.6	
W	44.0		31.4		26.9		1.9		12.3		19.1		27.7		23.6	
U	39.6	37.35	25.8	23.85	22.1	20.50	57.3	55.40	8.7	6.40	15.9	13.80	24.5	22.2	19.40	
N	43.1		29.9		25.6		0.1		11.5		18.2		26.3		24.7	
	161.8		109.0		93.5		232.8		36.6		64.3		98.3		84.1	
14	40.45		14	27.25	14	23.38	13	58.20	14	9.15	14	160.8	14	245.8	14	247.8
-	0.87		+	7.34	+	12.56	+	33.96	+	24.07	+	17.05	+	8.74	+	12.13
14	59.58		14	34.59	14	35.94	14	32.16	14	33.22	14	38.13	14	33.32	14	31.91
+82	8	8.74	8	13.76	8	12.41	8	16.19		15.13	8	15.22		15.03	8	16.44

-39	50 38 1.68140 -1138 1.67002 +4678 - .00 - 47 + .28	50 51 1.68140 -2143 1.65994 +4571 - .12 - 45 + .27	50 55 1.68150 -1657 1.66493 +4623 - .36 - 40 + .26	51 20 1.68160 -1619 1.66541 +4628 - 262 - 40 + .24	51 9 1.68150 -1619 1.66531 +4627 - 732 - 42 + .25	51 2 1.68150 -1837 1.66313 +4604 - .66 - 43 + .26	50 53 1.68150 -1837 1.66313 +4604 - 17 - 44 + 26	50 56 1.68150 -2051 1.66099 +4581 - .23 - 44 + .26
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+4659	+4551	+4519	+4350	+4478	+4521	+4669	+4570
8 5536	8 59.17	8 58.10	8 59.69	8 59.91	9 043	9 0.72	9 1.84
+5 18.74	+5 18.12	+5 18.18	+5 17.76	+5 17.76	+5 17.21	+5 16.5	+5 16.5
14 15.1	14 17.0	14 17.1	14 17.5	14 17.6	14 17.6	14 18.0	14 18.0
+5 19.7	+5 17.8	+5 19.0	+5 17.7	+5 17.0	+5 17.0	+5 16.2	+5 16.2
20.2	18.3	19.5	18.2	17.5	16.7	16.7	16.7
+5 15.94	+5 13.42	+5 13.38	+5 12.56	+5 11.91	+5 10.8	+5 10.8	+5 10.8
+82	+14 11.30	+14 12.59	+14 11.48	+14 12.36	+14 12.49	+14 12.7	+14 12.7

ξ *Ophiuchi*
 $17^h 13^m 31^s$
 $-20^\circ 57' 47''$
 $+63 \quad 20 \quad 35$

log cos δ	9.97025
15 cos δ tan i	0.09285
tan δ	-0.38
sin 2	+ .89

1877

July 21				July 25				Aug. 8				Aug 16				Aug. 23			
3	1.4	13	31.67	13	2.8	13	32.20	13	32.1	13	42.42	13	29.8	13	50.90	13	46.1	14	0.33
	19.4		3400		22.7		3439		34.0		4445		32.5		53.00		476		2.60
	21.5		3605		29.2		3660		36.2		4684		34.1		55.20		484		4.87
			4050				4160				4733				57.60				9.34
			4268				4328				5336				1.80				11.45
			4494				4549				5362				4.00				13.80
4	12.3		47.20	14	10.0		4970	14	22.8		5220	14	21.0		6.20	14	34.3		16.00
	13.7		49.39		11.7		4985		22.1		0.00		23.5		8.40		36.0		18.20
	15.4		53.72		13.7		5439		31.0		45.3		25.3		12.90		37.9		22.58
			55.87				56.50				6.55				15.00				24.76
			58.05				58.78				8.84				17.20				27.00
			49407				50093				37174				28415				15123
19.53				13	22.57		44.66	13	34.10		61171	13	32.13		44.15	13	47.70		12.744
13.87	13	44.915	14	11.80	13	45.539	14	29.30	13	55.613	14	23.23	13	4.014	14	36.07	14		1465

-3.69	-8.28	-14.47	-22.25	-32.83	
+ 1.52	+ 1.53	+ 1.49	+ 1.50	+ 1.52	
		+ .06	+ .72	+ 1.44	
-3.66	-3.65	-3.55	-3.46	-3.36	
-6.83	-6.40	-19.61	-25.94	-35.67	
13 38.09	13 38.07	13 38.00	13 38.07	13 38.08	17 ⁿ 13 ^m 38.062 ^s

	+ 25.38	- 28.96	+ 22.90	- 26.33	+ 21.51	- 33.69	+ 3188 - 26.72	- 34.22	+ 26.05	- 22.32
	1.40119	1.46180m	1.35984	1.42015m	1.33264	1.52750m	1.50352	1.28375m	1.41581	1.34869m
	1.49734	1.55465m	1.45269	1.51330m	1.42549	1.62035m	1.59637	1.37660m	1.50866	1.41151m
	20 4	25 0	20 4	25 0	20 4	25 0	20 4	25 0	20 4	25 0
E	" 29.3	" 36.5	" 32.0	" 32.5	" 34.5	" 42.2	" 21.6	" 23.1	" 29.1	" 29.1
F	43.9	51.5	47.2	48.2	49.8	58.1	35.6	38.2	42.1	43.1
G	45.8	53.2	47.4	48.6	49.9	58.4	37.5	41.1	46.6	47.1
H	37.9	45.7	41.1	40.7	44.2	51.9	31.2	33.9	38.9	38.7
	1569	1869	1644	1710	1784	2106	1259	1363	1567	1580
24	39.22	35.4672	24 44.62	25 42.75	24 44.60	25 52.85	24 31.18	25 34.08	24 39.18	25 39.50
	+ 31.43	- 35.86	+ 28.36	- 32.61	+ 26.64	- 41.72	+ 39.48	- 23.80	+ 32.26	- 27.64
25	10.65	25 10.86	25 10.28	25 10.14	25 11.24	25 10.93	25 10.96	25 10.28	25 11.44	25 11.86
1	2 22.30	22.51	2 21.93	21.79	2 22.89	22.58	2 22.61	21.93	2 23.09	23.51
3	19 21	20 29	19 24	20 25	19 27	20 35	19 17 ¹³	20 16	19 21	20 21
	2.05721	2.05758	2.05725	2.05755	2.05725	2.05762	2.05718	2.05752	2.05721	2.05752
	- 15.32	- 15.32	- 14.22	- 14.22	- 16.45	- 16.45	- 20.25	- 20.25	- 16.85	- 16.85
	2.04189	2.04226	2.04303	2.04333	2.04080	2.04119	2.03693	2.03729	2.04036	2.04064
	- 110.13	- 110.22	- 110.42	- 110.47	- 109.85	- 109.94	- 108.88	- 108.96	- 109.74	- 109.82
	+ .11	+ .15	+ .10	+ .12	+ .09	+ .21	+ .19	+ .04	+ .12	+ .09
	- .47	- .08	- .47	- .07	- .48	- .09	- .35	- .06	- .47	- .04
	+ .28	+ .05	+ .28	+ .04	+ .28	+ .05	+ .27	+ .04	+ .28	+ .04

-21	-1 50.21 4 12.51 4 12.56	-1 50.10 4 12.61 4 12.32	-1 50.57 4 12.44 4 12.32	-1 50.40 4 12.19 4 12.60	-1 49.96 4 12.85 4 12.60	-1 49.77 4 12.33 4 11.16	-1 49.87 4 11.48 4 11.16	-1 49.91 4 10.84 4 13.08	-1 49.81 4 12.90 4 13.08	-1 49.76 4 13.27 4 13.08
		+5 18.36 -1.3 +11.4		+5 18.82 -1.3 +11.4		+5 18.18 -1.2 +11.4		+5 16.57 -1.2 +11.4		+5 17.67 -1.1 +11.3
		+5 28.46		+5 28.92		+5 28.38		+5 26.77		+5 27.71
-20	58 44.10		58 44.40		58 44.22		58 44.39		58 44.37	-20 58 44.30

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B Daconis

$\frac{1}{17}$	$\frac{2}{27}$	$\frac{3}{37}$	Corrd	+	.06	24	42.03	10	36.7	12	log cos δ	9.78543
$+52^{\circ}$	23°	40°	$\frac{d\delta}{d\lambda}$	+	1.3511	24	41.93	11	36.0	10	15 cos δ tan	9.90803
			δ_0			28	41.82	12	39.0	10		
- 10	0	52	Corrd	+	.7		41.70		40.0		tan ϕ	+ 1.30
			$\frac{d\phi}{d\lambda}$	-	2.823		41.11		42.7		sin z	- .17

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1877

	July 24				July 29				Aug. 7				Aug. 8				Aug. 11				Aug. 14									
66	16	31	58.4	32	26.48	32	16.0	32	29.50	31	53.3	32	35.33	32	0.6	32	36.40	32	39.3	32	39.0	32	16.9	32	42.18					
20	17	25	25		29.05		26.9		32.42		59.3		88.05		5.7		39.16		2.3		41.90		2.2		45.05					
30		82	82		31.74		35.2		35.80		30		41.00		9.9		41.90		7.8		44.42		27.0		48.00					
28					34.78				37.80				42.68				44.20				47.50				50.60					
66					37.54				40.50				46.40				47.10				50.10				53.37					
00					40.20				45.20				48.28				50.00				52.00				56.65					
37		33	6.7		43.12	32	57.3		45.50	33	5.3		52.00	32	10		53.27	33	9.0		53.60	33	10.0		58.92					
66			12.4		45.80		2.8		48.60		10.4		55.00		8.9		58.50		12.2		58.50		1.75		64.81					
10			16.3		48.50		7.0		51.40		14.8		57.75		13.9		59.10		17.8		61.35		4.00		67.51					
72																														
82		32	3.03		33.741	32	20.70		36.416	31	58.53		41.849	32	5.20		42.793	32	3.47		45.175	32	22.03		48.056					
98.4		33	11.80	32	37.400	33	23.7	32	33.115	33	10.17	32	46.999	33	9.03	32	47.548	33	13.33	32	50.944	33	15.20	32	53.394					
69.4				32	30.230			32	30.229	3		32	29.624			32	29.578			32	29.928			32	29.278					
16.29					+ 7.26				+ 10.47				+ 7.68				+ 7.77				+ 20.77				+ 25.12					
6.23					+ 7.618				+ 10.27	39			+ 16.680				+ 17.89				+ 20.57	69			+ 27.22					
14.51					- 3.21				- 6.89				- 13.65				- 14.51				- 17.56				- 20.62					
1.69					- 3.45				- 3.20				- 3.18				- 3.25				- 3.12				- 3.32					
1.00									- 1.18								- 1.18													
1.48					- 2.83				- 2.63				- 2.22				- 2.18				- 2.03				- 1.88					
8.78					+ 2.77				- 12.88				- 19.06				- 20.10				- 22.71				- 25.88					
9.20					+ 2.77				+ 27.62				+ 27.44				+ 27.45				+ 27.48				+ 27.52					
					+ 34.46		- 34.31		+ 19.80		- 21.87		+ 47.97		- 23.67		+ 42.35		- 21.48		+ 44.72		- 23.4		+ 31.37		- 21.60			
					1.53732		1.53542m		1.29667		1.33985m		1.68097		1.37420m		1.62685		1.33203m		1.12320m		1.36436m		1.49651		1.33646m			
					1.22941		1.22751m		0.98876		1.03194m		1.37366		1.06629m		1.31894		1.02412m		0.81529m		1.05645m		1.18860		1.03055m			
					15 0		15 0		15 0		15 0		15 0		15 0		15 0		15 0		15 0		15 0		15 0		15 0			
					21.5		55.8		26.8		47.6		10.4		46.4		14.6		45.5		10.1		45.2		16.6		43.3			
					27.0		1.1		34.4		24.4		52.1		17.1		52.4		50.7		16.3		51.1		21.4		47.8			
					27.3	24.40	0.96835	33.2	30.00		54.4	51.00	16.5	13.45		52.3	49.35	19.517.05		50.6	48.05	16.9	13.50		51.1	48.15	24.2	20.40	30.4	46.85
					24.1		2.0		36.1		57.2		18.3		54.4		21.6		52.4		17.8		53.1		25.9		52.0			
					10.49		23.98		180.5		213.3		62.3		205.5		75.4		199.2		61.1		200.5		88.1		193.5			
					15 26.79		15 54.95		15 30.12		15 53.32		15 15.58		15 51.38		15 18.85		15 49.80		15 15.28		15 50.12		15 22.02		15 48.38			
					+ 10.96		- 16.89		+ 9.74		- 10.76		+ 23.61		- 11.65		+ 20.84		- 10.57		- 6.57		- 11.39		+ 15.44		- 10.73			
					15 43.18		15 43.06		15 34.6		15 42.56		15 39.19		15 39.73		15 39.69		15 39.23		15 38.27		15 38.73		15 37.46		15 37.65			
					+ 68		7 5.17		5.29		7 5.99		5.99		7 9.16		8.62		7 8.66		7 9.12		7 10.08		7 9.62		7 10.89		10.70	
					- 25		49 52		49 18		49 45		50 2		50 2		49 59		49 28		50 3		49 28		49 56		49 30			
					1.44520		1.44500		1.44510		1.44500		1.44520		1.44500		1.44520		1.44505		1.44520		1.44505		1.44520		1.44505			
					- 1468		- 1468		- 1246		- 1246		- 2085		- 2085		- 1628		- 1628		- 1470		- 1470		- 1907		- 1907			
					1.43052		1.43032		1.43264		1.43254		1.42435		1.42415		1.42892		1.42877		1.43050		1.43035		1.42613		1.42598			
					+ 26.95		+ 26.93		+ 27.08		+ 27.07		+ 26.57		+ 26.57		+ 26.85		+ 26.84		+ 26.95		+ 26.94		+ 26.68		+ 26.67			
					- 22		- 22		- .88		- .09		- .44		- .11		- .83		- .08		- 41		- .10		- .18		- .09			
					- .04		- .10		- .05		- .09		- .03		- .09		- .03		- .08		- .03		- .08		- .04		- .08			
					+ .02		+ .06		+ .03		+ .05		+ .02		+ .05		+ .02		+ .05		+ .02		+ .05		+ .02		+ .05			
					+ 26.71		+ 26.67		+ 26.98		+ 26.94		+ 26.02		+ 26.41		+ 26.51		+ 26.83		+ 26.53		+ 26.81		+ 26.48		+ 26.55			
					+ 68		7 31.88		31.96		7 32.97		32.73		7 35.28		35.03		7 35.17		35.85		7 36.61		7 36.43		7 37.37		37.25	
					+ 68		7 31.92		+ 5 1836		7 32.85		+ 5 18.26		7 35.16		+ 5 18.12		7 35.51		+ 5 18.18		7 36.52		+ 5 17.76		7 37.31		+ 5 16.82	
					12 53.2		+ .06		12 51.34		+ .05		12 53.1		+ .04		12 53.3		+ .04		12 53.9		+ .04		12 54.4		+ .04			
					+ 5 18.3		- 3.2		+ 5 18.6		- 4.4		+ 5 17.9		- 6.1		+ 5 17.8		- 6.3		+ 5 17.4		- 6.9		+ 5 17.1		- 7.4			
					18.8				19.1				18.4				18.3				17.9				17.6					
					+ 5 15.76				+ 5 14.36				+ 5 12.42				+ 5 12.28				+ 5 11.26				+ 5 9.80					
					+ 68		+ 12 47.68		+ 12 47.21				+ 12 47.55				+ 12 47.79				+ 12 47.78				+ 12 47.11					

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у Оphiurchi

[illegible]

ψ^1 Draconis

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-29 49 46

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Draconis		do	51	24.188	July 19	51	27.4	9	53	34.1	4									
17 51 22		Corrd	+	.08	29	51	27.05	11	53	35.5	13	log cos ⁸		9.73727						
+56 53 34		da	+	1.0364	3	51	26.94	12	53	36.8	12	15 cos ⁸ tani		9.85987						
-14 30 46		do	53	32.75	13	51	26.82	13	53	38.0	11									
		Corrd	-	.1	28	51	26.69	14	53	39.1	10									
		da	-	0.680		51	26.55	16	53	40.1	9	tango		+ 1.53		1.83				
		do	53	32.75	15	51	26.39	17	53	41.0	8									
		Corrd	-	.1	28	51	26.22	17	53	41.8	8									
		da	-	0.680		51	26.04	18	53	42.4	6	sin 2		- .25						
1877																				
		July 29	51	28.20	51	55.7	51	-	51	11.6	51	38.54	51	25.8	51	38.50	51	45.9	51	48.24
		do	51	30.29	51	57.6	51	-	51	13.0	51	40.33	51	29.5	51	42.24	51	49.2	51	52.05
		do	51	32.10	51	59.4	51	-	51	14.1	51	42.22	51	32.6	51	44.05	51	52.4	51	53.70
		do	51	34.00	51	61.2	51	-	51	15.1	51	44.10	51	34.6	51	46.00	51	54.8	51	55.40
		do	51	35.74	51	63.0	51	-	51	16.1	51	46.00	51	36.6	51	48.00	51	56.8	51	57.00
		do	51	37.40	51	64.8	51	-	51	17.1	51	47.90	51	38.6	51	50.00	51	58.8	51	58.00
		do	51	39.10	51	66.6	51	-	51	18.1	51	49.70	51	40.6	51	52.00	51	60.8	51	59.00
		do	51	40.80	51	68.4	51	-	51	19.1	51	51.60	51	42.6	51	54.00	51	62.8	51	60.00
		do	51	42.50	51	70.2	51	-	51	20.1	51	53.50	51	44.6	51	56.00	51	64.8	51	61.00
		do	51	44.20	51	72.0	51	-	51	21.1	51	55.40	51	46.6	51	58.00	51	66.8	51	62.00
		do	51	45.90	51	73.8	51	-	51	22.1	51	57.30								

O. laevis

17 31 56
+37° 15' 51"
+5 6 57

Lo
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Corr
d₁
d₂

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52 2094 July 19
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2 Aug. 3
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m 2
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449

4 5 6 7 8 9 10 10 16 44 56 68 78 88 96 104 111 117
log cos 9.90082
15 cos d₁ 0.02342
tango +0.76
sin z +.09

I 2.60

1877

-1.38

-1.28

-1.25

-1.38

-1.33

July 24

July 29

Aug. 11

Aug. 23

Aug. 28

17 51 45.7 51 5480 52 19.9 51 52 25.2 52 47.5 52 52 19.2 52 30.26
48.2 5680 215 275 1033 50.2 210 3280
50.0 5960 237 297 1300 52.7 234 3540
47.5 730 12.56 12.90 1810 38.55 39.75 4049
980 12.93 12.93 2075 40 38.40 4320
52 35.0 12.44 13.04 15.64 2600 50 41.10 53 8.3 4579
59.8 1500 12.98 18.18 2852 70 42.90 50.3 4838
42.2 2030 12.95 23.35 2366 53 46.93 135 5072
22.70 12.90 25.26 26.27 65 51.65 55.70
2550 12.80 28.40 28.81 67 54.27 124
28852 25.868 44328
51 47.97 52 10852 52 21.70 52 27.47 52 50.13 52 20.87 52 50.328
52 40.00 52 9.865 52 12.940 52 23.57 52 38.51 53 10.70 52 45.753
52 50.38 52 4.987 52 4.808 52 45.85 52 4.485
+ 4.83 + 7.95 + 18.53 + 33.99 + 41.27
+ 4.83 + 7.95 + 18.53 + 33.99 + 41.27
-3.72 -6.70 -12.57 -32.87 -40.23
-1.05 -1.97 -2.71 -2.49 -1.01
-2.54 -2.89 -2.71 -2.49 -2.39
-7.71 -10.84 -21.23 -36.41 -43.63
+52 2.15 +2.10 +2.11 +2.16 +2.12

+21.89 -30.14 -8.76 -4.13 -11.56 +24.88 -24.95
134025 147914 094250 061595 106296 139555 139707
136367 150256 096592 063937 108638 141927 142049
10 1 10 2 10 1 10 1 10 1 10 2

6 26.9 21.6 36.3 50.1 55.7 16.4 9.1
35.4 31.2 7.2 58.9 4.4 25.0 17.9
36.4 31.1 6.4 59.0 5.6 26.9 19.6
35.0 34.9 7.7 59.2 4.6 25.5 17.1
133.4 118.8 7.7 22.2 10.3 93.8 63.7
11 33.42 12 29.70 12 4.40 11 56.80 12 2.58 11 23.45 12 15.92
+ 23.10 - 31.81 - 9.24 - 4.36 - 12.20 + 26.26 - 26.33
11 56.52 11 57.89 11 55.16 11 52.44 11 50.38 11 49.71 11 49.59
+37 10 51.83 50.96 10 53.19 10 55.91 10 57.97 10 58.64 58.76

+5 6 15 7 12 6 46 6 39 6 45 6 5 6 58
0.71120 0.71260 0.71200 0.71170 0.71190 0.71100 0.71230
-1393 -1393 -1241 -1378 -1577 -1880 -1880
0.69427 0.69867 0.69959 0.69792 0.69613 0.69220 0.69350
-4.98 -5.00 -5.01 -4.99 -4.97 -4.92 -4.94
- .13 - .24 - .03 - .01 - .04 - .16 - .16
- .16 - .25 - .21 - .19 - .20 - .14 - .23
+ .10 + .15 + .13 + .11 + .12 + .08 + .14

-517 -534 -512 -508 -509 -514 -519
+37 10 46.66 45.12 10 48.07 10 50.83 10 52.88 10 53.50 53.57
+37 10 45.69 +5 1836 +5 1826 +5 1776 +5 1751 +5 1754 +5 1751
16 8.4 -0.0 16 6.8 -0.0 16 9.3 -0.1 16 11.7 -0.1 16 11.7 -0.1
+5 19.8 -1.5 +5 18.7 -2.5 +5 18.5 -5.1 +5 18.2 -6.8 +5 18.2 -7.5
19.5 18.4 18.2 17.9 17.7 17.9 17.9
+5 16.86 +5 15.76 +5 12.56 +5 10.61 +5 9.91
+37 +16 2.75 +16 3.83 +16 3.39 +16 3.49 +16 3.45

Draconis

17° 33' 42"

51° 30' 15"

9 7 27

20

Corr'd

dk

80

Corr'd

dp

m 4

53 45063

- .04

+ 1.3939

30 13.74

+ .5

- 0.584

July 19

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Aug. 3

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28

m 4

53 45063

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m 4

53 45063

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23.0

log Cor'd 9.79415

15 cor'd tani 9.91675

I 3.34

tang'd + 1.26 1.61

sin 2 - .16

1877

- 1.28

- .06

July 29

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U. Sagittarii

18 6 17
21 5 21
+63 28 9

6 24448
+3.586
5 1987
+0.57

Aug 7
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Sept 1
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11
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2803
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-4
-5
-6
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-8
-9

268
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270
270

log cos δ 9.96991
15 constant 0.09251
tang δ -0.39 1.07
sin z +.89

log cos δ 9.96991
15 constant 0.09251
tang δ -0.39 1.07
sin z +.89

log cos δ 9.96991
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tang δ -0.39 1.07
sin z +.89

log cos δ 9.96991
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tang δ -0.39 1.07
sin z +.89

log cos δ 9.96991
15 constant 0.09251
tang δ -0.39 1.07
sin z +.89

log cos δ 9.96991
15 constant 0.09251
tang δ -0.39 1.07
sin z +.89

1877

-1.30
-0.06

-1.25

-1.38

-1.22

Aug. 8

Aug. 11

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109 Herculis

h m s
18 18 22

+21° 42' 5"

+20 39 57

L0

Corr

da

do

Corr

dop

dt

m s
8 27.382 Aug 8

+ .04

+2.5546

42 53.73

+ .14

+1.341

m s
18 30.45

30.40

30.34

30.27

30.20

30.12

30.04

29.95

29.85

m s
5 40

56.7

57.5

58.2

58.8

59.4

60.3

60.6

60.9

log cos δ 9.96883

15 Cristini 0.09063

tang δ +0.40 1.08sin z +.35

I 2.22

1877

-1.32

-1.25

-1.38

-1.19

Aug 6

Aug 11

Aug 23

Sept 11

h m s
18 18 21.7

23.3

24.0

39.53

41.63

44.17

46.05

48.41

44

18 23.33

19 2.35

18 43.924

18 30.464

+ 13.46

+ 13.42

-12.80

-1.53

-3.08

-16.41

+18 27.58

+20.59

1.31366

1.40429

40 4

15.0

27.2

23.19.05

22.9

88.2

44 22.05

+ 25.37

44 47.92

+21 38 0.93

+20 39 4

1.33640

-14.33

1.32207

-20.99

- .05

- .44

+ 26

-21.25

+21 37 39.68

+21 37 37.99

42 56.4

+5 18.4

16.8

+5 14.59

+42 54.58

+21

h m s
18 18 24.0

25.6

27.6

39.53

41.63

44.17

46.05

48.41

44

18 25.73

19 11.47

18 43.924

18 30.464

+ 18.11

+ 18.07

-17.58

-1.50

-3.04

-21.12

+27.41

+22.80

1.35568

1.44856

40 4

11.2

22.4

19.815.50

19.4

72.8

44 18.20

+ 28.09

44 46.29

38 2.06

39 0

1.33640

-12.59

1.32381

-21.08

- .10

- .43

+ .26

-21.35

37 40.71

37 40.94

42 57.2

+5 16.3

16.7

+5 13.86

+42 54.80

+21

h m s
18 18 35.20

37.46

38.62

39.53

41.63

44.17

46.05

48.41

44

18 46.53

19 28.17

18 43.924

18 30.464

+ 33.52

+ 33.48

-22.90

-1.55

-2.898

-36.33

+27.46

+17.26

1.32704

1.32767

40 4

16.4

27.8

26.12.25

24.7

95.0

44 23.75

+ 21.27

44 45.02

38 3.33

39 6

1.33640

-15.15

1.32125

-20.95

- .05

- .44

+ .26

-21.18

37 42.15

37 42.16

42 58.8

+5 16.6

17.0

+5 12.01

+42 54.17

+21

h m s
18 18 50.99

52.09

53.89

54.36

55.7

56.0

56.20

56.75

57.77

58.0

19 38.33

19 31.78

18 29.964

+ 6.81

+ 6.77

-1.130

-1.48

-2.58

-1 4.36

+27.42

-24.38

1.38703

1.47766

40 4

7.5

17.4

19.413.45

16.2

60.5

44 15.12

- 30.04

44 45.08

38 6.92

39 32

1.33680

-15.15

1.32165

-20.97

- .11

- .03

+ .02

-21.09

37 42.15

37 42.16

42 58.8

+5 16.6

17.0

+5 12.01

+42 54.17

+21

h m s
19 19 36.6

38.2

40.2

31.74

27.20

52.29.60

75.81.75

71.33.93

76.86.20

57.40.75

77.42.87

80.45.12

19 31.78

18 29.964

+ 6.81

+ 6.77

-1.130

-1.48

-2.58

-1 4.36

+27.42

-6.55

0.81624

0.90687

40 4

42.7

54.1

57.847.25

51.4

200.0

44 50.0

- 8.07

44 41.93

38 6.92

39 32

1.33660

-10.44

1.32616

-21.19

- .01

- .53

+ .29

-21.44

37 44.98

37 44.98

42 60.6

+5 16.87

-0.4

-6.8

+5 9.67

+42 54.65

+21

[illegible]

C Draconis

$$\begin{array}{r} 18^{\circ} 40' 12'' \\ +55^{\circ} 24' 47'' \\ -13 \quad 1 \quad 59 \end{array}$$
log cos² 9.7540515 cos² tan² 9.87665

I 3.64

tang² +1.45 1.76

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31.2	48.76	28.8	16.08	57.7	8.20	7.0	26.94	3.6	31.30	9.4	32.73
33.4	52.58	32.2	0.70	0.5	12.20	12.0	30.90	6.2	35.27	12.0	36.54
	0.40		8.49		14.60		38.50		43.00		44.44
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54 35.8	11.90	65 40.1	19.85	55 32.3	31.45	55 48.8	50.20	56 26.4	54.50	55 56.8	56.00
58.4	15.75	48.3	23.76	35.8	35.29	52.4	54.10	30.6	58.40	3.5	59.80
1.8	23.40	49.7	31.44	36.9	42.80	54.9	0.76	34.1	6.00		7.50
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54 30.30	88.26	54 28.97	29.655	54 57.53	30.192	55 8.67	32.827	55 32.7	37.735	55 8.33	39.306
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+37.72	+9.35	44.08	-8.98	+29.92	-7.88	+37.54	-5.82	+47.40	-39.70	+43.27	-8.05
1.57672	0.97081	1.57672	1.57672	1.47596	0.89653	1.57449	0.76492	1.67578	1.54879	1.63672	0.92512
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31.1	50.9	22.9	17.5	33.9	0.4	26.8	57.7	19.0	21.4	22.5	58.3
86.5	56.3	29.2	23.6	40.1	6.8	32.5	4.1	25.1	27.1	27.8	4.1

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36.7	56.8	27.2	22.2	38.2	5.1	32.1	2.6	23.9	26.2	28.3	4.2
142.8	22.0	109.4	87.8	153.3	19.0	124.6	73	94.5	101.6	107.5	49.1

48 35.70	48 55.25	48 27.35	49 2.95	48 38.32	49 4.75	48 31.15	49 1.82	48 23.62	49 25.10	48 26.88	49 2.55
+26.79	+6.64	+3.17	-6.17	+21.24	-5.59	+26.65	-4.13	+33.65	-28.19	+30.72	-5.72
49 24.9	49 1.89	49 0.77	49 1.38	48 59.56	48 59.16	48 57.80	48 57.69	48 57.24	48 57.21	48 57.60	48 57.13

+57 33 45.86	46.96	33 47.58	46.97	33 48.79	49.19	33 50.55	50.66	33 57.08	57.14	33 50.75	57.22
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1.19670	1.19660	1.19680	1.19640	1.19670	1.19650	1.19680	1.19660	1.19660	1.19690	1.19640	1.19680

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1.17924	1.17924	1.18449	1.18409	1.18614	1.18594	1.18376	1.18356	1.18264	1.18214	1.18018	1.17988
+15.11	+15.11	+15.129	+15.128	+15.35	+15.34	+15.27	+15.26	+15.23	+15.21	+15.14	+15.13

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+ .22	+ .23	+ .21	+ .26	+ .22	+ .25	+ .21	+ .24	+ .20	+ .26	+ .20	+ .24
+14.62	+14.07	+14.61	+14.89	+14.99	+15.16	+14.75	+15.05	+14.52	+14.60	+14.52	+14.91
34 0.48	13.753	34 2.19	1.86	34 3.78	4.35	34 5.30	5.71	34 5.60	5.74	34 5.27	6.13

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4.14			28.3		49.58		0.6		1.29		49.4		8.38		8.3		17.37		18.8		19.30		
6.90			32.3		53.10		3.8		11.00		52.0		12.18		11.6		21.42		23.5		23.30		
1880					083				18.40				19.10				28.23				30.78		
14.54					46.0				22.15				23.50				32.60				34.12		
17.05					83.0				25.50				27.27				36.29				38.05		
19.66	10	25.8		10	38.3	10	38.3	10	40.5	10	40.5		30.88				45.25	11	8.0		42.00		
22.20		28.8			15.78				33.50		43.6		34.76				42.83		12.0		45.65		
24.0		31.5			23.27		44.3		44.15		46.6		42.20				51.48		14.4		52.99		
29.90					27.13				44.70				46.00				55.18				56.70		
32.30					30.88				48.38				49.70				59.20				0.75		
798					27.27				28.567				29.925				40.060				35.964		
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19.25					-42.983		-1	1.338		-1	2.164		-1	1.935		-1	13.83						
-84					-2.08			-1.81			-1.85			-1.93			-1.92						-1.76
					- .07									- .06									
3.22					-2.26			-1.83			-1.80			-1.58			-1.55						
3.31					-4.734		-1	5.021		-1	6.29		-1	15.55		-1	17.30						
4.78	9	32.96		9	20.95		9	20.91		9	20.87		9	20.85		9	20.85		19	9	20.908		
0.64					+39.63		-20.40		+25.20		-15.36		+38.03		-16.37		+27.92	*45		+16.55		-33.32	
47.12					1.59802		1.309632		1.40140		1.186392		1.58013		1.214052		1.444591			1.26834		1.522702	
57.82					1.46079		1.172402		1.26417		1.049162		1.44290		1.076822		1.30868			1.13111		1.385472	
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30.9					31.8		16.6		39.7		9.5		31.1		10.5		38.4			43.0		21.5	
41.7					37.8		22.2		46.7		16.3		37.9		17.2		44.8			51.1		29.8	
38.6					39.5365		24.42050		46.44305		15.31240		37.03405		16.81365		44.541.45			48.945.5		25.623.55	
40.9					36.6		19.7		45.1		15.4		36.3		16.5		41.9			48.8		26.8	
52.1					14.57		82.0		17.9		56.5		14.23		61.0		16.96			1918		1037	
35.02					48 36.42		49 20.72		48 44.48		49 14.12		48 35.57		49 15.25		48 42.40			48 47.95		49 25.92	
22.17					+28.89		-14.87		+18.37		-11.20		+27.73		-11.93		+20.36			+13.62		-24.29	
15.85					49 5.31		49 5.85		49 2.85		49 2.92		49 3.30		49 3.32		49 2.76			49 1.47		49 1.63	
32.50	+56	33	43.04		42.50		33 45.50		45.43		33 45.05		45.03		33 45.59		33 46.88					46.72	
20					16 42		15 57		16 34		16 4		16 42		16 3		16 36			16 30		16 52	
91510	-14				1.16595		1.16560		1.16590		1.16560		1.16595		1.16560		1.16590			1.16585		1.16550	
5.75					-798		-998		-861		-881		-1259		-1259		-467			-190		-170	
0935					1.15897		1.15562		1.15729		1.15699		1.15336		1.15381		1.16123			1.16395		1.16360	
6.45					+14.32		+14.31		+14.36		+14.35		+14.23		+14.22		+14.50			+14.59		+14.57	
.11					- .30		- .10		- .16		- .06		- .36		- .20		- .20			- .09		- .27	
.40					- .36		- .43		- .41		- .46		- .40		- .47		- .41			- .42		- .48	
.22					+ .22		+ .26		+ .22		+ .25		+ .22		+ .25		+ .22			+ .23		+ .26	
-6.74					+13.79		+14.04		+14.01		+14.08		+13.69		+13.94		+14.11			+14.31		+14.08	
2576	+56	33	56.83		36 54		33 59.51		39 51		33 58.74		38 97		33 59.70		34 1.19			34 1.19		0.90	
16.82					+5 16.76		+5 16.87		+5 16.87		+5 17.31		+5 17.31		+5 17.31		+5 17.29			+5 16.58		+0.3	
-0.1					+0.3		+0.3		+0.3		+0.3		+0.3		+0.3		+0.3			+0.3		+0.3	
-13.8					-13.1		-13.2		-13.2		-13.2		-13.2		-13.2		-13.2			-13.2		-13.2	
2.92					+5 3.96		+5 1.97		+5 2.21		+5 1.39		+5 1.39		+5 1.39		+5 1.39			+5 0.40		+5 0.40	
28.94	+56				39 0.64		39 1.48		39 1.06		39 1.09		39 1.09		39 1.09		39 1.09			39 1.40		+56.39 1.13	

d Sagittarii

19° 10' 19"

-19° 10' 21"

+61 33 9

α m 2
10 26232
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+ 3.513
11
10 8.39
26
+ 6.11

Sept. 6
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16
21
26

N.A.

m 2
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2999
2992
29.84
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-7 -10
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8
8

9.0
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log cos δ 9.97523
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tango -0.35 106

lin 2 +.88

1877

-1.22

-1.26

-1.26

-1.27

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Sept. 13

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Sept. 16

Sept. 18

Sept. 22

6	m	15	s																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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-1.407

-1.496

-1.839

-1.1195

-1.19.26

+1.07

+1.114

+1.114

+1.114

+1.114

-37.4

-3.70

-3.69

-3.66

-3.58

-1.438

-1.10.22

-1.11.69

-1.15.22

-1.22.45

10 26.39

10 26.35

10 26.33

10 26.40

10 26.44

19° 10' 26.376

+25.67	-6.60	+26.17	-15.56	+25.82	-21.25	+20.82	-20.18	+24.76	-22.57
1.40943	0.83251	1.41780	1.19201	1.41196	1.32736	1.31848	1.30492	1.39375	1.35353
1.50726	0.93034	1.51563	1.28984	1.50979	1.42519	1.41631	1.40275	1.49158	1.45136

35 0	35 1	35 0	35 1	35 0	35 1	35 0	35 1	35 0	35 1
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53.9	36.1	52.3	43.7	52.9	51.7	56.5	48.6	49.1	49.2
8.4	50.1	6.9	58.1	7.1	5.1	12.1	3.4	6.2	6.6
102.32	52.8	9.9	59.9	10.0	7.4	13.8	4.5	4.2	3.1
28	43.9	3.0	53.1	3.9	1.6	4.9	57.0	0.1	59.1
153	182.9	12.1	214.8	13.9	5.3	27.3	23.5	239.6	238.0
36 38.2	36 45.2	36 30.2	36 53.70	36 34.8	37 1.32	36 6.82	36 58.38	35 59.90	36 59.50
+ 32.16	- 8.52	+ 32.78	- 19.49	+ 32.34	- 26.62	+ 26.08	- 25.28	+ 31.02	- 28.27
36 35.98	36 37.20	36 35.80	36 34.21	36 35.82	36 34.70	36 32.90	36 33.10	36 30.92	36 31.23

-19 13 47.63	48.85	13 47.45	45.86	13 47.47	46.35	13 44.55	44.75	13 42.57	42.88
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+61	30 46	31 28	30 45	31 36	31 45	31 43	30 49	31 40	30 42	31 41
2.02409	2.02429	2.02406	2.02432	2.02436	2.02436	2.02409	2.02436	2.02406	2.02436	2.02436
-17.55	-17.55	-13.85	-13.85	-16.31	-16.31	-16.31	-16.31	-16.31	-16.31	-16.31
2.00654	2.00674	2.01021	2.01044	2.00835	2.00835	2.01946	2.01973	2.01853	2.01883	2.01883
-101.52	-101.56	-102.38	-102.44	-101.94	-101.94	-104.58	-104.65	-104.65	-104.65	-104.65
+ .11	+ .01	+ .11	+ .04	+ .11	+ .07	+ .07	+ .07	+ .07	+ .10	+ .09
- .12	- .20	- .12	- .21	- .12	- .22	- .12	- .22	- .12	- .11	- .22
+ .07	+ .11	+ .07	+ .11	+ .07	+ .12	+ .07	+ .12	+ .12	+ .06	+ .12

-19	15 29.09	30 49.15	29.77	29.36	15 29.35	29.32	15 29.11	29.43	15 26.88	27.32
15 29.79	+5 17.22	15 29.06	+5 17.61	15 28.83	+5 17.14	15 29.27	+5 17.27	15 27.10	+5 16.82	16.82
	+0.6		+0.7		+0.7		+0.7		+0.8	0.8

-19	10 9.0	+5 16.72	10 9.1	+5 17.11	10 9.1	+5 16.64	10 9.1	+5 16.79	10 9.2	+5 16.42
10 13.07			10 11.95		10 12.19		10 12.48		10 10.68	10 10.68

-19° 10' 12.07

8 Draconis

19^h 12^m 31^s
+67° 26' 29"
-25° 3' 41"

do
Corr^d + .03
d₁
d₂ + 0.0327
P₀ 26 41.72
Corr^d + 1.0
d₁
d₂ + 6.298

12 313.13 Aug 28
2 Sept 2
3224
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3275
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31.94
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24 26
54.4
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59.7
60.0

log cos² 9.58375
15 cos² sin 9.70635
tango^d +2.41 2.60
sin 2 -42

I 5.38
1/2 I 2.69

1877

-1.22

-1.22

-1.26

-1.26

-1.27

-1.26

Sept. 12

Sept. 13

Sept. 15

Sept. 16

Sept. 18

Sept. 19

12 50.1	13 27.29	12 44.2	13 28.70	13 4.0	13 81.50	13 10.3	13 33.05	13 21.7	13 36.40	12 44.7	13 38.00
54.0	29.90	46.7	—	96	34.38	14.1	35.65	24.4	47.16	50.3	40.86
59.4	32.53	53.0	34.05	14.0	37.00	20.4	38.48	31.3	49.50	54.6	43.10
	35.39		39.44		40.75		41.28		50.22		46.30
	38.00		—		42.39		43.84		52.24		48.69
	40.68	1	—		44.18		45.59		54.3		51.53
13 55.0	43.40	13 8.5	44.90	14 1.1	47.53	13 55.2	49.22	14 12.4	50.85	13 2.67	54.34
59.1	46.0	13.1	—	52	50.35	58.6	52.10	18.0	53.9	23.8	56.65
40	48.60	17.2	50.52	10.8	53.20	2.3	54.80	52.0	56.4	32.0	59.00
12 57.50	34.201	12 48.30	19762	13 9.20	38138	13 15.60	39511	13 26.47		12 49.87	13 43.47
13 59.47	38.001	13 12.93	13 39.524	14 5.70	13 42.376	13 59.03	13 43.901	14 17.63	13 47.333	13 26.50	13 48.888
12 32.976		12 32.422	12 32.422	12 32.314	12 32.314	12 32.314	12 32.260	12 32.260	12 32.150	12 32.09	12 32.09
+ 63.52		+ 67.10	+ 67.10	+ 70.06	+ 70.06	+ 70.06	+ 71.64	+ 71.64	+ 75.18	+ 76.80	+ 76.80
+ 65.49		+ 67.07	+ 67.07	+ 70.23	+ 70.23	+ 70.23	+ 71.61	+ 71.61	+ 75.15	+ 76.77	+ 76.77
-1 2.64		-1 4.07	-1 4.07	-1 6.37	-1 6.37	-1 6.37	-1 8.37	-1 8.37	-1 11.95	-1 13.83	-1 13.83
-2.94		-2.94	-2.94	-3.04	-3.04	-3.04	-3.04	-3.04	-3.06	-3.04	-3.04
-1.11		-1.11	-1.11	-1.00	-1.00	-1.00	-0.95	-0.95	-0.84	-0.78	-0.78
-1 6.74		-1 8.12	-1 8.12	-1 11.01	-1 11.01	-1 12.51	-1 12.51	-1 15.98	-1 15.98	-1 17.65	-1 17.65
+12 31.26		+31.40	+31.40	+31.37	+31.37	+31.37	+31.39	+31.39	+31.35	+31.24	+31.24
+43.50	-21.67	+51.22	+26.59	+33.18	-23.32	+26.30	-15.13	+20.86	-30.30	+39.02	+22.39
1.63849	1.33183	1.70944	1.42472	1.52088	1.36773	1.45179	1.17983	1.31931	1.48144	1.77099	1.35005
1.54484	1.03818	1.41579	1.13107	1.22723	1.07408	1.15811	0.88618	1.02566	1.18779	1.47734	1.05640
0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 1	0 0	0 1
E 6.9	40.1	1.6	15.1	12.3	41.7	13.7	35.2	18.0	44.9	37.8	16.3
F 12.6	46.0	8.5	22.1	18.5	47.2	19.3	40.8	24.5	50.1	4.9	23.4
G 11.9	46.2	8.7	20.8	18.1	47.5	20.2	41.3	23.4	50.7	15.5	21.1
H 11.7	46.8	8.1	19.5	19.2	47.5	20.8	42.5	23.6	50.2	4.5	23.8
1 10.78	179.1	26.9	77.5	68.1	18.59	74.0	159.8	89.5	19.59	8.7	84.6
+22.12	+10.92	+26.05	+13.52	+16.87	+11.86	+14.39	+7.69	+10.61	+15.21	+30.01	+11.39
1 32.90	1 33.86	1 32.77	1 32.90	1 33.89	1 34.12	1 32.82	1 32.26	1 32.99	1 33.57	1 32.19	1 32.54
+67 21 15.45	14.49	21 15.58	15.45	21 14.46	14.23	21 15.46	16.09	21 15.36	14.78	21 16.16	15.81
-25 4 7	3 33	4 11	3 59	4 1	3 32	4 0	3 38	3 56	3 29	4 16	3 57
1.43020	1.43010	1.43030	1.43020	1.43020	1.43025	1.43020	1.43010	1.43020	1.43005	1.43030	1.43020
-1250	-1250	-1752	-1752	-1380	-1380	-1628	-1628	-455	-455	-179	-179
1.41770	1.41760	1.41278	1.41268	1.41640	1.41625	1.41392	1.41382	1.42565	1.42550	1.42851	1.42841
+26.16	+26.16	+25.87	+25.86	+26.09	+26.08	+25.94	+25.93	+26.65	+26.64	+26.82	+26.82
- .37	- .09	- .51	- .23	- .21	- .10	- .15	- .04	- .09	- .18	- .68	- .04
- .74	- .19	- .12	- .74	- .14	- .20	- .14	- .20	- .15	- .20	- .11	- .14
+ .07	+ .10	+ .07	+ .08	+ .08	+ .11	+ .08	+ .10	+ .08	+ .11	+ .06	+ .08
+25.72	+25.98	+25.31	+25.64	+25.82	+25.89	+25.73	+25.89	+26.49	+26.37	+26.09	+26.67
+67 21 41.17	40.47	21 40.89	41.12	21 40.28	40.12	21 41.19	41.88	21 41.85	41.15	21 42.25	42.98
+67 21 40.82	+5 17.31	21 41.00	+5 17.22	21 40.20	+5 17.61	21 41.54	+5 17.14	21 41.50	+5 17.29	21 42.36	+5 16.59
26 57.4	+0.5	26 57.6	+0.5	26 57.9	+0.5	26 58.1	+0.5	26 58.3	+0.5	26 58.5	+0.5
+5 16.6	-15.7	+5 16.6	-15.9	+5 17.4	-16.2	+5 16.6	-16.4	+5 16.8	-16.6	+5 16.1	-16.8
17.6		17.6		18.7		17.6		17.8		17.1	
+5 2.11		+5 1.82		+5 1.91		+5 1.24		+5 1.19		+5 0.20	
+67 126 42.93		+26 42.82		+26 42.11		+26 42.78		+26 42.69		+26 42.56	

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π Draconis

h	m
19	20
$+65^{\circ} 25'$	
-23	2

log cos 9.61911
15 cos 9.74171

$\tan \theta$	$+ 2.189$	2.40
$\sin z$	$-.39$	

1877

-1.36

$$-1.42$$
 -1.33 -1.37

-1.14

—1.26

Aug. 22

Aug. 27

Aug 28

Aug. 30

Sept. 11

Sept 19

[illegible][illegible]

-31.42	-39. ⁰⁸ 70	+40.34	-42.88 ⁵	+1.40	-13.84
-2.98	-3.11	-2.91	-3.00	-2.61	-2.76
-2.28	-2.10	-2.06	-1.10	-1.44	-1.05
-3668	-44.29	-45.31	-1.98	-1.54 ⁵	-17.45
20 2.15	20 1.98	20 2.00	20 1.94	20 2.01	20 2.14

19th 20th 2,007

+29.16	-22.67	+23.84	-20.70	+54.04	+17.78	+47.07	+21.77	+53.26	+17.26	+41.44	-22.56
1.46478	1.35545m	1.37730	1.31597m	1.73271	1.24993	1.67642	1.33786	1.72640	1.23704	1.61951	1.35334m
1.20649	1.09716m	1.11901	1.05788m	1.47442	0.99164	1.41813	1.07957	1.46811	0.97875	1.36122	1.09505m
55 4	55 4	55 4	55 4	55 4	55 4	55 4	55 4	55 3	55 4	55 4	55 4

18.1	46.8	18.6	44.9	1.5	21.6	5.1	19.2	59.6	19.1	4.4	40.5
22.2	51.0	25.5	49.4	6.1	26.2	10.3	24.2	5.2	25.8	11.5	46.2
22.3 20.20	50.4 48.60	23.4 21.00	44.9 47.40	5.2 3.35	25.7 23.65	9.6 7.35	24.2 21.70	11.0 0.60	22.9 21.00	6.8 5.60	43.5 42.0
23.0	51.4	25.4	44.9	1.4	27.6	10.3	24.2	5.1	25.8	11.1	46.2

20.7	0.6	20.2	3.4	6.6	2.2	10.4	24.7	0.6	20.7	1.1	40.4
8.65	19.8	9.2	19.5	19.4	10.7	3.54	9.25	1.2	9.37	3.8	17.1
59 2.62	59 4.95	59 2.37	59 4.89	59 3.85	59 2.58	59 8.85	59 2.32	59 3.00	59 2.34	59 8.45	59 4.28
4 16.09	12.51	4 13.15	4 11.42	4 29.81	4 9.81	4 26.19	4 12.01	4 29.38	4 9.52	4 22.97	4 12.45
59 3.77	59 3.74	59 3.63	59 3.78	59 3.46	59 3.49	59 3.50	59 3.53	59 3.28	59 3.29	59 3.42	59 3.83
23 10.64	10.91	23 12.02	10.87	23 13.69	13.36	23 13.31	13.22	23 15.97	15.11	23 16.93	16.59

5 56	5 28	5 55	5 29	6 13	5 53	6 9	5 55	6 15	5 55	6 10	5 34
1.39020	1.39050	1.39020	1.39050	1.39030	1.39020	1.39020	1.39020	1.39030	1.39020	1.39030	1.39030
.1187	.1187	.976	.976	.1638	.1638	.960	.960	.826	.826	.151	.157
1.37833	1.37813	1.38044	1.38024	1.37392	1.37382	1.38060	1.38060	1.38204	1.38194	1.38879	1.38849
+ 2390	+ 2389	+ 2401	+ 2400	+ 2365	+ 2365	+ 2402	+ 2402	+ 2410	+ 2410	+ 2448	+ 2446
— .18	— .11	— .12	— .09	— .61	— .07	— .46	— .10	— .59	— .06	— .35	— .11
— .48	— .53	— .48	— .53	— .45	— .48	— .45	— .48	— .45	— .48	— .45	— .52
+ .26	+ .29	+ .26	+ .29	+ .25	+ .26	+ .25	+ .26	+ .25	+ .26	+ .25	+ .28

+23.50	+23.54	+23.67	+23.67	+23.84	+23.36	+23.36	+23.70	+23.31	+23.82	+23.93	+24.11
23 34.14	3 4.45	23 35.69	3454	23 36.93	3 6.72	23 36.67	36.92	23 39.28	3 9.23	23 40.66	4063
23 34.30	+5 17.98	23 35.11	+5 17.37	23 36.92	+5 17.57	23 36.79	+5 16.76	23 39.28	+5 16.87	23 40.84	+5 16.50
	+0.4		+0.4		+0.4		+0.4		+0.4		+0.4
	-11.4		-12.7		-12.9		-13.4		-15.9		-17.2

+5 6.98	+5 5.07	+5 5.01	+5 3.76	+5 2.37	+4 59.70
28 41.28	28 40.18	28 41.52 63	28 40.55	28 39.57 40.63	28 40.54 75
+65° 28' 40.79"					

S. Aquilae
 19 19 12
 +2° 52' 2"
 +39 30 46

20 19 17.69
 Corr^d +.03
 d^o dt +3.0251
 52 15.58
 Corr^d -.5
 d^o dt +6.890

Aug 28
 Sept 2
 7
 12
 17
 22
 27
 Oct 2
 7

19 21.21
 21.15
 21.09
 21.03
 20.96
 20.89
 20.81
 20.73
 20.64

6 52
 6
 6
 7
 7
 8
 8
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21.4
 21.8
 22.2
 22.4
 22.6
 22.7
 22.8
 22.9
 22.9

log Crd^o 9.99946
 15 cordani 0.12206
 tang^o +0.05
 sin 2 +.64

1877

-1.22

-1.22

-1.26

-1.26

-1.27

-1.16

Sept. 12

Sept. 13

Sept. 15

Sept. 16

Sept. 18

Sept. 22

19 19 58.7	20 11.45	20 80	20 12.90	19 58.6	20 15.70	20 6.7	20 17.10	20 6.0	20 20.62	20 25.3	20 28.80
0.7	13.53	9.5	14.90	0.6	17.50	8.2	19.15	7.1	22.70	27.0	30.80
2.3	15.55	11.6	16.93	2.3	19.90	2.8	21.28	9.8	24.79	28.5	32.00
	19.68		21.00		23.76		25.37		28.30		36.20
	21.80		23.05		26.05		27.50		31.10		38.24
	23.90		25.23		28.05		29.58		33.20		40.28
20 36.3	25.95	20 43.5	27.29	20 44.9	30.19	20 45.4	31.70	20 52.7	35.20	21 0.2	42.35
38.0	28.02	48.2	29.40	47.0	32.20	47.1	33.72	54.3	37.23	1.6	44.49
39.4	32.05	46.5	32.40	48.6	36.29	49.2	37.89	56.0	41.35	3.1	46.53
	34.10		35.49		38.37		40.00		43.46		50.60
	36.27		37.60		40.49		42.60		45.60		52.68
	26.230		27.719		30.902		32.529		36.415		44.342
20 0.58	20 238.45	20 9.40	20 25.199	20 0.50	20 25.093	20 8.23	20 29.572	20 7.83	20 33.105	20 26.93	20 40.311
29 37.97	19 210.26	19 210.12	19 210.12	20 46.83	19 207.84	20 47.23	19 207.90	20 54.33	19 207.90	21 1.63	19 208.86
	+ 62.82	+ 64.19	+ 64.19		+ 67.11		+ 68.60		+ 72.16		+ 77.42
	+ 62.79	+ 64.16	+ 64.16		+ 67.08		+ 68.57		+ 72.13		+ 77.39
	-1 2.66	-1 4.08	-1 4.08		-1 6.98		-1 8.41		-1 11.97		-1 16.28
	-0.06				-0.06		-0.06		-0.06		-0.06
	-3.26				-3.21		-3.20		-3.17		-3.12
	-1 5.9.8	-1 7.3.8	-1 7.3.8		-1 10.2.5		-1 11.7.2		-1 15.2.5		-1 22.4.6
	+19 17.8.6	+17.8.2	+17.8.2		+17.8.4		+17.8.5		+17.8.5		+17.8.5
	+23.27	-14.13	+15.50	-19.87	+27.59	-16.74	+21.34	-17.66	+25.27	-21.23	+13.38
136680	115014	119033	129820	144075	127276	132910	124699	140260	132695	112645	132878
148886	127220	131239	142026	156281	139482	145165	136905	152466	144901	124851	145084
30 4	35 0	30 4	35 0	30 4	35 0	30 4	35 0	30 4	35 0	30 4	35 0
E	16.4	4.8	28.4	14.6	10.7	11.9	18.7	10.0	12.8	12.9	26.8
4	29.4	19.4	40.9	28.4	23.4	25.1	31.1	22.9	26.2	27.2	42.2
5	27.421.50	18.211.50	39.834.10	28.621.30	23.317.00	25.018.45	30.724.70	23.716.85	24.618.70	26.619.75	36.431.60
7	26.6	16.1	37.3	25.1	19.9	21.3	28.7	20.5	21.1	21.5	36.2
8	9.9.8	58.5	14.64	9.61	7.73	8.33	10.92	7.71	8.47	8.82	14.16
34 24.95	35 14.62	34 36.60	35 24.02	34 19.32	35 20.82	34 27.30	35 19.28	34 25.23	35 29.40	34 35.40	35 21.85
+ 30.82	- 18.72	+ 20.53	- 26.32	+ 36.54	- 24.82	+ 28.26	- 23.39	+ 33.47	- 28.12	+ 17.72	- 28.24
34 55.77	34 55.90	34 57.13	34 57.70	34 55.86	34 56.00	34 55.56	34 55.89	34 54.65	34 53.93	34 53.12	34 53.81
+2 47 52.58	52.45	47 57.22	50.65	47 52.49	52.35	47 52.79	52.46	47 53.70	54.42	47 53.23	54.74
+39 29 1.67580	1.67610	1.67590	1.67610	1.67580	1.67610	1.67580	1.67610	1.67580	1.67610	1.67590	1.67610
-12.31	-12.31	-17.40	-17.40	-13.63	-13.63	-16.15	-16.15	-4.32	-4.32	-5.26	-5.26
1.67349	1.66379	1.66850	1.66870	1.66217	1.66247	1.65965	1.65995	1.67148	1.67178	1.67064	1.67084
-47.15	-47.18	-45.55	-45.57	-45.94	-45.97	-45.67	-45.70	-46.93	-46.97	-46.84	-46.86
- .02	- .01	- .01	- .01	- .02	- .01	- .01	- .01	- .02	- .01	- .01	- .01
- .48	- .02	- .51	- .04	- .47	- .03	- .48	- .03	- .48	- .04	- .51	- .04
+ 26	+ .01	+ .28	+ .02	+ .25	+ .02	+ .27	+ .02	+ .26	+ .02	+ .28	+ .02
-47.39	-47.20	-45.99	-45.60	-46.18	-45.99	-45.89	-45.72	-47.17	-47.00	-47.07	-46.89
+2 47 51.9	5.25	47 5.93	5.05	47 6.31	6.36	47 6.90	6.74	47 6.53	7.42	47 8.16	7.85
+2 47 5.22	+5 17.31	47 5.24	+5 17.22	47 6.34	+5 17.61	47 6.82	+5 17.14	47 6.98	+5 17.29	47 8.00	+5 16.82
52 22.4	-0.8	52 22.4	-0.8	52 22.5	-0.8	52 22.6	-0.8	52 22.6	-0.8	52 22.7	-0.8
+5 17.2	-6.8	+5 17.2	-6.8	+5 16.2	-6.9	+5 15.8	-7.0	+5 15.6	-7.0	+5 14.7	-7.1
16.7		16.7		15.7		15.3		15.1		14.2	
	+5 9.71		+5 9.62		+5 9.91		+5 9.34		+5 9.49		+5 8.92
+2	+52 14.93		+52 14.86		+52 15.25		+52 16.16		+52 16.47		+52 16.92

Aug 16	Aug 22	Sept 23	Sept 26
33 25.2 306 339 29.90 33.00 36.05 39.70 42.42 44.00 52.85 55.40 39.769 33 30.73 34 9.77 33 36.154 33 11.314 + 24.84 + 24.77 - 22.19 - 1.58 - 1.58 - 2.79 - 2.655 + 33 4.60 8 + 5.42 0.73399 0.66526 30 1 30 2 30 1			

20. Pagni
 19 47 30
 +52 40 37
 -10 17 49

log cos 978263
 15 cos tan 990523

tang 8 +1.31 165
 sin 2 - .18

1877

-1.32

-1.38

-1.03

-0.06

Aug. 16

Aug. 23

Oct. 30

m	s	m	s	m	s
47	148	47	322	47	285
47	175	47	447	47	319
47	195	47	447	47	344
	46.69		5640		3912
	52.90		324		4590
	57.0		670		4939
	62.7		1010		5271
	67.8		1344	48	161
	72.5		1680		187
	74.00		2360		217
	77.32		2705		640
	80.80		3040		969
					1328

47	1727	47	4187	47	3160
48	1727	48	10044	48	1883
	30347		29048		39982
	327		11068		5782
	327		10044		52711
	0.379				

-23.21

-32.00

-18.18

-1.73

-1.81

-1.35

-2.82

-2.70

-0.10

-34.76

-38.51

-0.68

47 3262

47 3253

47 3240

19 47 32.517

+43.11	+28.14	+21.11	-26.12
1.63457	1.144978	1.32148	1.416970
1.53980	1.35501	1.22971	1.322204

45 1	45 1	45 1	45 2
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47.5	59.0	54.7	34.4
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54.9	6.3	7.9	46.4
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56.45195	7.7 3.35	2958.80	427 38.55
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57.4	4.8	5.2	45.1
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213.2	17.8	107	168.6
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46 5330	47 4.45	47 2.48	47 42.15
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+ 34.66	+ 22.65	+ 16.97	- 21.00
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47 2796	47 27.10	47 19.65	47 21.15
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+52 35 20.39	35 21.25	35 28.70	27.20
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18 25	18 14	18 15	17 36
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1.02030	1.01990	1.01990	1.01940
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-1692	-1341	+291	+291
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1.00308	1.00649	1.02281	1.02231
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+10.07	+10.15	+10.54	+10.53
--------	--------	--------	--------

- .48	- .21	- .12	- .18
-------	-------	-------	-------

- .19	- .21	- .30	- .41
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+ .11	+ .13	+ .12	+ .16
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+ 9.51	+ 9.86	+ 10.24	+ 10.10
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+ 9.51	+ 9.86	+ 10.24	+ 10.10
--------	--------	---------	---------

+52 35 29.90	35 31.11	35 38.94	37.30
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+ 5 16.57	+ 5 17.51	35 38.12	+ 5 18.25
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+ 0.2	+ 0.2		+ 0.2
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-10.41	-12.4		-20.7
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+5 6.37	+5 5.31		+4 57.75
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14 2684 C1	40 36.42	40 35.87	+52 40 36.19
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13 59.16 C2			
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2 R. Cephei

1877

8
7
5
4

[illegible]

66 Deacons

20 3 35

31° 37' 58"

1877

E
F
G
H

[illegible]

1877

[illegible]

33 Cygni

10 10 30

+56 11 8

-13 48 20

do m 2
10 32365 (Oct-7)
Corrd - .02
da +1.3998
dt
p₀ 11 30.01
Corrd + .5
da +10.878

m 2
10 3381
12 3362
17 33.44
22 33.26
27 33.08
1 32.90
16 32.73
11 32.55
16 32.38

"
11 52.4
5 52.9
4 53.3
2 53.5
1 53.6
1 53.5
3 53.4
4 53.1
4 52.7

log cos² 9.74549⁰
log I 0.58880
15 cos² tan² 9.86809⁰
I 3.71
tango² +1.49 1.80
sin 2 - .24

1877

-1.02 Oct. 18 -99 Oct. 28 -1.03 Oct. 30 -94 Nov. 1 -94 Nov. 4

12 19.1	12 26.34	12 16.9	12 27.10	10 32.6	10 30.37	10 19.2	10 33.80	11 6.9	124 4640
28.30	24.1	30.70	36.8	34.20	22.0	37.70	103	1.13	57.42
30.05	22.2	34.60	39.2	37.92	25.0	41.38	128	.19	1.19
31.99		40.10		45.22		48.81		.26	4.97
33.85		46.78		48.93		52.60		.24	8.66
35.69		49.44		52.60		56.31		.16	16.07
37.50	12 58.8	53.34	11 11.9	56.30		59.73	11 38.4	.13	18.88
39.30	2.5	57.01	15.3	60.1		63.42	40.5	.14	21.40
41.10	6.9	60.78	17.8	63.6		67.11	42.7		
		8.08		11.25		15.61			
		11.62		14.97		18.63			

12 19.10	304.42	10 19.73	34.88	10 36.03	339.13	10 22.07	379.89	11 10.00	124 4640
12 33.824	11 2.73	10 49.35	54.88	11 15.00	57.13	10 56.29	61.24	11 40.53	11 1.62
10 33.395		10 33.335		10 32.63		10 32.892		10 32.796	
+120.43		+16.750		+19.68		+23.41		+28.37	
+120.45		+16.52		+19.70		+23.43		+28.39	
-1 58.97		-15.28		-18.322		-21.90		-27.029	
-1.52		-1.48		-1.53		-1.40		-1.40	
-1.08		-0.72		-0.64		-0.57		-0.47	
-2 1.57		-17.48		-20.51		-23.44		-28.96	
+10 32.25		+32.06		+32.14		+32.13		+32.20	

+14.72	+29.81	-13.19	+16.62	-22.35	+34.23	-8.84	-39.37
1.16790	1.47436	1.12024m	1.22063	1.34927m	1.53440	0.94645m	1.59516m
1.03590	1.34236	0.98824m	1.08863	1.21727m	1.40240	0.81445m	1.46316m

15 1	15 0	15 1	15 1	15 1	15 0	15 1	15 1
8.1	57.9	29.3	6.5	35.3	52.7	24.9	47.3
20.2	8.2	40.4	15.1	45.9	3.9	38.1	0.2
17.1 12.60	1.95990	33.43185	14.11030	41.93640	39.15590	31.82835	52.85005
6.3	6.1	37.8	17.2	46.0	2.1	26.2	57.1
16 15.52	14.1	140.9	55.9	16.91	237.8	13.0	26.74
+10.86	16 35.2	16 38.22	16 13.68	16 42.28	15 59.45	16 30.25	16 54.35
+16.38	+22.00	-9.43	+12.26	-16.44	+25.26	-30.82	-29.05
26.68	16 25.52	16 25.49	16 26.24	16 25.79	16 25.41	16 23.73	16 25.30
+56 6 21.67	6 22.83	22.86	6 22.11	22.56	6 23.64	6 24.62	23.65

-13 49 2	49 14	48 43	49 4	48 36	49 19	48 48	48 24
1.15110	1.15120	1.15095	1.15120	1.15090	1.15130	1.15102	1.15080
-11	+1087	+1087	+342	+342	+696	+1422	+1422
1.15099	1.16207	1.16182	1.15462	1.15432	1.15826	1.16522	1.16502
+14.16	+14.52	+14.52	+14.28	+14.27	+14.40	+14.63	+14.62
- .06	- .23	- .04	- .07	- .12	- .29	- .03	- .38
- .18	- .16	- .24	- .18	- .25	- .15	- .21	- .27
+ .08	+ .07	+ .10	+ .07	+ .10	+ .06	+ .09	+ .11

+56 6 35.67	+1400	+1420	+1434	+1410	+1400	+1402	+1448	+1408
11 53.3	+5 18.45	6 37.03	37.20	6 36.21	36.56	6 37.66	6 37.03660	37.15
+5 17.6	+0.3	11 53.6	+0.3	11 53.5	+0.3	11 53.5	6 38.12 36.86	18.38
18.1	-23.3	+5 16.5	-23.6	+5 17.1	-23.5	+5 15.8	+5 16.5	+0.3
		17.30		17.6		16.3	17.0	-23.4
	+4 55.45	+4 54.75		+4 55.05	+4 54.87		+4 54.56	
+56	+11 31.12	+11 21.87		+11 21.43	+11 32.53		+11 32.14	

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$\log \cos \delta$	9.81723
$15 \cos \delta \tan i$	9.93983

I 314

$\tan \theta$	$+ 1.15$	1.52
$\sin z$	$- .11$	

187

-1.02		-95		-99		-1.03		-1.94			
Oct. 18		Oct. 27		Oct. 28		Oct. 30		Nov. 1		Nov. 4	
24 59.64	25 1.7	25 1393	24 58.4	25 1550	22 566	23 1869	23 200	23 2200	23 4.0	23 2738	
5.5 2.70	4.3	1670	0.7	1879	59.0	2190	224	2525	6.5	3040	
7.6 5.90	7.1	2070	4.0	2187	1.9	2491	25.9	2833	9.0	3360	
12.17		2628		2812		3127		3438		3925	
15.55		2963		3113		3426		3735		4292	
18.51		3253		3439		3742		4099		4680	
21.49		3570	25 59.8	3739	23 51.2	4054		4413	24 8.1	4930	
24.87		3972	2.2	4063	53.9	4399		4730	11.0	525	
27.6		4510	5.0	4698	55.2	5018		5355	13.3	586	
31.30		4809		5025		5357		5687		1.84	
34.30		5139		5324		5643		5992		508	
37.57		5847		57829		41326		45069		38760	
264.57		35847		37829		41326		45069		38760	
204.57	25 4.37	25 32588	23 1.03	23 34390	22 59.17	23 5343	23 37569	23 22.77	23 6.50	23 50760	
18.567		25 32588	24 2.33	23 34390	23 5343	23 37569		23 40972	24 10.80	23 46145	
-1 58.99	-2. 13.57		-1.521		-18.22		-21.91		-27.11		
-1.17	-1.09		-1.14		-1.18		-1.08		-1.08		
-1.64	-1.38		-1.35		-1.09		-1.09		-1.18		
-2 1.80	-2 15.98		-17.80		-1.29		-1.24		-29.37		
23 16.80	28 16.61		23 16.59		-20.80		-24.32		23 16.78		
					23 16.77		23 16.65				
								20 23 ^h 16.703 ^s			
-11.07	+28.22	+33.36	+33.36	-27.94	+38.40	-15.86	+18.20	+39.64	-24.66		
10.4444	1.45055	1.52322	1.44622	1.58433	1.22030	1.26007	1.59813	1.39199	1.33182		
0.98397	1.39038	1.46305	1.38605	1.52416	1.14013	1.19990	1.53796	1.33182			
25 4	25 3	25 3	25 4	25 3	25 4	25 3	25 3	25 3	25 4		
17.5	44.5	41.1	34.9	34.5	20.1	54.1	33.7	31.1			
30.2	56.1	51.9	44.2	45.5	32.9	5.2	47.1	43.8			
25.2 21.85	48.5 46.50	43.4 42.25	35.8 35.35	40.2 37.35	27.1 23.60	58.2 56.15	39.5 36.60	34.6 32.85			
25.9	51.4	47.8	39.0	44.4	30.4	2.9	43.8	40.5			
9.88	2005	18.42	15.39	16.46	110.5	0.4	104.1	150.0			
29 24.70	28 50.12	28 46.05	29 38.48	28 41.15	29 27.62	29 0.10	28 41.02	29 37.50			
9.64	+ 24.57	+ 29.04	- 24.32	+ 33.43	- 13.81	+ 15.85	+ 34.51	- 21.47			
29 15.06	29 14.69	29 15.09	29 14.16	29 14.58	29 13.81	29 15.95	29 15.53	29 16.03			
33.29	53 33.66	53 33.26	34.19	53 33.77	34.54	53 32.40	53 32.82	32.32			
35 53	36 28	36 32	35 40	36 34	35 50	36 18	35 37	35 41			
0.82360	0.82420	0.82420	0.82340	0.82440	0.82350	0.82400	0.82440	0.82340			
+ 26	+1329	+1129	+1129	+373	+373	+714	+457	+1457			
0.82386	0.83749	0.83549	0.83469	0.82813	0.82723	0.83117	0.83897	0.83747			
+ 6.67	+ 6.88	+ 6.85	+ 6.83	+ 6.73	+ 6.72	+ 6.78	+ 6.90	+ 6.87			
- .03	- .21	- .30	- .21	- .30	- .07	- .09	- .43	- .17			
- .62	- .57	- .57	- .69	- .55	- .67	- .60	- .52	- .64			
+ .26	+ .23	+ .23	+ .28	+ .22	+ .27	+ .24	+ .22	+ .28			
+ 6.28	+ 6.33	+ 6.21	+ 6.21	+ 6.01	+ 6.25	+ 6.33	+ 6.17	+ 6.36			
39.57	53 39.99	53 39.47	40.40	53 39.78	40.79	53 38.73	53 38.99	38.68			
+5 18.45	+5 17.80	53 39.94	+5 18.05	53 40.28	+5 18.25	+5 18.07	53 38.84	+5 18.38			
+0.1	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2	+0.2			
-23.6	-23.9	-23.9	-23.9	-23.9	-23.9	-23.9	-23.9	-23.9			
44 54.95	+4 54.10	+4 54.35	+4 54.55	+4 54.55	+4 54.55	+4 54.37	+4 54.68	+4 54.68			
58 34.50	58 34.09	58 34.29	58 34.83	58 34.83	58 34.83	58 33.10	58 33.52	58 33.52			
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B Delphini		20	31 46.88	Aug 8	31 58.26	1	10	15.0	16	log cos P	9.98659		
20	81	41	Cond	+ .06	13	58.27	1	16.0	9				
+14	9	41	dt	+2.8117	23	58.27	2	16.9	8	15 constani	0.10919		
+28	13	7	80	10 56	28	58.25		17.7	8			I	2.18
			Cond	+ .1	Oct 7	58.88		18.5		tang 8	+0.25	1.03	
			dp	+12.291	12	49.81	7	22.3	2	eriz	+ .47		
			dt		17	49.74	8	22.5	1				
					22	49.66	8	22.6	0				
					27	49.58	9	22.6	1				
						49.49		22.5					
1877			-1.36		-1.42		-1.33						
Aug. 22				Aug 27		Aug 28		Aug 30		Oct. 27			Oct. 28
32 36.9	32 -	32 7.8	32 17.20	32 2.0	32 18.30	32 7.0	32 21.15	33 58.2	33 57.50	33 39.8	33 52.30		
35.7		10.5	19.25	3.7	20.45	8.9	23.27	51.9	52.80	41.4	54.48		
40.4		12.2	21.38	5.4	22.55	10.9	25.43	53.6	54.90	43.3	56.60		
22.66	18.50		25.68		24.78		29.69		58.97		0.78		
35 20.17			27.70		28.96		31.60		1.27		2.89		
.17 22.77			28.00		31.10		33.78		3.40		5.20		
.22 24.40			32.00	32 4.33	33.20	32 43.7	35.92	34 22.0	5.57	34 22.0	7.21		
.14 26.50			34.10	44.8	35.35	45.6	38.00	23.4	7.45	23.7	9.30		
21.78 26.70			38.39	47.0	39.57	47.5	42.37	26.0	11.70	25.5	13.70		
21.90 32.80			40.61		41.76		44.60		13.97		15.74		
21.97 35.05			42.70		43.20		46.60		16.10		17.85		
32 38.50		32 10.17	32.891	32 3.70	34.192	32 8.93	37.231	33 51.90	27.663	31 41.50	28.05		
32 22.200		32 29.901	32 58.253	32 45.08	32 31.084	32 45.60	32 33.846	34 23.80	36.63	32 23.73	32 5.095		
31 50.270		31 58.283	+ 39.65		31 50.219		31 52.241		34 33.30	31 49.485	31 49.465		
+ 31.23		+ 39.65	+ 39.59		+ 40.84		+ 43.60		+ 133.84	+ 133.84	+ 15.63		
+ 31.87		+ 39.59	+ 40.78		+ 40.78		+ 43.55		+ 133.78	+ 133.78	+ 15.57		
- 31.52		+ 40.78	- 40.78		- 40.78		- 43.55		- 133.78	- 133.78	- 15.57		
- .34		- 40.78	- 40.78		- 40.78		- 43.55		- 133.78	- 133.78	- 15.57		
- 3.46		- 40.78	- 40.78		- 40.78		- 43.55		- 133.78	- 133.78	- 15.57		
- 35.32		- 40.78	- 40.78		- 40.78		- 43.55		- 133.78	- 133.78	- 15.57		
+ 31 46.88		+ 46.95	+ 46.95		+ 46.95		+ 46.97		+ 46.90	+ 46.90	+ 46.98		
- 16.30		+ 19.73	+ 27.38		- 13.95		- 11.75		+ 11.43	+ 23.59	- 18.64		
1.212182		1.22512	1.43743		1.44572		1.070032		1.05604	1.31112	1.37272		
1.321372		1.40431	1.54662		1.253762		1.50573		1.16723	1.420312	1.48191		
15 2		15 1	15 1		15 2		15 1		15 2	15 1	15 2		
30.4		42.5	33.8		26.2		34.9		47.0	26.9	31.9		
42.3		54.1	46.4		38.8		47.1		4.3	43.8	48.3		
45.5 37.95		56.6 49.55	49.9 41.85		41.0 33.60		44.5 42.20		35.1 28.25	58.5 52.75	38.1 32.50		
37.9		50.1	41.6		33.9		42.2		28.7	38.6	37.2		
156.1		2033	171.7		139.9		173.7		118.8	22.84	16.60		
17 39.02		16 52.82	16 42.92		17 34.98		16 43.42		17 29.70	16 57.10	17 36.50		
20.96		+ 25.37	+ 35.21		- 17.94		+ 32.04		- 15.11	+ 14.70	- 26.32		
17 18.06		17 16.19	17 18.13		17 17.04		17 15.46		17 14.59	17 11.80	17 10.18		
44.17		5 32.16	5 30.22		31.31		5 32.89		33.76	5 36.55	38.17		
13		11 33	11 25		12 17		11 25		12 2	11 39	12 18		
148960		1.48940	1.48930		1.48960		1.48930		1.48950	1.48940	1.48960		
-1085		-952	-1503		-1503		-730		-730	+1352	+1352		
1.47875		1.47988	1.47427		1.47457		1.48200		1.48220	1.50292	1.50312		
-30.11		-36.19	-29.80		-29.82		-30.34		-30.35	-31.84	-31.85		
- .03		- .05	- .06		- .03		- .08		- .02	- .02	- .05		
- .27		- .18	- .17		- .26		- .17		- .25	- .30	- .39		
+ .16		+ .11	+ .10		+ .16		+ .10		+ .15	+ .12	+ .16		
- 30.25		- 30.31	- 29.96		- 29.95		- 30.49		- 30.47	- 32.04	- 32.13		
+ 14 5 0.04		5 1.85	5 0.26		1.36		5 2.40		3.29 2.27	5 4.51	6.04		
+ 5 17.98		+ 5 17.37	5 0.81		+ 5 17.51		5 2.84		+ 5 16.76	5 5.28	+ 5 17.80		
- 0.6		- 0.6	10 18.5		- 0.6		10 18.8		- 0.6	10 23.5	- 0.7		
+ 5 17.6		+ 5 16.6	+ 5 17.7		- 12.9		+ 5 16.0		- 13.2	+ 5 17.2	- 16.9		
17.7		16.7	17.8		16.1		16.1		17.3	17.3	18.0		
+ 5 5.38		+ 5 3.97	+ 5 4.01		+ 5 2.96		+ 5 0.20		+ 5 5.45	+ 5 5.45	+ 5 0.45		
+ 10 5.42		+ 10 5.82	+ 10 4.88		+ 10 5.80		+ 10 5.80		+ 10 5.45	+ 10 5.45	+ 10 5.02		

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11. Aquarii																								
20	45	55	0	2	46	46.56	Sept 16	46	46.91	5	26	24.3	1	log cos ²	9.99407									
-9	27	2	0	2	46	46.56	Oct 1	46	46.91	6	26	24.4	0	15 cos ² tan	0.11667									
+51	49	50	0	2	46	46.56	16	46	46.91	7	26	24.5	1	tang ²	-0.17 1.01									
			0	2	46	46.56	11	46	46.91	7	26	24.6	2	sin 2	+ .79									
			0	2	46	46.56	16	46	46.91	7	26	24.8												
1877																								
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Sept. 11																								
56.89	20	46	46	53.90	46	46.5	46	58.47	46	52.8	47	0.95	47	14.0	47	11.67	47	5.0	47	13.38	47	33.6	47	43.44
58.87				56.82		50.3		1.46		54.4		3.00		15.3		13.79		6.4		15.55		85.4		45.33
060				58.10		51.6		3.61		56.2		5.70		17.3		16.00		8.0		17.55		36.9		48.16
280				2.30				7.78				9.28				21.80				21.80				52.72
499				41.25				7.80				11.36				22.40				23.87				53.77
690				6.40				11.90				13.40				24.30				25.95				55.80
909				8.55				14.05				15.33				26.20				28.00				58.05
1136				10.82				16.10				17.42				28.40				30.10				61.0
1364				14.80				20.34				21.80				32.50				34.25				43.8
				16.88				22.48				23.98				34.6				36.40				63.8
				19.00				24.50				26.00				36.89				38.50				84.5
6439				25080				19153				14802				26723				28535				37578
4439				7080				3153				13.53				47 15.53				47 6.47				61578
4932				47 24.50				47 32.58				47 38.70				47 48.73				47 25.94				55.980
				46 49.6				46 4.92				46 4.91				46 4.85				46 4.84				4.58
1534				-1 1.53				-1 7.10				-1 8.56				-1 19.42				-1 21.19				51.43
181				+ .83				+ .84				+ .84				+ .20				+ .19				+ .19
68				-3.90				-3.86				-3.86				-3.79				-3.78				-3.53
483				-1 5.25				-1 10.45				-1 12.26				-1 23.01				-1 24.78				-1 54.77
410				46 1.19				46 1.21				46 1.20				46 1.28				46 1.16				46 1.21
127																								
26																								
125m				+24.64				-18.06				+21.83				-20.57				+18.99				-2.524
64m				139164				125671m				133905				131323m				127852				140249m
				15083.1				137338m				145572				142990m				139519				151876m
				50 2				50 3				50 2				50 3				50 2				50 3
30				36.6				32.2				42.0				37.0				46.1				44.4
4.1				48.9				44.1				52.3				48.2				57.2				54.8
6.4				51.4				46.0				56.6				53.0				2.0				59.5
0.4				46.1				40.6				51.1				46.0				55.7				52.9
39				183.0				162.9				202.0				184.2				221.0				211.6
84.8				52 48.75				53 40.72				52 50.50				53 46.05				52 58.25				53 52.90
9.8				+ 32.23				- 23.63				+ 28.56				- 26.91				+ 24.84				- 33.02
1750				53 17.98				53 17.09				53 19.06				53 19.14				53 20.07				53 19.88
3085				-9 30 29.63				28.74				30 30.71				30.79				30 31.74				31.53
50				+51 47 28				48 23				47 32				48 28				47 37				48 35
2670				1.86345				1.86370				1.86345				1.86370				1.86350				1.86370
188				-588				-588				-1184				-1184				-1467				-1467
858				1.85757				1.85782				1.85161				1.85186				1.84883				1.84908
035				-72.04				-72.08				-71.06				-71.10				-70.60				-72.56
07				+ .05				+ .03				+ .04				+ .03				+ .05				+ .01
32				+ .31				+ .41				+ .31				+ .42				+ .32				+ .43
09				+ .11				+ .22				+ .17				+ .23				+ .17				+ .23
0.15				-1 12.13				-1 12.24				-1 11.16				-1 11.25				-1 10.72				-1 10.83
1.00				-9 31 41.56				40.98				31 41.84				42.04				31 42.46				42.36
18.05				31 41.37				+5 16.87				31 41.96				+5 17.61				31 42.41				+5 17.14
+0.5								-0.9								-1.0								-1.0
26.9								-11.4								-11.2								-11.1
165				+5 4.57								+5 5.51				+5 4.84				+5 4.72				+5 5.58
12.47				-9 26 24.2				26 24.3				26 24.3				26 24.4				26 24.4				26 24.4
				26 36.80				26 36.45				26 36.45				26 37.57				26 35.35				26 36.62
																								26 36.73
																								-9 27 36.73

6. *Dracoma's* do
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51 22722 Sept. 7
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 +.3
 +13.642

51 2436 Sept. 7
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 49.8
 50.9

log cos δ 9.13994
 15 cos δ 9.26254
 tang δ +7.18
 sin 2 - .64

log sin δ 9.99582
 log cos δ 9.13994
 log tan δ 6.73672

1877

-1.19

-1.26

-1.27

-1.26

-1.10

-1.14

Sept. 11

Sept. 15

Sept. 18

Sept. 19

Oct. 6

Oct. 7

20	51	27.8	52	4.30	50	28.7	52	10.42	50	11.8	52	14.40	50	38.4	52	16.10	51	8.8	52	38.30	51	10.3	52	41.20
		39.4		11.70		33.9		18.58		24.3		23.30		50.0		24.20		21.7		46.63		19.7		48.26
		52.1		23.88		45.7		25.72		32.8		31.00		0.2		32.00		32.6		53.10		28.7		53.45
				24.10				33.50				38.05				39.50				54.10		33.5		53.23
				35.20				40.80				45.05				47.20				8.77				10.82
				43.30				46.05				53.64				54.35				15.30				18.29
52	31.7			50.28	51	23.0		55.74	51	44.9		1.40	51	12.8		2.30	52	17.8		23.70	51	49.0		25.47
	51.8			56.93		51.3		58.1		58.1		8.18		28.9		8.69		26.9		51.17		6.0		53.10
	5.9			4.47		2.22		11.26		8.9		15.70		40.6		15.50		42.6		38.45		17.3		40.20

51	39.67	25358	51	35.27	24747	51	22.97	23072	51	49.53	28034	51	21.03	25422	51	23.05	27602
52	52.47	31358	52	34.84	36747	52	40.83	41072	52	45.63	42034	52	29.10	7422	52	0.10	2602
		23.88			18.58			23.07			22.94			8.247		5.2	10.669
		+70.96			+77.39			+82.57			+83.76			+107.66			+110.24
		+70.96			+77.39			+82.57			+83.76			+107.66			+110.24
		-1.155			-1.121			-1.121			-1.140			-1.139			-1.146
		-8.54			-9.05			-9.12			-9.05			-7.90			-8.18
								-0.36			-0.22			-1.44			+2.29
								-0.35			-0.22			+2.14			+2.29
								-1.21.95			-1.23.27			-1.46.10			-1.52.84
								+2.3.69			+2.3.43			+2.2.15			+2.5.56

+55.17	-17.63	+125.56	+44.66	+142.67	+48.34	+117.17	+14.43	+107.22	+39.15	+107.62	+10.57
1.74170	1.24625	2.00888	1.81263	2.15433	1.68430	2.06881	1.89998	2.03327	1.65273	2.03189	1.84562
1.00424	0.50879	1.36139	1.07317	1.41687	0.94684	1.33135	1.16252	1.29282	0.85527	1.29443	1.11116

20	3	20	4	20	3	20	3	20	3	20	3	20	3	20	3	20	3	20	3	20	3	20	3	20	3
----	---	----	---	----	---	----	---	----	---	----	---	----	---	----	---	----	---	----	---	----	---	----	---	----	---

52.5	6.5	39.5	57.4	35.8	55.1	42.2	47.9	37.1	50.5	37.8	45.1												
22.06	45.2	173.7	22.65	160.5	23.69	184.9	209.3	173.5	22.85	173.8	205.8												
23.5	4.40	24.1	11.30	22.4	3.42	23.5	56.62	23.4	0.12	23.5	59.22	23.4	6.22	23.5	52.32	23.4	43.38	23.5	57.12	23.4	43.45	23.5	51.45
+10.98	-3.23	+22.98	+11.84	+26.11	+8.85	+21.45	+14.54	+19.63	+7.17	+19.70	+12.92												
24.7	3.0	24.8	8.07	24.6	4.0	24.6	2.3	24.8	0.7	24.7	7.67	24.6	8.6	24.3	3.01	24.4	4.29	24.3	3.15	24.4	4.37		
58.4	40.85	40.28	58.4	41.95	39.89	58.4	40.12	40.28	58.4	40.68	41.49	58.4	40.24	40.01	58.4	40.20	40.99						

+81	58	40.85	40.28	58	41.95	39.89	58	42.12	40.28	58	40.68	41.99	58	45.34	44.06	58	43.20	43.98
-----	----	-------	-------	----	-------	-------	----	-------	-------	----	-------	-------	----	-------	-------	----	-------	-------

	+4670	+4689	+4523	+4597	+4587	+4720	+4674	+4728	+4792	+4664	+4810	+4858									
+81	59	27.56	27.17	59	27.18	25.86	59	27.99	27.48	59	27.42	28.77	59	3326	32.70	59	33.30	32.58			
	59	27.36	+5	16.87	59	26.52	+5	17.61	59	27.73	+5	17.29	59	32.88	+5	17.38	59	32.92	+5	17.91	
	4	443		+0.8	4	455		+0.8	4	463		+0.8	4	507		+0.8	4	539		+0.8	
+5	16.9		-17.6	+5	19.0		-18.8	+5	18.6		-19.6	+5	18.5		-19.9	+5	18.7		-24.0	+5	18.0
	17.2				19.3				18.0				18.8				18.2		18.3		-24.2

	+5	0.07		+4	59.61		+4	58.49		+4	57.40		-4	54.18		+4	54.51
+82	+4	²⁷ 32 .43		+4	26.13		+4	26.22		+4	25.50		+4	27.16		+4	27.45

+5	0.07	+4	59.61	+4	58.49	+4	57.40	+4	54.18	+4	54.51	
+82	+4	32.45	+4	26.13	+4	26.22	+4	25.50	+4	27.16	+4	27.43

E. Cygni
21^h 0^m 23^s
+43° 25' 4"

 m

h

m
A

7

21 13

216

[illegible]

1003

582	21	0	23	Corr'd	+ .07	2	30.48	4	32.4	14	log cos δ	9.86104
994	21	0	23	Corr'd	+ .07	7	30.43	5	33.7	13		
672	+43	25	47	dx	+2.1778	12	30.36	7	34.9	12	15 cos δ tan i	9.98364
				dt	"	17	30.29	7	36.1	12		
					"	22	30.21	8	37.1	10		
	-1	2	59	ρ_0	26 15.53	27	30.12	9	38.1	9	tang δ	+0.95 1.38
				Corr'd	+ .14	2	30.02	10	39.0	8		
						7	29.70	12	39.8	8	sin z	-.02

1877

-1.19

-1.2

 -1.22

- 1.2

-1.2

1

Sept. 11

Sept. 12

Sept. 13

Sept. 18

Sept. 19

Sept. 2

120	21	0	51.4	1	16.15	0	54.7	1	17.40	1	0.3	1	18.68	1	18.8	1	26.80	1	5.2	1	28.30	1	35.4	1	39.58
826			53.6		17.00		22		20.20		2.8		21.50		21.0		29.70		7.0		31.10		37.5		42.00
585			55.3		21.88		4.5		23.05		4.8		24.27		23.0		32.45		10.0		34.05		40.5		44.80
23					27.54				28.50				30.00				36.10				39.70				50.50
82					30.24				31.50				32.89				40.83				42.60				53.29
29					33.10				34.30				35.20				43.80				45.30				56.19
47	1		46.8		35.92	1	56.7		37.12	1	53.5		38.50	2	5.7		46.60	2	7.3		48.30	2	20.3		58.90
10			48.4		38.84		55.0		40.00		55.6		41.45		7.8		49.35		9.0		51.25		22.6		1.88
920			52.1		44.65		6.9		45.68		55.5		47.15		10.3		55.10		12.1		56.85		25.3		7.40
					47.30				48.58				50.10				58.10				59.8				10.30
					50.36				51.33				52.94				67.5				2.62				13.18

[illegible]

$$\begin{array}{r}
 29 \\
 84 \\
 -58 \\
 \hline
 312
 \end{array}
 \quad
 \begin{array}{r}
 47.51 \\
 -2.95 \\
 -1 \quad 5.65 \\
 +0 \quad 27.58 \\
 \hline
 3
 \end{array}
 \quad
 \begin{array}{r}
 -2.94 \\
 -1 \quad 6.92 \\
 +27.42
 \end{array}
 \quad
 \begin{array}{r}
 -2.92 \\
 -1 \quad 7.33 \\
 +28.43
 \end{array}
 \quad
 \begin{array}{r}
 -2.85 \\
 -1 \quad 16.26 \\
 +27.52
 \end{array}
 \quad
 \begin{array}{r}
 -2.83 \\
 -1 \quad 18.06 \\
 +26.39
 \end{array}
 \quad
 \begin{array}{r}
 -2.72 \\
 -1 \quad 28.68 \\
 +27.47
 \end{array}$$

7	+34.75	-15.69	+32.21	-24.86	+33.13	-20.11	+22.85	-24.15	+35.05	-24.02	+18.35	-26.58
12	1.59933	1.19562m	1.50799	1.39550m	1.52022	1.30341m	1.35888	1.38291m	1.58035	1.38057m	1.26363	1.42455m
116	1.58297	1.17926m	1.49163	1.37914m	1.50386	1.28705m	1.34252	1.36655m	1.56399	1.36421m	1.24727	1.40819m

3		0' 0	0' 1	0' 0	0' 1	0' 0	0' 1	0' 1	0' 1	0' 0	0' 1	0' 1	0' 1												
2.1	€	47.3	39.9	54.9	56.0	53.8	14.8	2.3	48.0	46.1	45.5	3.8	47.9												
6.7	¥	55.1	48.9	2.6	57.9	1.9	52.8	10.4	57.2	55.4	53.2	15.0	58.7												
8.9	¥	54.8	51.05	49.0	46.05	2.8	58.85	57.9	53.95	1.6	57.40	53.1	48.95	11.5	69.0	56.9	52.45	53.8	49.95	53.5	49.50	16.1	15.55	56.7	53.0

6.1	K	55.3	47.3	2.0	57.6	0.8	52.2	8.1	50.4	33.9	53.0	12.4	56.8
5.8		212.5	185.1	2.3	223.4	23.1	202.9	32.3	216.5	200.2	207.2	4.78	222.1
145		0 53.12	46.28	0.58	55.85	0 59.28	50.72	1 8.08	54.12	0 52.30	51.50	1 1.495	55.52
2.92		+ 38.28	- 15.11	+ 31.02	- 23.94	+ 31.91	- 19.37	+ 22.00	- 23.26	+ 36.64	- 23.13	+ 17.67	- 25.60
4.34		1 31.40	1 31.17	1 31.60	1 31.91	1 31.43	1 31.35	1 30.08	1 30.86	1 28.94	1 28.67	1 29.62	1 29.92

[illegible]

103	- .330	- .330	- .780	- .780	- .100	- .100	0.03013	0.02473	0.03506	0.02826	0.02000	0.01520
	0.02750	0.02130	0.02250	0.01640	0.01684	1.01074						
221	+1.07	+1.05	+1.05	+1.04	+1.04	+1.02	+1.07	+1.06	+1.08	+1.07	+1.06	+1.03
87	- .44	- .07	- .28	- .17	- .30	- .11	- .14	- .16	- .39	- .16	- .09	- .20
52	- .10	- .20	- .11	- .21	- .11	- .20	- .12	- .21	- .10	- .20	- .14	- .23
22	+ .05	+ .11	+ .06	+ .11	+ .06	+ .11	+ .07	+ .11	+ .05	+ .11	+ .07	+ .11

1855		+058	+089	+072	+077	+069	+082	+088	+080	+064	+082	+090	+071
3253	+43	21 1758	18.07	21 1747	17.21	21 17.61	17.82	21 19.15	18.29	21 20.05	20.50	21 19.63	19.14
1791	+43	21 17.80	+5 16.87	21 17.34	+5 17.31	21 17.72	+5 17.22	21 18.72	+5 17.29	21 20.28	+5 16.50	21 19.38	+5 18.13
-0.8		26 34.7	+0.1	26 35.0	+0.1	26 35.2	+0.1	26 36.3	+0.1	26 36.5	+0.1	26 37.9	+0.1

4.2	+5	$\frac{16.9}{17.3}$	-19.2	+5	$\frac{17.7}{18.1}$	-19.5	+5	$\frac{17.5}{17.9}$	-19.7	+5	$\frac{17.6}{18.0}$	-20.7	+5	$\frac{18.2}{18.6}$	-21.0	+5	$\frac{18.3}{18.7}$	-21.4	
4.51			+4	57.77		+4	57.91		+4	57.62		+4	56.69		+4	55.60		+4	55.53
7.43	+43		+26	15.57		+26	15.25		+26	15.34		+26	15.34 ₄		+26	15.55		+26	15.21

5 Cygni
21 7 37
+29° 42' 55"
12 39 53

Lo
Corr
dt
Bo
Corr
dP
dt

m 2
4 42.75
- .06
+2.5521
43 24.07
" "
- .8
+14610

Aug 28
Sept 2
7
12
17
22
27
Oct. 2
7

m 2
4 45.47
45.45
45.42
45.38
45.33
45.29
45.20
45.12
45.04

2
3
4
5
6
7
8
8

1/3
39.7
40.8
41.9
42.9
43.8
44.6
45.4
46.1
46.7

log cos δ
15 cos δ
tang δ
sin 2

9.93876
0.06136
+0.57
+ .22

1877

-1.19

-1.22

-1.22

-1.26

-1.16

-1.19

Sept. 11

Sept. 12

Sept. 13

Sept. 19

Sept. 22

Sept. 26

21	8	180	m 8	33.10	8	22.6	8	34.57	8	23.7	8	36.00	8	36.0	8	45.83	8	41.8	8	51.10	8	112.1	8	56.08
		20.7		35.60		24.3		37.00		24.7		38.34		38.0		48.20		44.2		53.57		115.2		58.88
		22.9		38.10		26.0		39.33		26.4		40.90		39.8		52.58		46.0		55.94		117.3		58.9
				42.42				44.05				45.45				55.40				58.0		118.4		59.0
				45.20				46.40				47.82				57.80				59.8		119.5		59.0
				47.55				48.80				50.21				59.10				61.0		120.6		59.0
9	7.0		9	9.0		10.8		51.30	9	11.6		52.52	9	24.4		53.8	9	27.2		55.0	9	24.3		120.0
	9.6			10.8		13.6		53.63		13.0		55.00		26.3		54.73		29.4		56.0		26.0		120.9
	11.8			56.95				58.92		14.8		0.80		28.0		55.82		32.0		57.0		28.6		120.5
				59.45				0.70				2.00				56.86				58.0		28.6		120.5
				1.79				3.14				4.48				57.20				59.0		28.6		120.5
				46.317				47.734				37.332				30.558				23.913				23.731
8	20.53		8	24.30				53.334	8	24.77		53.332	8	37.93		58	8	44.50		59.73	8	45.20		117.31
9	9.47		9	11.13				48.849	9	13.13		50.302	9	26.23		0.005	9	29.53		53.75	9	26.30		10.664
				45.386				45.378				45.368				45.303				45.266				45.210
				+ 62.18				+ 63.47				+ 64.93				+ 74.70				+ 80.11				+ 85.45
				+ 62.24				+ 63.53				+ 64.99				+ 74.76				+ 80.17				+ 85.51
				-1 1.58				-1 2.83				-1 4.25				-1 14.03				-1 19.45				-1 24.84
				- .68				- .70				- .70				- .72				- .66				- .68
				-3.21				-3.20				-3.19				-3.12				-3.09				-3.03
				-1 5.47				-1 6.73				-1 7.04				-1 17.57				-1 23.20				-1 28.55
				+7 42.09				+42.12				+42.26				+42.13				+42.18				+42.11
				+27.03				+24.55				+25.53				+22.07				+21.37				+25.46
				1.43184				1.34064				1.40705				1.34380				1.32980				1.44232
				1.49320				1.40200				1.46841				1.40516				1.48015				1.25559
				40 3				40 4				40 3				40 4				40 3				40 4
				31.2				35.5				33.9				34.9				30.6				18.9
				42.9				45.5				44.1				47.2				42.4				31.4
				39.4				43.0				43.0				42.7				48.1				28.8
				39.7				42.8				41.1				42.9				43.3				26.7
				153.2				166.8				162.1				167.7				168.9				105.8
				43 38.30				44 34.18				43 35.35				43 37.22				44 32.22				44 36.08
				44 34.18				43 41.70				44 35.35				44 37.22				43 42.22				44 36.08
				+ 31.13				+ 28.28				+ 29.40				+ 25.42				+ 24.61				+ 29.32
				44 7.43				44 8.75				44 9.92				44 7.34				44 7.01				44 8.62
				+29 38 38.92				39.40				38.66				38 41.01				41.34				38 39.73
																								39.91
				+12 38 20				39 16				38 24				39 19				38 24				39 18
				1.11100				1.11160				1.11100				1.11160				1.11100				1.11150
				-536				-966				-1525				-1525				-222				-1085
				1.10564				1.10624				1.10194				1.10735				1.10878				1.10065
				-12.75				-12.77				-12.63				-12.48				-13.00				-12.61
				- .17				- .14				- .11				- .13				- .10				- .06
				- .40				- .51				- .41				- .51				- .41				- .53
				+ .22				+ .28				+ .22				+ .28				+ .22				+ .26
				-13.10				-13.11				-12.97				-12.84				-13.39				-12.94
				+29 38 25.82				26.29				38 25.40				25.92				38 27.73				26.97
				+29 38 26.06				+5 16.87				+5 17.31				+5 17.22				+5 16.50				+5 18.13
				43 42.7				43 42.9				43 42.9				43 44.2				43 44.6				43 45.3
				+5 16.6				-18.6				+5 17.4				-19.0				+5 16.4				-21.2
				15.8				16.6				16.5				15.6				17.0				17.6
				+4 58.07				+4 58.71				+4 58.02				+4 56.10				+4 56.12				+4 56.73
				+43 24.13				+43 25.26				+43 24.25				+43 23.78				+43 23.94				+43 23.60

1877 phase: prof. 1388

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2 Cephei

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21	15	36
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logcos ^o	9.67090	
15 cos 1 tan i	9.79350	
tang ^o	+ 1.89	2.13
sin 2	- .34	

1877

-1.22			-1.22			-1.27 -1.05			-1.26			-1.16			-1.19						
Sept. 12			Sept. 13			Sept. 18			Sept. 19			Sept. 22			Sept. 26						
0.7	16	3782	16	11	2109	16	174	16	2935	16	202	16	3110	16	289	16	3620	16	270	16	3736
4.8		4008	46		4540		208		3364		230		3575		320		4044		304		1.58
4.9		4210	8.3		2038		247		3820		280		3995		356		4510		336		3.65
		4935			3900				4745				4880				5388				5.92
		4650			4346				5140				5305				5834				8.05
		4865			4760				5364				5757				2.67				10.30
26.5		5290	17	92	5213	17	121	17	514	17	514	17	274	17	274	17	400	17	176	17	12.58
29.9		5316		129	5680		159		4.65		351		6.99		803		1144		230		14.6
340		5538		174	5.66		207		1354		592		1505		333		2030		277		16.87
					10.00				1800				1944				2479				
					14.44				2220				2425				2970				
		41886			34730				31393				33325				32908				13264
					58730				61343				63325				2908				7264
4.47			16	467	58730	16	2097	16	2373	16	2373	16	3217	16	3217	16	3033	16	3033	16	8.071
30.07	16	46540	17	13.17	58730	17	16.23	17	35.23	17	35.23	17	30.33	17	30.33	17	23.43	17	23.43	17	10.932
15		41314	15		41290	15		15	41.137	15		15	41.137	15		15	41.052	15		15	87.14
+		65.23	+		66.65	+		+	74.65	+		+	74.43	+		+	81.59	+		+	87.15
+		65.22	+		66.64	+		+	74.64	+		+	74.42	+		+	81.58	+		+	87.14
-1		2.84	-1		4.26	-1		-1	12.16	-1		-1	19.04	-1		-1	19.47	-1		-1	24.85
-2.30			-2.30			-2.40		-2.59		-2.57		-2.19		-2.48		-2.36		-2.36		-2.36	
-2.74			-2.72			-2.59		-2.57		-2.57		-2.19		-2.48		-2.36		-2.36		-2.36	
-1		7.88	-1		8.28	-1		-1	17.26	-1		-1	18.99	-1		-1	24.14	-1		-1	28.46
+15		38.66	+3.8		38.66	+3.8		+3.8	55	+3.8		+3.8	58	+3.8		+3.8	58	+3.8		+3.8	58
42.07		+16.47	+43.27		-25.23	+34.84		-20.42	+23.84	-37.66		+30.47	-27.69	+37.74	-1536						
2397		1.21629	1.63618		1.40191	1.54207		1.31065		1.57588		1.48387	1.44232	1.57680	1.16639						
1747		1.01049	1.42968		1.19541	1.33557		1.10355		1.32293		1.36938	1.27737	1.23582	1.37030	0.97989					
6 3	20 3		20 3		20 4	20 3		20 4	20 3	20 4		20 3	20 4	20 3	20 4	20 3	20 4	20 3	20 4	20 3	20 4
42.8	59.0		41.3		23.9	45.6		20.9	43.9	29.1		46.9	23.8	40.1	13.3						
48.1	3.7		47.1		29.9	51.8		26.8	57.5	36.1		54.5	31.1	47.4	21.5						
47.6	4520	2.4070	46.50390	25.42415	51.34845	24.92290	48.14600	32.23065	50.84855	26.32505	48.94450	20.51630									
48.9	3.4		46.6		28.9	50.4		24.9	50.2	35.4		52.6	29.9	47.8	20.4						
1874	8.5		181.5		111.1	199.1		94.5	193.7	132.8		204.8	111.1	184.2	7.57						
4685	24 2.12	23 4538	24 27.78	23 49.78	24 24.38	23 48.42	24 33.20	23 51.20	24 27.78	23 46.05	24 18.52										
26.15	+ 10.24	+ 26.90	- 15.68	+ 21.66	- 12.69	+ 21.03	- 23.41	+ 18.94	- 17.21	+ 23.46	- 9.58										
13.00	24 12.36	24 12.28	24 12.10	24 11.44	24 11.69	24 9.45	24 9.79	24 10.14	24 10.57	24 9.51	24 9.37										
3535	3599	58 36.07	36.25	58 36.91	36.66	58 38.90	38.56	58 38.21	37.78	58 38.84	38.98										
31	41 16	41 33	40 50	41 28	40 54	41 30	40 45	41 24	40 50	41 32	40 59										
1400	1.31390	1.31400	1.31370	1.31400	1.31380	1.31400	1.31370	1.31360	1.31370	1.31360	1.31350										
954	-9.54	-1506	-1506	-124	-124	+259	+259	-205	-205	-1071	-1071										
6446	1.30436	1.29894	1.29864	1.31276	1.31256	1.31659	1.31629	1.31196	1.31165	1.30329	1.30309										
2016	+20.15	+19.90	+19.89	+20.55	+20.54	+20.73	+20.72	+20.51	+20.50	+20.10	+20.10										
-40	- .06	- .42	- .42	- .28	- .09	- .26	- .33	- .20	- .18	- .33	- .05										
.42	- .44	- .42	- .49	- .42	- .48	- .42	- .51	- .42	- .49	- .46	- .52										
.23	+ .24	+ .23	+ .27	+ .23	+ .26	+ .23	+ .28	+ .23	+ .27	+ .23	+ .26										
19.54	+19.89	+19.24	+19.53	+20.08	+20.23	+20.28	+20.16	+20.12	+20.10	+19.54	+19.79										
5492	5588	58 5336	55.78	58 5299	56.89	58 5918	58.72	58 5833	57.88	58 5838	58.77										
5540	+5 17.31	58 5557	+5 17.22	58 5694	+5 17.29	58 5895	+5 16.50	58 5810	+5 16.82	58 5858	+5 18.13										
12+118	+6.4	4 12.51	+0.4	4 13.5	+0.4	4 13.8	+0.4	4 14.6	+0.4	4 15.6	+0.4										
1684	-1.98	+5 16.5	-20.1	+5 16.6	-21.5	+5 14.8	-21.8	+5 16.5	-22.6	+5 17.0	-23.6										
17.5		16.6		17.7		15.9		17.6		18.1											
	+4 57.91	17.6	+4 57.52		+4 56.19		+4 56.10		+4 54.62		+4 54.93										
	+3.53.31		+3 53.09		+3 53.13		+3 50.05		+3 52.72		+3 53.51										

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122 Cephei - B.A.C. 1510

log $\cos \delta$ 9.23731log $\sin \delta$ 9.99335log $\cos \delta$ 9.23967150 $\cos \delta$ 9.36227

Winc. Int.

log

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17.81

11.87

5.94

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tango + 5.67 5.76

sin δ - .61

1877

-1.26

-1.13

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Sept 16

Sept 24

Sept 30

Oct 1

Oct 7

Oct 13

h	m	s	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s
21	29	42.8	29	17.9	29	20.35	29	18.3	29	38.38	29	18.7	29	40.25	29	33.2	29	48.10	29	57.06
		32.0		26.8		36.20		42.30		46.00		27.4		46.55		45.3		54.00		3.00
		2.7		40.0		42.30		48.05		50.00		38.3		52.22		52.6		59.76		9.00
				41.64		45.05		53.90		56.53		54.87		57.87		6.00		6.00		15.10
				41.50		53.90		0.10		2.40		4.05		4.05		11.40		11.40		20.50
				42.06		0.10		6.05		8.45		10.65		10.65		17.75		17.75		26.52
20	21.0	42.23	30	16.6	30	12.40	30	38.0	30	14.8	30	53.5	30	53.5	30	23.65	30	30.2	30	30.46
		32.8		29.3		12.40		45.6		20.22		21.41		21.41		27.36		37.1		32.10
		43.0		41.3		17.89		57.3		26.05		33.0		28.40		17.4		35.25		43.23

29	52.83	29	28.23	29	18.30	29	28.23	29	35.58	29	43.70	29	56.57	29	56.57	29	56.57	29	56.57	29	56.57
30	32.93	29	41.89	30	29.07	29	54.17	30	46.97	30	2.270	30	23.70	30	4.176	30	5.13	30	11.674	30	20.396

-1	8.63	-1	22.55	-1	30.80	-1	32.47	-1	48.166	-1	51.50
	-7.14		-6.41		-7.03		-7.31		-6.46		-6.41
	.29										
	-2.21		-1.56		-1.01		-0.91		-0.33 ⁰		+0.35
-1	18.27	-1	30.52	-1	38.84	-1	40.69	-1	48.43 ²	-1	57.56
28	23.62	28	23.65	28	23.43	28	23.48	28	23.22 ⁵	28	22.84

21 28 23.378

-10.94	-51.04	+25.94	-34.90	+43.97	-44.70	+35.95	-19.55	+27.97	+53.46	+143.83	+102.73
1.03901m	1.70791m	1.41397	1.54282m	1.64315	1.65030m	1.55569	1.29114m	1.44666	1.72802m	2.13784	2.01166
0.40128m	1.07618m	0.77624	0.90509m	1.00542	1.01257m	0.91796	0.65341m	0.80896	1.09029m	1.52011	1.37396

11.5	20.2	23.7	16.1	53.1	13.9	55.6	8.6	56.9	17.0	26.8	37.0											
17.1	26.1	9.3	22.4	4.6	24.4	4.8	17.2	2.9	27.8	37.9	48.0											
13.1	12.30	22.0	21.10	2.2	2.45	17.1	16.60	56.9	55.00	17.3	15.60	58.1	56.85	12.1	15.35	58.7	57.80	18.4	17.70	29.7	28.25	39.2
18.1	27.1	8.1	22.1	3.2	24.9	4.7	17.1	7.0	26.2	36.9	47.9											
59.8	9.54	22.3	7.77	23.8	8.05	3.2	55.0	10.5	8.94	13.13	17.21											

29	14.95	29	23.85	29	55.8	29	19.42	28	59.45	29	20.12	29	0.80	29	13.75	29	26.28	29	22.35	28	32.82	28	43.02
	-2.52		-11.75		+50.78		-8.04		+10.12		-10.29		+8.28		-4.50		+6.44		-12.31		+33.12		+23.66
29	12.43	29	12.10	29	11.65	29	11.38	29	9.57	29	9.83	29	9.08	29	9.25	29	9.06	29	10.04	29	8.94	29	6.68

+79	53	35.92	36.25	53	36.80	36.97	53	38.78	38.52	53	39.27	39.10	53	39.29	38.31	53	42.41	41.67
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-37	36 3	35 54	36 12	35 59	36 19	35 58	36 17	36 4	36 15	35 56	36 45	36 35
	1.64660	1.64660	1.64660	1.64660	1.64670	1.64660	1.64670	1.64660	1.64660	1.64660	1.64670	1.64670
	-1405	-1405	-696	-696	+88	+88	-505	-505	+1416	+1416	+809	+809
	1.63255	1.63255	1.63964	1.63964	1.64758	1.64798	1.64165	1.64155	1.66076	1.66076	1.65499	1.65499
	+42.91	+42.91	+43.62	+43.62	+44.42	+44.41	+43.82	+43.81	+45.79	+45.79	+45.16	+45.16
	- .01	- .24	- .06	- .11	- .18	- .19	- .12	- .04	- .04	- .26	- .193	- .99
	- .46	- .48	- .49	- .52	- .48	- .52	- .48	- .49	- .52	- .57	- .49	- .52
	+ .25	+ .26	+ .25	+ .26	+ .24	+ .26	+ .24	+ .25	+ .24	+ .26	+ .21	+ .21

+42.69	+42.45	+43.32	+43.65	+44.00	+43.96	+43.46	+43.53	+45.44	+45.22	+42.95	+43.87
54 18.61	18.70	54 20.12	20.02	54 22.78	22.48	54 22.73	22.63	54 24.73	23.53	54 25.36	25.54
54 18.65	+5 17.14	54 20.07	+5 18.41	54 22.63	+5 17.04	54 22.68	+5 17.74	54 24.13	+5 17.91	54 25.45	+5 17.40
	+0.7		+0.7		+0.7		+0.8		+0.7		+0.7
	-19.8		-22.3		-24.0		-24.3		-26.9		-27.4

+4	58.04	+4	56.81	+4	53.79	+4	54.29	+4	52.71	+4	50.71
59	16.69	59	16.84	59	16.37	59	16.92	59	16.84	59	16.15
			98								

8 Lapicomini
21 33 9
- 17° 12' 30"
+ 59 35 18

$\log \cos \theta$	9.98018		
$15 \cos \theta \tan i$	0.10278		
			I 2.16
$\tan \theta$	-0.31	1.05	
$\sin z$	+ .86		

1877

-1.13	-1.29	-1.97	-1.99	-1.86
Sept. 24	Oct. 1	Oct. 14	Oct. 28	Oct. 29

06	34	575	34	—	34	546	34	3966	34	558	35	0.00	35	59	35	22.14	33	196	33	2472
00		58.5	—	—		54		41.82		543		2.25		7.9		2451		21.9	36.91	26.11
00		0.7	—	—		57.8		4400		59.6		4.45		9.6		26.72		23.4	.92	28.28
10			42.92	3860				4830				8.70				31.12			.81	32.49
50			.86	4070				50.43				10.80				33.28			.85	34.69
52			.90	4290				62.66				132.0				35.41			.90	36.90
46			.74	4490	35	176		54.84	35	32.7		15.30				37.60	34	54	.94	39.10
10	35	22.1	.78	4710		195		56.95		34.3		17.40				39.62		70	.96	41.28
82		25.8	.76	5140		208		1.39	35.8			21.80				44.14		93		—
			.85	5365				3.50				23.80				46.20				—
			.94	5590				5.60				26.00				48.40				—

[illegible]

51.50	-1	22.55	-1	32.47	-1	32.83	-1	15.44	-1	6.93
64.1		4.35		4.40		4.31		4.31		4.27

35	-4.14	-4.07	-3.92	-3.73	-3.72	
756	-1 26.34	-1 36.14	-1 56.43	-1 56	-20.38	$h \ m \ s$
284	33 16.50	33 16.51	33 16.63	33 16.54	33 16.53	21 33 16.542

278	-1606	-4059	-362	-2665	+1549	-2121	+2760	+1528	-3032
269	120574m	1.60918m	0.55870m	1.42569m	1.19005	1.32654m	1.44090	1.18112	1.48172m
266	130845m	1.71210m	0.66141m	1.52840m	1.29276	1.42925m	1.54361	1.28683	1.58143m

3 3⁵ 4⁴ 3⁵ 4⁴ 3⁵ 4⁴ 3⁵ 4⁴ 3⁵ 3³ 3⁵ 4⁴ 3⁵ 3³ 3⁵ 3³ 3⁵ 4⁴

[illegible]

21	1453	291	186	19/4	2087	1632	1541	2088	2211
302	39 3632	40 7.28	39 19.65	39 49.35	38 54.68	39 41.30	38 38.68	38 59.50	39 56.22
23.66	-20.34	-57.55	-	33.76	+ 19.62	- 26.87	+ 34.96	+ 59.36	- 38.41
668	39 15.98	39 15.73	39 45.06	39 13.59	39 14.30	39 14.43	39 13.64	39 18.86	39 17.81

4167	-17	16	2763	2738	16	2671	2724	16	2595	2608	16	2529	16	3051	2946
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35	+59	34 18	34 49	34 52 32 52	34 31	33 37	34 28	33 21	33 41	34 38
4670		1.98996	1.99010	1.98988	1.99002	1.98976	1.98999	1.98968	1.98979	1.99035
+809		-689	-689	-497	-497	+479	+479	+1322	-592	-592
5479		1.98304	1.98321	1.98491	1.98505	1.99455	1.99478	2.00220	1.98387	1.98413
516		-9618	-9621	-9659	-9662	-9875	-9880	-10064	-9635	-9641
.95		+ .04	+ .26	+ .00	+ .11	+ .03	+ .07	+ .12	+ .03	+ .14
.52		- .55	- .61	- .52	- .58	- .55	- .66	- .54	- .60	- .73
21		+ .28	+ .31	+ .26	+ .29	+ .23	+ .28	+ .22	+ .24	+ .29

42887	-1	36.41	-1	36.25	-1	36.85	-1	36.80	-1	39.04	-1	39.11	-1	40.57	-1	36.68	-1	36.71	
25.54	-17	18	4.04	3.63	18	3.56	4.04	18	4.99	5.19	18	6.16	18	7.19	6.17				
17.40		18	3.84	+5	18.41	18	3.80	+5	17.74	18	5.09	+5	17.60	+5	18.05	18	6.68	+5	18.14
+6.7				-1.1			-1.1		-1.2			-1.2		-1.3					
27.4				-13.6			-13.3		-12.5			-11.7		-11.7					

50.70		+5 3.71	+5 3.34	+5 3.90	+5 5.05	+5 5.14
16.15	-17	13 0.13	13 0.46	13 1.19	13 1.11	13 1.59 - 17' 13" 0.89

$$\begin{array}{r} \pi^{2.6} \text{ Cygni} \\ h \quad m \quad s \\ 21 \quad 42 \quad 11 \\ + 48^{\circ} \quad 43' \quad 53'' \\ - 6 \quad 21 \quad 5 \end{array}$$
[illegible]

U.A.

μ Capricorni

ⁿ	^m	^s
21	46	29
- 14°	8'	19"
+ 56	31	7

$$\begin{aligned} \alpha &= 46.35331^{\circ} \\ \frac{d\alpha}{d\tau} &= +3.279^{\circ} \\ \delta_0 &= 74.557'' \\ \frac{d\delta}{d\tau} &= +16.78'' \end{aligned}$$

Sept-26	46	39.42
1		38
Oct 6		39.33
11		28
16		39.22

	-7'	30"
-4		
5-		.2
5-		30.5
6		7
		31.0

$\log \cos \theta$	9.98665
$15 \cos \theta \tan i$	0.10925
$\tan \theta$	-0.25
$\sin 2$	+ .83

1877

^{-1.13} Sept. 24	^{-1.24} Sept. 30	^{-1.29} Oct. 1	^{-1.13} Oct. 13	⁻⁹⁷ Oct. 14	^{-1.09} Oct. 17
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47	483	47	4888	47	420	47	5722	47	520	47	5900	48	40	48	1767	48	120	48	1922	48	155	48	2397
	500		5000		570		5936		542		100		58		1973		138		2132		168		2600
	518		5318		528		159		560		928		25		2182		160		2357		184		2850
			5460				567				933				2620				2568				3250
			5790				786				950				2633				2988				3450
			190				1000				1139				3036				5198				3660
48	259		400	48	374		1200	48	299		1370	48	431		8233	48	498		3420	48	578		3830
	276		600		390		1418		318		1580		468		3460		514		3624		530		4080
	290		1020		407		1830		337		2010		487		3900		553		4042		558		4530
			1228				2060				2223				4110				4260				4740
			1440				2273				2445				4315				4480				4940
			31934				22971				18798				33449				35193				40377
47	5003		1936	47	5093		10971	47	5207		12798	48	577			48	1393			48	1650		
48	2750	48	1758	48	3903	48	9974	48	2180	48	11635	48	465	48	30408	48	5150	48	31994	48	5363	48	3670
		46	3943		46		3939		46		3938		20	46	3926			48	3725			48	3920

-1 22.584	-1 30.82	-1 32.49	-1 51.53	-1 52.84	-1 57.7
+2.8	+3.1	+3.2	+2.8	+2.4	+2.7
-4.10	-4.06	-4.05	-3.93	-3.92	-3.8
-1 26.39	-1 34.57	-1 36.22	-1 55.18	-1 56.52	-2 1.3
46 3537	46 3540	46 3542	46 3523	46 3547	46 35.3

46 3547
h m s
2146 35.368

+ 11.73	- 25.74	+ 19.04	- 29.06	+ 17.57	- 20.16	+ 24.64	- 15.79	+ 18.06	- 19.51	+ 19.81	- 16.92
1069.26	1416.60m	1279.66	1463.29m	1044.77	1304.49m	1391.64	1198.35m	1256.71	1290.25m	1296.88	1228.54
11785.4	1.51985m	1.38891	1.57254m	1.35402	1.41374m	1.50089	1.30763m	1.36596	1.39950m	1.40613	1.33763
30 3	30 4	30 3	30 4	30 3	30 4	30 3	30 4	30 3	30 4	30 3	30 4
45.7	32.7	31.5	34.1	37.2	26.7	25.9	22.8	35.1	22.1	31.4	20.1
59.8	46.7	49.9	51.2	53.9	42.1	46.1	41.9	53.6	41.7	51.1	39.1
0.4	48.1	49.9	51.2	54.4	43.5	48.1	38.2	50.2	37.8	48.3	35.9
53.8	40.9	45.7	46.6	48.9	36.5	39.1	34.5	48.5	35.9	44.4	32.2
219.7	168.4	177.0	183.1	194.4	149.4	154.6	137.4	188.4	137.5	175.2	127.3
33 54.92	34 42.10	33 44.25	34 45.78	33 48.60	34 37.35	33 38.65	34 34.35	33 47.10	34 34.38	33 43.80	34 38.82
+ 15.08	- 33.10	+ 24.49	- 37.37	+ 22.60	- 25.93	+ 31.69	- 20.31	+ 23.23	- 26.09	+ 25.48	- 21.76
34 10.00	34 9.00	34 8.74	34 8.41	34 11.20	34 11.92	34 10.34	34 14.04	34 10.33	34 9.29	34 9.28	34 10.00
11 2165	2065	11 2039	2006	11 2285	2307	11 2199	2569	11 2198	2094	11 2092	2165

28 37	29 24	28 26	29 28	28 31	29 19	28 21	29 16	28 28	29 16	28 26	29 14
1,93800	1,93822	1,93795	1,93824	1,93797	1,93819	1,93792	1,93819	1,93797	1,93819	1,93726	1,93814
- 666	- 666	+ 120	+ 120	471	- 471	+ 854	+ 854	+ 504	+ 504	+ 658	+ 658
1,93134	1,93156	1,93915	1,93944	1,93326	1,93348	1,94646	1,94673	1,94304	1,94326	1,94453	1,9447
- 8538	- 8542	- 8603	- 8698	- 8576	- 8580	- 8840	- 8846	- 8771	- 8775	- 8801	- 8815
+ .02	+ .00	+ .05	+ .11	+ .04	+ .05	+ .08	+ .03	+ .04	+ .05	+ .05	+ .04
- .47	- .56	- .44	- .58	- .46	- .55	- .50	- .62	- .53	- .61	- .52	- .63
+ .23	+ .28	+ .22	+ .29	+ .23	+ .28	+ .22	+ .28	+ .23	+ .28	+ .22	+ .24

-1	2560	-1	2561	-1	2710	-1	2716	-1	2595	-1	2602	-1	2860	-1	2877	-1	2797	-1	2866	-1	2826	-1	2833
12	4725		4626	12	4749		4722	12	4880		4909	12	5059	(5446)	12	4995		4900	12	4919		5060	
12	4645	+5	1841	12	4736	+5	1704	12	4894	+5	1774	12	5052	+5	1740	12	4747	+5	1760	12	4764	+5	1710
			-8.1				-4.1				-4.1				-4.2				-4.2				
			-15.7				-15.5				-15.3				-14.8				-14.8				

-7	29.9	+5 1.61	7	30.1	+5 0.44	7	30.2	+5 1.34	7	30.8	+5 1.40	7	30.8	+5 1.60	7	31.0	+5 1.5
		7 45.14			7 46.92			7 47.60			7 51.12			7 47.54			7 48.0
											7 49.19			-14° 7'	47.787		47.46

Joseph
21 50 40
+56° 0'
-13 37

logens 9.74756
15 coriani 9.87076
tang +1.48 1.79
lira 2 -.24

1877	Aug. 28	Sept. 24	Sept. 25	Sept. 30	Oct. 1	Oct. 14
1.09	-1.33	-1.13	-1.18	-1.24	-1.29	-1.97
2892	21 50 40	51 58.7	51 58.0	51 38.0	51 58.38	51 59.9
2605	46.7	12.46	53.87	53.03	21.0	93.2
2820	30.7	16.28	57.60	32.5	3.78	46.3
3250		23.49	4.90	6.00	13.15	14.80
3455		27.10	8.51	9.78	17.00	18.60
3669		30.78	12.29	13.60	20.67	22.18
3832	51 38.8	34.32	16.00	17.40	24.73	25.90
4065	42.0	38.41	19.60	20.90	28.05	29.70
4534	46.2	45.88	27.05	28.39	35.40	36.60
4740		42.40	30.60	32.05	39.10	40.60
4945		53.40	34.40	35.80	43.00	44.40
5177	34002	31508	32902	28736	24437	34183
53706	50 46.93	51 47.93	51 49.02	51 40.87	51 43.13	52 46.63
5921	51 42.33	52 47.93	52 48.57	52 43.93	52 46.63	52 49.85
5728	-40.54	-1.67	-1.75	-1.84	-1.91	-2.48
627	-1.97	-2.94	-2.92	-2.82	-2.80	-2.48
388	-324	-1.67	-1.75	-1.84	-1.91	-2.48
139	-45.75	-1.67	-1.75	-1.84	-1.91	-2.48
35.32	50 45.16	50 45.10	50 45.20	50 45.19	50 45.00	50 45.22
92	+43.98	+10.85	+43.88	+20.02	+39.08	+24.42
2540n	1.64325	1.63542	1.64226	1.30146	1.59195	1.38774
765n	1.51341	0.92782	1.42221	1.17462	1.23676	1.25790
4	25 0	25 1	25 0	25 1	25 0	25 1
20.1	41.1	22.1	38.6	34.8	22.2	31.6
39.1	47.2	29.0	34.9	40.4	28.2	42.1
35.9	50.145.60	29.2 25.65	35.1 35.15	39.6 37.20	27.0 24.60	40.9 36.25
32.2	45.5	28.3	2.9	37.9	25.4	40.5
273	183.9	108.6	104	148.1	152.9	155.1
3182	25 45.88	26 27.15	26 2.60	26 37.02	25 38.22	26 25.70
2176	+32.61	-8.47	+8.05	-26.44	+32.54	-14.85
1006	26 18.59	26 18.68	26 10.65	26 10.58	26 10.76	26 10.85
2171	+55 56 29.76	29.67	56 37.70	37.77	56 37.59	37.50
14	-13	39 32	38 51	39 15	38 41	39 40
3816	1.14590	1.14550	1.14570	1.14540	1.14600	1.14560
658	-1417	-1417	-657	-657	-752	-752
4474	1.13143	1.13133	1.13913	1.13883	1.13898	1.13808
8.05	+13.52	+13.53	+13.78	+13.77	+13.76	+13.74
0.4	-1.49	-0.03	-0.03	-0.33	-1.49	-1.10
6.3	-0.08	-0.14	-0.12	-0.19	-0.07	-0.17
2.7	+0.05	+0.09	+0.06	+0.10	+0.04	+0.08
2837	+13.08	+13.45	+13.69	+13.35	+13.24	+13.55
50.08	+55 56 42.98	43.12	56 51.39	57.12	56 50.83	57.05
1737	56 42.98	+5 17.51	56 51.25	+5 18.41	56 50.94	+5 19.00
-13	5	+0.3	+0.2	+0.2	+0.2	+0.2
-14.5		-0.56	-24.0	-24.0	-24.3	-25.6
1.57	+5 2.21	+4 54.61	+4 54.90	+4 51.64	+4 52.04	+4 49.00
4807	+56	1 45.186	1 45.84	1 45.84	1 45.12	1 44.88
46						

+56° 1' 45.48

20 Pegasi	20	m 55 5866	Aug 8	m 55 934	5	32	" 6.8	10	log cos δ	9.98953
21 55.0	Corra	- .01	13	939	5		7.8	10	15 cos δ	0.11213
+12° 31' 19"	dk	+2.9234	18	944	5		8.8	9		
	at		23	947	3		9.7	8		
29 51 29	0	31 52.94	28	950	5		10.5	8		
	Corr B	- .3	Sept. 17	949	3		13.3	5	tango	+0.22 1.02
	dp	+17.088	22	946	3		13.8	5	sin 2	+ .50
	at		27	943	4		14.3	5		
			Oct. 2	939	4		14.7	4		
			7	934	5		15.1	4		
			12	929	5		15.4	3		
			17	923	6		15.6	2		
			22	917	6		15.8	2		
			27	911	6	-1.18	15.9	1		
1877		-1.36							-1.24	
Aug 22			Aug 28						-1.29	
	m 55 163	m 55 289	55 271	55 3770	56 179	56 2082	56 145	56 2785	56 230	56 2940
	187	3057	273	3772	196	2250	161	2996	245	3160
	210	3300	307	4200	213	2489	129	3200	260	3568
		3725		4610		2910		3630		3785
		3930		4820		3120		3837		4090
		4149		5029		3337		4038		4205
	56 41	4360	56 81	5240	57 46	3550	57 20	4253	57 16	4418
	57	4560	97	5460	63	3750	97	4468	95	4640
	75	4999	116	5880	76	4178	116	4826	113	5060
		5200		622		4688		5112		5268
		5400		300		4600		5322		5477
	45574		43363		36874		44537		46323	
55 18.33	55 29.03	55 29.03	55 30.30	56 19.60	56 16.17	56 16.17	56 24.50	56 24.50	56 35.70	56 35.70
56 5.77	55 41.31	56 9.80	55 50.30	57 6.17	56 33.52	57 9.77	56 44.88	57 9.47	56 42.12	57 17.27
	55 9466		55 9502		55 9400		55 9404		55 9356	
	+ 31.96		+ 40.83		+ 83.90		+ 91.08		+ 92.72	
	+ 31.97		+ 40.84		+ 83.91		+ 91.09		+ 92.73	
	- 31.65		- 40.84		- 236.79		- 30.83		- 32.50	
	- .30		- .29		- .26		- .27		- .28	
	- 3.60		- 3.63		- 3.57		- 3.58		- 3.53	
	- 35.55		- 44.46		- 1 27.51		- 1 33.64		- 1 36.31	
	+ 55 5.88		+ 5.87		+ 5.83		+ 5.85		+ 5.84	
	+ 23.10	- 24.34	+ 21.30	- 19.47	+ 13.74	- 32.83	+ 24.32	- 29.28	+ 17.61	- 27.36
	136.361	1386.32m	1328.37	1280.36m	1137.98	1516.27m	1389.96	1466.57m	1245.75	1437.11m
	1475.74	1498.45m	1440.50	1461.49m	1250.11	1628.40m	1498.09	1578.70m	1357.88	1549.24m
	50 4	55 0	50 4	55 0	50 4	55 0	50 4	55 0	50 4	55 0
	44.8	46.7	48.1	40.6	54.9	56.0	55.0	44.1	45.4	43.9
	56.9	58.8	58.4	51.9	6.4	7.2	50.4	0.3	59.1	58.4
	57.15095	0.0	58.5385	53.14785	56.025	6.9145	50.04250	59.95200	58.95215	58.15100
	52.9	54.3	54.5	48.8	1.9	2.3	47.1	57.1	53.9	52.9
	2117	2196	2206	1964	8.8	12.4	1825	2214	2173	2133
	54 52.92	55 54.90	54 55.15	55 49.10	55 2.20	56 3.10	54 45.62	55 53.35	54 54.32	55 53.32
	+ 29.90	- 31.51	+ 27.57	- 25.21	+ 17.79	- 42.50	+ 31.48	- 37.91	+ 22.80	- 35.42
	55 22.82	55 23.39	55 22.72	55 23.89	55 19.99	55 20.60	55 19.10	55 17.44	55 17.12	55 17.90
	+ 12	27 25.53	24.96	27 25.63	24.46	27 28.36	27.75	27 31.25	30.91	27 31.23
										30.45
										27 33.20
										32.66
	+ 29	49 35	50 37	49 37	50 31	49 44	50 45	49 28	50 37	49 36
	1.51860	1.51890	1.51860	1.51885	1.51860	1.51890	1.51855	1.51890	1.51860	1.51890
	- 998	- 998	- 1413	- 1413	- 743	- 743	+ 135	+ 135	- 455	- 455
	1.50862	1.50872	1.50497	1.50472	1.51117	1.51147	1.51990	1.52026	1.51905	1.51436
	- 32.26	- 32.28	- 31.95	- 31.97	- 32.45	- 32.47	- 33.11	- 33.13	- 32.66	- 32.69
	- .06	- .07	- .05	- .04	- .02	- .03	- .07	- .10	- .04	- .09
	- .49	- .09	- .49	- .08	- .60	- .13	- .58	- .11	- .59	- .11
	+ .29	+ .05	+ .29	+ .05	+ .30	+ .07	+ .29	+ .05	+ .29	+ .05
	- 32.52	- 32.39	- 32.20	- 32.04	- 32.77	- 32.66	- 33.47	- 33.29	- 33.00	- 32.84
	+ 12	26 53.01	26 53.43	26 52.92	26 53.59	26 53.78	26 57.70	26 57.92	26 57.92	26 57.92
	+ 12	26 52.79	+ 5 17.98	26 52.92	+ 5 17.51	26 55.34	+ 5 17.00	26 57.92	+ 5 17.74	26 58.98
	32 96	- 0.6	32 10.5	- 0.6	32 14.1	- 17.6	+ 5 18.8	- 0.6	32 14.76	- 0.6
	+ 5 16.8	- 16.7	+ 5 17.6	- 17.6	+ 5 18.8	- 20.1	+ 5 16.9	- 21.7	+ 5 16.7	- 21.7
	16.5		17.3		18.5		16.6		16.4	
		+ 5 0.68		+ 4 59.31		+ 4 57.30		+ 4 54.74		+ 4 55.44
		+ 31 53.47		+ 31 52.28		+ 31 52.64		+ 31 52.44		+ 31 53.36
										+ 4 53.30
										+ 31 52.28

[illegible]

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24	22	20	18	16	14	12	10	8	6	4	2	0	-2	-4	-6	-8	-10	-12	-14	-16	-18	-20	-22	-24	-26	-28	-30	-32	-34	-36	-38	-40	-42	-44	-46	-48	-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100
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-16	-18	-20	-22	-24	-26	-28	-30	-32	-34	-36	-38	-40	-42	-44	-46	-48	-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																				
-18	-20	-22	-24	-26	-28	-30	-32	-34	-36	-38	-40	-42	-44	-46	-48	-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																					
-20	-22	-24	-26	-28	-30	-32	-34	-36	-38	-40	-42	-44	-46	-48	-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																						
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-24	-26	-28	-30	-32	-34	-36	-38	-40	-42	-44	-46	-48	-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																								
-26	-28	-30	-32	-34	-36	-38	-40	-42	-44	-46	-48	-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																									
-28	-30	-32	-34	-36	-38	-40	-42	-44	-46	-48	-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																										
-30	-32	-34	-36	-38	-40	-42	-44	-46	-48	-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																											
-32	-34	-36	-38	-40	-42	-44	-46	-48	-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																												
-34	-36	-38	-40	-42	-44	-46	-48	-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																													
-36	-38	-40	-42	-44	-46	-48	-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																														
-38	-40	-42	-44	-46	-48	-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																															
-40	-42	-44	-46	-48	-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																																
-42	-44	-46	-48	-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																																	
-44	-46	-48	-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																																		
-46	-48	-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																																			
-48	-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																																				
-50	-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																																					
-52	-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																																						
-54	-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88	-90	-92	-94	-96	-98	-100																																							
-56	-58	-60	-62	-64	-66	-68	-70	-72	-74	-76	-78	-80	-82	-84	-86	-88</																																														

<p><i>Yaguari</i></p> <p>22° 15' 12" S - 2° 0' 59" S + 44 23 47</p>										
<p>1877</p> <p>Aug 16</p> <p>Sept 11</p> <p>Oct 6</p> <p>Oct 14</p> <p>Nov 15</p>										
215	15	218	15	32.92	15	30.7	16	114.7	16	483
300	238	4528	30	35.00	59.8	1365	500	5190	52.3	5190
170	250	39	37.65	1.4	1557	52.4	5370	539	6.60	539
120		37	41.25		19.77		5490		10.70	
310		26	43.20		21.70		5989		12.70	
185		28	45.28		23.76		1.90		14.78	
175	16	4.3	34	47.40	16	44.4	25.84	17	18.8	17
125		6.3	38	49.50		46.3	27.87		6.15	35.0
165		8.3	34			45.2	32.10		38.2	36.5
140							3410		10.20	10.20
05							3623		12.20	12.20
			57.70						14.47	14.47
230						26198		32146		16293
230	15	2353	15	69.63	16	50.23	16	50.23	16	50.23
755	16	630	15	45.316	16	46.30	16	23816	17	2033
			15	21.939	15	22080	15	21986	15	21986
			+ 23.38		+ 61.74		+ 100.01		+ 112.89	
			+ 2337		+ 61.73		+ 107.03		+ 112.88	
229			-23.42		-1	1.69	-1	40.05	-1	52.89
146			+1.04		+1.04		+1.03		+1.03	
2.50			-3.78		-3.92		-3.83		-3.76	
125			-27.16		-1	5.57	-1	43.90	-1	56.62
030			+15	18.16	+18.25		+18.99		+18.19	
							10			
14			+21.79	-20.98	+24.19	-22.48	+11.77	-18.33	+22.54	-21.76
1690m	133825	132150m	138363	135174m	107077	126316m	135295	133265m	070842	154319m
2234m	146059	1444414m	150597	147413m	119311	138550m	147529	145999m	083076	166553m
1	25	1	25	2	25	1	25	2	25	1
3.9	37.0	33.5	30.8	34.2	43.8	22.7	30.3	28.9	56.3	49.0
4.2	50.2	47.2	44.4	48.4	1.5	41.1	47.9	46.6	14.9	7.6
9.4	52.5	49.7	45.9	49.3	57.9	38.5	43.8	42.6	9.6	1.9
0.9	45.1	42.0	40.9	44.0	53.6	34.8	42.2	41.4	9.8	2.1
8.4	1848	1724	1620	1750	2188	1371	1642	159.5	309	0.6
260	26	4620	27	43.10	26	4050	27	43.88	26	5470
124	+ 20.21	- 27.81	+ 32.06	- 29.79	+ 15.60	- 24.29	+ 29.87	- 16.51	4	6.77
176	27	15.08	27	15.29	27	12.36	27	14.19	27	10.30
959	- 2	4	26.73	26.94	4	24.21	25.84	4	21.95	21.64
18	44	21	28	22	25	21	23	22	22	21
5880	1.75010	1.75030	1.75010	1.75030	1.75010	1.75030	1.75010	1.75030	1.75010	1.75030
193	-1477	-1477	-424	-424	+1282	+1282	+562	+562	+388	+338
6073	1.73533	1.73553	1.74586	1.74606	1.76292	1.76312	1.75572	1.75572	1.75358	1.75378
4.48	-54.37	-54.39	-55.70	-55.73	-57.93	-57.96	-56.98	-57.01	-56.70	-56.73
.00	+ .01	+ .01	+ .01	+ .01	+ .00	+ .01	+ .01	+ .01	+ .00	+ .02
.30	- .18	- .27	- .19	- .30	- .25	- .34	- .24	- .38	- .31	- .45
.12	+ .11	+ .16	+ .10	+ .16	+ .11	+ .16	+ .10	+ .16	+ .13	+ .18
14.30	-5443	-5449	-5578	-5586	-5804	-5813	-5911	-5922	-5688	-5698
3.89	-2	5	21.16	21.93	5	19.99	21.70	5	20.02	19.77
17.18	-2	5	21.30	+5	16.57	5	19.90	+5	17.38	5
+0.3	0	5	5.6	-0.8	0	35	-0.8	0	2.9	-0.0
31.2	+5	15.7	-17.7	+5	17.3	-19.8	+5	17.0	-20.3	+5
46.28		15.3			16.9			16.5		
9.99	-2		+4	58.07	+4	56.27	+4	56.18	+4	56.20
			-0	23.43	-0	24.57	-0	23.72	-0	23.60

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log crv 9.39615
 15 crv Stani 9.51875

+880
 12 4.15

Langs +3.89 402

Pin 2 -55

1877

-1.32

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Aug. 16

Sept. 11

Sept. 12

Sept. 16

Oct. 14

Oct. 29

30 46.4	30 30	29 53.6	31 0.36	29 2.90	31 1.05	29 41.7	31 7.39	31 56.8	31 49.05	30 12.7	30 11.93
57.5	39.25	26.50	4.42	35.4	5.50	48.7	11.49	6.5	53.35	18.1	15.80
2.4	0.4	30.74	8.50	40.9	9.65	53.7	15.70	12.8	57.62	25.8	20.15
	0.5	34.90	12.45		13.90		20.10		2.00		24.48
	50	39.00	16.50		18.00		24.10		6.10		28.34
	38	43.53	21.10		22.10		28.50		10.30		33.23
31 160	38.90	47.20	25.19	30 7.3	26.20	80 89.4	32.10	32 30.6	14.20	30 50.5	36.45
24.8	39.10	51.55	29.10	11.7	30.63	44.7	36.44	36.8	18.40	53.3	40.51
30.1	15	55.75	33.38	21.6	34.55	57.4	40.60	40.3	22.60	57.2	44.80

30 52.43	29 57.23	15.100	29 35.10	16.158	29 48.03	21.592	32 53.37	23.362	30 18.87	25.589
31 23.63	30 39.109	30 36.63	31 16.778	30 14.53	31 17.453	30 45.23	31 23.991	32 37.23	30 53.67	30 28.99
30 10.40	30 10.36	30 10.36	30 10.36	30 10.36	30 10.36	30 10.36	30 10.36	30 10.36	30 10.36	30 10.36
		+66.42		+67.61		+73.74				30 8.14

-23.45	-1 1.72	-1 2.96	-1 8.74	-1 52.91	-17.06
-5.13	-4.63	-4.74	-4.90	-3.77	-3.34
-3.89	-3.86	-3.83	-3.75	-2.59	-1.64
-32.47	-1 10.21	-1 11.53	-1 17.59	-1 59.27	-22.04
30 6.63	30 6.57	30 6.42	30 6.40	30 6.69	30 6.37

22 30 6.515

-16.32	-44.52	+49.55	+40.15	+102.85	+63.42	+95.96	+38.76	+0.59	-31.27	+9.54	-25.26
1.21272w	11.64855w	1.90064	1.60368	2.01220	1.80222	1.98209	1.58838	9.77085	1.49872w	0.97954	1.40243w
0.73147w	1.16730w	1.41939	1.12243	1.53095	1.32097	1.50084	1.10713	9.28960	1.01387w	0.44829	0.92118w

50 3	50 3	50 2	50 2	50 2	50 2	50 2	50 2	50 2	50 2	50 2	50 2
1.3	9.6	18.9	32.1	10.9	25.2	11.4	21.4	34.1	44.7	26.0	88.5
7.5	15.4	27.1	40.4	17.8	32.0	17.0	37.0	46.2	56.3	88.1	49.9
6.13.70	15.11235	23.521.20	37.935.00	15.913.40	29.427.30	17.914.65	36.934.15	39.536.80	50.047.35	32.529.25	45.1
6.9	15.2	26.1	39.9	17.0	31.8	18.7	38.4	45.1	55.1	88.3	49.8
21.8	55.3	9.56	150.3	61.6	118.4	65.0	143.7	164.9	206.1	134.9	183.3

53 54.5	53 12.82	52 23.90	52 37.58	52 15.40	52 29.60	52 16.25	52 35.92	52 41.22	52 51.52	52 33.42	52 45.62
-5.39	-14.70	+26.27	+13.26	+33.96	+20.94	+31.68	+12.80	+0.19	-10.33	+3.15	-8.34
53 0.06	52 58.12	52 50.17	52 50.84	52 49.36	52 50.54	52 47.93	52 48.72	52 41.41	52 41.19	52 36.87	52 37.48

+75 29 48.29	49.23	29 58.18	57.51	29 58.99	57.81	30 0.92	29 59.63	30 6.94	7.16	30 11.98	10.87
-33 12 13	12 04	12 54	12 40	13 03	12 40	13 02	12 42	12 37	12 26	12 44	12 32
1.57650	1.57590	1.57620	1.57610	1.57620	1.57610	1.57620	1.57610	1.57610	1.57600	1.57610	1.57610

-1462	-1462	-405	-405	-833	-833	-1322	-1322	+591	+591	-600	-600
1.56138	1.56128	1.57215	1.57205	1.56789	1.56779	1.56298	1.56288	1.58201	1.58191	1.57010	1.57010
+36.42	+36.41	+37.33	+37.33	+36.97	+36.96	+36.56	+36.55	+38.20	+38.19	+37.16	+37.16
- .03	- .25	- .82	- .21	- 1.24	- .51	- 1.78	- .19	- .00	- .12	- .01	- .04
- .31	- .32	- .26	- .29	- .25	- .27	- .25	- .29	- .38	- .41	- .39	- .42
+ .19	+ .19	+ .14	+ .16	+ .14	+ .15	+ .14	+ .16	+ .16	+ .17	+ .16	+ .17

+36.27	+36.03	+36.40	+36.99	+35.47	+36.33	+35.24	+36.23	+37.98	+37.83	+36.92	+36.83
+75 30 24.56	25.26	30 34.58	34.50	30 34.46	34.14	30 35.66	35.86	30 44.92	44.99	30 48.40	47.70
30 24.91	+5 16.57	30 34.54	+5 16.87	30 34.30	+5 17.31	30 35.76	+5 17.14	30 44.96	+5 17.60	30 48.05	+5 18.14
	+0.6		-18.3		+0.6		-18.5		+0.7		+0.8
	-8.5						-20.2		-29.4		-33.1

+75 35 41.4	+5 8.67	35 51.2	+4 59.17	35 51.5	+4 59.41	35 53.1	+4 57.54	35 62.3	+4 48.90	35 66.1	+4 45.34
35 33.58		35 33.71		35 33.71		35 33.71		35 33.86		35 33.89	

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Oct. 29

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+ 20.45

+ 20.42

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-2.91

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+3 47.52

+43.39

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9336	Bp. 3077	do	m 2	7 2898	Oct. 27	m 2	7 2536	10 29	54.4	10	log cor. P	9.74208		
2	23 7 16	Corr.	+ .88	6	Nov. 1	11	25.26	11	55.4	9				
1	+56 28 41	dx	+2.8602	11		12	25.15	12	56.3	8	1500 ft. 1	986468	I	374
	-14 5 53	do		16	29 2092	Dec. 6	2436		59.3		tango	+1.51	1.81	
		Corr.	+ 10								sin 2	-.24		
		dx	+19.794											
77	1877		-86		Oct. 29		-1.03		-1.02		-94		-1.01	
					Oct. 30		-1.06							-79
					Nov. 6									-03
					Nov. 7									
					Nov. 13									
					Nov. 14									
331	23 7 110	7 21.26	7 14.3	7 23.18	7 41.5	7 35.06	8 4.3	7	—	7 38.0	7 46.0	7 33.7	8	—
372	16.0	25.10	17.5	26.71	44.3	38.80	7.0			40.0	49.8	36.8		—
41.1	18.2	28.77	21.2	30.52	46.9	42.42	9.7			41.9	54.0	39.2		—
450		36.28		37.90		49.95					57.7			2.2
488		40.11		41.67		53.65					58.76			6.0
523		43.73		45.57		57.49					58.76			9.7
569	7 54.2	47.51	8 38	49.27	8 30.1	1.20	8 39.4	.77	2.51	8 36.8	12.0			13.4
57	1.5	51.40	76	52.98	33.3	4.83	42.1	.92	6.40	39.0	15.8			17.1
45	48	58.91	107	60.50	36.9	12.31	45.9	.74	18.70	41.1	23.6			
		26.3		4.20		16.00		.78	17.48		27.4			
		63.7		8.30		19.63		.54	20.98		31.0			
397		36.25		320.73		33.134					27.32			48.4
409	7 15.0	48.25	7 17.67	50.73	7 44.23	63.134	8 7.00			7 39.97	9.32	7 36.57	8	9.680
488	8 18.3	43.832	8 7.37	45.321	8 33.43	57.395	8 42.47	7 58.750	8 38.97	8 84.73			8	24.952
1229		25.315		25.295		25.144		7 25.120		24.976				44.73
4765		+ 18.52		+ 20.23		+ 32.25		+ 33.63		+ 43.50				+ 44.65
4760		+ 18.44		+ 20.15		+ 32.17		+ 33.53		+ 43.42				+ 44.51
4.96		-17.14		-18.89		-30.66		-32.14		-41.98				-43.51
8.82		-1.30		-1.56		-1.54		-1.42		-1.52				-1.19
8.88		-3.42		-3.40		-3.24		-3.22		-3.08				-3.05
7.66		-21.86		+21.91		+35.44		-36.78		-46.58				-47.80
7.20		+21.97				+21.96		+21.97		+21.89				+21.88
67		+28.76	-18.00	+27.85	-21.85	+13.17	-36.03	-8.25	-43.72	+28.50	-36.50	+33.11		
1492		145849	125527	144483	133945	111959	155666	0.91645	1.64065	1.45484	1.45430	1.51926		
662		132347	111945	130981	120413	0.98427	1.42134	0.78113	1.50536	1.31952	1.34898	1.38464		
4	55 2	55 3	55 2	55 3	55 3	55 3	55 3	55 3	55 3	55 2	55 3	55 2	55 3	
482	56.9	29.6	57.7	32.6	8.9	449	23.1	500	57.4	41.1	53.2	41.2		
1.2	6.6	40.6	8.4	43.4	26.9	57.0	34.4	0.1	8.2	57.4	4.4	52.2		
53.0	1.9 59.40	35.63260	3.4 0.85	39.1 35.85	10.9 9.90	47.1 46.00	25.124.10	51.8 50.90	0.1 58.75	42.9 42.00	34.5 33.85	43.5 42.35		
0.1	6.9	39.1	6.5	41.9	16.2	52.0	30.2	36.4	4.7	47.2	0.5	48.9		
2.25	12.3	14.9	16.0	15.0	56.9	20.0	11.28	21.83	10.4	18.26	23.26	18.58		
5.62	58 3.08	58 36.22	58 4.00	58 34.25	58 14.22	58 50.25	58 28.20	58 54.58	58 2.60	58 45.65	57 58.15	58 46.45		
7.46	+ 21.02	- 13.18	+ 20.39	- 16.00	+ 9.64	- 26.38	- 6.04	- 32.02	+ 22.87	- 22.33	+ 24.25			
46.16	58 24.14	58 23.04	58 24.39	58 23.25	58 23.86	58 23.87	58 22.16	58 22.56	58 23.47	58 23.32	58 22.40			
2.19	+56 24 24.21	25.31	24 23.96	25.10	24 24.99	24.48	24 26.19	25.79	24 24.88	25.03	24 26.95			
22	-14	7 15	6 42	7 - 14	6 39	7 04	6 28	6 50	6 23	7 15	6 32	7 20		
160		1.16090	1.16065	1.16090	1.16060	1.16080	1.16055	1.16070	1.16050	1.16090	1.16055	1.16100		
405		-605	-605	+828	+828	+2411	+2411	+2072	+2072	+2327	+2327	+1193		
565		1.15385	1.15460	1.16918	1.16888	1.18491	1.18466	1.18192	1.18122	1.18414	1.18382	1.17293		
6.78		+14.25	+14.28	+14.76	+14.75	+15.31	+15.30	+15.19	+15.18	+15.28	+15.27	+14.89		
10		- .21	- .08	- .120	- .12	- .04	- .33	- .03	- .49	- .21	- .23	- .28		
73		- .46	- .54	- .46	- .55	- .45	- .53	- .49	- .55	- .42	- .53	- .42		
29		+ .19	+ .22	+ .19	+ .22	+ .19	+ .23	+ .21	+ .23	+ .18	+ .23	+ .18		
36.24		+13.77	+13.88	+14.29	+14.30	+15.01	+14.67	+14.88	+14.37	+14.83	+14.44	+14.37		
38.93	+56 24 37.98	39.19	24 38.25	39.40	24 39.50	39.15	24 41.07	40.16	24 39.71	39.77	24 40.32	24 40.32	+5 18.96	
1961	+56 24 38.58	+5 18.14	24 38.82	+5 18.25	24 39.32	+5 18.20	24 40.62	+5 17.36	24 39.74	+5 18.76	24 40.32	+5 18.96		
+1.0		29 54.8	+0.3	29 55.0	+0.3	29 56.3	+0.3	29 56.5	+0.4	29 57.4	+0.4	29 57.6	+0.4	
37.5	+5 16.2	-33.9	+5 16.2	-34.1	+5 17.0	-35.4	+5 15.9	-35.6	+5 17.7	-36.5	+5 17.2	-36.7		
		17.2	17.2		18.0		16.9		18.7		18.3			
43.11		+4 44.54		+4 44.45		+4 43.10		+4 42.16		+4 42.66		+4 42.66		
21.85	+56	+29 23.12		+29 23.27		+29 22.42		+29 22.78		+29 22.40		+29 22.48		

W. C. C. C.
 23 3 56
 +74° 42' 42"

20
 3 59.354
 Corrd + 0.3
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log cos 9.42093
 15 Crd tan 2.54353
 tang 3.79
 sin 2 - .53
 log I 0.89336
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1877

-86

-1.03
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-77

Oct. 29

Oct. 30

Nov. 4

Nov. 6

Nov. 7

Nov. 15

23 3 32.5
 480
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 4 35.5
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4 6.92
 10.70
 14.90
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 22.63
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3 538
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 7.0
 4 8.90
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Ch. f.

4 384
 429
 50.3
 36.64
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4
 522
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3 47.1
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3 898
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 4 33.1
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 [4.6]

3 39.33

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4 43.87

3 49.65

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4 39.40
 4 22.76
 4 2.264
 + 20.45
 + 20.42
 -17.13
 -3.15

4 22.76
 4 2.264
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3 59.23
 4 24.618
 4 2.208
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 + 22.38
 -18.254
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4 24.618
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+ 23.39
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 0.76573

+ 25.39
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 0.94819

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 44 46.55
 +74 38 1.80

48.4
 58.8
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21.1
 32.0
 25.5
 30.1
 108.7
 44 27.18
 + 8.88
 44 36.06
 + 5.83

34.7
 44.4
 37.576.10
 43.5
 160.1
 44 40.02
 + 8.88
 44 48.90
 + 8.88

14.8
 26.9
 17.416.10
 24.2
 83.3
 44 20.82
 + 8.88
 44 48.90
 + 8.88

23.0
 35.0
 26.224.60
 32.9
 117.1
 44 26.28
 + 8.88
 44 48.90
 + 8.88

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 58.6
 47.947.90
 54.1
 208.5
 44 52.12
 + 8.88
 44 48.90
 + 8.88

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 + 8.88

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 - .67
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 +35.30
 +74 38 37.10
 43 550
 +5 17.9
 18.5

18.14
 +0.7
 -33.8
 +4 45.04
 +
 +43 22.14

20 38
 1.56170
 +816
 1.56986
 +37.11
 - .09
 - .70
 + .28
 +36.63
 38 36.08
 43 552
 +5 19.1
 19.7

18.25
 +0.8
 -34.0
 +4 45.05
 +43 21.13

20 26
 1.56170
 +2408
 1.58568
 +38.52
 - .00
 - .69
 + .27
 +38.12
 38 37.07
 43 569
 +5 19.8
 20.4

18.38
 +0.8
 -35.8
 +4 43.30
 +43 20.37

20 48
 1.56170
 +2065
 1.58235
 +38.22
 - .31
 - .63
 + .27
 +37.55
 38 37.61
 43 571
 +5 17.6
 18.2

18.20
 +0.9
 -35.9
 +4 42.36
 +43 21.82

20 26
 1.56170
 +2065
 1.58225
 +38.22
 - .03
 - .69
 + .29
 +37.79
 38 37.30
 43 587
 +5 17.86
 18.2

18.20
 +0.9
 -35.9
 +4 42.36
 +43 21.82

20 65
 1.56170
 +405
 1.56585
 +36.80
 - .52
 - .66
 + .26
 +35.88
 38 37.05
 43 587
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18.20
 +0.9
 -35.9
 +4 42.36
 +43 21.82

20 22
 1.56170
 +405
 1.56565
 +36.78
 - .10
 - .73
 + .29
 +36.24
 38 37.05
 43 587
 +5 17.86
 18.2

18.20
 +0.9
 -35.9
 +4 42.36
 +43 21.82

18.20
 +0.9
 -35.9
 +4 42.36
 +43 21.82

[illegible]

Pisium
 23 10 41
 +2° 35 59
 +39 46 49

do
 Coord
 d_h
 d_t
 do
 Coord
 d_h
 d_t

m 2
 10 47.303
 + 53
 + 8.1075
 36 37.70
 - 1
 + 19.589

Oct 27
 Nov 1
 6
 11
 16
 21
 Dec. 26
 1
 6

m 2
 10 51.14
 51.10
 51.05
 51.01
 50.96
 50.91
 50.86
 50.81
 50.75

4
 5
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 5
 5
 5
 5
 6

2.4
 2.3
 2.2
 2.1
 1.9
 1.7
 1.5
 1.2
 0.9

log cos δ 9.99955
 15 cos δ tan 0.1 2215
 tang δ + 0.05 1.00
 sin 2 + .64

1877

-86

-1.03
-06

-94

-77

-97
-10

-85

Oct. 29

Oct. 30

Nov. 4

Nov. 15

Dec. 1

Dec. 2

h m s
 23 10 46.4
 48.6
 50.5

m 2
 10 55.94
 58.10
 60.4
 62.8
 63.0
 8.35
 10.42
 12.48
 16.48
 18.60
 20.64

10 45.5
 47.4
 48.8
 1.75
 5.71
 7.82
 9.98
 11.94
 14.00
 18.00
 20.33
 22.32

10 57.68
 59.80
 1.75
 5.71
 7.82
 9.98
 11.94
 14.00
 18.00
 20.33
 22.32

10 57.0
 59.6
 1.4
 5.71
 7.82
 9.98
 11.94
 14.00
 18.00
 20.33
 22.32

11 62.1
 64.2
 10.7
 12.4
 14.30
 16.33
 18.41
 20.50
 22.58
 24.73
 26.82
 30.77

11 8.7
 10.7
 12.4
 14.30
 16.33
 18.41
 20.50
 22.58
 24.73
 26.82
 30.77

11 23.7
 25.7
 27.8
 31.8
 34.0
 36.1
 38.1
 40.1
 44.3
 46.4
 48.7

10 19.6
 21.4
 23.0
 25.0
 27.1
 29.3
 31.3
 33.3
 35.3
 37.4
 39.7

10 36.9
 39.0
 41.0
 43.1
 45.1
 47.1
 49.3
 51.3
 53.3
 55.4
 57.4
 59.0
 1.0

10 48.50

10 47.23

10 47.43

10 57.33

10 57.33

11 10.60

11 10.60

10 22.25

10 20.87

10 48.682

11 8.331
 10 51.122
 + 17.2
 + 17.18
 - 17.15
 - 0.04
 - 3.82
 - 21.01
 + 10 47.32

11 29.43
 10 51.114
 + 18.83
 + 18.80
 - 18.60
 - 0.05
 - 0.06
 - 3.81
 - 22.47
 + 47.478

11 9.946
 10 51.114
 + 18.83
 + 18.80
 - 18.60
 - 0.05
 - 0.06
 - 3.81
 - 22.47
 + 47.478

11 38.80
 10 51.114
 + 18.83
 + 18.80
 - 18.60
 - 0.05
 - 0.06
 - 3.81
 - 22.47
 + 47.478

11 18.474
 10 51.114
 + 18.83
 + 18.80
 - 18.60
 - 0.05
 - 0.06
 - 3.81
 - 22.47
 + 47.478

11 10.60
 10 51.114
 + 18.83
 + 18.80
 - 18.60
 - 0.05
 - 0.06
 - 3.81
 - 22.47
 + 47.478

11 36.064
 10 51.114
 + 18.83
 + 18.80
 - 18.60
 - 0.05
 - 0.06
 - 3.81
 - 22.47
 + 47.478

11 18.17
 10 51.114
 + 18.83
 + 18.80
 - 18.60
 - 0.05
 - 0.06
 - 3.81
 - 22.47
 + 47.478

10 49.273
 10 51.114
 + 18.83
 + 18.80
 - 18.60
 - 0.05
 - 0.06
 - 3.81
 - 22.47
 + 47.478

11 9.90
 10 51.114
 + 18.83
 + 18.80
 - 18.60
 - 0.05
 - 0.06
 - 3.81
 - 22.47
 + 47.478

+ 19.83
 1.29732
 1.41947
 45 4

+ 22.72
 1.35641
 1.47856
 45 4

- 19.48
 1.28959
 1.41174
 50 0

+ 19.14
 1.28194
 1.40409
 45 4

- 20.33
 1.30814
 1.43029
 50 0

+ 25.16
 1.40586
 1.52801
 45 4

- 26.04
 1.41564
 1.53779
 50 0

+ 27.02
 1.43169
 1.55384
 45 4

- 28.90
 1.46092
 1.58305
 50 0

+ 27.81
 1.44420
 1.56635
 45 4

39.1
 55.1
 49.9
 52.4
 19.65
 49 49.12
 + 26.27
 50 15.39
 + 2 32 32.96

32.4
 50.4
 44.538.65
 45.9
 17.32
 49 43.30
 + 30.10
 50 13.40
 32 34.95

28.1
 46.3
 41.834.95
 42.1
 15.83
 50 39.58
 - 25.81
 50 13.77
 34.58

37.1
 57.1
 49.643.35
 50.2
 19.40
 49 48.50
 + 25.36
 50 13.86
 32 34.49

29.1
 49.1
 41.535.30
 42.9
 16.26
 50 40.65
 - 24.93
 50 13.72
 34.63

30.1
 49.9
 41.936.00
 44.5
 16.64
 49 41.60
 + 33.73
 50 15.33
 32 33.02

40.1
 58.9
 41.156.60
 54.9
 20.50
 50 51.25
 - 34.50
 50 16.75
 31.60

28.6
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 34.934.75
 37.6
 14.63
 49 36.58
 + 35.80
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 32 35.97

43.1
 0.2
 51.347.20
 51.3
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 50 51.48
 - 38.29
 50 13.19
 35.16

30.1
 45.7
 34.432.25
 35.9
 14.61
 49 36.52
 + 36.84
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 32 34.99

39 44 31
 1.67980
 - 605
 1.67375
 - 47.18
 - .01
 - .67
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 - 47.62
 + 2 31 45.34
 37 2.4
 + 5 17.1
 17.0

44 25
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 1.68817
 - 48.77
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 + .28
 - 49.21
 31 45.74
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 + 5 16.6
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45 22
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 1.68837
 - 48.79
 - .01
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 31 44.57
 37 2.2
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44 31
 1.67980
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44 24
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 + 36 37.78

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 + 36 38.28

+ 4 52.78
 + 36 37.15

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 + 36 37.93

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 + 36 38.10

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 + 36 37.44

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+ 4 54.35
 + 36 37.44

[illegible]

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-1.09	-73	-86	-79
Oct. 14	Dec. 3	Dec. 9	Dec. 12

23	23	26.7	23	33.50	21	21.1	21	31.9	21	21.0	21	28.4	21	13.2	21	26.3
		29.4		35.18		22.9		33.9		22.9		30.4		15.0		28.3
		31.2		37.25		24.4		36.0		24.8		32.5		17.0		30.4
				41.39				40.1				36.6				34.6
				43.49				42.1				38.6				36.6
				45.44				44.2				40.8				38.6
24	7.2			47.60	22	8.3		46.3	22	12.2		42.8				40.7
	9.0			49.63		10.2		48.4		14.3		44.9				42.9
	10.6			51.73		12.0		52.6		16.0		49.0				47.0
				53.98				54.6				57.1				49.0
				57.40				56.7				53.2				37.0
				500.87				48.68				448.5				425.4
23	29.10				21	25.80			21	22.90			21	15.07		
24	8.93	23	45.501	22	10.17	21	44.255	22	14.17	21	40.755	21	38.672			
		21	47.56			21	47.16			21	47.10		47.07			

78.62

-08

-3.37

 $+5.17$

43.84

$$23 \overset{h}{21} \overset{m}{43} \overset{s}{732}$$

+16.40	-23.43	+21.46	-25.91	+17.56	-33.41	+23.60
1.21484	1.36942	1.33162	1.41346	1.25788	1.52387	1.37291
1.33531	1.49024	1.45209	1.53393	1.37235	1.64436	1.49338

40	4	45	0	40	4	45	0	40	4	45	0	40	4
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8.0	9.9	3.2	8.9	12.5	11.5	19.5	4.5
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0.85	21.7	21.7	23.1	24.3	29.1	31.6	21.7
9	21.5 15.70	15.4 9.30	13.4 11.15	16.8 14.65	16.9 14.20	25.7 22.60	10.1 7.30

21.9	14.1	13.9	17.9	19.2	27.1	13.2
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812	538	613	747	767	1099	495
11 2030	15 1315	11 1522	15 1848	11 1818	15 2218	11 1830

44	20.90	45	12.50	44	10.52	45	10.00	44	17.00	45	2.745	44	12.50
+	21.64	-	30.92	+	2832	-	34.19	+	23.57	-	21.09	+	31.14

44	41.94	44	42.53	44	43.64	44	44.49	44	42.75	44	43.39	44	43.52
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15	38	141	582	28	1141	281	28	510	1101	38	1181
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75	00	0.77	5.02	50	7.17	5.06	50	0.60	7.76	00	4.05
40											

86	89	02	39	55	38	57	41	01	39	01	40	09	38	5
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1.63160	1.63190	1.63160	1.63190	1.63160	1.63190	1.63160
1.63160	1.63190	1.63160	1.63190	1.63160	1.63190	1.63160

4881	4881	42261	42261	42601	42601	4187
164041	164041	165421	165451	165761	165791	16503

-43.69	-43.72	-45.10	-45.13	-45.46	-45.49	-44.73
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$-.01 \quad -.03 \quad -.02 \quad -.04 \quad -.02 \quad -.06 \quad -.03$

- .60	- .03	- .61	- .05	- .89	- .08	- .61
+ .26	+ .01	+ .26	+ .02	+ .26	+ .13	+ .26

[illegible]

		-44.04	-1377	-45.53	-45.20	-45.91	-45.60	-45.18
15	24	20.25	20.15	25	12.16	16.11	25	12.16

40	87	22.37	22.05	37	19.18	18.66	37	19.69	19.36	37	19.6	
	37	22.21	+5	17.37	37	18.92	+5	18.96	37	19.52	+5	18.75

7	200	100	50	100	50	100	50	100	50
		-0.7		-1.2				-1.2	

	-25.8	-24.9	-24.7
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	+4	5087	+4	5286	+4	5285
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42	400	42	39.1	42	388	42	38
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#5	42 13.08	42 11.78	42 12.37
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$$+ 5 \overset{0}{4} 2 \overset{1}{1} 2 \overset{11}{6} 2$$

λ Draconis L.C

h m s
11 23 58
+70° 1' 14"
109° 58' 46"
-67° 35' 58"

Lo

Corrd

d λ d δ

Corrd

d δ d δ m s
24 48.63

+ .14

+3.6349

0 3439

59 25.61

+ .8

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		Oct. 18		Oct. 23		Oct. 27		Oct. 28		Nov. 14		Dec. 9
49.4	23 57 29.5	57 30.00	57 25.1	57 38.10	57 30.7	57 44.29	57 32.5	57 46.70	56 40	56 14.0	55 17.7	55 24.0
57.4	31.6	32.00	27.4	40.24	33.6	46.45	34.8	48.48	57	16.1	21.0	26.0
53.5	33.0	34.35	28.7	42.34	35.4	48.49	36.7	50.59	7.2	18.2	23.0	28.0
57.6		38.40		46.50		52.79		54.60		22.3		32.2
59.8		40.65		48.50		54.72		56.64		24.5		34.3
2.0		42.60		50.68		56.93		58.70		26.5		36.3
4.0	58 12.0	44.50	58 10.7	52.68	58 16.7	59.09	58 14.7	0.93	56 47.0	28.6	56 6.7	38.4
6.1	19.3	46.90	12.5	54.80	18.0	1.22	16.3	3.12	48.0	30.7	8.4	40.5
10.2	15.6	50.90	14.0	58.90	19.3	5.39	18.2	7.19	50.6	33.0	9.7	44.6
12.3		53.00		1.00		7.39		9.25		37.0		46.7
14.4		55.15		3.10		9.37		11.21		39.1		48.8
32.07		46.845		43.684		38.613		37.11		29.20		39.98
2.07	57 31.37	57 27.07	57 33.23	57 33.23	57 33.23	57 33.23	57 33.23	57 33.23	56 56.3	55 20.57	55 36.345	
1.882	58 13.97	58 12.40	58 18.58	58 18.58	58 18.58	58 18.58	58 18.58	58 18.58	56 48.87	56 26.545	56 8.27	56 36.345
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		+1.12		+ .12		+1.12		+1.12		+1.09		+1.10
		-4.12		-4.64		-4.08		-4.07		-3.96		-3.53
		-2 229 3.35		-2 11.35 44		-2 17.89		-19.68		-47.48		+3.07
		55 40.30		55 39.27		55 39.03		55 39.15		55 39.06		55 39.42
		39.24		1.8								
		+11.22		-31.38		+23.55		-21.78		+23.69		-21.08
		1.64999		1.49665m		1.37199		1.33806m		1.37457		1.32387m
		1.16960		1.61626m		1.49160		1.45767m		1.49418		1.44348m
		5 2		5 3		5 2		5 3		5 2		5 3
		5 1		52.0		43.4		43.1		41.8		40.4
		14.8		9.4		0.1		0.7		39.2		57.1
		12.9		6.9		56.9		56.9		53.3		52.9
		9.1		3.9		54.6		54.4		51.8		49.9
		3.9		12.2		21.50		21.51		20.61		19.83
		8 3.48		9 30.50		8 7.25		8 53.78		7 51.52		8 49.58
		+14.78		-3.95		+33.75		-28.69		+31.20		-27.76
		8 23.26		8 21.72		8 24.77		8 25.09		8 22.72		8 21.82
		-6 45 34.91		33.37		45 36.92		36.74		45 34.37		33.97
		49 2 50		3 45		2 36		3 36		2 34		3 32
		1.82120		1.82140		1.82110		1.82140		1.82110		1.82135
		+6.05		+6.05		+3.09		+3.09		+17.75		+17.75
		1.82725		1.82745		1.82419		1.82449		1.83885		1.83910
		-6.718		-6.721		-6.671		-6.676		-6.900		-6.904
		+ .01		+ .06		+ .04		+ .03		+ .04		+ .03
		- .43		- .57		- .43		- .58		- .42		- .57
		+ .19		+ .25		+ .17		+ .23		+ .17		+ .23
		-1 7.41		-1 7.47		-1 6.93		-1 7.08		-1 9.21		-1 9.35
		46 42.32		40.84		46 43.35		43.82		46 48.58		42.82
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