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*General Catalogue
Observations & Reductions*
BA II 1872

Charles W. Sever, University Bookstore, Cambridge.

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General Catalogue
Observations and Reductions

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Apr. 18	Apr. 19	Apr. 21	Apr. 22	Apr. 23	Apr. 24
8 46.78 410.6 48.8 41.5 50.9 412.1 55.1 124.7 57.3 59.4 1.6 3.7 7.8 10.0 8 41.6 13.1 35.34 30.0 653.4 59.400	8 47.1 8 410.0 8 49.1 411.0 51.3 81.0 55.5 57.7 59.7 9 17.2 1.8 18.5 4.0 19.6 8.2 10.3 12.5 8 40.5 35.72 30.0 657.2 59.745	47.35 41.7 8 49.5 412.7 51.6 43.7 55.8 128.1 57.8 0.0 2.0 4.2 8.5 12.7 12.7 8 42.7 30.01 30.0 0.1 0.009	47.7 8 410.7 49.8 411.6 52.0 42.2 56.2 124.6 58.4 8 58.6 0.5 2.4 4.7 7.0 11.0 13.0 8 41.5 30.47 30.0 4.7 0.427	— 9 — — 56.9 58.6 0.6 2.8 3.8 7.2 11.4 13.4 9 3.1 30.32 0.64	3.1 48.0 8 42.9 48.8 50.1 43.8 52.2 44.7 56.6 131.4 58.6 0.7 2.8 4.8 9.2 11.4 13.5 8 43.8 30.79 30.0 7.9 0.718

20 3 4.2 48.1 11.33 56.15 +17.8 1.25042 1.35530 -2.66 22 56.15 22 3345 +14° 0' 14.86	3 7.1 2 53.0 119.1 59.55 +19.2 1.26330 1.38818 -2444 22 59.05 22 35.11 0 13.24	17.0 3 1.0 4.0 51.13 11.23 56.15 +17.3 1.23805 1.34293 -2202 22 56.15 22 34.13 0 14.22	3 1.5 51.1 113.6 56.30 +18.9 1.27646 1.38134 -2406 22 56.30 22 32.24 0 16.11	2 37.8 22.1 59.9 29.95 -2.5 0.38790 50278 +8.17 22 29.95 22 33.12 0 15.23	3 0.9 49.2 110.1 53.05 +16.9 1.22789 1.33277 -21.52 22 55.05 22 33.53 0 14.82
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8	4898	480	4838	42.2	4858	430
	50.1	49.2	50.4	43.0	506	440
	52.3	97.2	52.6	43.8	527	450
	56.5		56.7	1290	569	132.0
	58.7		59.0		59.0	
	0.7		1.0		1.2	
	2.9		3.2		3.4	
	5.0		5.1		5.5	
	9.3		9.6		9.6	
	11.4		11.7		11.8	
	13.5	48.6	13.88	43.0	14.08	44.0
	3093		3114		3132	
			300		300	
	845+		11.4		13.2	
	0.85		1.036		1.200	

2	539	3	3.2	3	1.5
	41.9		56.5		52.9
	75.8		117.7		114.4
	47.90		59.85		57.20
	+15.8		+15.0		+17.2
	11.20		1.25527		1.23553
	1.0540		1.30015		1.34041
	1.4428				
	1234		-1553		-2292
22	478022	22	4780	22	57.85
22	35.8622	22	3237	22	36.93
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Apr. 24707+070
Apr. 25705+080
Apr. 26704+040
Apr. 27

10	57.210	48.0	10	57.3	10	57.2	10	57.7	10	50.4	10	57.7	10	57.7
	59.7	49.5		59.7		52.6		0.1		51.4		0.1		53.0
	2.2	50.6		2.1		54.1		2.6		52.5		3.0		54.2
	7.0	148.1		7.0		157.9		7.4		154.3		7.4		57.7
	9.3			9.5				9.8				10.0		158.9
	11.7			11.9				12.3				12.4		
	14.3			14.4				14.7				14.7		
	16.7			16.8				17.1				17.1		
	21.6			21.7				22.0				22.0		
	24.210	47.3		24.110	52.6			24.510	51.4			24.610	52.9	
	26.01			26.6				27.0				26.9		
	25.04			25.11				19.52				19.59		
	12.0			12.0				6.0				6.0		
	130.4			131.1				135.2				135.9		
	11.855			11.919				12.291				12.355		
	21.84	11.14		11.90	11.10			12.28	12.25			12.34	12.24	
	21.86	21.14		21.85	21.15			21.84	21.14			21.83	21.13	
	-10.02	-12.02		-9.95	-9.95			-9.56	-9.56			-9.49	-9.49	
		-12			-12				-12				-12	
	11.89	10.14		11.90	-10.02			12.28	9.68			12.83	9.61	
	+10.09			+10.05				+9.72				+9.57		
	+5	+11.84		+4	+11.90			+3	+12.25			+3	+12.34	
	-9.9	+10.09		-9.6	+10.04			-9.5	+9.75			-9.4	+9.59	
	21.01	+9.7		21.03	+9.6			21.08	-9.5			21.00	+9.4	
		21.01			21.02				21.06				21.02	

3 450
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37.403 40.9
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37.203 41.1
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35.30+22.6
1.35411
1.39930
-2508
8 37.40
8 12.32
14 36.03
-10.60+19.3
1.28556
1.33075
-2141
8 33.70
8 12.29
14 36.06
-10.52+20.9
1.32015
1.36534
-2319
8 37.20
8 14.01
14 34.34
-10.17+19.5
1.29003
1.33522
-2164
8 35.30
8 13.66
14 34.69
-10.5014 25.4
14 59.714 25.5
14 59.814 24.2
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12	33.7	12	27.3	12	34.2	12	26.8	12	34.3	12	28.8	12	34.7	12	31.0	12	38.5	12	29.7	1	13	25
	36.6		28.3		36.3		27.7		36.6		29.8		36.8		32.0		43.7		31.5			3.4
	38.0		29.3		38.4		28.7		38.8		31.2		38.9		32.7		49.3		~~339~~			4.3
	42.3		84.7		42.6		83.2		42.9		89.8		43.1		95.7		59.8		~~38~~			19.2
	44.4				44.7				45.1				45.2				5.5		95.1			
	46.6				46.8				47.3				47.8				10.7			12	48.2	
	48.6				48.9				49.3				49.6				16.0				50.3	
	50.7				51.2				51.5				51.7				21.4				52.6	
	55.0				55.3				55.7				56.0				32.0				56.8	
	57.1				57.6				57.9				58.1				37.4				59.0	
	59.3	12	24.3		59.6	12	27.7		60.0	12	27.9		60.2	12	31.9		43.1	12	31.7		10.13	3.4
51.7					51.56				51.94				52.15				35.74					
																	24.6					
																	117.4					
46.518					46.873				47.218				47.409				10.673					

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53.75+18.2
1.26007
1.36439
-2317
27 38.10
27 149.8+19.3
1.28830
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-2444
27 38.35
27 100.21+17.3
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27 34.60
27 125.8+15.5
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18.5 16.5 18.7 15.3 19.0 19.9 19.0 123.5
20.7 20.7 21.0 21.1 21.1 21.1
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24.8 24.9 25.1 25.3 25.3 25.3
26.9 26.9 27.3 27.4 27.4 27.4
31.0 31.1 31.4 31.5 31.5 31.5
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22.700 22.799 22.799 22.799 22.799 22.799
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22.73 32.89 22.73 32.89 22.73 32.89
7.05 -10.21 -6.82 -10.09 6.62 -9.88 2.66 9.62
22.68 22.68 22.79 22.79 23.08 23.08 23.23 23.23
-10.19 32.89 +10.04 32.89 +9.72 22.86 +9.57 32.89
+1.1 -10.21 +1.1 -10.21 +1.1 -10.21 +1.1 -10.21
+78 +10.21 +76 +10.21 +75 +10.21 +74 +10.21
14 32.10 32.08 32.06 32.06 32.06 32.06
22.68 22.79 23.08 23.08 23.23 23.23
+10.18 +10.04 +9.72 +9.57 +9.57 +9.57
+1.1 +1.1 +1.1 +1.1 +1.1 +1.1
-78 32.09 -76 32.08 -75 32.08 -74 32.08

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22.73 32.89 22.73 32.89 22.73 32.89
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22.73 32.89 22.73 32.89 22.73 32.89
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+78 +10.21 +76 +10.21 +75 +10.21 +74 +10.21
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+10.18 +10.04 +9.72 +9.57 +9.57 +9.57
+1.1 +1.1 +1.1 +1.1 +1.1 +1.1
-78 32.09 -76 32.08 -75 32.08 -74 32.08

35 23.5 4 23.1 4 22.1 3 36.8 3 35.0
79 11.5 15.2 30.8 28.8
31.4 34.6 37.3 67.6 63.8
15.70 17.30 18.65 3 33.80 31.70
+17.2 +16.5 -19.2 -19.0
1.23553 1.24777 1.24748 1.28330 1.25527
1.35054 1.36298 1.33249 1.39831 1.37028
-22.42 -23.06 -21.50 +25.02 +23.46
39 15.70 39 17.30 39 18.65 38 33.80 38 31.70
38 53.28 38 54.24 38 57.15 38 58.82 38 55.36
16 43 55.07 43 54.11 43 51.20 43 52.99
-43.18 -42.18 -40.64 -42.03

35 23.5 4 23.1 4 22.1 3 36.8 3 35.0
79 11.5 15.2 30.8 28.8
31.4 34.6 37.3 67.6 63.8
15.70 17.30 18.65 3 33.80 31.70
+17.2 +16.5 -19.2 -19.0
1.23553 1.24777 1.24748 1.28330 1.25527
1.35054 1.36298 1.33249 1.39831 1.37028
-22.42 -23.06 -21.50 +25.02 +23.46
39 15.70 39 17.30 39 18.65 38 33.80 38 31.70
38 53.28 38 54.24 38 57.15 38 58.82 38 55.36
16 43 55.07 43 54.11 43 51.20 43 52.99
-43.18 -42.18 -40.64 -42.03

35 23.5 4 23.1 4 22.1 3 36.8 3 35.0
79 11.5 15.2 30.8 28.8
31.4 34.6 37.3 67.6 63.8
15.70 17.30 18.65 3 33.80 31.70
+17.2 +16.5 -19.2 -19.0
1.23553 1.24777 1.24748 1.28330 1.25527
1.35054 1.36298 1.33249 1.39831 1.37028
-22.42 -23.06 -21.50 +25.02 +23.46
39 15.70 39 17.30 39 18.65 38 33.80 38 31.70
38 53.28 38 54.24 38 57.15 38 58.82 38 55.36
16 43 55.07 43 54.11 43 51.20 43 52.99
-43.18 -42.18 -40.64 -42.03

35 23.5 4 23.1 4 22.1 3 36.8 3 35.0
79 11.5 15.2 30.8 28.8
31.4 34.6 37.3 67.6 63.8
15.70 17.30 18.65 3 33.80 31.70
+17.2 +16.5 -19.2 -19.0
1.23553 1.24777 1.24748 1.28330 1.25527
1.35054 1.36298 1.33249 1.39831 1.37028
-22.42 -23.06 -21.50 +25.02 +23.46
39 15.70 39 17.30 39 18.65 38 33.80 38 31.70
38 53.28 38 54.24 38 57.15 38 58.82 38 55.36
16 43 55.07 43 54.11 43 51.20 43 52.99
-43.18 -42.18 -40.64 -42.03

12.0 43 11.4 43 11.4 43 11.4
43 45.6 43 45.7 43 45.8 43 45.9

12.0 43 11.4 43 11.4 43 11.4
43 45.6 43 45.7 43 45.8 43 45.9

12.0 43 11.4 43 11.4 43 11.4
43 45.6 43 45.7 43 45.8 43 45.9

12.0 43 11.4 43 11.4 43 11.4
43 45.6 43 45.7 43 45.8 43 45.9

-54 336 331 + 33.8 330 + 35.2 347 + 34.9 343

-54 336 331 + 33.8 330 + 35.2 347 + 34.9 343

-54 336 331 + 33.8 330 + 35.2 347 + 34.9 343

-54 336 331 + 33.8 330 + 35.2 347 + 34.9 343

+6 43 55.07 + 35.0 3.90 3.60 + 35.0

+6 43 55.07 + 35.0 3.90 3.60 + 35.0

+6 43 55.07 + 35.0 3.90 3.60 + 35.0

+6 43 55.07 + 35.0 3.90 3.60 + 35.0

1872phad proj. 1458.
b. D

log₁₀ ✓ 9.07018

log₁₀ ✓ 9.99697
11801
.11501

$\delta = +6^{\circ} 43' 49.4''$

Apr. 27

39.1	16	33.7
41.6		34.8
43.6		35.7
45.9		104.2
50.1		

52.2

54.5

57.7

61.0

63.2

57.65	16	34.7
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52.409

1 52.8

47.7

100.5

50.25

+17.7

112.4797

1.34409

- 2208

26 58.25

26 28.17

3 39.82

Crateris

11 18 11

- 16 56

- 30

Sun 9.46422

 9.98075
 11804
 .09899

1872 Apr. 21	Apr. 22	Apr. 23	Apr. 24	Apr. 25	Apr. 26
18 6.4 18 1.0 18 6.8 18 0.2 18 7.1 18 0.0 18 7.1 18 2.7 18 7.1 18 1.7 18 7.4 18 2.0	18 6.8 18 0.2 18 7.1 18 0.0 18 7.1 18 2.7 18 7.1 18 1.7 18 7.4 18 2.0	18 6.8 18 0.2 18 7.1 18 0.0 18 7.1 18 2.7 18 7.1 18 1.7 18 7.4 18 2.0	18 6.8 18 0.2 18 7.1 18 0.0 18 7.1 18 2.7 18 7.1 18 1.7 18 7.4 18 2.0	18 6.8 18 0.2 18 7.1 18 0.0 18 7.1 18 2.7 18 7.1 18 1.7 18 7.4 18 2.0	18 6.8 18 0.2 18 7.1 18 0.0 18 7.1 18 2.7 18 7.1 18 1.7 18 7.4 18 2.0
8.5 2.3 8.9 7.3 0.9 9.4 3.8 9.3 2.6 9.5 3.0	8.5 2.3 8.9 7.3 0.9 9.4 3.8 9.3 2.6 9.5 3.0	8.5 2.3 8.9 7.3 0.9 9.4 3.8 9.3 2.6 9.5 3.0	8.5 2.3 8.9 7.3 0.9 9.4 3.8 9.3 2.6 9.5 3.0	8.5 2.3 8.9 7.3 0.9 9.4 3.8 9.3 2.6 9.5 3.0	8.5 2.3 8.9 7.3 0.9 9.4 3.8 9.3 2.6 9.5 3.0
10.8 3.1 11.1 11.4 1.8 11.4 11.5 11.4 3.6 11.7 3.7	10.8 3.1 11.1 11.4 1.8 11.4 11.5 11.4 3.6 11.7 3.7	10.8 3.1 11.1 11.4 1.8 11.4 11.5 11.4 3.6 11.7 3.7	10.8 3.1 11.1 11.4 1.8 11.4 11.5 11.4 3.6 11.7 3.7	10.8 3.1 11.1 11.4 1.8 11.4 11.5 11.4 3.6 11.7 3.7	10.8 3.1 11.1 11.4 1.8 11.4 11.5 11.4 3.6 11.7 3.7
15.0 6.4 15.4 15.7 2.7 15.7 15.8 15.8 7.9 15.9 11.7	15.0 6.4 15.4 15.7 2.7 15.7 15.8 15.8 7.9 15.9 11.7	15.0 6.4 15.4 15.7 2.7 15.7 15.8 15.8 7.9 15.9 11.7	15.0 6.4 15.4 15.7 2.7 15.7 15.8 15.8 7.9 15.9 11.7	15.0 6.4 15.4 15.7 2.7 15.7 15.8 15.8 7.9 15.9 11.7	15.0 6.4 15.4 15.7 2.7 15.7 15.8 15.8 7.9 15.9 11.7
17.1 17.5 17.8 20.0 20.1 20.1 20.1 20.1 20.1 20.2	17.1 17.5 17.8 20.0 20.1 20.1 20.1 20.1 20.1 20.2	17.1 17.5 17.8 20.0 20.1 20.1 20.1 20.1 20.1 20.2	17.1 17.5 17.8 20.0 20.1 20.1 20.1 20.1 20.1 20.2	17.1 17.5 17.8 20.0 20.1 20.1 20.1 20.1 20.1 20.2	17.1 17.5 17.8 20.0 20.1 20.1 20.1 20.1 20.1 20.2
19.3 21.5 21.8 22.3 22.3 22.3 22.3 22.3 22.3 22.4	19.3 21.5 21.8 22.3 22.3 22.3 22.3 22.3 22.3 22.4	19.3 21.5 21.8 22.3 22.3 22.3 22.3 22.3 22.3 22.4	19.3 21.5 21.8 22.3 22.3 22.3 22.3 22.3 22.3 22.4	19.3 21.5 21.8 22.3 22.3 22.3 22.3 22.3 22.3 22.4	19.3 21.5 21.8 22.3 22.3 22.3 22.3 22.3 22.3 22.4
21.5 22.7 24.0 24.4 24.4 24.4 24.4 24.4 24.4 24.6	21.5 22.7 24.0 24.4 24.4 24.4 24.4 24.4 24.4 24.6	21.5 22.7 24.0 24.4 24.4 24.4 24.4 24.4 24.4 24.6	21.5 22.7 24.0 24.4 24.4 24.4 24.4 24.4 24.4 24.6	21.5 22.7 24.0 24.4 24.4 24.4 24.4 24.4 24.4 24.6	21.5 22.7 24.0 24.4 24.4 24.4 24.4 24.4 24.4 24.6
28.0 28.3 28.6 28.6 28.6 28.6 28.6 28.6 28.6 28.9	28.0 28.3 28.6 28.6 28.6 28.6 28.6 28.6 28.6 28.9	28.0 28.3 28.6 28.6 28.6 28.6 28.6 28.6 28.6 28.9	28.0 28.3 28.6 28.6 28.6 28.6 28.6 28.6 28.6 28.9	28.0 28.3 28.6 28.6 28.6 28.6 28.6 28.6 28.6 28.9	28.0 28.3 28.6 28.6 28.6 28.6 28.6 28.6 28.6 28.9
30.1 30.5 30.8 30.8 30.8 30.8 30.8 30.8 30.8 31.0	30.1 30.5 30.8 30.8 30.8 30.8 30.8 30.8 30.8 31.0	30.1 30.5 30.8 30.8 30.8 30.8 30.8 30.8 30.8 31.0	30.1 30.5 30.8 30.8 30.8 30.8 30.8 30.8 30.8 31.0	30.1 30.5 30.8 30.8 30.8 30.8 30.8 30.8 30.8 31.0	30.1 30.5 30.8 30.8 30.8 30.8 30.8 30.8 30.8 31.0
32.2 18 2.1 32.6 18 0.2 32.9 18 0.9 32.9 18 2.8 32.9 18 2.6 32.9 18 2.9	32.2 18 2.1 32.6 18 0.2 32.9 18 0.9 32.9 18 2.8 32.9 18 2.6 32.9 18 2.9	32.2 18 2.1 32.6 18 0.2 32.9 18 0.9 32.9 18 2.8 32.9 18 2.6 32.9 18 2.9	32.2 18 2.1 32.6 18 0.2 32.9 18 0.9 32.9 18 2.8 32.9 18 2.6 32.9 18 2.9	32.2 18 2.1 32.6 18 0.2 32.9 18 0.9 32.9 18 2.8 32.9 18 2.6 32.9 18 2.9	32.2 18 2.1 32.6 18 0.2 32.9 18 0.9 32.9 18 2.8 32.9 18 2.6 32.9 18 2.9
21 2.6 19.327 21 6 6 19.691 22 0.2 20.018 22 0.9 20.052 22 0.8 20.073 22 2.9 20.264	21 2.6 19.327 21 6 6 19.691 22 0.2 20.018 22 0.9 20.052 22 0.8 20.073 22 2.9 20.264	21 2.6 19.327 21 6 6 19.691 22 0.2 20.018 22 0.9 20.052 22 0.8 20.073 22 2.9 20.264	21 2.6 19.327 21 6 6 19.691 22 0.2 20.018 22 0.9 20.052 22 0.8 20.073 22 2.9 20.264	21 2.6 19.327 21 6 6 19.691 22 0.2 20.018 22 0.9 20.052 22 0.8 20.073 22 2.9 20.264	21 2.6 19.327 21 6 6 19.691 22 0.2 20.018 22 0.9 20.052 22 0.8 20.073 22 2.9 20.264

20	1	1	1	1	1	1
11.3 5.2 16.5 8.25 +17.2 1.23553 1.33432 - 21.59 21 8.25 20 46.66 -16 57 58.31	11.9 3.5 15.4 7.7 +19.5 1.29603 1.38852 - 21.48 21 7.20 20 43.22 57 54.87	12.8 0.3 13.1 6.55 +19.1 1.28103 1.37982 - 23.58 21 6.55 20 42.57 57 54.22	11.1 1.6 12.7 6.35 +16.3 1.21219 1.31095 - 20.46 21 6.35 20 45.89 57 57.54	12.1 3.9 16.0 8.00 +17.5 1.24304 1.3418.3 - 21.97 21 8.00 20 46.03 57 57.68	16.8 12.1 2.8 14.45 +16.4 1.21454 1.31363 - 20.59 21 14.45 20 53.86 58 5.51	

May 20

17	~~39.0~~	17	37.3
	41.0		38.0
	43.0		39.3
	47.3		11.6
	49.5		
	51.6		
	53.7		
	55.7		
	60.0		
	62.2		
	64.3	17	58.2
	56.7		

51.573

0 16.1
74.0

Leonis

vii V 9.79588

11 21 20

vii V 9.99915

+ 3 35

11804
11719

+0.6

1872 Apr. 21

Apr. 22

Apr. 23

Apr. 24

Apr. 25

Apr. 26

20	59.020	58.0	20	59.4	20	51.4	20	59.5	20	54.6	20	59.6	20	59.7	20	53.9	20	59.9	20	54.8
	1.0	56.9		1.3		52.2		1.6		56.5		1.6		55.8		1.7		54.7		55.9
	3.0	58.0		3.4		53.0		3.6		57.3		3.7		56.9		3.7		55.8		56.8
	7.1	170.9		7.4		156.6		7.7		168.4		7.8		166.4		7.9		164.4		167.5
	9.2			9.6				9.9				9.9				10.0				10.2
	11.3	21	30.6		11.7			12.0				12.0				12.0			12.3	21
	13.3		31.7		13.7			14.0				14.1				14.0			14.3	
	15.4		32.7		15.8			16.1				16.2				16.1			16.3	
	19.5				19.9			20.1				20.3				20.3			20.5	
	21.6				21.9			22.2				22.3				22.2			22.6	
	23.6	20	56.9		24.0	20	52.2	24.3	20	56.1		24.4	20	55.8		24.4	20	54.8	24.7	20
	184.0				186.1			191.0				191.9				192.1			193.5	
	60				60			60				60				60			60	
	124.0				128.1			131.0				131.9				132.1			133.8	
	112.73				116.45			119.09				119.1				120.09			121.64	

45

4	22.1	3	39.5	4	29.9	4	26.0	4	25.9	4	28.8	4	30.1	3	13.9
	13.1		28.7		17.9		9.9		12.9		16.8		20.8		37.2
	25.2				47.8		9.5.9		38.8		46.1		50.9		
	17.69				23.90		17.95		17.40		22.55		25.45		
	+14.4				+19.4		+15.8		+16.2		+17.2		+16.4		
	1.15836				1.28750		1.17866		1.20951		1.23553		1.21454		
	1.27555				1.40499		1.31585		1.32670		1.35272		1.33203		
	-11.6				-25.41		-9.069		-21.22		-22.53		-21.45		
	49 17.60				49 23.90		49 17.95		49 19.40		49 22.55		49 25.45		
	45 58.74				48 58.49		48 57.26		48 58.18		49 0.02		49 3.97		
+3 33	49.61				33 49.86		33 51.09		33 50.17		33 48.33		33 44.38		

Apr. 27

428.0 Σ
20.1

λ Draconis

11	23	48	
11	28	466	43.03
+	70	04	

46.62 64 - 3
73 72 + 5
61 60 + 7
68 67 + 0
97 79 + 12
~~61~~ 62 + 5
46.70 67 (00)
16 -3.64
43.03

Apr. 20 11 23 49.78
25 60 15
30 49.41 19
May 5 $\left[\begin{array}{r} +.03 \\ +.10 \\ +.06 \end{array} \right]$ 20 21
10 48.99 27
15 76 23
20 48.53 23
25 .29 24
30 $(+.00)$ 48.04 25

	70° 1'	70° 2'	70° 3'	70° 4'	70° 5'	70° 6'	70° 7'	70° 8'	70° 9'	70° 10'
84° 7'	85.7	85.8	85.9	86.0	86.1	86.2	86.3	86.4	86.5	86.6
85.7	86.7	86.8	86.9	87.0	87.1	87.2	87.3	87.4	87.5	87.6
86.7	87.7	87.8	87.9	88.0	88.1	88.2	88.3	88.4	88.5	88.6
87.7	88.7	88.8	88.9	89.0	89.1	89.2	89.3	89.4	89.5	89.6
88.7	89.7	89.8	89.9	90.0	90.1	90.2	90.3	90.4	90.5	90.6
89.7	90.7	90.8	90.9	91.0	91.1	91.2	91.3	91.4	91.5	91.6
90.7	91.7	91.8	91.9	92.0	92.1	92.2	92.3	92.4	92.5	92.6
91.7	92.7	92.8	92.9	93.0	93.1	93.2	93.3	93.4	93.5	93.6
92.7	93.7	93.8	93.9	94.0	94.1	94.2	94.3	94.4	94.5	94.6
93.7	94.7	94.8	94.9	95.0	95.1	95.2	95.3	95.4	95.5	95.6
94.7	95.7	95.8	95.9	96.0	96.1	96.2	96.3	96.4	96.5	96.6
95.7	96.7	96.8	96.9	97.0	97.1	97.2	97.3	97.4	97.5	97.6
96.7	97.7	97.8	97.9	98.0	98.1	98.2	98.3	98.4	98.5	98.6
97.7	98.7	98.8	98.9	99.0	99.1	99.2	99.3	99.4	99.5	99.6
98.7	99.7	99.8	99.9	100.0	100.1	100.2	100.3	100.4	100.5	100.6
99.7	100.7	100.8	100.9	101.0	101.1	101.2	101.3	101.4	101.5	101.6
100.7	101.7	101.8	101.9	102.0	102.1	102.2	102.3	102.4	102.5	102.6
101.7	102.7	102.8	102.9	103.0	103.1	103.2	103.3	103.4	103.5	103.6
102.7	103.7	103.8	103.9	104.0	104.1	104.2	104.3	104.4	104.5	104.6
103.7	104.7	104.8	104.9	105.0	105.1	105.2	105.3	105.4	105.5	105.6
104.7	105.7	105.8	105.9	106.0	106.1	106.2	106.3	106.4	106.5	106.6
105.7	106.7	106.8	106.9	107.0	107.1	107.2	107.3	107.4	107.5	107.6
106.7	107.7	107.8	107.9	108.0	108.1	108.2	108.3	108.4	108.5	108.6
107.7	108.7	108.8	108.9	109.0	109.1	109.2	109.3	109.4	109.5	109.6
108.7	109.7	109.8	109.9	110.0	110.1	110.2	110.3	110.4	110.5	110.6
109.7	110.7	110.8	110.9	111.0	111.1	111.2	111.3	111.4	111.5	111.6
110.7	111.7	111.8	111.9	112.0	112.1	112.2	112.3	112.4	112.5	112.6
111.7	112.7	112.8	112.9	113.0	113.1	113.2	113.3	113.4	113.5	113.6
112.7	113.7	113.8	113.9	114.0	114.1	114.2	114.3	114.4	114.5	114.6
113.7	114.7	114.8	114.9	115.0	115.1	115.2	115.3	115.4	115.5	115.6
114.7	115.7	115.8	115.9	116.0	116.1	116.2	116.3	116.4	116.5	116.6
115.7	116.7	116.8	116.9	117.0	117.1	117.2	117.3	117.4	117.5	117.6
116.7	117									

18 $+2.74$ $\ln z = -46$
 $+2.76$

Apr. 1 st 7058		Apr. 2 nd 7020		Apr. 2 nd 7077		Apr. 2 nd 7070		Apr. 2 nd 7080		Apr. 2 nd 7045	
2.6	2.2	2.9	2.2	3.2	2.2	3.2	2.2	3.9	2.2	4.2	2.2
8.6	5.82	8.9	5.6	9.2	5.31	9.2	5.32	9.7	5.2.6	10.2	5.4.9
14.5	5.15	15.0	5.5.3	15.2	5.6.8	15.3	5.7.6	16.0	5.4.4	16.2	5.6.4
26.7	14.88	27.0	15.2.4	27.3	16.1.3	27.3	16.1.5	27.8	15.7.8	28.3	16.9.4
32.8		33.3		33.3		33.5		33.9		34.5	
39.0	2.3	39.2		39.0	2.3	39.3		39.9	2.4	40.5	2.3
44.8	2.0.8	45.1		45.6	4.4.0	45.1		46.0	2.5.3	46.5	3.9.3
50.8	2.4.2	51.3		51.4	4.7.0	51.6		52.2	2.7.5	52.5	4.1.2
3.0	6.2.5	3.6		3.4	12.6	3.6		4.3	11.6	4.6	11.8.2
9.0	2.3	9.6	2.2	9.2	2.2	9.4	2.2	10.4	2.2	10.6	2.2
14.9	2.2	15.4		15.5	2.2	15.6		16.2	2.2	16.6	4.4
42.6	2.4	42.1		43.2	2.3	43.3		44.0	2.3	44.7	2.3
38.7	9.1	39.2	9.1	39.8	9.1	39.4	9.1	40.0	9.1	40.4	9.1
49.7	4.7	49.6	4.7	49.6	4.7	49.5	4.7	49.5	4.7	49.4	4.7
10.7	8.8	10.5	8.8	10.3	8.8	10.2	8.8	10.5	8.8	10.4	8.8
38.7	5.1	39.1	5.1	39.2	5.1	39.3	5.1	39.9	5.1	40.3	5.1
10.7	9.9	10.5	9.9	10.3	9.9	10.2	9.9	10.5	9.9	10.4	9.9
38.7	1.4	39.1	1.4	39.2	1.4	39.3	1.4	39.9	1.4	40.3	1.4
10.7	1.6	10.5	1.6	10.3	1.6	10.2	1.6	10.5	1.6	10.4	1.6
46.6	2.2	46.7	2.2	46.6	2.2	46.8	2.2	46.9	2.2	46.9	2.2
46.6		46.7		46.6		46.8		46.9		46.9	

20	2	0.0	1	19.1	7	0.2	1	58.2	1	35.9	1	58.1	1	56.1	1	13.9	1	57.8	1	38.7
		39.6		59.8		41.3		37.7		19.9		37.7		41.4		58.5		38.3		20.0
	1	3.86	2	18.9		41.5		95.9		50.8		75.8		97.5		72.3		96.1		58.7
	0	49.50	1	9.95		20.75		47.75	1	25.40		47.70		48.75	1	0.615	1	46.5	1	29.30
		+19.2		42.1		+47.7		+45.5		4.9		+45.6		+47.4		40.2		+45.6		69.0
	1	69.105		1.62428		1.67552		1.65801		0.68020		1.65896		1.67178		1.61114		1.61896		1.7005
	1	39.125		1.27498		1.32722		1.30871		0.39050		1.30966		1.32698		1.30589		1.30966		1.42155
		21.97		+11.84		-21.34		-20.36		+2.19		-20.40		-2.14		+20.22		-20.40		+20.40
	20	47.50	21	9.45	20	58.75	21	47.95	21	25.40	21	47.50	21	46.75	21	0.615	21	48.05	21	29.35
	20	27.83	21	28.29	20	29.41	21	27.59	21	27.59	21	27.50	21	27.54	2	26.37	21	27.65		29.80
	1	20.52		18.94		18.94		1	20.76		1	20.85		1	20.81		1	20.70		
	+2	20.89		+2	23.81		+2	23.81		+2	21.67		+2	16.85		+2	26.58		+2	26.58
		31.54		+32.44		+32.44		+31.68		+31.72		+31.72		+30.72		+30.72		+32.59		+32.59
	1	52.1		1	51.2		1	52.6		1	52.6		1	51.5		1	51.5		1	51.5
	4	41.4		4	41.9		4	41.2		4	41.2		4	41.8		4	41.8		4	41.8
	2	25.0		2	25.2		2	25.6		2	25.6		2	25.8		2	26.0		2	26.7
		+32.5	33.8		+34.0	34.8		+33.0	33.7		+33.2	34.0		+34.5	35.4		+33.7	34.6		
		16.4		17.4		17.6		17.6		16.7		16.7		17.8		18.6		18.6		
		+27.1		+26.0																
	2	20.52		2	18.94		1	20.76		1	20.85		1	20.81		1	20.70			
		11.40		11.60		12.80		12.80		12.30		12.30		12.40		13.10		13.10		

log sin $\delta = +70^{\circ} 2' 13.6''$

log cos $\delta = 9.53266$
10509
9.65070

B.A.C. 3928 $\sin 9.71352$

$$\begin{array}{r} 11 \ 26 \ 41 \\ - \ 31 \ 08 \\ \hline 60 \end{array}$$

$$\begin{array}{r} 2.93246 \\ 11.803 \\ \hline .05056 \end{array}$$

1872

Apr. 21	Apr. 24	Apr. 25	Apr. 26	Apr. 27	Apr. 29
26 183.26 4.426	19.0 26 8.3 26	19.0 26 11.4 26	19.0 26 13.0 26	19.4 26 12.7 26	202.26 11.9
20.7	21.4	21.3	21.3	21.6	22.5
23.0	23.9	23.8	23.8	24.2	24.9
27.9	28.6	28.7	28.6	29.1	29.8
30.2	31.0	31.0	31.0	31.4	32.2
32.6	33.5	33.4	33.5	33.8	34.6
35.1	35.8	35.9	35.9	36.1	37.1
37.5	38.8	38.2	38.2	38.6	39.5
40.4	41.0	43.0	43.1	43.4	44.3
44.7	46.4	45.5	45.6	45.9	46.6
47.0 26 8.5	47.9 26 9.5	48.0 26 12.8	48.1 26 13.9	48.1 26 13.8	49.0 26 12.9
3594	3678	3678	3681	3726	3807
32.673	33.436	33.436	33.464	33.783	34.609

25	4	4	4	4	4
50.0	48.9	45.1	55.5	44.1	43.2
42.5	38.8	35.2	49.0	37.1	35.5
72.5	87.7	80.3	104.5	91.2	76.9
46.25	43.88	40.15	52.25	40.60	39.35
124.2	+23.9	+20.6	+19.6	+20.0	+21.7
1.28582	1.27840	1.31387	1.27226	1.30103	1.23646
1.43432	1.42590	1.36437	1.34276	1.35153	1.38876
-27.15	-26.85	-23.14	-22.01	-22.47	-24.37
29.46.25	29.43.85	29.40.15	29.52.25	29.40.00	29.38.35
29.19.08	29.18.00	29.17.01	(29.30.24)	29.18.13	29.14.98
0.1					
-30 6 30.72	6 28.65	6 28.66	6 41.89	6 29.78	6 26.63

B.A.C. 3934

11 28 15
 - 32 08
 - 63

sun 9.92582m
 9.92777
 11.504
 +0.4581

H72

Apr. 21

Apr. 25

Apr. 26

Apr. 27

Apr. 29

27	521.27	430.27	52.927	45.027	52.927	47.227	53.227	47.227	53.927	46.1
	54.6	44.0	55.2	46.1	55.3	48.2	55.7	48.6	56.3	47.4
	56.9	45.2	58.0	46.8	58.0	49.1	58.0	49.7	58.8	48.5
	1.4	13.2.2	2.5	12.7.9	2.6	14.5	3.0	14.5.5	2.5	14.2.0
	4.1		5.0		5.0		5.3		6.0	
	6.7		7.6		7.6		7.8		8.5	
	9.1		9.8		10.9		10.3		10.9	
	11.5		12.3		17.2		12.9		13.3	
	14.4		17.0		19.7		17.6		18.3	
	18.8		19.6		22.2		20.0		20.7	
	21.327	44.1	22.027	45.9	26.3027	48.2	22.427	48.5	23.127	47.3
	25.32		26.89		18.0		26.62		27.33	
	18.0		18.0		63.0		18.0		18.0	
	73.2		8.9		7.545		56.2		9.33	
	6.685		7.445				7.536		8.482	

25

4	48.7	4	50.1	4	55.7	4	45.0	4	44.7
	40.5		39.9		48.9		38.1		34.7
	87.2		90.0		104.6		83.1		79.4
	44.68		45.0		52.38		41.55		39.78
	+22.5		+21.5		+19.8		+19.3		+21.2
	1.35218		1.33244		1.28556		1.28556		1.32634
	1.37777		1.37825		1.33187		1.33187		1.37215
	-2.500		-2.389		-21.45		-21.45		-23.56
	29.44.60	29	45.00	29	52.30	29	41.55	29	39.70
	29 15.60	29	21.11	29	30.85	29	20.10	29	16.19
-32° 6'	31.25	6	32.76	6	42.50	6	31.75	6	27.79

Leonix = 8

30 20
30 23.69 20.62
10 3 02
0 06

 $\Delta \mu = +68$

(0.00)

23.75 $75 + 6$
74 $74 + 5$
71 $71 + 2$
65 $68 - 1$
70 $73 + 4$
67 $67 - 2$
67 $66 - 3$
71 $(+0.2)$
70 3.01
20.64

Apr. 10 11 30 24.5
15 55.02
20 52.3
25 49.3
30 45.4
May 5 41.4
10 37.4
15 33.4
20 28.5

$\delta = -0^{\circ} 6'$ 68.5
68.4
68.4
68.3
68.2
68.0
67.8
67.6
67.3
66.0

1872 Apr. 20

Apr. 24

Apr. 25

Apr. 28

Apr. 27

Apr. 29

30 14.29 53.330 20.29 59.630 21.29 55.430 24.29 57.430 2.629 57.030 3.329 57.0
3.5 54.3 4.1 0.4 4.1 56.5 4.5 58.3 4.7 58.0 5.3 57.8
5.6 55.2 6.2 1.3 6.2 57.6 6.6 58.0 6.7 59.0 7.3 58.8
9.4 162.5 10.4 181.3 10.3 167.5 10.6 174.6 10.8 174.0 11.5 173.6
11.4 12.4 12.4 12.4 12.7 12.8 13.4
13.7 14.5 31.7 14.5 14.7 15.0 15.5
15.8 16.6 32.9 16.6 16.7 17.0 17.7
17.9 18.6 34.0 18.7 18.9 19.0 19.7
22.0 22.7 23.7 23.0 23.1 23.8
24.2 24.8 24.8 25.0 25.3 25.8
26.2 29 54.3 26.9 20 80.4 26.9 29 56.5 27.1 29 58.2 27.4 29 58.0 27.9 29 57.9
1517 1592 1593 1622 1644 1712

13.71 14.473 14.482 14.745 14.945 15.564
13.78 13.82 14.66 14.66 14.73 14.73 14.93 14.93 15.05 15.05
24.51 24.51 24.88 24.88 24.98 24.98 24.98 24.98 24.98 24.98
-10.73 -10.73 -10.04 -10.04 -9.75 -9.75 -9.55 -9.55 -9.55 -9.55
13.78 13.78 14.46 14.46 14.73 14.73 14.93 14.93 15.05 15.05
+10.78 +10.78 10.09 +10.09 +10.09 +10.09 +9.78 +9.78 +8.88 +8.88
-82 -82 -81 -81 -80 -80 -79 -79 -78 -78
30 23.75 23.75 23.74 23.74 23.71 23.71 23.65 23.68 23.70 23.73 23.67 23.67

30 0 6.5 0 13.4 16.7 0 5.0 0 6.1 0 4.0 0 3.8
4 58.1 49.8 6.2 56.0 4 0.3 4 57.8 4 54.9
12.46 11.1 121.0 6.4 121.8 118.7
62.30 55.55 60.50 3.20 60.90 69.35
+19.5 +14.1 +18.0 +16.5 +16.9 +17.7
1.24603 1.14922 1.25527 1.21748 1.22789 1.24787
1.40807 1.26726 1.37831 1.33552 1.34593 1.36601
-25.59 -18.51 -23.62 -21.65 -22.18 -23.23
30 21.30 29 55.55 30 0.50 30 3.20 30 0.50 29 59.35
29 36.71 29 37.04 29 36.88 29 41.55 29 38.72 29 36.12
-0 6 48.36 6 48.69 6 48.53 6 53.20 6 50.37 6 47.77
- 53.52 - 53.48 - 53.82 - 52.03 - 53.75 - 54.76

- 7 41.9 7 42.7 7 42.4 7 45.2 7 44.1 7 42.5
- 4 48.4 7 48.3 7 48.3 7 48.3 7 48.2 7 48.2

- 62 I + 33.5 32.9 + 34.4 33.8 + 34.1 33.5 + 36.9 36.2 + 35.9 35.3 + 34.3 33.7
- 0 6 48.36 6 48.69 6 48.53 6 53.20 6 50.37 6 47.77
+ 5.70 5.60 5.60 5.60 5.50 5.50

1872phae.proj.1458.

68.5
68.4
68.3
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68.0
67.8
67.6
67.3

68.5
68.4
68.3
68.2
68.0
67.8
67.6
67.3

$\delta - 0^{\circ} 7' 27''$

+08 +050
May 20

3.0 5.6 30 11.0
7.7 12.4
9.9 13.4
14.0 36.8
16.0
18.0
20.1
22.2
26.4
28.4
30.5 50 12.3
1988

18673
14.06 11.02
24.28 24.28
-6.22 -6.22

14.06 15.06
+6.20 6.19
0.00 0
-5.9 -5.9
23.67 23.66

25
4 7.9
1.1
9.0
4.50

+5.8
0.76343
288147
-761
F29 4.50/ut
2188.89
6 8.54
-5.72

7 0.3
7 0.84
7.3

-14.0 7.6
-1.9

6 8.54
+5.70

Cephei.

11 34 00 6.66 4.26

23 34 02 5.8

10 3 02 5.8

(4.32) -4.30 -8.7

6.83 .80 +14

40 .73 +7

41 .85 +29

44 .81 +15

62 .63 -3

34 .69 +3

31 .67 +1

31 .75

31 .75

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Apr. 20 2.3 34 01.45

25 1.80 .38

30 2.18 .38

35 .59 .41

May 5 (-0.15)

10 (+0.19)

15 (+0.02)

20 (+0.09)

25 (+0.09)

30 (+0.09)

35 (+0.09)

40 (+0.09)

45 (+0.09)

50 (+0.09)

55 (+0.09)

60 (+0.09)

65 (+0.09)

70 (+0.09)

75 (+0.09)

80 (+0.09)

85 (+0.09)

90 (+0.09)

95 (+0.09)

100 (+0.09)

105 (+0.09)

110 (+0.09)

115 (+0.09)

120 (+0.09)

125 (+0.09)

130 (+0.09)

135 (+0.09)

140 (+0.09)

145 (+0.09)

150 (+0.09)

155 (+0.09)

160 (+0.09)

165 (+0.09)

170 (+0.09)

175 (+0.09)

180 (+0.09)

185 (+0.09)

190 (+0.09)

195 (+0.09)

200 (+0.09)

205 (+0.09)

210 (+0.09)

215 (+0.09)

220 (+0.09)

Sun U 9.28504 +76° 54'

2.18 .38

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2.18 .38

20 0 5.1

4 46.1

114.2

57.10

-4.5

0.65321m

0.12498

1.34

19 57.10

19 57.10

103° 2' 52.59

+1 43.41

4 36.0

5 10.6

55 24.0

54 49.4

+34.6 35.4

103 2 52.59

-14.90

4 48.5

29.7

10.1

50.55

+26.2

1.41521

289008m

7.76

50.55

58.31

2 50.04

+1 44.78

4 34.8

5 11.3

55 24.2

54 48.7

+36.5 37.3

2 50.04

15.60

15 4 49.1

25.1

74.2

37.10

+67.7

1.83351

1.30236m

+20.06

19 37.10

19 57.16

2 51.19

+1 44.62

4 28.8

5 11.3

55 23.2

54 48.5

+35.7 36.5

2 51.19

15.80

15 4 42.8 0 9.0 4 49.9 0 26.9

23.9 4 50.9 29.7 5.3

66.7

33.55

+68.0

1.83351

1.30428m

+20.15

19 33.35

19 57.50

2 54.85

+1 46.22

4 36.1

5 11.6

55 23.9

54 48.4

+35.5 36.4

2 54.85

15.90

4 49.9 0 26.9

29.7 5.3

66.7

33.55

+68.0

1.83351

1.30428m

+20.15

19 33.35

19 57.50

2 50.30

+1 44.42

4 34.7

5 11.8

55 25.5

54 48.2

+37.1 37.9

2 50.30

16.20

49.5	49.5	1.0
48.7	48.5	.8
47.7	47.7	.7
47.1	47.0	.5
46.5	46.5	.4
46.2	46.1	.3
45.8	45.8	.2
45.7	45.7	.0
46.2		

$$\delta = +76^{\circ} 55' 4.3''$$

+0.4 +0.40⁻
Apr. 29

+0.6 +0.50⁰
May. 20

33	34	1.233	2.633	27.6
		33	11.7	31.0
			20.8	38.0
			39.0	96.6
			48.0	
			57.234	235
			6.2	27.2
			15.7	32.0
			34.0	
			42.8	627
			52.033	332.2
			330.0	
			300	
			630.0	
			57.23	Sup.
			57.90	57.51
			8.91	3.51
			-55.6	-5.56
				-2
			57.95	-5.78
			+6.20	
			+2.26	
			+2.70	-54.95
				+6.19
			6.64	-2.2
				+2.10
				6.67

20	15
0	4
11.9	10.6
57.2	4
123.1	27.7
61.53	53.4
	10.2
	124.0
	62.0

-62.69 (2.10) +25.6 (2.50) 840 (7.44)

0.782392
0.26416
-2.10

20 1.55
19 54.45
2 48.90
+1 46.10

1.40824
388001m
+7.48
19 2.02
19 7.44
3 3891
+1 40.25

4	35.0	5	19.2
5	12.1	5	152
55	25.0	55	40.8
54	47.9	54	45.2
+37.1	37.9	+55.0	3.2
		40	
2	48.90	3	3891
	76.40		-76.50

B.A.C 3973

11 36 52

4 42 27

** 4.91

1872

1872 July 20	Apr. 24	Apr. 25	Apr. 26	Apr. 27	Apr. 29
36 23.8 36 15.7 36 49.6 36 43.7 36 24.7 36 24.8 36 25.1 36 17.8 36 25.0 36 19.1 36 25.7 36 20.2					
26.7 16.8 52.7 45.2 27.5 25.7 27.9 19.3 27.9 20.5 28.6 21.0					
29.4 18.0 55.8 46.4 30.3 50.5 30.7 20.7 30.7 24.7 31.4 22.7					
35.0 20.5 2.0 17.3 35.9 36.2 36.8 36.3 36.3 6.13 37.0 23.9					
37.7 5.1 38.7 39.0 39.0 41.5 37 0.5 41.9 37 6.5 42.6 36 49.2					
40.5 37 7.2 8.3 39 33.8 44.5 44.6 44.6 8.6 45.3					
43.4 8.0 11.4 35.0 44.3 47.0 47.5 3.0 47.6 10.0 48.3					
46.2 6.9 14.4 36.2 52.6 53.0 53.8 36 1.9 53.8 36 20.4 56.5					
51.9 54.5 24.1 20.8 15.0 55.4 36 25.2 55.8 36 1.9 55.8 36 20.4 59.3 36 21.3					
57.3 36 16.8 23.8 36 46.1 58.3 58.7 36 19.3 58.7 36 20.4 46.8 36 21.3					
44 62 36 16.8 26.9 45 62 46 0 3 37 1.8 46 0 4 37 8.9 36 49.2					
40.54 270.8 41.47 41.845 41.855 42.545					
160 90.8 8.255					

55 49.5 2 0.5	2 42.3	2 47.1 2 7.4	2 47.1 2 1.9	2 47.8 2 21.8
36.2 48.0	27.0	37.2 1 54.9	35.9 49.1	34.1 8.1
83.7 2 48.0	69.3	84.3 4 0.28	83.0 2 51.0	81.5 28.8
2 42.5 1 54.25	34.65	2 42.1 2 1.15	2 41.5 2 55.50	2 40.9 2 19.95
+ 237 - 27.5	+ 16.0	+ 22.5 - 20.0	+ 21.5 - 20.5	+ 20.6 - 20.3
1.87473 1.43933	1.21220	1.35215 1.30103	1.33246 1.42325	1.31357 0.86332
1.36084 1.42035	1.19822	1.33820 1.28705	1.31846 1.40928	1.29988 0.84939
2.295 + 36.63	- 1.078	21.79 + 19.37	20.82 + 21.66	19.85 + 20.7
57 42.5 56 34.25	57 34.65	57 42.15 57 1.15	57 41.50 56 55.50	57 40.45 57 14.95
57 19.90 57 20.88	57 18.84	57 20.36 57 20.52	57 20.68 57 21.16	57 21.00 57 22.02
42.25 28.45	25 29.48	25 27.99	25 27.67	57 20.58
				57 40.45
				57 20.37
				25 27.98

Coyne ✓ 9.82927

Coyne ✓ 9.86798
11804
9.98602

Apr. 29

36

X Ursa. Maj.

11 39 19
+ 48 31 13.50

Rmi 2 = -11
(+1.13) (-1.13)

17.01 101 +1
16.81 93 -7
16.87 91 -9
16.85 87 -13
16.95 93 -7
16.95 93 (-0.7)
16.95 93
13.20
13.73

Apr. 10 11 39 18.68
15 63.05
20 57 6
25 51 6
30 18.44 7
May 5 1.36 8
10 28 8
15 19 9
20 18.09 10
25 18.0
30 18.0

Sin V 2.7457 + 48° 29' 23.1"
cos V 9.82112
11.804
9.93816

24.1
25.1
26.1
27.2
28.0
28.8
29.6
30.3
30.7
31.1
32.0

1872 +16.85
Apr. 20
-0.23

+0.5 +0.70
Apr. 25

+0.5 -0.30
Apr. 26

+0.4 +0.40
Apr. 27

-0.6 -0.60
May 22

38	49.038	37.838	49.838	40.438	50.138	42.339	39	22.538	52.738	45.8
	52.0	39.1	52.7	42.6	53.1	43.7		23.5	55.7	46.8
	55.0	40.5	55.9	43.9	56.2	44.8		25.0	58.8	48.6
	1.3	11.74	2.1	12.74	2.6	13.08		7.5	5.1	141.2
	4.5		5.2		5.6				8.3	
	7.539	28.6	8.3		18.5	33.6			11.2	
	10.7	29.7	11.5		15.0	35.1			14.3	
	13.8	31.2	14.6		21.2	36.6			17.5	
	19.9		20.8		24.2				23.7	
	23.0		23.9		27.4				26.9	
	26.238	39.1	27.038	42.5	32.638	42.6	39	23.8	30.138	48.1
	26.29		27.18		33.2				30.43	
	18.0		18.0		27.60				18.0	
	8.2.9		9.1.8		9.6.0				12.43	
	7.536		8.345		8.727	8.740			11.300	
	7.51	+7.51	8.32	8.02	8.72	8.72			11.28	11.28
	18.57	+18.57	18.57	18.51	18.50	18.49			18.05	18.05
	-11.66	+11.66	-10.18	-10.18	-9.00	-9.00			-6.88	-6.88
	*7.51	+7.51	8.02	+8.02	8.70	-8.75			8.72	8.72
	+10.95	+10.95	+10.04	+10.04	+9.71	-9.75			8.72	8.72
	+1.8	+1.8	+1.06	+1.06	+1.06	-1.06			8.72	8.72
	-1.57	+10.97	-1.51	+10.04	-1.50	+9.74			-1.99	+9.58
	+7.10	+7.10	+8	+8	+8	+8			+8	+8
39	17.07	-1.57	16.81	-1.51	16.97	-1.50	16.85	-1.48	16.95	-1.05
	17.01		16.93		16.91		16.87		16.93	

50	4	25.83	52.14	34.1	4	30.13	47.13	58.10	3	45.2
		17.5	34.0	14.1		15.12	31.9	41.2		30.2
		53.3		48.2		45.3		9.83		55.4
		26.68		24.1		22.68		49.65		38.70
		+28.4		+28.4		+25.1		-15.1		+24.2
		1.45332		1.19860		1.39967		1.17882		1.38382
		1.39248		1.13782		1.33883		1.11814		1.32298
		-2.469		-2.469		-2.182		+13.13		-21.04
		54 26.65		54 24.10		54 27.65		53 48.65		53 37.70
		54 1.96		54 0.64		54 0.83		52 2.85		53 16.66
		+48 28 46.39		28 46.71		28 47.52		28 45.57		29 31.69
		+0 6.05		+6.26		+6.06		+6.36		+6.16

28	52.4	28	53.0	28	53.6	28	51.9	29	57.8
29	25.8	29	26.3	29	26.5	29	26.7	29	30.6
+0.9	+32.9	+33.3	+32.9	+34.8	+32.9	+34.8	+34.9	-7.2	-7.1

48	28 46.39	28 46.71	28 47.52	28 45.57	29 31.69
-5.50	6.50	6.70	6.90	10.80	

3.1
1.1
1.1
1.1
1.1
2.2
8.0
8.8
9.6
9.3
0.7
0.1
2.0

1872phae proj. 1458.

23.1	1.1
24.2	1.1
25.3	1.1
26.3	1.9
27.2	1.9
28.1	1.8
28.9	1.7
29.6	1.7
30.3	1.6
30.9	1.5
31.2	1.5

$$\delta = +48^{\circ} 29' 19.8''$$

B Leonis

11 1/2 33
11 42 31.75 28.68
+ 15 19

Prin Z = +46

(+27)(+27)

31.72 72 +2 -3
76 79 +0 +4
28 78 +3
11 72 -3
12 74 -1
68 70 -5
75 73 -2
31.73 74 (-0.1)

Apr. 10 11 42 32.74
15 15
20 20
25 25
30 30
May 5 (-0.1)
10 10
15 15
20 20

72 02
69 3
66 3
63 3
59 4
55 4
50 5
45 -05

Jul 5 9.42186 +15° 17' 11.3
11.8
12.3
12.8
13.2
13.7
14.1
14.6
15.1

Aug 5 9.9429
11.504
10233

1872 Apr. 20
-0.16

Apr. 24

Apr. 25

Apr. 26

Apr. 27

May 20

42	8.942	3.842	9.942	9.542	9.942	4.742	10.142	5.442	10.342	5.042	13.442	9.0
	11.0	4.7	11.9	16.4	12.0	5.7	12.1	6.3	12.3	5.8	15.6	10.0
	13.1	5.8	14.0	11.2	14.1	7.2	14.4	7.0	14.6	6.8	17.7	11.0
	17.4	14.3	18.4	31.1	18.4	17.6	18.7	18.7	18.8	17.6	22.0	20.0
	19.5		20.5		20.5		20.8		20.9		24.1	
	21.742	44.3	22.7		22.6		22.0		23.043	35.1	26.2	
	23.8		24.8		24.8		25.0		25.1	36.3	28.3	
	26.0		26.9		26.9		27.2		27.3		30.5	
	30.2		31.0		31.2		31.4		31.7		34.7	
	32.442	4.8	33.242	10.4	33.342	5.9	33.642	6.2	33.842	5.9	36.442	14.0
	34.5		35.4		35.4		35.7		35.9		39.0	
	23.85		24.87		24.91		25.26		25.37		28.84	

21.182	22.609	22.645	22.909	23.064	26.218
21.67	22.59	22.68	22.89	23.05	26.20
32.69	32.67	32.66	32.65	32.65	32.45
-10.82	-10.08	-10.03	-9.76	-9.60	-6.25
+1.2	+1.2	+1.2	+1.2	+1.2	+1.2
21.67	22.59	22.63	22.89	23.05	26.20
+10.45	+10.08	+10.04	+9.71	+9.56	+6.10
+0.4	+0.4	+0.2	+0.1	+0.1	-0.2
-9.74	-9.2	-9.1	-8.0	-8.0	-7.0
42 31.72	31.76	31.78	31.71	31.72	31.68
-94	-91	-91	-90	-90	-90
31.72	31.79	31.78	31.72	31.74	31.70

5	16.0	0	17.9	0	1.2
562	7.8	47.5			
1322		108.7			
6110		54.85			
+16.9		+12.2			
1.22789		1.09636			
1.33022		1.18869			
21.39		-15.44			
5.8	1.10	4.54.35			
4.5	39.71	38.91			
+15° 18'	8.64	18 9.44			
-29.77		-30.22			

21' wing (2.4)

17	38.9	17	39.2	17	39.8	17	38.8	17	37.4	17	22.1
17	12.3	17	12.7	17	12.8	17	12.9	17	13.0	17	15.1
+33.4	33.0	+33.5	33.1	+33.0	32.6	+36.1	35.6	+35.6	35.2	+7.0	-7.4
15	18 8.64	18	9.44	18	9.99	18	5.99	18	1.57	17	51.20
+2.50		-2.10		-2.00		1.90		+1.80		-0.30	

11.3
11.8
12.3
12.8
13.2
13.7
14.2
14.7
15.1

$$\delta = +15^{\circ} 17' 14.8''$$

-06-060
May 22

12.942 8.2
15.0 9.0
17.2 10.2
21.4 27.4
23.6
25.7
27.5
29.9
34.1
36.342 9.1
38.5
25.24

25.673
25.66 25.66
32.43 32.43
-6.77 6.77
25.66 6.77
+6.79 25.66
-6.7 6.77
31.75 -6.77

31.73

0 21.3
13.3
34.6
17.30
+16.6
1.52011
1.32244
-21.01
5- 17.30
4 5629
17 5206
- 29.67

17 22.4
17 15.3
- 7.1
+ 52.9-7.6
17 5206
- 0.50

B Virginis

1.58 66-1
 64.68 +7
 59.62 +1
 66.64 +4
 66.64 +3
 1.64 (64) (+0.3)
 -3.12
 1.64

11.10
 15
 20
 25
 30
 May. 5
 10
 15
 20

11 44 25.5
 25.3 02
 51 2
 49 2
 2.46 3
 48 3
 39 4
 35 4
 2.30 0.5

sin V 8.62968 +20 29' 3".3
 3.5
 3.6
 3.8
 3.9
 4.1
 4.3
 4.6
 4.9
 5.1

11 44 07.61 58.49
 +2.93 30
 (+0.4) (+0.4)
 (+0.4)
 +1.16 +0.5
 Apr. 20
 May 20

Rm 2 = +6.4

Apr. 24

Apr. 25

Apr. 26

Apr. 27

Apr. 30

43 39.2 43 50.3
 41.2
 43.3
 47.4
 49.5
 51.6 44 25.4
 53.6 26.3
 55.7 27.2
 59.7
 1.9
 3.9 43 50.3

5670

51545

51.53 51.53
 41 3.87 2.51
 -10.98 10.58
 51.53 -11.01
 +10.96
 +0.01 51.53
 -0.50 +10.94
 1.59 -90
 1.60

43 30.8 42 40.1 43 35.9
 42.3 36.9
 44.3 38.1
 48.5 110.943
 50.5
 52.6
 54.6
 56.7
 0.7
 2.8
 4.8 43 36.9

57.9

52536

52.52 52.52 52.76 52.76 52.97 52.97
 2.49 2.49 2.49 2.49 2.48 2.48
 -9.97 -9.97 -9.97 -9.97 -9.51 -9.51
 52.52 10.92 52.76 9.76 52.97 9.57
 10.04 9.71 9.56 9.56
 +0.00 52.52 +0.00 52.76 +0.00 52.97
 -0.88 +10.04 -0.88 9.94 -0.88 +9.57
 1.68 -88 1.59 -88 1.66 -88
 1.68

52780

52.76 52.76 52.97 52.97
 2.49 2.49 2.48 2.48
 -9.97 -9.97 -9.51 -9.51
 52.76 9.76 52.97 9.57
 9.71 9.56 9.56 9.56
 +0.00 52.76 +0.00 52.97
 -0.88 9.94 -0.88 +9.57
 1.59 -88 1.66 -88
 1.62

52991

52.97 52.97 52.97 52.97
 2.48 2.48 2.48 2.48
 -9.51 -9.51 -9.51 -9.51
 52.97 9.57 52.97 9.57
 9.56 9.56 9.56 9.56
 +0.00 52.97 +0.00 52.97
 -0.88 9.57 -0.88 +9.57
 1.66 -88 1.68

2.46

50 35.9 2 50.2
 24.1 36.5
 60.0
 3 30.00

+1.2
 0.07918
 0.19681
 -1.56

53 30.00
 53 28.44
 +2 29 19.91
 -0.842

3 55.0
 42.4
 9.4
 48.70

+15.6
 1.19312
 1.31075
 -20.45

53 48.70
 53 28.25
 29 20.10
 47.04

3 24.1
 16.9
 41.0
 20.50

-9.2
 0.96579 m
 1.08142 m
 +1206

53 20.50
 53 32.6
 29 15.79
 47.47

3 55.9
 46.2
 10.21
 57.05

+16.7
 1.32272
 1.34035
 +2189

53 57.05
 53 29.16
 29 19.19
 47.00

3 26.9
 12.0
 12.0

28 31.5
 29 3.6

28 31.1
 29 3.7

28 28.9
 29 3.7

28 30.2
 29 3.7

+32.1 31.5

+32.6 32.0

+35.4 34.8

+33.5 32.9

29 20.10
 +5.20

29 20.10
 5.20

29 15.79
 5.20

29 19.19
 5.20

3.3
3.4
3.6
3.7
3.9
4.1
4.4
4.6
4.9

$$\delta = + 2^{\circ} 29' 8.9''$$

-06-060
May 22

43 43.144 7.1
45.3
47.4
51.6
53.6
55.6
57.6
59.6
3.8
5.7
7.844 71
61 11

5.555
55.54 55.54
2.28 2.28
-6.74 -6.74
55.54 -6.74
6.79
+ 20 55.54
- 6.74 6.74
1.66 -6.74
1.64

2 35.1
26.3
61.4
30.70

-11.5
1.06020m
1.17833m
+ 150.8
5-2 30.70
5-2 45.78
30 257
- 48.26

29 14.3
29 5.1

-9.2
+ 50.8 -9.8

20 257
+ 3.80

Ura. maj.

11 44 08
11 44 5.31 212
+ 54 26

Rni 2 = -21
(+140) (440)

5.36 26 -5
12 .16 -15
21 .19 -12
26 .28 -03
16 .17 -14
23 .20 -11
5.24 21 (-10)

5.21
3.18
2.02

Apr. 10 11 47
15
20
25
30
May 5
10
15
20

731
26.05
20 6
12 8
7.04 8
6.95 9
6.85 10
6.74 11
6.63 11

Sin V 9.9102 3 + 54° 24' 26.5
27.6
28.7
29.8
31.0
31.8
32.6
34.3
36.1

cos V 9.76466
11.04
9.88250

Apr. 16 +10.85 Apr. 24 +10.5 Apr. 25 +0.70 Apr. 26 +0.5 -0.30 Apr. 27 +0.4 +0.40 Apr. 30

46	34.7 46	54.3 46	35.5 46	27.3 46	46	49.8 46	36.6 46	27.7 46	36.1 46	27.2 46	36.1 46	27.1
	38.4	55.5	39.0	28.8		52.6	39.6	28.7	39.7	28.7	39.7	28.6
	42.0	56.7	42.8	30.5		102.4	43.2	30.0	43.1	30.7	43.1	30.7
	49.0	166.5	49.7	32.8			50.2	36.4	50.2	36.6	50.2	36.7
	52.0		53.3	36.6			53.7		53.8		53.8	
	56.1 47		56.8				57.3		57.4		57.4	
	59.6		59.3				0.9		0.9		0.9	
	3.1		3.8				4.5		4.3		4.5	
	10.3		11.4				11.5		11.4		11.4	
	13.9		14.7				15.1		15.0		15.0	
	14.4 46	55.5	46 26.9			46 51.2	18.4 46	28.8	18.4 46	28.9	18.4	
	37.5		38.8				33.3		33.7		33.7	
	24.6		25.0				30.0		30.0		30.0	
	61.7 5		62.4 8				63.1 3		63.0 7		63.0 7	
	56.4 05		56.9 05				57.3 91		57.3 36		57.3 36	
	56.07	56.07	56.07	56.07			57.37	57.37	57.37	57.37	57.37	
	7.20	7.20	7.14	7.14			7.10	7.10	7.10	7.10	7.10	
	-11.13	-11.13	-10.86	-10.86			-9.73	-9.73	-9.73	-9.73	-9.73	
	56.07	56.07	56.79	56.79			57.37	57.37	57.37	57.37	57.37	
	+10.96	+10.96	+11.08	+11.08			+9.72	+9.72	+9.72	+9.72	+9.72	
	+1.22	+1.22	+1.83	+1.83			+1.81	+1.81	+1.81	+1.81	+1.81	
	-1.79	-1.79	-1.89	-1.89			-1.81	-1.81	-1.81	-1.81	-1.81	
	47 5.35	47 5.35	47 5.35	47 5.35			47 5.35	47 5.35	47 5.35	47 5.35	47 5.35	
	-1.89	-1.89	-1.89	-1.89			-1.89	-1.89	-1.89	-1.89	-1.89	
	6.24	6.24	6.24	6.24			6.24	6.24	6.24	6.24	6.24	
	5.16	5.16	5.16	5.16			5.16	5.16	5.16	5.16	5.16	

55	4	13.6	4	36.5	4	17.2	4	33.8	4	34.1	4	36.1 4	10.9
		57.0		16.1		58.1		18.5		20.0		16.9	31.9
		13.0.6		52.6		13.5.3		52.3		54.1		52.0	
		65.30		26.30		67.65		26.15		27.05		26.50	
		+0.6		+27.9		+5.7		+28.6		+28.4			
		9.77815		1.44560		1.78587		1.45637		1.45332			
		9.66085		1.32830		2.63957		1.33907		1.33602			
		-46		-21.30		-436		-21.33		-21.68			
	59	5.30	59	26.30	59	7.65	59	26.15	59	27.05	59	27.05	
	59	48.4	59	50.0	59	32.9	59	43.2	59	5.37	59	5.37	
	0.1												
	+54 23	43.51	23	43.35	23	45.06	23	44.03	23	42.98	23	42.98	
	+12.04		+12.59		+12.69		+12.09		+12.48		+12.48		
	23	56.0	23	55.9	23	57.7	23	56.1	23	56.5	23	56.5	
	24	29.0	24	29.9	24	30.1	24	30.3	24	30.5	24	30.5	
	+19												
	I +	33.0	33.2	+ 34.0	34.2	+ 32.4	32.6	+ 34.2	34.6	+ 36.0	35.1		
	+54 23	43.51	23	43.35	23	45.06	23	44.03	23	42.98	23	42.98	
	-6.50		7.40		7.60		7.80		8.00		8.00		

1872phae proj. 1458.

26.5
27.7
28.9
30.0
31.0
31.9
32.8
33.0
34.3

$$\delta = +54^{\circ} 24' 22.5''$$

May 20

May 22

46	28.348	0.8	246	38.746	32.6
	42.8			42.2	34.7
	46.3			45.6	37.0
	53.5			52.8	1043
	56.9			58.2	
	0.6			59.8	
	4.0			3.4	
	7.6			6.9	
	15.0			14.0	
	18.2			7.5	
	21.747	0.8		21.046	34.8
				35.81	
				30.0	
	0.44			6.54.1	
	0.42	0.51		39.827	
	6.63	0.63		59.58	57.00
	-6.21	6.12		6.50	6.58
				-6.79	6.78
	0.42	+6.19		59.10	+6.71
	+6.20			+6.79	
	+0.5	0.51		-1.28	59.10
	-1.32	+6.12		-1.28	6.74
	6.38	+7		5.23	-1.29
		(5.45)			5.20

3 26.0
12.1
38.1
17.05

4 44.9
30.5
75.4
37.70

-0.3
9.4771220
9.3598220
#0.28
58 19.25
58 18.82
(58) 19.28

+25.0 ✓
1.39794
1.28064
-11.908
59 37.20
(38) 18.62

24 29.07
+12.22

23 29.73
+12.24

(?) 23'

24 41.3
24 24.3
-7.0

23 42.07
24 24.6
-7.5

+53.0 -6.8

+52.5 = 7.3

24 29.07
11.80

23 29.73
-12.10

11 48 30

$$\begin{array}{r} 106 \\ 79 \\ -342 \end{array}$$

Sum 9,98222

9.49776 m
 1180 g
 9.5658 g

1872
Apr.
May 20

apr. 24

Apr. 25

Apr. 26

Apr. 27

~~May 22~~

47 56.8

48 7.9
15.2

22.3 48 39.2

30.0 42.1

39.2 45.5

1126

$$\begin{array}{r} 48 \\ 8.6 \\ 16.4 \\ 23.6 \\ 31.0 \\ 38.1 \\ \hline 117.7 \end{array}$$

4.8	47	~~39.4~~ 48
9.4		46.8
12.8		54.6
27.8		9.0
		16.3
		23.7
		31.0
		38.6
		52.6

~~5.3~~ 48	9.048
~~9.0~~	16.1
2.5 9.6	23.5
6.3 2.5	31.0
9.6 6.3	38.5
18.4	1181

0.1	48	~~9.6~~	48	1.5
2.6				2.7
4.7		9.6		4.9
7.4		17.3		7.1
		24.6		
		31.9		
		39.0		
		122.4		

49 10.6
18.8
24.4
59.6

418 57.4

47 568

48 9.1

67.648 6.1

48 2.7

48 3.1

~~48 57.4
44
12.2 + 9 19.9~~

22,520

23,540

260,0
23.636

23.620

24.480

5				
2	12 2	16 3	2	9.1
	38.0	53.8		43.8
	99.2			112.9
	49.60			56.45

$$\begin{array}{r} + 25.7 \\ 1.40993 \\ 0.97573 \end{array}$$

$6 + 946$
 $6 \quad 49.60$
 $5 \quad 59.06$
 $0 \quad 15 \quad 49.29$

$$\begin{array}{r} 3 \ 2 \ 9.1 \\ 5 \ 43.8 \\ 11 \ 2.9 \\ 56.45 \end{array}$$
$$\begin{array}{r} + 1.44 \\ 1.15836 \\ \hline 2.72416m \end{array}$$

6 T 530
56:45
1.75
15 4660

$$\begin{array}{r} 2 \quad 6.1 \\ 41.5 \\ 107.6 \\ 53.8 \end{array}$$
$$\begin{array}{r} + 17.5 \\ 1.24304 \\ \hline 980884 \end{array}$$
$$\begin{array}{r} 64 \\ 53:10 \\ 0.21 \\ 15 \quad 48.14 \end{array}$$

1 57.2
37.2
94.4
47.20

$$\begin{array}{r} +20.9 \\ 1.32015 \\ \hline 0.88595m \end{array}$$
$$\begin{array}{r} + 7.69 \\ 6 \quad 47.20 \\ 6 \quad 54.89 \\ 15 \quad 53.46 \end{array}$$
$$\begin{array}{r} 2 \quad 39 \\ 421 \\ 1060 \\ 53.00 \end{array}$$
$$+ 21.5$$

$$1.33244$$

$$0.89824 \text{ m}$$

	+	7.9
6		53.0
7		00.9
15		47.44

$$\begin{array}{r} 1 \quad 43.0 \\ \quad 24.3 \\ \hline 67.3 \\ \quad 83.65 \\ \hline \end{array}$$

B.A.C 4037

11 50 31

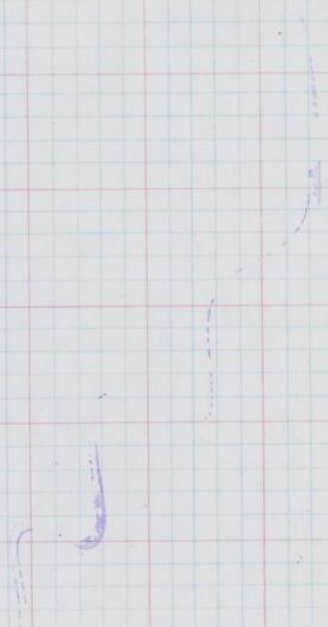
32 33

Apr. 26

Apr. 27

50	104.50	16.7	50	10.7	50	3.7
	12.8	18.6		13.2		4.8
	15.3	19.6		15.6		5.7
	20.1			20.7		
	22.6			23.0		
	24.9			25.4		
	27.5			27.9		
	29.9			30.5		
	34.8			35.1		
	37.3			37.6		
	39.8			40.1		
	2754			2798		
	25.036			25.436		

55		1	378
1	29.0		311
	22.9		68.9
	51.9		34.45
	25.95		



6 Virginia

11 53 24

+ 4 23

+ 08

Dini 8.88298

and 9.99873

11.524

.116.77

Apr. 20	Apr. 24	Apr. 25	Apr. 26	Apr. 27
53 1.1 52 52.5 53	1.9 52 58.0 53	2.0 53	1.5 53	2.3 52 57.2 53
3.1 53.3	4.0 59.0	4.1	2.5 54.4	4.6 57.4
5.2 54.2	6.1 60.1	6.2	3.6 59.7	6.6 58.4
9.3 160.0	10.1 175.1	10.4	7.6 175.5	10.8 172.0
11.5	12.3	12.4	12.6	12.8
13.4 53 25.1	14.3	14.5	14.7	15.0
15.6 26.1	16.4	16.5	16.8	17.0
17.6 26.9	18.6	18.6	18.8	19.0
21.7	22.6	22.7	23.0	23.1
23.8	24.7	24.8	25.0	25.3
25.5 52 53.3	26.8 52 59.0	26.8 53 2.5	27.1 52 58.5	27.4 52 57.3
14.1	15.8	15.9	16.1 6	16.4 2
13.464	14.345	14.455	14.691	14.929

30 7.5 0	26.0 2.2	0 56.9	1 3.9	1 4.5
55.7	13.7 46.1	43.5	53.9	53.9
123.2	108.3	104.4	11.8	118.4
61.60	54.15	52.20	58.90	59.20
+20.2	+15.3	+12.0	+16.2	+17.6
1.30535	1.18469	1.07918	1.20951	1.24551
1.42212	1.30144	1.19595	1.32628	1.36228
-26.43	-20.02	-15.70	-21.20	-23.03
1.60	0 54.15	0 50.20	0 58.50	0 59.20
0 35.17	0 34.13	0 34.50	0 37.70	0 36.17
14 22 13.18	22 14.22	22 13.85	22 10.65	22 12.18

67 Ura. Maj.

11 55 39

+ 43 48

+ 96

Apr. 20	Apr. 24	Apr. 25	Apr. 26	Apr. 27	Apr. 30
55 9.8 55 2.0 54 332.55 35.2 55 10.7 55 5.0 55 11.0 55 3.3 55 11.2 55 4.6 55 12.0 55 5.9					
12.7 3.1 36.0		13.6 5.8 13.9		14.0 5.16 14.8	7.3
15.4 4.3 38.8		16.4 7.2 16.7		16.9 6.7 17.7	9.1
21.3 9.9 44.6		22.0 18.0 22.5		22.6 16.7 21.3	22.3
24.0 47.5		24.8 25.3		25.4 25.4	26.3
27.0 55 56.2 50.4		27.8 28.1		28.3 28.3	29.1
29.8 57.2 53.3		30.7 30.9		31.0 31.0	32.0
32.6 58.1 56.0		33.5 33.8		34.0 34.0	34.8
38.3 21.5 17		39.1 39.6		39.7 39.7	40.6
41.2 55 3.1 46.5 5 35.2		42.0 55 6.0 42.4 55 4.4		42.4 55 5.6 43.4 55 7.4	
44.0 55 3.1 49		45.0 45.3		45.4 45.4	46.2
29.61 55 57.2 55 55		30.56 30.95		31.89 31.89	31.89
26.918	50.38	27.782	28.136	28.264	28.927

Munich

35	30	35	3	3	3	3
3 29.9 2 40.7 4 57.5 4 16.9 3 27.9			3 28.9	3 28.1	3 29.2	
15.2 25.1 30.9 57.9 12.1			15.1	15.0	12.2	
45.1 6.8 82.4 74.8 40.0			44.0	43.1	41.4	
3 22.55 2 32.90 41.20 37.40 22.0			22.0	21.55	20.71	
+23.8 -30.3 -44.9 2		+21.8	+23.7	+22.7	+21.5	
1.37658 1.44144 1.65835 2		1.33546	1.37475	1.35608	1.33244	
1.35301 1.45787 1.62898 2		1.31489	1.35118	1.33246	1.30687	
-22.57 +12.70 42.53		-20.65	-22.45	-21.50	-20.36	
38 22.55 37 32.50 34 41.20		38 20.00	38 22.00	38 21.55	38 20.70	
38 001 38 1.60 55 23.75		37 59.85	37 57.55	38 00.05	38 03.9	
43.44 48.34	47 24.02	44 49.00	44 48.80	44 48.30	44 48.01	

log sin $\sqrt{9.84020}$ log cos $\sqrt{9.85839}$
11.802
9.94643

May 22

55	13.755	6.0
	16.5	7.8
	19.4	9.5
	25.1	23.0
	27.4	
	30.7	
	33.5	
	36.5	
	42.2	
	45.05	7.8
	48.0	
	3385	
	30.773	

35	
2	43.0
	31.1
	24.1
	62.05
	+23.0
	1.36173
	1.33816
	-2.179
	34.37.45
	37.15.26
45	3309

41.15.2, 11 58
0 Virgins

11 58 44.4
11 58 42.5
+ 9 28 41.30 38.24

41.23.26 - 4
32.31 + 1
20.22 + 4
31.33 + 3
35.28 - 2
41.28 28 (-0.2)
-3.06
38.22

Apr. 10 11 58 42.30
15 29.01
20 27 2
25 25 2
30 22 3
May 5 19 3
10 15 4
15 11 4
20 06.00

$\delta = +9^{\circ} 26' 33.1''$
33.5
33.8
34.1
34.5
34.9
35.3
35.8
36.1
37.6

Sum 9.21610

Sum 9.98404
11.504
11.208

(1.17) (1.17)

Rmi Z = +5.4

Apr. 20
May 20

Apr. 25

Apr. 26

Apr. 27

May 22

58	18.8 58	17.6 58	19.7 58	14.1 58	19.9 58	15.1 58	20.2 58	16.0 58	22.8 58	19.4
	20.8	19.2	21.8	15.0	22.0	16.2	22.3	17.0	24.9	20.3
	22.9	(18.3)	23.9	16.3	24.0	17.3	24.3	17.5	26.9	21.2
	27.0	55.1	28.0	45.4	28.3	48.6	28.5	50.8	31.1	20.9
	29.2		30.2		30.4		30.7		33.2	
	31.3 58	47.6	32.2		32.4		32.7 1		35.3 6	
	33.4		34.3		34.5		34.8		37.4	
	35.4		36.4		36.6		36.8		39.4	
	39.6		40.6		40.8		41.0		43.7	
	41.7		42.7		42.9		43.1		45.6	
	43.8 58	18.3	44.8 58	15.1	45.0	58 16.2	45.2 58	16.9	47.8 58	20.3
	34.29		35.46		35.68		35.96		38.81	

31.264		32.236		32.436		32.691		35.262	
31.25	31.25	32.22	32.22	32.42	32.42	32.68	32.68	35.26	35.26
42.27	42.27	42.28	42.28	42.24	42.24	42.24	42.24	42.04	42.04
-11.02	-11.02	-10.03	-10.03	-9.82	-9.82	-9.56	-9.56	-6.78	-6.78
	+2		+2		+2		+2		+2
31.25	11.00	32.22	10.01	32.42	9.20	32.68	9.54	35.26	6.78
+10.94		+10.04		+9.71		+9.56		+6.79	
-9.7		-9.5		-9.4		-9.4		-7.0	
41.23	31.25	41.22	32.22	41.20	82.42	41.01	82.68	41.35	35.26
-9.7	10.97	-9.5	110.02	+9.74	+9.74	+9.58	+9.58	-7.4	6.77
	41.26		41.31		41.22		41.33		41.28

55	1	31.5 0	56.4 1	37.7	1	37.1	1	36.9	0	51.1
		20.8	45.1	34.8		28.0		26.9		43.2
		52.3		7.2.5		65.1		63.8		7.43
		26.15		36.25		22.55		31.70		47.13
		+13.0		+17.1		+16.2		+15.8		+15.0
		1.11394		1.23300		1.20951		1.19866		1.17602
		1.22602		1.34508		1.32159		1.31074		1.28817
		-16.83		-22.13		-20.97		-20.48		-19.42
		56 26.15		56 36.25		56 32.55		56 31.80		56 47.15
		56 9.32		56 14.12		56 11.58		56 11.45		56 28.73
		+9° 26 39.03		26 39.23		26 36.77		26 36.90		27 20.62
		-37.66		-38.14		-36.95		-38.10		-37.54

26 1.4	26 04.1	25 59.8	25 58.8	26 43.1
26 33.8	26 34.1	26 34.2	26 34.3	26 36.8

-51 + 32.4 31.9	+ 33.0 32.5	+ 34.4 33.9	+ 35.5 35.0	-6.8
+9 26 39.03	26 34.23	26 36.77	26 36.90	+53.2 -44
+ 4.20	3.90	3.80	3.70	27 20.62
				+ 1.70

1872phae.proj.1458.

33.1
33.4
33.8
34.1
34.5
34.9
35.3
35.7
36.1

$$\delta = +9^{\circ} 26' 38.0''$$

Borvi

12 1 36
 - 23 59
 - .45

Sin V 9.6090 B_n

cos V 9.96079
 11.864
 .07553

187 Apr.

Apr. 20

Apr. 25

Apr. 26

Apr. 27

1	25.31	18.41	26.41	19.01	26.41	21.31	26.51	21.81	27.51	24.7
	27.6	19.3	28.6	19.9	28.7	22.3	29.0	23.0	29.8	25.9
	29.9	20.6	30.8	21.0	30.9	24.0	31.3	23.7	32.1	27.0
	34.4	58.3	35.3	57.7	35.4	67.6	35.8	68.5	36.6	77.6
	36.6		57.7		37.7		38.0		38.9	
	39.01	53.1	39.9		40.0		40.3		41.0	
	41.0	54.4	42.0		42.2		42.6		43.4	
	43.4	55.5	44.2		44.5		44.8		45.6	
	47.8		45.8		49.0		49.3		50.2	
	50.2		51.1		51.3		51.6		52.4	
	52.31	19.4	53.51	19.9	53.51	22.8	53.91	22.8	54.81	25.9
	42.75		43.63		43.96		44.34		45.22	
	36.664		39.845		39.964		40.309		41.109	

2.0										
2	40.41	59.72	41.9	2	44.9	2	39.8	2	35.7	
	33.1	51.8	33.5		39.9		34.4		26.9	
	73.5		75.4		84.8		74.2		62.6	
	36.75		37.70		42.40		37.10		31.30	
	+19.5		+19.9		+17.5		+17.5		+15.2	
	1.29003		1.29885		1.24304		1.24304		1.18154	
	1.36886		1.37168		1.32187		1.32151		1.26067	
	-23.58		-23.86		-20.58		-20.98		-17.22	
22	36.75	22	37.70	22	42.40	22	37.10	22	31.30	
22	13.37	22	13.84	22	21.42	22	16.12	22	13.08	
-23 59 25.02		59	25.49	59	33.07	59	27.77	59	24.73	

1872
 12 3 20
 - 21 53
 - 40

sin V 9.57138
 cos V 9.96752
 11.504
 .05546

187	Apr. May 20	Apr. 25	Apr 26	Apr. 30				
3	9.3 3	2.1 3	10.3 3	7.3 3	10.5 3	4.7 3	11.7 3	4.7
	11.5	2.7	12.4	7.8	12.7	5.6	13.8	5.6
	13.8	3.5	14.8	9.0	14.9	6.6	16.1	6.8
	18.2	8.3	19.2	24.1	19.3	16.9	20.6	17.1
	20.4		24.4		21.5		22.7	
	22.6		28.6		23.7		24.9	
	24.8		25.8		26.0		27.1	
	27.1		28.0		28.3		33.8	
	31.4		32.6		32.6		36.0	
	33.7		34.8		34.8		38.2	
	36.0 3	2.8	37.0 3	8.0	37.1 3	5.6	27.4 2.5	5.8
	2488		2599		2614			
	22618		23627		23764		24927	

15	1	1	1	1
26.2	21.4	29.1	26.1	
20.9	13.1	24.6	18.2	
17.4	84.5	54.0	44.3	
22.5	17.25	27.00	22.15	
+19.8	+15.6	+18.2	+19.2	
1.27666	1.19313	1.26007	1.28930	
1.35222	1.27868	1.34563	1.36886	
-24.1	-19.00	-22.6	-23.38	
16 23.85	16 17.25	16 27.00	16 22.15	
15 58.44	15 58.25	16 9.84	15 58.77	
21° 53' 11.09	53 990	53 1649	53 1042	

log sin δ 9.99093 $\delta = + 78^{\circ} 19' 39.4''$

log cos δ 9.30542
11504
9.42386

79 Draco.

dist 9.48079

9 51 18

cos V 9.46286

10 6 55

11.804^m
9.58190

1872 Apr 17

Apr. 18

Apr. 21

Apr 29

Apr. 30

50	44	50	20.3	50	49.0	48.6	5.11	42.9	50	18.5	50	4.3	51	36.8	50	—	50	39.6
			27.5			55.6		45.2		21.4		9.1		39.0		30.6		
			34.3			2.7		47.7		28.0		13.8		43.8		37.9		
			48.7			9.7		135.8		35.4		13.2		117.6		52.0		
			55.7			16.9				49.7						58.9		
			2.19			13.35				57.0						6.1		
			10.1			12.0				4.3						13.2		
			16.8			13.5				11.0						20.4		
			31.4							17.8		.51	20.1			34.7		
			38.6							32.1			34.2			41.3		
			45.6	50	49.0	50	45.3			39.5	50	9.1	41.51	39.9		48.6	50	39.6
			30.19							46.4			45.6					
			30.0							266.1								
			31.9							240								
			2900							6								

30	0	4.2	0	2.1	0	44.7	1	21.9	0	57.5
		34.3		32.1		21.9		55.5		30.6
		98.5		94.2		66.6		13.4		88.1
		49.35		47.10		32.3		68.70		44.05
		+13.9	(17.95)	+17.4	(22.48)					
		1.14301		1.24005						
		672471		682245						

π Leonis

9 53 27

+ 8 41

sin $\checkmark$ 9.17890cos $\checkmark$ 9.99999
11864
11303

1872

Apr 21~~8~~

Apr. 23

Apr. 26

Apr. 27

Apr. 29

Apr. 30

53	40.53	46.53	46.52	59.353	4.952	56.853	4.053	0.053	5.853	1.453	6.052	56.6
	6.0	14	6.7	0.3	7.0	57.4	6.1		7.8		8.0	57.6
	8.1	2.4	8.8	1.2	9.1	58.3	9.3		9.9		10.1	58.5
	12.2	4.4	13.6	18.8	13.2	172.5	13.4		14.0		14.4	172.7
	14.4		15.0		15.3		15.5		16.1		16.3	
	16.5		17.0		17.5		17.5		18.2		18.4	
	18.6		19.2		19.5		19.7		20.4		20.5	
	20.6		21.2		21.6		21.7		22.5		22.6	
	24.9		25.4		25.7		26.0		26.6		26.8	
	26.9		27.5		27.9		28.0		28.6		28.8	
	29.0	5.3	29.6	5.3	30.0	5.2	30.1	5.3	30.7	5.3	31.0	5.2
	18.12	1.5	16.50	80.3	19.17	57.5	19.13	0.0	20.06	1.4	20.29	58.6
	16.473		16.818		17.427		17.391		18.236		18.445	

40

3	41.7	3	47.23	4.13	52.2	3	46.0	3	47.2	3	51.1
	34.0		32.9	52.1	4.45		37.4		35.1		42.1
	15.1		80.1		9.7		82.4		82.3		93.2
	37.85		40.05		48.35		41.70		41.15		46.60
	+15.0		+16.5		+19.9		+17.4		+16.8		+20.8
	1.17699		1.21748		1.27855		1.24055		1.22531		1.31816
	1.28912		1.33051		1.41188		1.35358		1.33834		1.43109

B.A.C 3428

9 56 18

Sub V 9.341.00_n

- 12 40

car U 9.98930
14804
10734

1872

Apr. 17		Apr. 18		Apr. 21		Apr. 23		Apr. 26		Apr. 27												
55	57.1	56	20.6	55	57.3	55	57.8	55	50.3	55	59.5	55	48.2	55	59.0	55	51.1	55	58.9	55	52.4	
	59.2				59.3		55.0		59.9		51.7		0.7		49.3		0.9		52.0		1.0	
	11.3				1.4		56.9		2.0		52.8		2.7		50.4		3.0		53.0		3.1	
	5.5				5.6		16.5				15.8		7.0		14.7		7.1		15.1		7.3	
	7.6				7.7						9.1		9.1				9.3				9.4	
	9.9				9.9						11.2		11.2				14.5				11.6	
	11.8				12.0						13.3		13.3				13.6				13.7	
	13.9				14.1						15.3		15.3				15.7				15.8	
	18.0				18.3						19.5		19.5				19.8				20.0	
	20.3				20.5						21.7		21.7				22.0				22.1	
	22.35	6	20.6		22.6	55	55.2		55	51.6		23.7	55	49.3		24.1	55	52.0		24.3	55	50.4
22.69					22.67						18.3		18.3				18.6				18.7	
12.0					12.0						6.0		6.0				6.0				6.0	
106.9					108.7						123.7		123.7				126.0				127.2	
9.7/8					9.882						11.245		11.245				11.455				11.564	

[illegible]

✓
Apr. 29

55 54.655 45.355
 1.8 46.4
 4.0 47.6
 8.1 137.3
 10.2
 12.2
 14.3
 16.6
 20.7
 22.8
 25.055 46.4
 1956
 60
 135.6
 12.327

Apr. 30

59.855 56.9
 1.8 57.7
 4.0 58.4
 8.2 133.0
 10.3
 12.4
 14.5
 16.7
 20.8
 23.0
 25.155 57.7
 1966
 60
 136.6
 12.418

3 35.0
 26.7
 61.7
 30.85
 +25.9
 1.11330
 1.52084

2 20.9
 14.9
 85.18
 17.90
 +14.7
 1.16730
 1.27466

Stau

a / H660
da
 $\frac{d}{dt}$
 $\frac{1}{2} da$
 $\frac{1}{2} \frac{d}{dt}$
am / H685
au
cu
du
 $\frac{d}{dt}$
 $\frac{1}{2} du$
 $\frac{1}{2} \frac{d}{dt}$
mu
u

Thirginis		Adroonis		Booths		Booths		Booths	
13	5-449.163	14	45.6+0	14	20 38.056	14	26 3.295	14	39 8.087
	+3.04%		+1.629		+2.069		+2.584		

$+211$ $\overset{+0.019}{39.25}$ $\overset{0}{+65.01}$ $\overset{-0.004}{0.59}$ 52.28 $\overset{-0.251}{14.35}$ $+30.57$ $\overset{-0.251}{40.31}$ $+27.38$ 2.697
 -17.57 -17.32 -16.38 -16.10

$$-064 \quad +002 \quad -926 \quad +152$$
[illegible]

Stau

a 1466
da
at
in
5 da
a (1468)
me
a 0
me

$$\frac{5}{2} \frac{d\psi}{dt}$$

Blue Min	Blue Min	Blue Min	Blue Min	Blue Min
14 51 7056	14 58 42206	15 09 48031	15 20 57663	15 20 57663
- 0.239	+ 2.582	+ 3.226	- 1.45	- 1.45
- 0054	- 0.0120	- 0.053	+ 0.115	+ 0.115

$$\begin{array}{r} +74 \quad 421025 +27281856 -8531004 +72183890 \\ -1472 \quad -1424 \quad -1353 \quad -1283 \\ -042 \quad -010 \quad -020 \quad +012 \end{array}$$

log b
Lefria
Cortay
Col Reduc. sm to 147!
J Reduc.
to 4
Stem.
a v
a 147!

leg b
Cusco am
Glasgow am
Cusco am
54
Redcliffe 1871.0
2 1871.0

Whole No stars in this book = 23
 " " " " " " = 156

	Stars	Resolutions
No 1 = ~~79~~ 99	99	456
2 =	86	412
3 =	49	420
4 =	49	436
5 =	48	292
6 =	47	376
7 =	50	354
8 =	48	336
9 =	47	288
10 =	61	418
11 =	$\frac{23}{607}$	$\frac{156}{8944}$

P

