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Time Service

April 25-1885 & June 1-1886

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Date. 1885	Star	Inst.	RA.	Uncorr.d for Level etc.	Cor.n	Clock Fast
April 25.2		~~Almucantar~~ Almucr. Almucr.		$1^m 43^s.39$	-.30	1-43.69
25.3	μ Ursæ Maj.	Mer. Cir.	$10^h 15^m$	$1^m 42^s.73$	-.80	$1^m 43^s.53$
27.3	λ Ursæ Maj.	M. C.	$10^h 10^m$	1-42.68	-.80	1-43.48 = 16.52
May 2.						17.36
9		Almucr		-41.24	-.30	-41.54 18.76
10.		Almucr		41.05	-.30	41.35 18.95
17		"				39.06 20.94
"		Mer. Cir.				39.54

For Almucantar see opposite page. Figures below are Mer. Circ.

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May

9.4	18.78	18.48	41.52
10.4	19.19	18.89	41.11
17.4	21.24	20.94	39.06
21.4	23.38	23.08	36.92

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20

1885

April 25.3

μ Ursæ Maj.

— 5.1

2.0	2.1	4.1
5.0	9.3	.3
7.8	6.4	.2
0.5	3.8	.3
6.3	8.3	.6
9.0	5.7	.7
1.6	2.9	.5
		.5
4.4	0.1	~~4.4~~

47.6

3.8

10 15 47.22

10 15 29.95

1 - 42.73

79 30.03
29.54
29.93
+.02
.95

1885phae.proj.1845R

Apr 27.7 λ Mon. Maj

? 6.7

8.6 8.8 6.4

10.98 5.5 —

.78

.88

8.2 8.1 .3

8.03

.90

1.1 5.3 — .4

7.0 9.7 .7

9.8 6.8 .6

2.6 4.0 .6

5.3 1.0 .3

28.1

3.4

10 10 28.32

10 10.90

1 - 42.68

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Apr. 30.3 V Oph Mag

— 0.1

2.9 7.5 0.4

5.5 5.0 .5

8.0 2.7 .7

0.4 0.1 .5

5.4 5.2 .6

8.0 2.8 .8

0.4 0.1 .5

2.8 7.8 .6

35.2

4.8

35.28

11 12 17.64

1 - 42.36

-.60

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May 3 χ Gem. Maj.

7.1 9.2 6.3
0.3 6.0 .3
3.4 3.0 .4
6.5 0.0 .5
9.6 7.0 .6
5.8 0.8 .6
8.8 7.6 .4
2.0 4.4 .4
5.0 1.3 .3

18.1

9.9

11 40 18.21
40 00.15

41 41.93

.18
3
.05
00.17
+.03
.15

.80

1 42.74 = 16.

= 19.26 fast

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May 17. Polaris L. C. * 20 Cornae

~~η Herculis~~

22.8	20.9	53.7	7.7	2.0	9.7
24.3	28.0	52.3	6.1	9.7	.8
26.0	26.0	52.0	2.1	7.6	.1
45.3	63.7	49.0	4.4	5.4	.8
49.0	58.6	47.6	6.7	3.2 ~~06.7~~	9.9
55.0	50.7	45.7	1.1	8.9	0.0
19.7	20.7	50.4	3.3	6.6	9.9
23.7	21.6	45.3	5.5	4.4	.9
26.0*	14.9*	(40.9)	7.8	2.0	.8
48.7	61.8	50.5			19.9
55.0	54.5	49.5			17.4
64.3	49.6	53.9	12	24	19.92
20.6	30.3	50.9		23	58.39

$16^m 25^s.2$

25) 126.0

$16^m 25^s.04$

13 16 26.35

-1.3

+21.5

~~+ 38.57~~

1 - 38.47

-.27

-.80

1 - 39.54

26.70
27.36
27.03
-.68
26.35

~~Co 55° 41.6~~
cos φ = .739
.08 = .059
.68

58.34
+.03
+.02
.39

.09
.3
.03

* Reëxamined to confirm reading

43.57
.39
43.9

.395
.912
.52

n = 0.52

.52
.52
104
260
.27

43.9) 22.8 (.52
21 95
85.0
87 8

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May 26

	12 Can Ven		η Rem. maj
	− 3.8		7.3 1.3 8.6
.14	− 1.1		0.4 7.9 .3
.4	− 8.5		3.5 4.7 .2
.06	− 5.7		6.8 1.6 .4
.02	− 3.1		0.0 8.5 .5
2.29	6.8 8.0	4.8	6.4 2.0 .4
.37	9.3 5.3	.6	9.6 8.7 .3
.06	2.0 2.6	.6	2.8 5.6 4
.02	4.9 0.0	.9	5.9 2.2 .1
40.39		07.1	29.3
.47		1.0	25
	12 57	07.33	13 43 29.18
	50	40.47	43 02.33
		1 − 33.14	1 − 33.19
		− .05	+ .14
		− .80	− 80
		1 − 33.99	1 − 33.85

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May 27 Level ~~4~~ $b = -0^{s}.48$ $b \sec \varphi = -.60$ $b_{\odot} = -.70$

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June 1

	+28°28′ 43 Comae			+52°23′ θ Bootes		
	9.4	6.3	5.7	5.7	3.6	9.3
	1.8	4.0	5.8	9.1	0.1	.2
	4.0	1.6	5.6	2.6	6.8	.4
	6.6	9.1	5.7	5.9	3.5	.4
	9.0	7.0	6.0	9.3	0.4	.7
	3.7	2.2	5.9	6.3	3.5	.8
	6.0	~~5.4~~ 0.0	6.0	9.7	0.1	.8
	8.2	~~3.1~~ 7.8	6.0	2.9	6.9	.8
	0.5	5.4	5.9	6.2	3.3	.5
			~~20.5~~			
			03.1			49.9
			17.7			14.8
		(07)	02.93	(21)		49.78
	13	06	32.09	14	21	18.84
			1 − 29.16			1 − 29.06
			− .19			+ .19
			− .70			− .70
			1 − 30.05			~~29.68~~
						1 − 29.57

.N .13 / .2 .2 / −.02 −.03 / +.02 / 32.10 / .09

.15 / .2 / −.03 / −.03 / 18.84

.37 / .52 / 774 / 185 / .19

Value of m used is ~~probably~~ erroneous. But 1m 29.8 is independent.

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+27°5'6"

June 2 — 11 # Bootes

7.9	4.4	2.3
0.1	2.0	.1
2.4	9.8	.2
4.9	7.6	.5
7.2	5.1	.3
1.9	0.3	.2
4.1	8.0	.1
6.4	5.9	.3
8.9	2.4	.3

.8 .3 −.02 +.02

.78 .52 .008 190 .20

34.1

2.4

3.54
13 8 5 31.13

55 59.56

1 − 28.43

−.20

.90

1 − 29.33

See next page.

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1885phae.proj.1845R

	+46°37'	+52°23'
June 3.4	1 Bootis	Θ Bootis
	− 4.8	7.0 4.7 1.7
.13	7.8 1.9 9.7	0.4 1.2 .6
3	0.7 8.5 .2	4.0 8.0 .0
−.04	2.7 5.7 .4	7.1 4.6 .7
+.03	6.7 2.7 .4	0.7 1.1 .8
62.59	2.9 6.7 .6	7.5 4.4 .9
.58	5.9 3.8 .5	0.9 1.0 .9
.19	8.7 0.8 .5	4.1 7.8 .9
.3	1.6 7.6 .2	7.6 4.0 .6
−.06	34.7	50.8
+.03	12.2	15.9
18.84	14 12 34.64	14 21 50.84
.81	12 02.58	21 18.81
	m 1 − 27.94	1 − 27.97
	.70	+ .19
		− .70
		1 − 28.46

June 2.4 3.4

Decl 27°56' from 2 gives 1 − 28.43 uncorrected for m & b

" " 46°37'+52°23' " 3 gives 1 − 27.95 " " " " "

∴ Assume " 2.9 d gives 1m − 28.s3 indifference of m but uncorrected for b

For June −.7

1 − 29.0

This gives gain of 0.s8 in 2½ days or about 0.s3 per day

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June 7. 4 O Hue. G.R.C. obs.

2.8	8.8	1.6
5.3	5.9	.2
8.1	3.0	.1
1.0	0.1	.1
3.9	7.4	.3
9.7	1.9	.6
2.2	9.0	.2
5.0	6.1	.1
8.0	2.3	.3

00.7

12.2

16 31 00.64

30 26.20

1 − 25.56

.00

−.70

1 − 26.26

Don't use this for rate - Diffuse Nebula.

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+40° 57'

~~Gr. 61h~~

June 9 M.A.R. Obs. A.A. Booth

7.9	2.0	9.9
0.6	9.4	0.0
3.0	6.8	9.8
5.9	4.0	9.9
8.6	1.2	9.8
4.1	5.7	9.8
6.8	3.1	9.9
9.2	0.3	9.5
2.0	7.7	9.7
		15.0
		17.3
14	58	14.91
57		38.93
1 -		24.02
		.10
		-.70
1 -		24.72

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+46° 36'

June 10 λ Bootis

-.02
+.03

8.7	8.8	7.5
1-6	5.6	.2
4.9	2.7	.6
7.6	9.8	.4
0.7	6.9	.6
6.7	0.7	.4
9.7	7.7	.4
2.8	4.7	.8
5.8	1.8	.6
	38.8	
	14.0	
14 12	38.74	
12	02.47	
1 -	23.73	

-.70

1ᵐ 24ˢ.4 uncorrected for a. But this correction is very small although undetermined.

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+40° 50′ + 77° 45′

June 11/85 β Bootis 17 Hr. 6 Cam. Ven.

	8.1	2.8	0.9	1.7	4.0	5.7
	1.0	0.0	1.0	4.4	1.2	.6
	3.6	7.1	0.7	7.0	8.7	.7
38.91	6.1	4.3	0.4	?	6.0	
−.02	9.0	1.9	0.9	2.1	3.6	.7
+.02	4.6	6.3	0.9	7.3	8.1	.4
	7.2	3.6	0.8	0.0	5.8	.8
	0.0	1.0	1.0	2.7	3.2	.9
	2.9	8.0	0.9	5.3	0.3	.6
		15.3			17.9	
		7.8			16.3	
	14 58	15.41		13 30	17.84	
	57	38.91		29	41.27	
	14 57	23.50		13 29	23.43	

.70 .70

1 − 24.2 1 − 24.1

There are uncorrected for π (π is indeterminate but known to be small) but can near the zenith. Correction ∴ almost imperceptible.

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June 13 O'Clair L.L. 17 Lawrence.

21.0	33.0	54.0	2.5	4.6	7.1
26.5	27.6	4.1	5.0	2.0	7.0
31.6	22.6	5.2	7.9	9.3	7.2
58.0	62.7	3.7	0.3	6.8	7.1
55.9	58.0	3.9	2.9	4.1	7.0
60.6	53.0	3.6	8.1	9.0	7.1
22.6	33.3 ~~33.8~~	7.9	0.9	6.3	7.2
26.9	26.6 ~~27.6~~	3.5	3.3	3.7	7.0
31.2	20.9 ~~23.6~~	2.1	6.0	1.2	7.2
52.1	62.1	4.2	8 13	28	18.7
57.6	58.7	3.3	13	28	10.6
61.8	49.8	1.6.			18.56
20.7	31.7 ~~35.3~~	2.4		29	11.23 (31.33)
27.0	27.0 ~~26.6~~	4.0		1 - 22.6)	
32.0	22.2	4.2			.02
50.7	64.3	5.0			.10
55.8	57.1			1 - 23.4	
57.8	21.4	2.9			
20.0	32.4	1.3			
		2.4			
		27.5			

.7389
.92
1478
6658
.68

4) .93
-.23
-.68
48.85
47.54

43.8
.8
44.6

.18
.4
-.06
+.02
41.27
23

39) 256.7 (6.58
234
227
195
320
312

13 17 26.58
16 47.54
39.04
37.33

44.6) 1.71 (.04

If there is no mistake it is thereby less than 0.1 See next page.

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June 14

	$+37°46'$			$+49°53'$		
	η Can. ven.			η Ursæ Maj.		
	2.9	5.0	7.9	7.7	1.9	9.6
	5.4	2.2	.6	1.0	8.1	.1
	8.0	9.8	.8	4.0	5.3	.3
	9.6	7.0	.6	7.3	1.9	.2
	3.2	4.7	.9	0.6	9.0	.6
	8.5	9.3	.8	7.0	2.5	.5
41.12	1.0	6.8	.8	0.0	9.1	.1
.27	9.7	4.1	.8	3.3	6.1	.4
.20	6.3	1.5	.8	6.6	3.0	.6
+.02			19.0			39.7
41.22			17.0			13.1
62.12			18.89	13	43	39.69
61.92	13	39	41.22		43	02.05
62.02			1 - 22.33			1 - 22.36
+.03			- .04			+ .02
.05			.70			.70
			$1^m - 23^s.04$			$1^m - 23^s.04$

Above stars seem to confirm yesterday's small value of π.

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		$+52°23'$		$+18°58'$
June 20 & 21		θ Bootis 20th		η Bootis 21st
		24.0 91.3 115.3		31.5 75.1 106.6
−.02		~~7.0~~ 7.9 4.9		3.7 2.9 .6
+.09		0.7 4.6 5.3		5.9 6.8 .7
		4.0 1.1 5.1		8.0 8.5 .5
.14		7.4 7.9 5.3		0.2 6.3 .5
.2		~~4~~.0 1.1 5.1		4.7 2.0 .7
−.02		7.5 7.9 5.4		6.8 9.8 .6
+.02		0.7 4.2 4.9		9.0 7.7 .7
		4.1 1.0 5.1		1.1 5.5 .6
		57.7		53.0
		11.1		5.8
	14 21	57.58		53.31
	21	18.51	13 49	14.37
		1 − 20.93		1 − 21.06
		+ .04		− .03
		.70		.70
		1 − 21.59		1 − 21.79

Two clocks are taken in connection to give intermediate time independent of α. June $20^d.9 = 1^m 21^s.7$
Clock has gained $1^s.3$ in $6\frac{1}{2}$ days or $0^s.2$ per day.

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June 22. η Bootis

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June 23 Level. $b = -.62$ $b \sec. \varphi = -.90$ $\Delta \alpha = .80$

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42

+39°08'

June 24 η α Tuc.

3.1 6.2 9.3
5.7 3.4 .1
8.3 0.0 .3
1.1 8.1 .2
3.8 5.7 .5
9.0 0.1 .1
1.9 7.6 .5
4.2 5.0 .2
7.0 2.3 .3

39.7
12.2
39.64

16 38 59.68 − 26.15

6.5-1
1 − 20.04
−.01
−.80
1 − 20.85

Gain = 0.75 in 3½d = 0.2 per day over

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June 25.

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+42°41'

June 27

α Hercules			δ Herc.		
1.9	7.9	9.8	8.7	4.6	3.3
4.2	5.7	9.9	1.1	1.9	3.0
6.6	3.3	9.9	4.1	9.0	3.1
8.9	1.1	0.0	6.9	6.0	2.9
1.0	8.8	9.8	9.9	3.4	3.3
6.1	4.1	0.2	5.4	7.9	3.3
8.0	1.9	9.9	8.2	5.1	3.3
0.6	9.7	0.3	1.0	2.1	3.1
2.7	7.2	9.9	3.9	9.5	3.4
		05.0			06.8
		18.7			11.5
16	33	05.98	16	31	06.61
		26.13		30	26.13
		1 − 20.15			1 − 19.52
		.82			.80
		1 − 20.97			1 − 20.32

26.06
.12
+.01
+.02
26.10
.13

.09
.2
+.02
+.03
19.24
.29

Gain 0.5 in 3 days or less than 0.2 per day

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1885phae.proj.1845R

29° 30'

July 2 δ Bootis ?

	5.1	4.9	0.0
	7.4	2.1	9.5
	0.0	0.0	0.0
.13	2.4	7.5	9.9
.3	5.0	5.0	0.0
−.04			
+.02			
53.55	0.0	9.9	9.9
.83			
	2.2	7.2	9.4
.11	4.9	4.9	9.8
.3	7.1	2.5	9.6
−.03			09.7
+.02			16.8
7.36	15	11	09.89
		10	53.83
			1 − 43.94

β Bor. Bor.

0.7	9.8	0.5	
2.0	7.1	0.1	
5.4	4.9	0.3	
7.7	2.4	0.1	
0.0		50.0	
Time		1.0	
15	24	50.11	
	23	07.35	
		1 − 17.24	
		−.02	
		.80	
		1 − 18.06	

δ Aur. Min.

5.3	
9.0	
23.0	5.3
6.3	102.7
9.6	9.7
32.5	6.4
6.1	83.0
9.3	9.7
43.0	6.3
6.5	73.0
9.5	9.6
53.1	6.6
6.7	62.9

2.

59.8

Gain 2.s2 in 5 days or nearly 0.s4 per day.

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1885phae.proj.1845R

46 ☓ 1377

Summary for Mr. Chandler's guidance.

June 24 1ᵐ 20ˢ.85 or 39ˢ.15 fast.
27 1 - 20.32 or 39.68 "
July 2 1 - 18.06 or 41.94 "

Clock has gained 53 seconds in last 20 days, or 0.27 per day, average of long run. Value of n is so small as to be inappreciable for several degrees from zenith. For more distant stars (under one on each side of zenith) it should be redetermined. Value of $b \sec \zeta$ in use = -0.80, which is intermediate between last two determinations.

4 -17.29
6 -16.86
8 -16.19

23.37
18.06
5.31.

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July 4

+31° 6'

ε Herc.

16 57	20.5
	32.1
	34.5
	37.0
	39.2
	41.8
	44.1
354.5	46.8
	49.1
16 57	39.39

α 16 55 55.88

— 16.49

— .80

— 17.29

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July 6

δ Bootis

			—
			—
15	11	33.0	
		35.3	
		37.9	
		40.2	
		42.9	
		(45.3)	
		(47.9)	
15	11	37.86	
α 15	10	53.92	
		— 4.1606	
		— .82	
		—16.86	

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+37 49

N Boötis July 8.3

15 20 44.8
47.2
49
15 ~~22~~ 52.3
55.2
57.8
21 0.5
3.0
5.7

21 6.5 20
35.4
6.4
37 48.8
44 68
55.20

15 20 55.20

α 15 20 10.59

− 15.39
.~~50~~
− .80

16.19

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1885phae.proj.1845R

July 11. J ~~Hercules~~ η Herc.

E Aber. min

	34.6	157.7	192.3	22.0	68.7	90.7
	40.9	53.0	3.9	4.7	6.5	1.2
	5.7	48.3	4.0	6.9	4.0	0.9
	51.0	42.2	3.2	9.1	1.8	0.9
	5.0	37.7	2.7	1.5	9.6	1.1
.74	60.9	32.3	3.2	6.2	4.9	1.1
.16	5.9	26.9	2.8	8.6	2.3	0.9
444	12.2	21.9	4.1	0.8	0.0	0.8
74	7.7	17.1	4.8	3.0	7.9	0.9
.1184						
5.56	81.7	111.9	3.6	~~5.6~~		45.6
.112	1.5	0.67	4.3			9.1
23						
33	92.1	102.0	4.1	17	42	45.48
22	6.7		96.9		.42	00.18
-.25						
+.12			19.8		1 - 14.)	0
5-0.99		16	5-8 36.79		+	.04
.86			57 50.86		-	.80
			1 - 14.0)			
.04			14.)0	1327 ″ fwhm =	1 - 15.46	
.2			6.8) .63 (.093			
+.01			612			
+.02			180			
00.15						
.18						

n = 0.09

7.33
.53
6.8

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1885phae.proj.1845R

July 12.0 5 Tau.

2.7	9.7	3.4
6.0	7.0	.0
9.0	4.1	.1
2.0	1.0	.0
4.8	8.6	.4
0.5	2.9	.4
2.1	0.0	.1
6.1	7.0	.4
9.0	4.5	.5

11.6
12.5

16 31 11.66
30 25.97
1 - 14.31
.00
- .80
1 - 15.11

.15
.0
- .04
+ .02
25.99
.97

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1885phae.proj.1845R

July 16.3 T Hrc.

6.0 5.9 1.9
9.0 3.0 2.0
2.0 9.8 1.8
5.0 7.0 2.0
8.1 4.0 2.1
4.0 8.0 2.0
7.0 5.0 2.0
9.9 2.0 1.9
2.9 9.0 1.9

06.0
186

16 18 06.98
16 19.36
1 - 12.38

- ,80
1 - 13.18

.05
.3
+.01
+.02
19.23
.36

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1885phae.proj.1845R

+27°47'

Aug 18.4 M Tuc

~~E Draconis~~

4.1	0.9	5.0
6.4	8.6	5.0
9.0	6.0	5.0
1.1	2.7	4.8
3.4	1.4	4.8
8.0	3.0	5.0
0.5	4.5	5.0
2.9	2.0	4.9
5.0	9.8	4.8
~~7.5~~		47.5
~~9.8~~		4.8

17 4247.46

42 00.12

1 − 12.66

.80

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1885phae.proj.1845R

56

+49° 53'

Aug 19.3 η Pers. Mag.

7.0 0.9 7.9
9.9 7.6 .5
3.1 4.3 .4
6.3 1.2 .5
9.7 8.1 .8
6.0 1.8 .8
9.1 8.4 .5
2.3 5.2 .5
5.7 2.0 .7

48.9
15.5
48.82
13 49 01.24
1 - 12.42

-.80
13.22

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1885phae.proj.1845R

July 19.4

	$+27^\circ\ 47'$ $N=+.39$ η Hercules			$+56^\circ\ 53'$ $N=-.6$ ξ Draconis		
	4.3	1.0	5.3	5.1	0.6	5.7
	6.7	8.7	.4	8.9	7.0	5.9
	9.0	6.2	.2	2.9	2.8	5.7
	1.3	4.0	.3	6.4	9.0	5.4
	3.8	1.7	.5	0.4	5.2	5.6
	6.4	7.0	.4	7.9	8.0	5.9
	0.8	4.7	.5	1.3	4.3	5.6
	3.0	2.3	.3	5.3	0.5	5.8
	5.5	0.1	.6	9.0	6.7	5.7
		47.8			23.0	
		13.3			16.3	
17	42	47.70		17	52	22.86
	42	00.13			57	35.57
	1	12.43			1	12.71
			.80			.80

$.23 \times 3 = .69$ $\quad .57 \times 2 = 1.02$

$1.02 \div 5 = .34$

1327 fast = $1^m 13^s.35 = 46^s.65$ fast by mean of 2 stars independent of value of n.

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1885phae.proj.1845R

58

δ = Ω Leo 20/85
+ 31.0 5
E Here.

10 56 34.0
35.5
38.9
41.2
43.8
46.0
48.5
50.9
53.2
390.0

16 56 43.67

16 55 55.75

−12.08
+ .04
− .80
−12.84

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$\delta = 82\ 13.8$ Δm 7.33

July 21. 2

E Tm Min.

16 55 37.3
42 5
47 7
52 9
58.1
58 3.3
8.2
13 7
18 5
23.7
28.5
33.3
39 0
44 0
49 0
53 9
59 1
59 4 0
9 0
14 7
19 7
24.2
29 3
34 0
39.2

~~396.8~~

Σ 16 58 38.673

α 16 57 49.78

+ 48.89
− .81
− .80
~~47.38~~

+46 4.4
Δm 1.04

δ Herculis

17 36 52 0
54 8
57 9
37 1 0
~~3.7~~
0.7
9.9
12 8
15.8

374.6

17 37 3.85 −

17 36 15.67

+ 48.18
− .01
− .80
47.37

$$n = \frac{-0.71}{7.33 - 1.04} = \frac{-0.71}{+6.29} = -0.11$$

$\Delta\Sigma$ = −47.37 — 12.63

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1885phae.proj.1845R

+37 56

July 22.3

θ Lyrae

19 13 3.7
6.2
8.9
11.6
14.1
16.8
19.2
22.0
24.6
127.1

19 13 14.12

19 12. 25 57

− 11.45
− .03
− 0.80

− 12.28

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July 28.4 R Leonis

	7.0	8.1	5.1
	9.8	5.3	.1
	2.6	2.7	.3
+.01	5.2	9.7	.4
+.02	1.3	4.1	.4
-3.06	4.0	1.2	.2
.09	7.0	8.4	.4
	0.0	5.6	.6

42.7
11.2

18 52 42.66
51 -3.09
1 -10.43
.00
.80
1 -11.23

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1885phae.proj.1845R

July 30.4 q Leonis

9.6	2.1	1.7
2.1	9.7	.8
4.7	7.0	.7
7.3	4.3	.6
0.0	1.7	.7
5.3	6.3	.6
7.8	3.6	.4
0.7	1.0	.7
3.1	8.4	.5

.11
−.01
+.02

5-5.9
15.6
18 33 55.82
33 05 50
1-09.68
.00
.80
1-10.48

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1885phae.proj.1845R

Aug 4.3 α Leonis

1.3	4.7	6.0
3.7	1.7	5.4
6.3	9.0	5.3
9.5	6.2	5.7
2.0	3.8	5.8
6.9	8.6	5.5
0.0	5.8	5.8
2.7	3.1	5.8
5.5	0.6	6.1

57.7
16.1
18 33 57.85
33 05.47
1 - 07.5 9
.0
−.80
1 - 08.39

.21
.2
+.04
+.02
1.01
.07

.11
.4
+.04
+.02
5.35
.44

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1885phae.proj.1845R

Arg 6.3 α Lyrae

	2.0	5.0 7.0
	4.9	2.1 .0
.11		
.12	7.5	9.7 .2
±.02	0.1	7.0 .1
±.02	3.0	9.3 .3
5.78	8.0	9.2 .2
.42	0.8	6.6 .4
	3.5	4.0 .5
	6.0	1.4 .4

58.7

11.8

18 39 58.62

39 05.42

1 - 06.80

.00

.80

1 - 07.60

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1885phae.proj.1845R

Aug. 8 α Lyrae

9.1		
1.9		
4.3		
7.1		
9.2		
2.4	3.4	5.8
5.0	1.0	6.0
7.7	8.2	5.9
0.1	5.6	5.7
		13.0
		8.4

18 34 12.93

~~6.0~~
~~9.9~~
~~3.2~~

β Lyrae

3.5	6.1	9.6
6.0	3.4	.4
8.8	1.0	.8
1.3	8.2	.5
3.8	5.6	.4
9.1	0.1	.2
1.9	7.7	.6
4.2	5.0	.2
7.1	2.4	.5
		59.9
		17.1

18 33 59.74
33 05.40
1 - 05.66
.0
-.80
1m - 06.s46

1885phae.proj.1845R

Aug 9.7

	9.9	6.6	0.5
-.02	6.2	3.4	9.6
+.02	8.9	0.9	9.8
	1.6	8.4	0.0
	4.1	6.0	0.1
	9.9	0.5	0.4
	2.3	7.6	9.9
	?	5.1	
	7.3	2.4	9.7

00.0
17.0

18 34 00.00
α Lyrae 18 33 05.38
1 - 05.38
.00
.80
1 - 06.18

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1885phae.proj.1845R

Aug. 11, 4 γ Cygni

8.0	1.7	9.7
0.7	9.0	.7
3.6	6.1	.7
6.4	3.4	.6
9.7	0.7	X
6.0	5.4	.4
6.9	2.9	.8
9.3	0.3	.6
2.0	7.7	.7

05.0

12.6

20 19 04.84

18 09.39

1 − 04.55

.00

−.80

1 − 05.35

.06
.3
−.02
+.02

1885phae..proj.1845R

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Aug. 16, 3 R Lyrae

1.3	8.4	9.7
4.0	5.9	.9
7.0	2.9	.9
9.9	0.0	.9
2.7	2.1	.8
8.7	1.3	0.0
1.2	8.4	9.6
4.0	5.7	.7
7.1	3.0	0.1

.16
.2
+.04
+.02
5-2.79
.85

49.9
17.5
49.97

18 5-1 5-2.85
1-02.93
.00
-.80
1-03.73

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Aug 18.3 9h2sm

2.8
5.7
8.7
1.5

4.4	8.6	3.0
0.3	3.1	1.4
9.2	0.7	1.9
6.0	7.7	1.7
9.0	5.0	4.0

31.9
8.9
20 38 31.81
37 34.19
1 -02.38
.03
.80
1 -01.18

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32 Vulpec

Aug 20.3 ~~Uhyxi~~

8.0	4.6	2.6
0,2	2.1	.3
2.5	9.9	.4
5.1	7.6	.~~8~~
7.3	5.0	.3
2.0	0.6	.6
4.2	8.3	.5
6.7	6.0	.7
9.0	3.7	.7

41.4

5.2

20 ~~50~~ 47.27

~~52 56.63~~

~~+5.36~~

.06
.2
−.01
+.02

Uhyxi

8.0	2.3	0.3
1,0	9.4	0.4
4.0	6.9	0.9
6.2	7.8	0.0
9.0	1.2	−0.2
4.4	5.6	0.0
7.3	3.2	0.5
9.8	0.9	0.7
2.2	8.0	0.2

55.1

3.3

20 53 55.17

52 56.63

1 − 01.46

.00

−.75

1 − 02.21

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1885phae.proj.1845R

Aug 26.3 d Lyrae (Pratt, observer)

9.0	2.0	1.3
2.0	9.2	.2
4.9	6.9	.8
7.3	4.1	.4
6.0	1.7	.7
5.0	6.2	.2
9.9	3.8	.7
0.5	1.0	.5
3.1	8.4	.5

05.7
14.0
05.74

18 33 05.08
2 - 59.34
.00
- .75
1 - 00.09
or 2 - 60.09

.20
.2
+.04
+.02
05.02
.08

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1885phae.proj.1845R

Ay 27.3 α Hyc.

6.0 —

8.5- 5.4 3.9

1.1 2.9 4.0

3.5- 0.0 3.5

6.5- 7.2 3.7

1.6 2.2 3.8

4.2 9.6 3.8

6.6 7.0 3.6

9.1 4.5- 3.6

21.9

14.8

21.8 6

17 5.2 2 -0.5 5-

2 - 58.69

.0

- .75

2 - 59.4

+.03
+.02
20.51
.55

1885phae.proj.1845R

Aug 28.5

ζ Hercules			η Herculis		
6.9	6.0	2.9	7.7	4.6	2.3
9.8	9.2	3.0	0.1	2.1	.2
2.9	0.0	3.2	2.6	9.8	.4
5.8	7.0	3.1	5.0	7.7	.7
8.7	4.4	3.1	7.1	5.0	.1
4.6	8.0	2.9	2.0	0.6	.6
7.6	5.0	2.9	4.0	8.1	.1
0.6	2.4	3.0	6.5	5.8	.3
3.5	9.5	~~16.8~~ 3.0	9.0	3.6	.6
		16.6			0.1.2
		9.7			3.5
17	07	16.51	17	43	01.18
	36	14.87		41	59.57
		2-58.36			2-58.39
		-.75			-.75
		2-59.11			2-59.14

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Aug 29. Ti Hua.

	0.6	4.0	2.6
	3.0	9.6	.6
	5.8	7.0	.8
-.02	8.2	4.1	.3
+.02	0.9	1.7	.6
	6.0	6.6	.6
	8.5	4.0	.5
	1.1	1.5	.6
	3.8	8.9	.7

06.2

5.5

06.29

17 11 04.17

2 - 57.88

.75

2 - 58.6

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1885phae.proj.1845R

Aug 31, 3 L Harahi

8.0 7.4 5.4
1.0 4.6 .6
4.0 1.6 .6
6.9 8.7 .6
0.0 5.8 .8
5.9 9.7 .6
9.0 6.8 .8
2.0 3.9 .9
4.9 0.9 .8

.29
.3
-.09
+.03
14.84
.78

18.0
16.1
17.85

17 36 14.78
2 - 56.93

.75
2 - 57.7

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1885phae.proj.1845R

Sept. 1.3

	ζ Herc.			ζ Herc.		
4.+	8.8	8.0	6.8	2.0	3.6	5.6
.25	1.6	5.0	.6	4.5	1.0	.5
.4	4.7	2.0	.7	7.1	8.2	.3
-.10	7.7	9.1	.8	9.8	6.0	.8
+.02	0.7	6.1	.8	2.11	3.1	.2
4.17	6.4	0.1	.5	7.3	8.0	.3
.09	9.3	7.1	.4	0.0	5.6	.6
.29	2.3	4.4	.7	2.7	3.0	.7
.4	5.3	1.3	.6	5.1	0.6	.7
-.12		18.3		~~7.9~~		07.9
+.03		6.2				14.6
14.84	17	18.33		17	12	07.78
.75	36	14.75			11	04.09
	2-56.42			2-56.31		
	-.75			-.75		
	2-57.2			2-57.1		

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1885phae.proj.1845R

Sept. 3.3 δ Herculis

	9.1	1.1	0.2
	1.9	8.5	.4
.24	4.3	6.0	.3
.4	7.0	3.1	.1
+.10	9.6	0.7	.3
+.02	4.8	5.6	.4
20.27	7.1	2.9	.0
.39	0.0	0.3	.3
	2.5	7.8	.3
		25.0	
		2.3	
17	53	25.12	
17	53	20.39	
		2-55.27	
		.75	
		2-56.0	

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Sept. 7.3 ~~β~~ Equi | υ Capricorni | 76 Draconis

	8.6	2.2	0.8	8.1	1.9	0.0	04.9	05.0	9.9
57.53	1.0	9.7	0.7	0.2	9.5	9.7	—	57.0	—
-.11				2.7					
+.11	3.9	6.9	0.8	~~4.7~~	7.0	9.7	14.3	54.7	9.0
				4.5					
	6.5	4.3	0.8	~~6.8~~	~~4.8~~	~~9.3~~	19.4	49.6	9.0
-.01	9.2	1.5	0.7	6.8	3.0	9.8	24.8	44.4	9.2
+.02									
.74	4.6	6.0	0.6	1.2	8.7	9.9	29.5	39.4	8.9
.15									
370	7.3	3.7	1.0	3.2	6.6	9.8	33.5	33.6	7.1
74									
.111	0.0	0.9	0.9	5.5	4.3	9.8	39.1	30.0	9.1
.18	2.8	8.1	0.9	7.7	2.0	9.7	~~44.1~~	24.6	8.7
.1									
-.02			15.3			39.8	49.7	19.0	8.7
+.02									
			7.4			15.2	54.7	14.9	9.6
7.21									
.33	20	19	15.39	20	34	39.80	59.7	10.0	9.7
7.54		18	09.08		33	33.43			04.0
			2-53.69			2-53.63			10.6
.9									
.84			-.06			-.11	20	52	04.47
.07								50	58.79
			-.75			-.75			
.9	.09						(2-54.32)	2	05.68
.33	.07		2-54.50			2-54.51	~~2~~	1	06.37
1.24	.02								
.09									
.112									

7.54) 00.69 (0.091
6786
1140

1327 fact. = $2^m - 54^s.50$

$n = +0^s.09$

The accordance of the zenith star and the southern one reduced with this value of n also checks the collimation which cannot have varied greatly from its new position.

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1885phae.proj.1845R

Sept. 10.4 10 Leaculae

1.8	4.3	6.1
4.1	1.8	5.9
7.0	9.0	6.0
9.8	6.3	6.1
2.1	3.9	6.0
7.5	8.7	6.2
0.1	6.0	6.1
3.0	3.2	6.2
5.6	0.6	6.2

18.0

0.8

22 35 18.04

34 09.95

2 - 51.91

-.01

-.75

2 - 52.67

9.94
-.01
+.02
.95

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1885phae.proj.1845R

Sept. 11.4 74 Eqsi

5.6	98.4	5.0
8.3	65.6	4.9
1.0	42.0	5.0
3.7	12.2	4.9
6.4	8 2.7	5.1
1.8	7.2	5.0
4.7	8.7	5.4
7.3	7.9	5.2
0.0	5.3	5.3

.11
.4
−.04
+.02
23.94
.92

2.7 32.7
10.5
32.55

21 32 27.92
2 − 51.37
.00
−.75
2 − 52.12

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1885phae.proj.1845R

Sept 12.3 ν Pegasi 2 Lacertæ

1.1
3.2
5.8 0.5
8.1 8.0
0.7 5.7
3.2 23.2
5.7
8.0
0.5

1.1 0.5 1.6
3.2 8.0 1.3
5.8 5.7 1.5
8.1 3.2 1.3
20.7
6.4
22 05 20.71
zone mid-obs 04 56.40
5.69

2.1 8.8 0.9
3.7 5.5 1.2
9.0 2.0 1.0
2.1 8.9 1.0
5.7 5.0 1.8
2.5 8.7 1.2
5.6 5.4 1.0
9.0 2.1 1.1
2.4 8.9 1.3
16.7
10.4
22 20 15.55
14 06.54
2-50.99

O.K. -.75
2-50.24

56.41
6.35
6.38
+.02
.40

06.55
6.48
6.51
+.03
.54

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1885phae.proj.1845R

Sept: 14.3 Ø Lyrae

0.7	2.5	
2.1	0.9	
6.0	8.1	
8.6	5.6	
1.1	2.0	
6.6	7.7	4.3
9.0	5.0	4.0
1.9	2.4	4.3
4.4	9.8	4.2
		37.0
		0.8
19	1/3	37.09
	12	24.85
	2 -	47.76
		.00
		-.75
	2 -	48.81

marked "unreliable" by observer.

.122
.0
1.07
+.02
24.76
.85

Some mistake

Some mistake

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1885phae.proj.1845R

Sept 15, 3 h Eqmi

5.2	4.1	9.3
8.9	0.9	9.8
2.3	7.4	9.7
5.9	4.1	0.0
9.6	0.3	9.9
6.3	3.8	0.1
9.4	0.1	9.5
2.0	6.8	9.8
6.3	3.3	9.6
		9.7
		39.9
		16.6
19 15		39.87
14		28.85
2 - 48.98		

.32
.2
+.06
+.03
28.76
.85

.19
.2
+.04
+.02
7.48
.49

57
73
65

- .75

B Eqmi

5.4	2.0	7.4
7.7	9.6	.3
6.0	7.1	.1
2.4	5.0	.4
4.7	2.7	.4
9.4	8.0	.4
1.7	5.7	.4
4.0	3.3	.3
6.3	1.0	.3
		18.7
		12.7
19 27		18.67
26		07.49
2 - 48.82		

- .75

Average $2^m - 49.65^s$
many inches of π
which is very small anyway.

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1885phae.proj.1845R

Sept-16.4

10 Tacuba

5.7	8.0	9.7
8.1	5.4	.5
0.7	2.8	.5
3.2	0.0	.2
6.0	7.7	.7
1.1	2.0	.1
3.9	9.6	.5
6.6	7.0	.6
9.0	4.3	.3

21.7

13.8

22 35 21.73

3409.54

2-48.21

.00

-.75

2-48.96

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1885phae.proj.1845R

Sept: 17.[illegible] 74 Lyn

9.2	9.0	2.2
1.9	8.2	2.1
4.7	7.7	2.4
7.1	5.0	2.1
9.2	2.0	1.9
5.4	7.0	2.4
8.0	4.1	2.1
0.9	1.4	2.3
3.4	8.8	2.2

36.0

1.7

21 33 36.09

32 23.85

2 - 47.76

.00

- .75

2 - 48.51

i.e. Clock #327 is fast - 1[m] 11[s].49 fast

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1885phae.proj.1845R

Gibb. 19.3 74 Lyncis

	9.3	3.0	2,3
.14	1.9	6.2	.1
.2	4.7	7.7	.4
−.03	7.1	5.0	.1
+.02	9.9	2.0	.9
23.83	5.4	7.0	.4
.82	8.0	4.1	.1
	0.9	1.4	.3
	3.4	8.8	.2

Wrong here i.e. 1.9 Right-Ascension.

36.0

2.8

21 ~~23~~ 36.15

32 23.83

2^m $47^s.68$

.00

−.75

2^m $48^s.43$

A mere repetition of the preceding page.

i.e. #1327 in part 1^m $11^s.57$ This speaks for a great change in rate of the sidereal clock, ~~Since in the~~ because in the preceding interval of two days it gained about $1^s.1$

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1885phae.proj.1845R

Sept 19.0 61 Eggni Dr.

5.0	7.4	2.4
7.7	4.9	.6
0.1	2.1	.2
2.9	9.5	.4
5.5	7.0	.5
0.9	1.9	.8
3.4	9.0	.4
6.0	6.6	.6
6.8	4.0	.8

01.1
4.8

21 03 01.25
01 47.88
2- 46.63

.17
.2
-.03
+.02
47.89
.88

collimation term .00

Level Term B sec ϕ = -.75

Clock #1327 = $2^m 47.^s38$ } fast
= $1^m 12.^s62$ }

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1885phae.proj.1845R

Sept. 24.3 4 Gemini

4.9	2.0	6.9
8.0	8.5	.5
1.3	8.1	.4
4.8	1.9	.7
8.0	8.4	.4
5.0	1.8	.8
6.4	8.4	.8
1.8	5.0	.8
5.6	1.8	.8

+ 1.7

58.4

6.5

58.34

19 52 41.75

2 - 43.41

.31
.3
+.09
+.03
41.63
.75

.75

2 - 44.16

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1885phae.proj.1845R

Sept 25, 3 v Cygni

6.2	0.9	7.1
9.0	7.9	6.9
1.7	5.1	6.8
4.3	2.5	6.8
2.1	2.2	7.0
2.7	4.5	7.2
5.4	1.8	7.2
8.1	9.0	7.1
0.9	6.1	7.0

13.5
9.6
13.51

20 54
52 56.17
2-42.66
.00
-.75
2-43.41

.15/2
+.04
+.02
56.11
.17

1885phae.proj.1845R

Sept. 26, J α Bzgni

2.7	0.7	3.4
5.6	1.8	.4
8.1	4.9	.0
1.2	2.0	.2
4.0	9.0	.0
0.0	3.1	.1
3.0	0.3	.3
5.9	7.3	.2
8.9	4.7	.6

+.02
+.02
39.57
.55

51.7
11.9

20 38 51.63
37 33.55

2 - 41.93
.00
-.35

2 - 42.63

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1885phae.proj.1845R

Sept. 28.4

.18
.1
−.02
+.02

74 Lyncis

6.3 9.9 6.2
9.0 7.1 .1
1.9 4.4 .3
4.2 1.9 .1
7.0 9.4 .4
2.8 4.0 .8
5.2 1.2 .4
7.9 8.6 .5
0.4 5.9 .3

43.4
3.5

21 33 43.18
32 23.69
2 −40.51
.00
−.75
2 −41.26

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W. A. R. Return from Vacation — 76 observes.

Sept: 30.3

.32
.3
−.10
+.03
23.47
.40

γ Cygni

7.1 −
9.8 −
2.6 −
5.0 −
7.5 −
0.8 − Sc.
−

~~8.0~~ 5.0 9.3
~~7.1~~ 2.6 9.7
~~2.~~ 29.8
3.8
29.76

θ Cygni ~~θ 6~~

7.9 4.2 2.1
1.5 1.0 .5
5.0 7.5 .5
8.1 4.4 .2
1.3 1.0 .3
8.0 4.4 .4
1.1 1.0 .1
4.7 7.8 .5
7.9 4.1 .0
11.1
2.7
11.14
19 33 23.40
12.26

θ Cygni

2.3 6.2 8.5
5.7 3.1 .8
8.9 0.0 .9
1.9 6.3 .2
5.2 3.1 .3
1.3 6.9 .2
4.6 3.5 .1
8.0 0.1 .1
1.1 7.3 .4
44.1
3.6
44.19
19 33 23.40
2 − 39.21
.
−.75
40.0

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1885phae.proj.1845R

Oct 1, 3 γ Geminorum

3,5	7,0	0,5
6.1	4,2	0.3
8.9	1.6	0,5
1.5	9.1	0.6
4.2	6.5	0.7
9.0	1.1	0.1
2.2	8,5	0.7
5.0	5,7	0.7
7.8	3.1	0.9
~~0.1~~	30.1	
	5.1	

20 2 18 30.27

18 09.19

2m - 38s.92

,00

-.75

39.67

.15
.4
.106
+.02
9.23
.19

1.15
1.05
575
945
105
1.55

1/2 · 1.35
1/2 1.16
· 870
696 135
116 135
116 1.5660

4)4.37
-.54
+1.56
97.64
98.86

Oct 1, 3 γ Geminorum Mean

13.6 06.0 19.6
59.7 26.6 26.3
28.1 47.3 15.4
07.)
2)69.0
09.86
19 37 38.86

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1885phae.proj.1845R

Oct 4.3

α Cophei

3.1	1.0	4.1
7.5	6.7	.2
2.3	2.0	.3
6.3	8.0	.3
1.0	3.9	.9
9.7	5.0	.7
4.0	0.6	.6
8.4	6.1	.5
3.0	1.8	.8

17.3

4.7

17.25

3.74

36.49

.75

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1885phae.proj.1845R

Oct 5.

74 Cygni

1.5	5.0	6.5
4.0	2.5	.5
6.9	0.0	.9
9.6	7.0	.6
2.2	4.5	.7
7.8	9.0	.8
0.4	6.2	.6
3.0	3.8	.8
5.6	1.1	.7
	48.2	
	6.3	

21 33 48.33
32 23.57
2 − 35.24
.00
−.75
$2^{m}\ 35^{s}.99$

18
2
+.04
+.02
23.51
.57

19
2
+.04
+.02
47.59
.59

61 Cygni

6.4	8.7	5.1
9.0	5.9	4.9
1.6	3.1	4.7
4.1	0.9	5.0
6.7	8.0	4.7
2.0	3.0	5.0
4.5	0.4	4.9
7.2	7.6	4.8
9.7	5.0	4.7
	12.2	
	8.0	

12.42
21 01 47.59
2 − 35.17
.00
−.75
$2^{m}\ 35^{s}.92$

Clock 1327 Thumper is fast $2^{min} - 35^{s}.95 \pm 4$
~~$= 1^{m}\ 24^{s}.05$~~ $= 1^{m}\ 24^{s}.05$
But there has been no recent leveling

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1885phae.proj.1845R

$\delta = +12\ 31.$

Oct 8. 9

α Leonis

10 4 35.1
37.2
39.3
41.4
43.7
45.8
47.9
50.0
52.3

Σ 10 B 43.63

α 10 2 16.15

32.52

ω

.75

-33.27

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Cet-9.3 V Cygni

2.6 4.4 7.0
5.1 1.7 6.8
8.0 9.1 7.1
0.9 6.2 7.1
23.6
4.6

20 54 23.51
52 55.86
2-32.35
.60
-.75
2-33.10

.24
.2
-.05
+.02
55.89
.56

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1885phae.proj.1845R

Oct. 10

1.4
8.7
6.2

.24
.3
-.07
+.02
55.84
.84

5.0	3.4	8.4
7.9	0.3	8.2
3.0	4.9	7.9
6.0	2.1	8.1
8.8	9.7	8.5
1.6	7.0	8.6
		24.0
		1.7
20	52	24.13
	52	55.84
		2-31.)1
		.00
		-.75
		32.46

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Oct 11.

	V	b−y	
	7.7	2.0	9.7
	0.3	9.3	.6
	3.0	6.1	.1
	5.7	3.7	.4
.25	6.4	1.0	.4
.4	3.8	~~6.0~~ 5.2	.0
−.16	6.3	~~7.4~~ 8.9	.2
+.02	9.3	~~4.6~~ 9.0	.3
.24	1.9	7.4	~~27.9~~ .3
.4			24.6
−.10			12.6
+.02	20	5-3	24.66
55.59		5-2	55.81
.81			2-31.15
			.0
			−.75
			2-31.90

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1885phae.proj.1845R

Oct. 14.3 10 Lacertæ

	3.3	6.0	9.3
	6.0	3.1	.1
	8.6	0.9	.5
.13	1.1	8.2	.3
.3			
+.04	4.0	5.7	.7
+.02	9.1	0.1	.2
9.61	1.9	7.7	.6
.67	4.2	5.0	.2
	7.0	2.1	.1

39.7

12.7

22 35 39.67

34 09.67

2 - 30.00

.00

.75

2 - 30.75

1885phae.proj.1845R

ON 18.4

α Cephei

21	17	7.7
		12.0
		16.4
		21.0
		25.3
		29.9
		34.2
		38.5
		43.0
		228.0
21	17	25.33
21	15	52.97
		− 27.64
		−.00
		− .75
		− 28.39

61 Cygni

21	3	9.2
		11.9
		14.4
		17.1
		19.8
		22.5
		25.0
		27.5
		30.2
		177.6
21	3	19.77
21	1	47.31
		− 27.58
		.00
		− .75
		− 28.33

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1905phae.proj.1845R

Oct. 19.4

39 Pegasi

23	39	3.4	
		5.9	
		8.0	
		10.7	
		13.0	
		15.4	116.7
		17.8	
		20.1	
		22.4	
23	39	12.97	
22	37	40.08	
		− 27.11	
		00	
		− 75	
		−27.86	

Σ
α

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1885phae.proj.1845R

Oct 20.4

74 Cyg

π^2 Cyg

	21	33	45.9		21	43	56.7
			48.9				59.7
			51.4			44	3.0
			53.5				6.1
			56.8	510.7			9.2	53.1
			59.4				12.3
		34	1.9				15.6
			4.9				18.7
			7.6				21.8
Σ	21	33	56.74		21	44	9.23
α	21	32	23.27		21	42	35.82
			− 26.53				− 26.59
			− .75				− .75
			− 27.28				− 27.34

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1885phae.proj.1845R

Oct 23.9

+15 12

β Leonis

11 44 40.1

42 3

44 3

46 7

48 5

50 9

58.4 53 1

55 1

57 1

T 11 44 48.71

L 11 43 12.69

+L − 23.98

.80

− .82

24.80

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1885phae.proj.1845R

Oct 25.2

o' Cygni (seq)

	20 18	26.7
		29.9
		32.9
		35.9
		38.0
		41.7
349.9		44.9
		47.9
		51.0
I	20 11	38.88
L	20 10	2.38
		−23.50
		−
		−.80
		−24.30

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1905phae.proj.1845R

Oct. 27. 2
7 Lacerta
22h 26

Port Rupis
Pontica

97.40
- 22.60

- .80
- 23.40

97.30
22.70

.80

23.50

-23.45

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1885phae.proj.1845R

+69 27

Oct 31.2

	+27 43	+44 51	+69 59
δ Draconis	β Cygni	δ Cygni	ε Draco
19 13 15.7	19 27 22.4	1 45.7	19 49 11.7
20.2	24.7		17.7
26.3	26.9		23.9
31.7	29.7		29.9
37.2	31.8	19 45.7	36.0
48.2	36.9	51.8	48.2
53.8	38.9	54.6	54.2
59.0	41.3	57.4	50 0.7
14 4.2	43.7	43 0.7	6.6
9.8	46.0	3.3	12.2
15.1	48.4	6.0	18.5
20.7	50.7	9.7	24.3
25.6	52.9	12.0	29.9
31.3	55.2	15.0	36.2
42.1	59.8	20.9	48.4
47.3	28 2.3		55.3
52.7	4.7		51 0.7
58.2	6.8		6.9
15 3.7	9.1		12.4
Σ 19 14 9.62	19 27 45.88	19 43 3.34	19 50 12.30
α 19 12 30.76	19 26 6.52	19 4 24.09	19 48 33.20
+2 − 21.14	− 20.64	−20.75	20.90
− .—	—	—	—
− .80	− .80	− .80	− .80
−21.94	−21.44	−21.55	21.70

+2 ~~−21.50~~

ΔΣ = +2 − 21.42

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1995phae.proj.1845R

+49° 42′ NW 2-3

38 27

10 Lacerta

22 35 22.9
25.4
28.3
31.0
34.2

NW 2-3

7 Lacerta

(52.0
54.6
57.0
59.8)

193.6

36 5.1
7.6
10.5
13.0
15.8

22 35 49.36

22 26 36.66

22 34 9.36

+2 - 20.00

- .80

- 20.80

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1885phae.proj.1845R

1885 Nov 3, 2

ε Draco +69 58

+46 24.1

σ 5 (Eq) Cygni

19 50 0.9
5.9
12.5
19.0
25.1
(31.0
26.9)

64.6

	19 50 12.92	20 12 42.30
L	19.48 33.02	20 11 2.09
	+2 - 20.10	- 19.80
	~~+ .28~~	
	- .80	- .80
	+2 - 20.~~98~~	20.60

9.3 | 42.41
11.9 | 42.03

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1995phae.proj.1045R

Nov. 4. 3 β Lyrae

7.1	9.7	6.4
0.0	6.1	7.1
2.9	3.5	6.4
5.4	0.9	6.3
~~8.0~~		~~8.0~~
		2.2
20	~~19~~	48.24
	18	07.77
		2-19.53
		-.80
		2-20.33

.24
.2
+.05
+.02
7.70
.77

.24
.2
+.04
+.02
46.85
.95

61 Lyrae

1.2	2.7	4.9
4.0	1.0	5.0
6.7	8.3	5.0
9.1	5.9	5.0
2.0	2.8	4.8
7.9	8.0	5.1
9.9	5.6	5.5
2.4	2.9	5.3
5.0	0.1	5.1
		27.6
		10.3
21	03	27.54
	01	46.95
		2-19.41
		-.80
		2-20.21

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1885phae.proj.1845R

Nov 9.3

0.912
0.108
.804

1.632
.912
.72

.11
.3
-.03
+.02
30.42
.41

α Androm
~~ω Piscium~~

9.6
1.9
4.2
6.4
9.0

3.7 2.4 6.1
6.1 0.0 6.1
8.5 7.7 6.2
0.7 5.1 5.8

13.0
0.2

0 04 13.02
02 30.41
2 - 17.39

.80
2 - 18.19 uncorrected for n (value of n small known)

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1885phae.proj.1845R

Nov. 11 η Pegasi) Lacaille

	0.0	).1	).1			
	2.1	4.9	).0	8.8		
	4.7	2.4	).1	4.9		
	).0	8.0	).0	8.0		
	9.3	8.0	).3	1.0		
	4.0	3.0	).0	).4	3.0	0.4
	6.3	0.6	6.9	0.6	9.9	0.5
	8.7	8.2	6.9	4.0	6.7	0.7
	1.1	5.9	).0	).0	3.4	0.4
			23.3			20.4
			9.6			2.4
			23.51			20.27
22 37			39.77	22 26		36.44
			16.26			16.17
			-.180			-.180
			17.06			16.97

83
.168
39.75
+.03
.77

54
.28
36.41
+.03
.44

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1885phae.proj.1845R

Nov 12.2

	61 Cygni			61 Cygni		
	4.8	7.1	1.9	2.0	6.3	8.3
	7.4	4.5	1.9	~~7.6~~	3.5	.1
	0.0	2.0	2.0	7.1	1.0	.1
	2.7	9.5	2.2	0.0	8.0	.0
	5.1	6.9	2.0	2.9	5.5	.4
	0.5	1.6	2.1	8.1	0.0	.1
	3.1	9.0	2.1	0.9	7.3	8.2
	6.0	6.2	2.2	3.6	4.3	7.9
	8.4	3.8	2.2	6.3	1.9	8.2
		31.0			39.0	
		0.6			1.3	
		31.03			39.07	
21 01	~~46.98~~					
20 52	~~55.05~~			20 52	55.05	
	~~1.5.95~~					
	~~24.02~~				15.98	
	-.80				-.80	
	~~16.55~~				16.78	

.23
.4
+.09
.02
54.94
5.05

.21
.4
+.08
.02
46.68
.8

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1885phae.proj.1845R

Nov 15.2 α Gemini

8.3 6.1 4.4
1.1 2.3 .4
4.0 0.6 .6
7.0 7.7 .7
9.9 4.5 .4
5.6 9.0 .6
8.8 5.9 .7
1.2 3.2 .4
4.3 0.1 .4

17.2
4.8
17.25

20 37 32.25
15.00

.25
.1
+.02
+.03
32.20
.25

-.80
2 - 15.80

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1885phae.proj.1845R

Nov 16 V Cygni

3.0	7.3	0.3
5.9	4.7	.6
8.5	2.0	.5
1.2	9.2	.4
3.9	6.6	.5
9.3	1.1	.4
2.0	8.1	.1
5.0	5.7	.7
7.5	3.0	.5

40.3

4.3

40.23

50 52' 54.96

14.73

-.80

2 - 15.53

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1885phae.proj.1845R

Nov 17

	χ Cygni		61 Cygni	
	8.6	6.8 5.4	6.0	8.6 4.6
	1.4	3.8 .2	8.8	6.0 .8
	4.2	1.6 .2	1.2	3.0 .2
	7.1	8.0 .1	3.9	0.7 .6
.25	0.1	5.0 .1	6.4	8.0 .4
.1				
-.02	6.0	9.2 .2	1.8	2.9 .7
+.02	9.0	6.4 .4	4.4	0.0 .4
	2.0	3.4 .4	7.0	7.3 .3
	4.8	6.4 .2	9.7	5.0 .7
	~~17.7~~			32.1
	11.9			4.8
	20 39 17.63		21 03 32.25	
	37 32.20		01 46.68	
	2-14.57		2-14,43	
	-.80		-.80	
	2-15,37		2-15,23	

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1885phae.proj.1845R

Nov 20. γ Bzzi

6.4	54.0 ±
9.4	67.4
2.0	13.4
4.9	-.8
9.0	14.2
3.0	
5.3	
8.0	

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1885phae.proj.1845R

1 space = 2.06 sec.

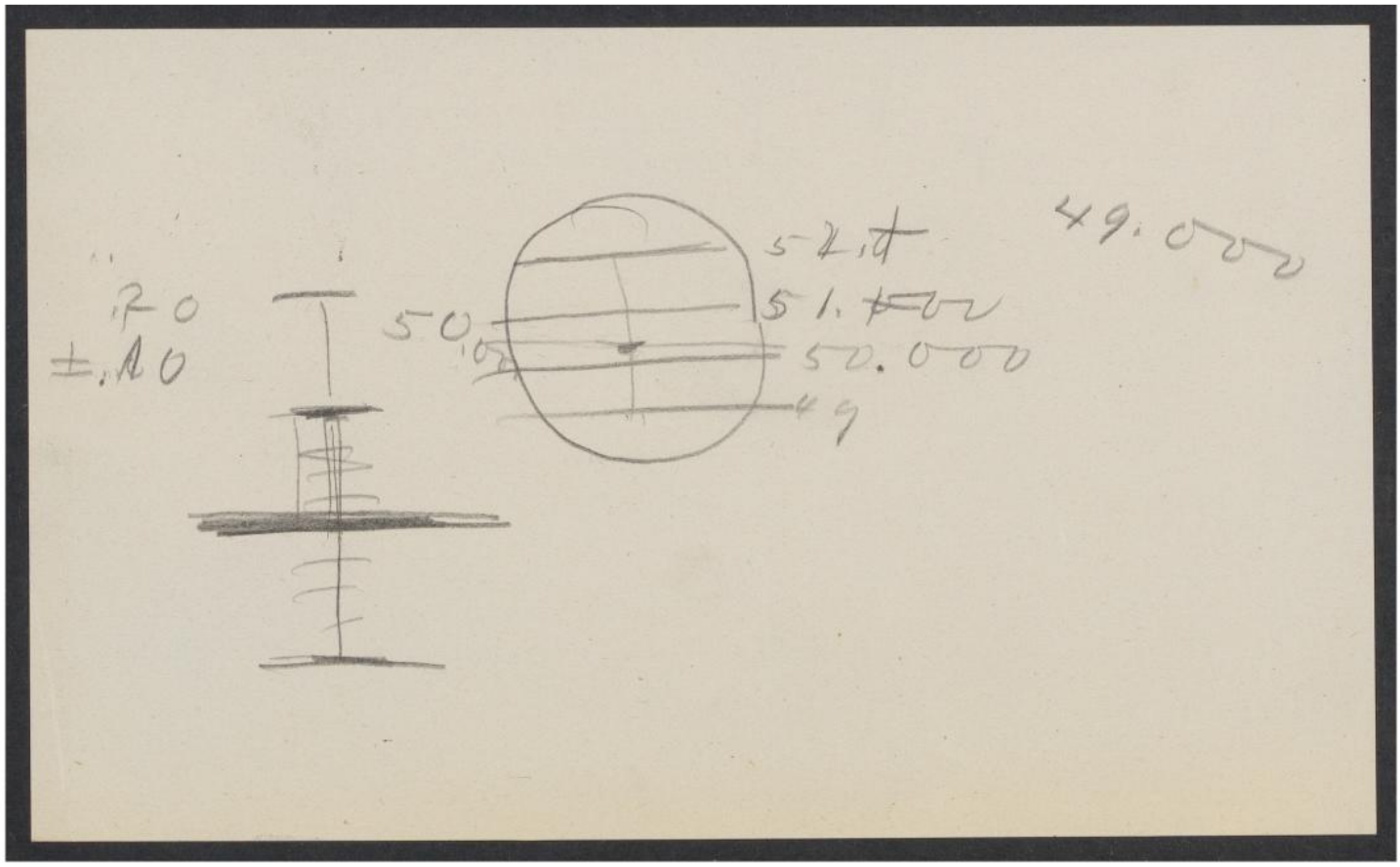
Nov. 26, 3 β Androm. δ Cassiop

10	46.0	
9	48.8	42.6
8	51.3	47.6
7	54.1	51.8
6	57.0	3)122.0
4	62.0	47.33
6)44	5)319.2	28.55
7⅓	53.20	1 21 15.88
	18.43	18 24.09
2.06	1 05 11.63	09.21
7⅓	03 21.98	
.69	2-10.35	-.80
14.42	.00±	
15.11	-.80	
1.22		
3022	2-11.15	
3022		
15.11		
18.4342		

?

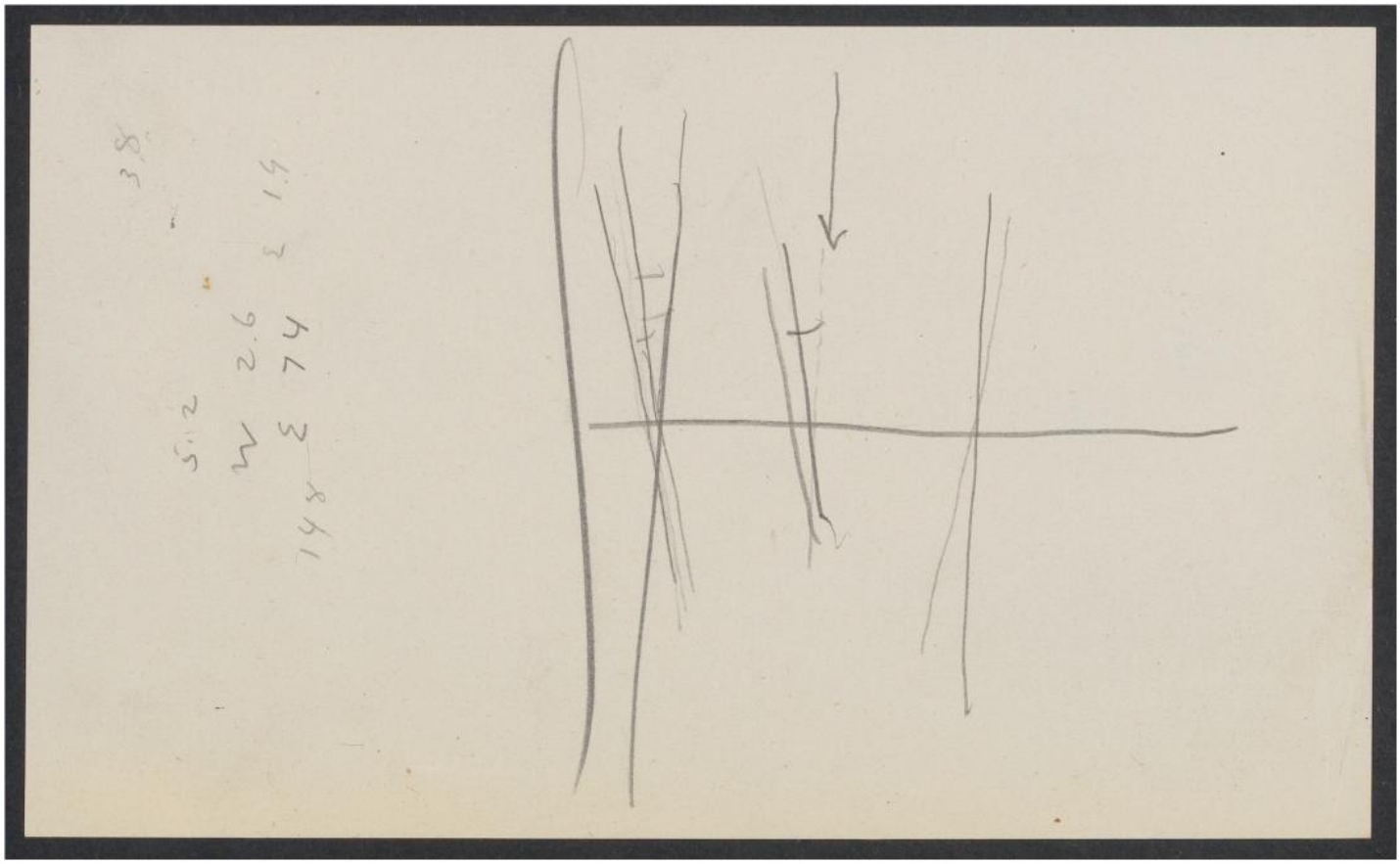
1.98
2.06
1188
396
4.0)88
7
28.55

1885phae.proj.1845R



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ε Eleν.

Nov 26.7

λ Eleν. Maj.			μ Eleν. Maj.			31 Leonis Minis.		
3.4	0.6	4.0	3.0	8.9	1.9	0.5	2.0	2.5
6.1	7.6	3.7	6.0	6.0	2.0	2.9	9.6	.5
9.0	4.8	3.8	9.0	3.0	2.0	5.7	7.0	.7
2.0	1.7	3.7	1.6	0.1	1.7	8.2	4.2	.4
5.0	9.0	4.0	4.5	7.6	2.1	0.9	1.9	2.8
0.6	2.1	3.7	9.9	1.9	1.8	6.0	7.0	3.0
3.3	0.7	4.0	2.7	9.0	1.7	8.6	4.1	2.7
6.2	8.0	4.2	5.6	6.6	2.2	1.1	1.7	.8
8.9	5.0	3.9	8.0	4.0	2.0	3.9	9.0	.9
		02.0			21.0			06.2
		37.0			18.4			6.5
10	12	01.95	10	17	20.97	10	23	06.34
	10	12.18		15	31.14		21	16.43
		2 - 10.23			2 - 10.17			2 - 10.09
					.00			
		-.80			-.80			-.80
		2 - 11.03			2 - 10.97			2 - 10.89

Mean = $2^m 10^s.96$ = #327 fast. (independent of volume no)

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Nov. 29

74 Aquarii
11 Pegasi

—		
—	2.3	
1.4	1.0	2.4
3.9	8.8	.7
6.3	5.9	.2
1.6	1.0	.6
4.0	8.4	.4
6.3	6.1	.4
8.4	3.6	.0

2 01.3
3.0
22 06 01.20
04 55.24
2 - 54.04

16 Pegasi

0.0	5.8	5.8
2.6	3.2	5.8
4.9	1.0	5.9
7.1	9.0	6.1
9.4	6.7	6.1
3.8	2.0	5.8
6.0	9.8	5.8
8.2	7.3	5.5
0.6	5.1	5.7

42.8
17.3
21 49 42.91
47 52.05
2 - 09.14

- .80

77 Cassiopeiae

5.0	8.5	3.5
8.0	5.1	.1
1.1	2.0	.1
4.1	8.9	.0
7.5	6.0	.5
3.9	9.7	.6
7.0	6.2	.2
0.1	3.1	.2
3.3	9.8	.1

26.6
11.9
22 28 26.63
26 35.97
2 - 09.34

- .80

β Cephei

6.9	4.7	1.6
9.0	3.0	2.0
0.8	1.1	1.9
3.1	9.3	2.4
5.0	7.3	2.3
7.0	5.4	2.4
8.9	3.5	2.4
0.8	1.3	2.1
3.3	9.4	2.7
5.0	7.5	2.5
7.1	5.5	2.6
9.1	3.3	2.4

01.3
3.6
21 29 01.14
27 11.38
2 - 10.26
2 - 09.14
1.12

n = .87

1885phae.proj.1845R

Dec 2.

~~Hour~~

	α Cassiopeiae			ζ Andromedae		
	9.6	2.8	2.4	8.7	3.7	
.11	3.0	9.3	.3	1.0	1.0	2.0
.4	6.8	5.7	.5	3.0	9.0	2.0
+.104	0.7	1.8	.5	5.1	6.8	1.9
+.02	4.1	6.4	.5	7.7	~~6.0~~ 6.7	2.7
18.24	1.4	~~1.0~~ 0.0	.4	~~9.4~~ 7.9		
.30	5.0	7.1	2.1	2.0	~~5.6~~ 7.9	2.0
.123	9.0	3.9	2.9	4.2	~~3.3~~ 5.6	2.1
.4	2.5	9.9	.4	6.6	~~4.0~~ 3.0	2.2
+.109			56.5	8.7	3.3	~~8.7~~ 11.0
+.04			4.5			17.6
63.89	0	35	56.24	0	43	11.03
4.02		34	~~07~~.02		41	18.30
	~~0~~	~~35~~	2-07.78			2-07.27
			-.80			-.80

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1885phae.proj.1845R

Dec. 3 — Andover — Andover

6 cor.

7.1 5.8 2.9
0.8 2.5 3.3
4.1 9.0 3.1
7.9 5.8 3.1
1.1 2.4 3.5
7.9 5.5 3.4
1.5 2.0 3.5
4.8 8.5 3.3
8.2 5.1 3.3

31.7

12.7

0 32 31.67
30 38.75

2 - 07.08

-.80

.21
.3
+.06
+.04
38.65
.75

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1885phae.proj.1845R

Dec. 6 74 62 gsi Cassiop

0.8	4.3	5.1	8.7	9.5	8.2
3.2	1.7	4.9	1.4	6.2	7.6
6.0	9.0	5.0	4.3	2.1	7.4
8.7	6.1	4.8	7.5	0.1	7.6
1.2	3.7	4.9	0.9	7.1	8.0
6.7	8.1	4.8	6.9	1.1	8.0
9.5	5.7	5.2	0.0	8.2	8.2
2.8	2.9	4.9	2.9	5.1	8.0
4.8	0.1	4.9	6.0	2.0	8.0
		17.5			19.0
		9.0			18.0
21	34	17.47	0	40	18.95
	32	22.24		38	23.55
		2-04.77			2-04.60
		-.80			-.80

Mean $2^m - 05^s.49$ practically independent of "n"

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1885phae.proj.1845R

Dec. 7.

	o Cassiop.			ζ Androm		
	6.8	0.1	8.9	1.9	7.0	8.9
.19	1.9	7.0	8.9	4.1	4.6	8.7
.1	5.0	4.0	9.0	6.5	2.4	8.9
-.02	8.0	0.9	8.9	8.8	0.1	8.9
+.03	1.0	7.7	8.7	1.0	8.0	9.0
23.52	7.3	1.7	9.0	5.6	3.4	9.0
.53	0.1	8.6	8.7	7.9	1.1	9.0
.12	3.1	5.4	8.5	0.0	8.9	8.9
.1	6.2	2.3	8.5	2.1	6.8	8.9
-.01			19.3			14.5
+.02			7.3			8.7
18.24	0	40	19.39	0	43	14.46
.25		38	23.53		41	18.25
			2-04.14			2-03.79
			-.80			-.80

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1885phae.proj.1845R

δ Lac. 8 Ti Pegasi 3 Lacertae

6.0

.17 B.7
.2
-.03 1.0
+.02
-5-.09
.08

4.8	8.9	3.7
7.2	6.2	.4
2.0	1.4	.4
4.2	9.0	.2
6.9	6.5	.4
9.3	4.3	.6

51.8
9.5

22 06 51.73
04 -5-5.08
2-03.35

-.80

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1885phae.proj.1845R

Dec. 11.2

$\tilde{\nu}^2$ Lyrae

9.8 4.9 4.7
3.0 1.5 .5
6.0 5.4 .4
9.1 5.7 .8
32.2
2.6
21 44 32.29
42 34.46
2-02.17
+.11
-.80
2-02.86

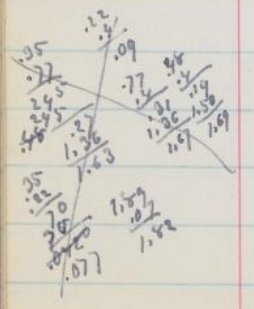
16 Pegasi

7.2 2.9 0.1
9.5 0.5 0.0
1.8 8.1 9.9
4.0 6.1 0.1
6.3 3.8 0.1
1.0 9.1 0.1
3.2 7.0 0.2
5.5 4.6 0.1
7.8 2.3 0.1
50.0
0.7
21 49 50.37
47 51.88
2-01.51
+.22
-.80
2-02.53

2).23
-.11
+.03
34.54
.46

2).14
-.07
+.02
51.93
.88

.77
1.31
.64



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1005phae.proj.1845R

Dec 12.3 τ Pegasi

5.6	0.5	6.1
7.9	8.3	.2
0.0	6.0	.0
2.4	3.7	.1
4.6	1.4	.0
9.0	7.0	.0
4.2	4.9	.1
3.6	2.5	.1
5.9	0.4	.3
		58.0
		.9
23 16		58.05
14		59.55
2 - 01.50		
		+.24
		-.80
2 - 2.54		

IV = +.48
Mac IV = +.5

.14
.4
+.06
+.02
5 9.49
.55

.08
.4
+.03
+.03
26.58
.64

.05
.4
+.02
+.02
0 6.81
.58

ζ² Leti

4.1	6.0	0.1
6.3	4.0	.3
8.6	1.9	.5
0.7	9.8	.5
3.0	7.2	.7
6.9	3.5	.4
9.0	1.3	.3
1.0	9.3	.3
3.2	7.2	.4
		05.2
		3.7
		05.19
2 22		06.55
2 - 01.36		
		+.38
		-.80
2 - 2.54		

N = +.77

θ Persei

2.5	6.0	9.5
6.5	2.8	.3
9.9	9.8	.7
3.0	6.6	.6
6.0	3.5	.5
2.0	7.1	.1
5.2	4.2	.4
8.4	1.0	.4
1.8	8.0	.8
		24.9
		14.2
		24.75
2 36		26.64
2 - 01.89		
		+.11
		-.80
2 - 02.58		

N = -.22

47 Tuc, 6 obs

41.0	105.5	86.5
51.7	94.8	66.5
61.0	84.6	45.6
6.8	73.5	80.3
19.1	62.4	81.5
28.3	50.6	78.9
		41.0
		13) 20.3
2 52		41.54
51		05.12
2 - 23.58		
- 01.36		
5) 22.22		

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1885phae.proj.1845R

Dec. 1813 R Anderson

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1005phae.proj.1845R

Dec 15.3 β Androm.

4.3 7.0 –
7.0 9.4 4.6 4.0
9.4 2.0 2.0 4.0
2.0 4.5 9.7 4.2
4.5 7.0 7.1 4.1
2.1 2.3 4.4
4.7 9.8 4.5
7.1 7.1 4.2
9.8 4.7 4.5
221
2.0
1 05 22.12
03 21.76
3 - 59.64
– .08
– .80
2 - 00.36

+.01
+.02
21.73
.76

49.47
48.67
60) 0.80
+ 0.01
+ 0.67
21 8.67
49.35

44.2
.7
43.5

Thiaumatol
gain n = +0.4

.21
.04
.08

Polaris

02.6
37.0
64.2
1 19 34.6
17 49.3
3 - 74.7
3 - 59.64

43.5) 15.1 (.34
1305
205 0
1740
3100
3115

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1885phae.proj.1845R

Dec. 16. 3h.5 6 Persei

0.7	5.0	5.7
3.9	1.7	5.6
7.3	8.9	6.2
0.4	5.7	6.1
3.8	2.2	6.0
0.0	6.0	6.0
3.2	2.5	5.7
6.5	9.4	5.9
0.0	6.0	6.0
1		39.0
		18.2
1	38	32.96
	24	32.47
3	-	59.51
		+.14
		-.80
3	-	60.17

θ Aurigæ

3.3	4.9	8.2
5.8	2.2	.0
8.6	9.8	.4
1.1	7.1	.2
3.6	4.7	.3
8.9	9.5	.4
1.1	6.9	.0
4.0	4.3	.3
6.4	1.7	.1
		59.2
		2.1
5	53	59.11
	51	58.22
3	-	59.11
		-.07
		-.80
3	-	59.98

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1885phae.proj.1845R

Dec 20. β Persei

1.3	5.9	7.2
4.1	3.0	7.1
7.1	0.2	7.3
9.7	7.6	7.3
2.0	4.8	6.8
7.8	9.4	7.2
0.6	6.7	7.3
3.1	4.0	7.1
5.9	1.4	7.3

48.8

11.4

48.60

46.52

57.98

-.03

-.80

57.18

.08
.4
+.103
+.02
46.53
.52

120
.4
-.108
+.02
93.03
2.97

α Tauri.

9.7	0.0	9.7
2.6	7.2	.8
5.1	4.6	.7
8.0	1.9	.9
3.9	6.0	.9
6.5	3.2	.7
9.3	0.6	.9
2.0	7.7	.7

35.0

15.3

23 34.90

32 32.97

3-58.07

-.80

3.58.87

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1995phae.proj.1845R

Dec 24.2 ζ Androm

	7.7	3.6	1.3
.20	0.6	0.7	.3
.2	3.1	7.9	.0
+.04	6.0	5.3	.3
+.02	8.9	2.6	.5
32.83	4.4	7.0	.4
.89	7.0	4.0	.0
	0.0	1.2	.2
.14	3.0	8.2	.2
.2		35.5	
+.03		11.7	
+.03	23	94	35.62
29.77		32	32.89
.83		3 - 57	27
			.00
34.7			-.80
3.1		3 - 5	8.07
31.6			
30.5			
9.2			
9) 21.3			
2.3 2/3			

~~α Androm.~~

3.1	4.7	7.8	
7.1	1.0	8.1	
1.0	7.0	8.0	
5.0	3.0	8.0	
		08.6	
		8.5	
0	05	08.94	
		2	

α Androm

09.2	21.3	30.5
11.4	18.8	30.2
13.9	16.5	30.4
16.2	14.2	30.4
18.6	11.8	30.4
23.0	7.0	30.3
25.7	4.7	30.4
28.2	2.4	30.6
30.5		30.5
		213.7
	30.41	30.41
	2.37	
0	05 32.78	28.83
	02 29.83	58.42
	3 - 57.08	
	-.19	
	-.80	
	3-58.07	

Check only

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1885phae.proj.1845R

Dec. 27. 8 y Boston

4.4 ~~4.4~~	7.4	1.8	
7.1 ~~4.4~~	4.8	~~9.2~~ 1.9	
9.8 ~~7.1~~	2.0	1.8 ~~.7~~	
2.3 ~~9.8~~	9.5	1.8 ~~.3~~	
5.0 ~~2.3~~	6.9	1.9 ~~.2~~	
0.2	1.6	1.8	
3.0	9.0	2.0	
5.6	6.3	1.9	
8.3	3.6	1.9	

.38
.25
+.05
+.03
01.31
.41

.35
.15
+.04
+.02
~~27.95~~
.81

3x0
19.8
30.94
14 12 ~~27.81~~
3 - 56.87
-.06
.80
3 - 57.73

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1885phae.proj.1845R

Dec. 28, 2 B Barnard

2.9	7.2	0.2
5.5	4.6	0.1
8.1	1.7	9.8
1.0	9.0	0.0
3.7	6.2	9.9
9.0	0.9	9.9
2.0	8.0	0.0
4.6	5.4	0.0
7.2	2.9	0.1
		50.0

.13
.2
-.02
+.02

3 02 50.00
00 46.45
3 - 56.45
.00
-.80
57.25

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1885phae.proj.1845R

Dec. 29.2 B Persei

3.1 7.5 0.6
6.0 4.8 0.8
8.8 1.9 0.7
1.4 9.3 0.7
4.0 6.7 0.7
9.6 [illegible] 0.9
2.2 8.6 0.8
5.0 5.7 0.7
7.9 3.0 0.9

50.3
7.1
50.37

3 00 46.43

3-56.06
.00
-.80

3-56.86

.12
.3
-.04
+.02
46.45
.43

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1885phae.proj.1845R

1886

Jan 1 Blanc.

0.0	9.0	9.0
4.0	5.0	9.0
8.0	1.0	9.0
1.8	7.0	8.8
5.9	3.0	8.9
3.7	5.3	9.0
7.7	1.6	9.3
1.6	7.3	8.9
5.8	3.4	9.2

09.6
9.7
09.51
0 03 06.30
3 - 56.79
+.3±
-.8
3 - 57.3±

.33
.4
+.13
+.05
6.22
.30

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1885phae.proj.1845R

Jan 5, 1,

+35° 28

ξ Geminorum

3 53 13.6
16.0
18.8
21.2
23.9

28.9
31.3
33.9
36.3
39.0
41.4
44.0
46.6
49.2

54.2
56.7
59.1
54 1.5
4.2

619.8
19) 739.8 (38.94
169
178
171
720

3 53 38.94

3 51 35.40

−2 3.54

56.46

−

.80

57.26

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1885phae.proj.1845R

Jan 6

.16
.4
+.06
+.03
12.65
.74

α Persei.

3.4	4.3 4.2	7.7 4.2	2.0 1.4
6.9	7.2	4.1	1.2
9.7	9.1	8.0	1.4
2.6	3.4	5.2	1.2
5.8	3.4	8.6	2.0
~~6.9~~		5.6	~~2.5~~
9.7		2.4	2.1
2.6		9.1	1.7
			15.8
			13.8
			15.81

3 16 12.74

3 − 56.93
+.13±
−.80
3 − 57.60±

β Tauri

	3.7	
9.0	1.2	0.2
1.7	9.0	0.7
~~3.7~~	6.9	~~1.6~~
6.0	4.5	0.5
1.0	9.9	0.9
3.4	7.1	0.5
5.4	5.0	0.4
8.0	2.5	0.5
		10.3
		4.0

5 21 10.27

19 06.48

3 − 56.21
−.19±
−.80
3 − 57.20±

Mean = 3h − 57m.40 with probable error of mean

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1885phae.proj.1045R

Jan 7

ε Persei

4.0
1.1

5.8 8.8 4.6
8.6 5.9 .5
1.1 3.3 .4
6.6 8.0 .6
9.4 5.3 .7
1.9 2.8 .7
4.5 0.0 .5

17.5
4.5

3 ~~54~~ 17.30
50 13.64
3 - 56.34
-.04
-.80
3 - 57.18

δ Persei

7.4 9.6 7.0
0.4 6.7 .1

53.5
52.6
53.52

3 34 50.15
3 - 56.63
+.09
-.80
3 - 57.34 (few wires)

.09
.3
+.02
+.02
13.59
.64

.13
.3
+.04
+.03
50.08
.15

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1885phae.proj.1845R

Jan 12.2

	μ Androm.			β Androm.		
.19	4.0	6.3	0.3	0.5	0.7	1.2
.2	6.5	3.7	.2	3.0	8.1	.1
-.04	9.6	0.9	.5	5.6	6.0	.6
+.02	1.6	8.4	.0	8.2	3.0	.2
25.94	4.5	5.6	.1	0.7	0.7	.4
.92	9.8	0.7	.5	5.6	5.7	.3
.18	2.4	8.2	.6	8.2	3.2	.4
.2	4.9	5.0	.2	0.7	1.0	.7
-.04	7.3	3.0	.3	3.3	8.1	.4
+.02		30.0			25.7	
21.33		2.7			10.0	
.31	0 52	30.14		1 05	25.68	
	50	25.92		03	21.31	
	3 - 55.78			3 - 55.63		
		-.08			-.10	
		-.80			-.80	
	3 - 56.66			3 - 56.53		

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B

Jan 13.2 χ Androm

0.5	0.7	1.2
3.0	7.9	0.9
5.3	5.7	1.0
7.8	3.0	0.8
0.2	0.6	0.8
5.7	5.8	1.5
7.9	3.0	0.9
0.6	0.8	1.4
3.1	7.8	0.9

25.6

10.0

0 04 25.53

03 27.30

-55.77

-.10

-.80

-56.67

.14
.0
-.04
+.02
29.58
.58

.18
.3
-.05
+.02
21.73
.20

1885phae.proj.1845R

Jan 14, 2 O Aungar

2.8

	4.6	0.0	4.6
58.39	7.3	7.2	.5
+.02	9.5	5.0	.5
.41			

02.2

1.8

5 54 02.26

51 58.41

3 - 56.15

−.07

−.80

3 - 57.02

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1885phae.proj.1845R

Jan 17.2 δ Persei β Tauri

3.4	4.4	7.8	7.0	4.0	1.0
6.3	1.2	.5	9.4	1.7	1.1
9.4	8.2	.6	1.9	9.3	1.2
2.6	5.1	.7	4.0	7.0	1.0
5.6	2.1	.7	6.8	4.8	1.6
1.7	6.0	.7	1.0	0.0	1.0
4.8	3.0	.8	3.4	7.5	0.9
7.7	0.0	.7	5.9	5.1	1.0
0.9	7.0	.9	8.1	3.0	1.1
		53.9			10.7
		16.3			10.6
		53.86	5 21		10.56
3 34		49.98	5 19		06.45
3 - 56.12			3 - 55.89		
+ .09			- .18		
- .80			- .80		
3 - 56.83			3 - 56.87		

.18
.13
.05
+ .03
49.90
.98

.05
.13
.02
+ .02
6.41
.45

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1885phae.proj.1845R

Jan 23 δ Persei

	2.9	4.3	7.2
	6.1	1.0	7.1
.22	9.4	8.2	7.6
.3			
-.07	2.3	5.6	7.9
+.03			
49.90	5.3	2.0	7.3
.86	1.3	6.1	7.4
	4.7	3.4	8.1
.09	7.7	0.8	7.7
.13	1.0	7.0	8.0
-.03			
+.02			

54.2

15.5

3 36 53.82

34 49.86

3 - 56.04

+.09

-.80

3 - 56.75

β Tauri

3.2	7.7	0.9
5.9	5.3	1.2
8.3	3.0	1.3

10.6

4.0

5 21 10.57

19 56.48

3 - 55.83

-.14

-.80

3 - 56.77

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1885phae.proj.1845R

Feb. 1.2

+40 31

β Persei

82 3.7 2.9

5%.2

3 3.1

3 02 5%.03

00 45.86

3 - 54.83

.00

- .80

3 - 55.63

+49 27

α Persei

5.4 9.0 4.4

8.7 5.7 .4

8.0 2.3 .3

4.7 9.3 .0

8.1 6.2 .3

4.6 0.0 .6

8.0 6.6 .6

1.0 3.3 .3

4.0 0.1 .1

17.0

3.0

3 18 17.16

16 12.19

3 - 55.03

+.13

-.80

3 - 55.70

.22
.2
-.04
+.02
45.86
86

.26
.2
-.05
+.03
12.21
.19

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1885phae.proj.1845R

+47 26

Feb 2.2 8 Per.

4.1	5.1	9.2
7.3	2.0	.3
0.1	9.0	.1
3.5	6.1	.6
6.4	3.0	.4
2.4	6.9	.3
5.4	3.8	.2
8.9	1.0	.9
1.7	7.8	.5

54.6

13.1

J 36 54.69

34 49.63

43 54.94

+.09

−.80

J − 55.65

.25
.3
−.08
+.03
49.68
.63

1885phae.proj.1845R

+42 13

Feb 5.2 ν Pegasi

5.1	0.6	5.7
7.9	7.9	.8
0.9	5.0	.9
3.4	2.0	.4
6.0	9.5	.5
1.9	4.0	.9
4.5	1.0	.5
7.3	8.4	.7
0.0	5.5	.5

32.6

15.5

3 39 32.82

37 27.93

3 - 55.11

.00

−.80

3 - 55.91

.22
.4
+.09
+.02
27.82
.93

1885phae.proj.1845R

Feb 6, 3 α Aurigae

1/2	2.5	1.4	3.9
4.8	5.6	8.3	3.9
	8.3	5.7	4.0
	1.2	2.8	4.0
	4.0	9.9	3.9
	0.0	3.8	3.8
	3.0	0.9	3.9
	6.0	7.9	3.9
	9.0	5.0	4.0

22.0

18.3

21.96

17.38

9 − 55.42

+.06

−,80

9 − 56.16

,18
,13
−,05
+,03
17.40
.38

1885phae.proj.1845R

Feb 7.3 α Aurigae

.18
.2
-.04
+.03
17.40
.39

2.0	1.4	3.4
5.1	8.3	.4
6.0	5.6	.6
1.0	2.6	.6
4.0	9.8	.8
0.0	3.7	.7
3.1	0.7	.8
5.9	7.9	.8
6.9	4.9	.8
		21.9
		15.8

5 10 21.83
5 08 17.39
3 - 55:56
+.06
-.80
3 -56.30

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1885phae.proj.1845R

Feb. 8.4

+51 50

27 Lyncis.

5·7	2·4	8·1	3·8	0·6	4·4	9.7	6.5	6.2
9·0	9·0	8·0	6·1	8·3	4·4	2.4	3.7	.1
2·2	5·7	7·9	8·5	6·0	4·5	5.1	0.9	.0
5·6	2·3	7·9	1·0	3·6	4·6	8.0	8.0	.0
9·0	9·0	8·0	3·2	1·3	4·5	1.0	5.0	.0
5·8	2·4	8·2	8·0	6·6	4·6	6.9	9.5	.4
9·0	9·0	8·0	0·3	4·2	4·5	9.7	6.6	.3
2·2	5·6	7·8	2·6	1·9	4·5	2.3	3.7	.0
5·7	2·4	8·1	5·0	9·6	4·6	5.1	0.9	.0
		59.0		37.3				08.0
		19·0		4·9				1.0
		59.00		37.26		& 17		08.05
		54.59		32.43		15		03.49
		55.59		55.17				3 - 55.44
								- .01
								- .80
								3 - 56.25

+28 7

χ Geminorum

~~Gr 1374~~

+43 33

31 Lyncis

Gr 1374

3·4	4·9	8·3
0·9	7·2	8·1
8·3	9·4	7·7
6·0	2·1	8·1
3·2	5·0	8·2
8·9	9·0	7·9
6·3	1·9	8·2
4·0	4·0	8·0
1·3	6·6	7·9
		39·0
		19·4
		39.02

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1885phae.proj.1845R

+41 47

Feb. 9.2 γ Androm.

1.3	6.4	7.7
4.0	3.8	.8
6.8	1.0	.8
9.5	8.1	.6
2.3	5.5	.8
8.0	9.8	.8
0.7	7.0	.7
3.3	4.7	.7

—

13.9

58.87

1 56 54.35

3 - 55.48

.00

− .80

3 - 56.28

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1885phae.proj.1845R

	+38 24			+47 36			+42 14		
Feb. 14.4	Gr. 14 5 0			K Pleiades			10 Urs. Maj.		
	9.1	1.7	0.8	5.0	6.0	1.0	—	7.1	—
-.01	1.9	9.0	.9	8.0	3.0	1.0	—	4.2	—
+.02	4.3	6.4	.7	1.0	9.9	0.9	—	1.6	—
31.76	7.0	3.9	.9	4.0	6.9	0.9	—	8.8	—
.77	9.7	1.2	.9	7.0	3.8	0.8	—	6.0	—
.20	5.0	5.9	.9	3.2	7.7	0.9	—	0.5	—
.4	7.7	3.2	.9	6.3	4.7	1.0	1.2	7.7	8.9
-.09	0.0	0.7	.7	9.2	1.7	0.9	3.8	5.9	8.8
+.02	2.9	8.0	.9	2.4	8.6	1.0	6.6	2.4	8.7
15.16		35.4		5	55.5				19.3
15.09		8.0			8.9			7	2.7
	8 27	35.42		8 57	55.47				8.55.19.34
	25	31.77		55	52.15				53 15.09
	3	56.35		3	56.68				3 -55.75
		-.06			+.09				
		-.80			-.80				-.80
	3	57.21		3	57.39				3 -56.55

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1885phae.proj.1845R

Feb 15.2

+47 26 δ Per.

2.3	3.3	5.6
5.2	0.0	.2
8.1	7.0	.1
1.4	4.0	.4
4.5	1.0	.5
0.7	–	–
3.7	–	–
6.7	–	–
9.8	–	–

53.0
117.8

3 36 52.71
34 49.30
#3 #56.69
+.08
−.80
#3 #57.41

.26
.4
+.00
+.03
49.17
.30

.19
4
+.08
+.02
42.84
.94

+23 45 η Dani

4.0	9.0	3.0
6.3	7.0	.3
8.6	4.7	.3
0.9	2.5	.4
3.0	6.3	.3
7.6	5.5	.1
9.9	3.3	.2
2.1	1.0	.1
4.4	8.9	.3

46.6
11.6

3 42 46.61
40 42.94
#3 #56.33
−.94
−.80
#3 −57.37

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1885phae.proj.1845R

+43 33 — −3 32 — +9 32

Feb 16.4 — 31 Lyncis — Br. 1197 — B Cancri

8.1	5.0	2.9	2.3	3.4	5.7	—	—	—
0.9	2.0	2.9	4.2	1.4	5.6	5.8	3.6	9.4
3.7	9.1	2.8	6.2	9.4	5.6	8.1	1.5	9.6
6.5	6.2	2.7	8.3	7.3	5.6	0.0	9.5	9.5
9.4	3.3	2.7	0.4	5.3	5.7	2.2	7.3	9.5
5.2	8.0	3.2	4.6	1.0	5.6	6.4	3.2	9.6
8.0	5.0	3.0	6.9	9.0	5.9	8.5	1.0	9.5
0.9	2.0	2.9	8.8	7.0	5.8	0.6	9.0	9.6
3.6	9.1	2.7	0.8	4.8	5.6	2.7	6.9	9.6

+.04 / .3 / +.01 / +.00 / 3.43 / .47

.03 / 3 / +.01 / +.02 / 59.26 / .29

06.3 / 7.3 / 06.38

8 17 15 03.47

3 − 57.09 / +.01 / −.60 / 3 − 57.50

.25 / .3 / +.08 / +.05 / 15.83 / .96

21.39 / 3 / .36

2.9 / 16.0 / 19 / 8h 22m 2s.84 / 19 59.26 / 3 − 56.42 / 58.13 / 4.1) 1.71 (.42 / 164 / 70 / n = +0.4

24.8 / 13.1 / 17 / .74

8 12 24.77 / 10 21.36 / 3 − 56.59 / 58.13 / 4.1) 1.54 (.38 / 123 / 310 / n = 0.4 / 3 − 56.59 / −.30 / −.80 / 3 − 57.69

4.041 / .062 / 4.1

+76 Br 1147

—	—	—
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—
1.8	3.5	5.3
0.9	5.0	5.9
9.2	6.4	5.6

8 07 17.83 / 05 15.96 / 3 − 58.13

18.0 / 5 / 4.8 / .69 / 17.83

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1885phae.proj.1845R

Feb. 18.2

+43 39 ε Aurigae

22.6	9.6	2.2
5.2	6.7	1.9
8.1	3.8	2.9
1.0	6.9	1.9
3.9	8.1	2.0
9.6	2.4	2.0
2.5	9.5	2.0
5.3	6.6	1.9
8.0	3.9	1.9

51.0
0.7
4 55 51.04
55 48.33
3 - 57.29
.00
− .80
3 - 58.09

.22
.1
+.02
+.02
48.29
.33

+22 44 τ Tauri.

5.3	0.0	5.3
7.5	7.9	5.4
9.9	5.6	5.5
2.0	3.3	5.3
4.3	1.2	5.5
9.0	6.6	5.6
1.0	4.2	5.2
3.1	2.2	5.3
5.5	0.0	5.5

27.6
13.2
4 37 27.69

+22 59 ι Aurigae

3.1	2.3	5.4
5.6	9.8	5.4
8.0	7.2	5.2
0.4	4.8	5.2
2.9	2.6	5.5
8.0	7.7	5.7
0.5	5.2	5.7
2.8	2.7	5.5
5.2	0.0	5.2

37.7
13.5
4 51 37.71

+41 4 η Aurigae

7.5	2.2	9.7
0.2	9.4	9.7
3.0	6.6	9.6
5.7	3.9	9.6
8.6	1.3	9.9
4.0	5.8	9.8
6.7	3.0	9.7
9.4	0.4	9.8
2.1	7.6	9.7

34.8
16.3
5 0 34.86

+79 6 19 H Camelop.

9.2	36.1
12.4	31.8
15.0	28.3
18.0	24.6
22.4	21.4
26.2	18.0
30.0	13.9
33.7	10.0
37.0	6.4
40.3	2.3
44.2	59.0
48.1	55.0

51.8

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1885phae.proj.1845R

? 20.4	+29 20		+25 15			+87 13		
Bd T9.4	62 Aurigae		ε Geminorum.			51 H Cephei.		
6.1	9.7	5.8	6.4	1.9	8.3	8.2	51.3	9.5
8.9	7.0	5.9	8.7	9.5	8 2	22.3	33.9	6.2
1.5	4.1	5.6	1.0	7.3	8.3	33.4	20.8	4.2
4.0	1.6	5.6	3.0	5.0	8.0	50.0	3.6	3.6
1.0	9.0	6.0	5.2	2.9	8 1	3.9	49.5	3.4
2.0	3.5	5.5	0.0	8.2	8.2	18.9	37.7	6.6
5.0	0.8	5.8	2.2	6.0	8.2	32.0	23.0	5.0
7.7	8.1	5.8	4.5	3.6	8.1	46.6	9.6	6.2
0.1	5.6	5.7	6.9	1.3	8 2	0.2	53.1	3.3
	53.0			59.0		16.3	40.0	6.3
	16.7			1.6		30.8	25.2	6.0
7 05	52.88		6 37	59.~~88~~		45.0	12.4	7.4
03	50.2~~8~~							59.0
3 - 57.	~~56~~							
	.00							
	-.80							
3 - 57.	~~76~~							
(3 - 57.16)								

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1885phae.proj.1845R

Feb 22.3

+39 30 63 Aurigae

6.0	9.2	5.2
8.8	6.8	.6
1.2	4.0	.2
4.0	1.2	.3
6.7	8.9	.6
2.1	3.4	.5
4.8	0.7	.5
7.1	8.0	.1
0.0	5.3	.3

52.6
12.8

.16
.3
−.05
+.02
50.24
.21

7 05 52.67
03 50.21
3 − 57.54
.00
− .80
3 − 58.34

+25 15 ε Geminorum

6.2	1.7	7.9	5.4	5.0	0.4
8.3	9.4	7.7	7.8	2.6	0.4
0.7	7.0	7.7	0.3	0.1	0.4
2.9	4.8	7.7	2.8	7.6	0.4
5.2	2.6	7.8	5.2	5.2	0.4
9.8	8.1	7.9	0.5	0.1	0.6
2.1	5.7	7.8	2.9	7.8	0.7
4.2	3.4	7.6	5.3	5.2	0.5
6.6	1.2	7.8	7.6	.2.7	0.3

590.0
16.9

6 38 5.98

+34 6 ϑ Geminorum,

20.8
4.4

6 47 20.23

+55 30

19 Lyncis sigs.

1.2	3.9	5.1
4.9	0.3	5.2
8.5	6.7	5.2
2.1	3.0	5.1
5.8	9.3	5.1
3.2	2.3	5.5
6.7	8.6	5.3
0.2	4.9	5.1
3.9	1.1	5.0

37.5
11.1

7 14 37.58

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1995phae.proj.1845R

+39 30 | +13 1 | +58 24

Feb 23,3 | 63 Aurigae | ξ Geminorum | 15 Lyncis.

.16	5.9	8.9	4.8	2.7	6.5	9.2	8.0	7.1	5.1
.4	8.5	6.1	4.6	4.7	4.3	9.0	1.9	3.2	5.1
-.06	1.0	3.5	4.5	6.9	2.0	8.9	6.1	9.2	5.3
+.02	3.7	1.0	4.7	9.0	0.0	9.0	0.1	5.1	5.2
50.24	6.2	8.4	4.6	1.0	7.9	8.9	4.0	1.3	5.3
.20	1.7	3.0	4.7	5.7	3.3	9.0	2.0	3.5	5.5
	4.8	0.6	4.9	8.0	1.0	9.0	5.8	9.5	5.3
	7.1	7.9	5.0	0.0	9.0	9.0	9.8	5.6	5.4
	9.7	5.0	4.7	2.2	6.7	8.9	4.0	1.6	5.6
			52.4			24.6			27.5
			6.9			9.5			12.3
	7 06	52.36		6 59	24.50		6 49	27.65	
	03	50.20							
	3 -	57.84							
		.00							
		-.80							
	3 -	58.64							

ε Geminorum. +25 15

5.9	1.3	7.2
8.1	9.0	7.1
0.4	6.8	7.2
2.6	4.6	7.2
4.9	2.5	7.4
9.6	7.8	7.4
1.9	5.4	7.3
4.0	3.2	7.2
6.3	1.0	7.3
		58.6
		11.9
6 38		58.63

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1885phae.proj.1845R

Feb 24.3

+25 15 ε Geminorum

5.7	1.0	6.7
7.9	9.0	.9
0.0	6.4	.4
2.1	4.1	.2
4.7	2.0	.7
9.2	7.5	.7
1.6	5.0	.6
3.8	3.0	.8
6.0	0.9	.9
~~8.2~~	58.2	
	6.1	

6 38 58.32
36 56.20
3 - 57.88
..
-.80

+39 29 51 Aurigæ

2.1	5.8	7.9
5.0	2.9	7.9
7.8	0.2	8.0
—	7.8	---
—	5.1	---
8.1	9.7	7.8
0.9	7.0	7.9
3.6	4.0	7.6
6.0	1.6	7.6
	49.0	
	15)13.7	

6 32 48.91
30 46.79
3 - 57.88
.00
-.80
3 - 58.68

+34 6 Ω Geminorum.

4.7	4.6	9.3
7.4	2.0	9.4
9.7	9.8	9.5
2.3	7.2	9.5
4.9	4.8	9.7
0.0	9.6	9.6
2.4	7.0	9.4
4.7	4.9	9.6
7.3	2.2	9.5
		19.8
		14.3

6 47 19.75

-.07
+.02
56.25
.20

-.07
+.02
08.88
.63
.18
5
-.09
+.02
46.86
.79

23 1+ Camelop. +79 41

3.2	35.5	
7.5	32.4	
10.7	27.4	
15.8	24.6	
18.8	20.6	
23.2	16.8	
27.1	12.1	
29.7	8.9	
34.5	4.2	
38.2	0.7	.9
41.1	57.2	98.3
45.2	53.8	99.0
		49.6

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1885phae.proj.1845R

+16 17 +56 33

Feb 28.2 α Tauri γ Leonis.

.18	4.4	7.0	1.4	6.0	0.9	6.9
.11	6.5	5.0	.5	9.7	7.0	.7
+.02	8.6	2.8	.4	2.5	3.4	.9
+.02	0.6	0.7	.3	7.1	9.7	.8
23.11	2.7	8.6	.3	1.0	5.9	.9
.15	7.0	4.3	.3	8.5	8.0	.8
.24	9.3	2.1	.4	2.2	4.7	6.9
.11	1.4	0.0	.4	6.0	1.0	7.0
+.03	3.6	7.9	.5	9.8	7.0	6.8
+.04			25.7			32.0
31.33			13.2			8.0
.40	4 ~~29~~		25.~~70~~	4 ~~39~~		33.42
	29		23.15	38		31.40
	3 − 57.45			3 − 57.98		
	−.25			+.25		
	−.80			−.80		
	3 − 58.50			3 − 58.53		

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Mar 4.

	β Tauri			o Aurigae		
	4.1	1.1	5.2	4.8	8.6	3.4
	6.4	8.7	.1	7.8	5.1	2.9
	8.8	6.9	.1	1.0	2.0	3.0
	1.1	4.0	.1	4.2	9.0	3.2
	3.5	1.7	.2	7.5	5.9	3.4
	8.2	7.0	.2	3.9	9.3	3.2
	6.6	4.7	.3	7.0	6.1	3.1
	2.9	2.3	.2	0.3	3.0	3.3
	5.2	0.0	.2	3.4	9.9	3.3
			07.7			06.6
			11.3			12.4
5	21		07.59	5	39	06.60
	19		05.79		37	05.12
			3 - 58.20			3 - 58.52
			- .15			+ .10
			- .80			- .80
			3 - 59.15			3 - 59.22

.21	.28
.13	.13
-.06	-.08
+.02	+.03
05.89	05.17
.79	.12

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1885phae.proj.1845R

Mar 5. 0 Aurigae

	4.4	7.4	1.6
.28	7.4	4.9	2.3
.4	0.6	1.6	2.2
-.11			
+.03	3.8	8.5	2.3
05.17	1.0	5.5	2.3
.09	3.3	8.5	1.8
	6.7	5.7	2.4
	9.9	2.6	2.5
	3.0	9.2	2.2
	6.2		06.2
			2.2
	5	39	06.12
		37	05.09
		8 -	58.97
			+.10
			-.80
		8 -	59.67

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1885phae.proj.1845R

Mar. 7

η Aurigae

2.1	4.1	6.2
5.1	1.3	.7
7.8	8.8	.6
0.3	6.0	.3
3.0		33.0
		1.5

5h 00m 33.17
4h 58m 31.85
3 − 58.68
−.01
−.80
3 − 59.49

.25
.4
+.10
+.02
31.77
.85

.26
.4
+.10
+.02
47.78
.90

ε Aurigae

7.8	0.7	8.5
0.7	7.9	.6
3.6	4.9	.5
6.4	2.0	.4
		49.2
		2.2

4h 59.24
5h 57.90
3 − 58.66
+.01
−.80
3 − 59.45

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1885phae.proj.1845R

+39 30

Mar. 9,3 63 Aurigæ — — —

3,1 9.1 2.2
5.6 6.5 2.1
8.1 3.8 1.9
51.0
0,2
51.03
05 50,17
-3 + 59.10
0
-,80
59.90

ι Geminorum.

7·8 4·4 2·2
0·2 1·9 2·1
2·6 9·8 2·4
4·7 7·5 2·2
6·8 5·0 1·8
1·7 0·3 2·0
4·2 8·0 2·2
6·5 5·6 2·1
8·9 3·4 2·3
41·0
20·3
7 20 41·07
18 39,85
3 - 58.78
-,15
-,80
59,73

ϱ Geminorum.

4·5 3·4 7·9
7·0 0·8 7·8
9·4 8·4 7·8
1·9 5·9 7·8
4·3 3·5 7·8
9·0 8·8 7·8
1·7 6·3 8·0
4·2 3·8 8·0
6·7 1·4 8·1
49·2
18·2
7 23 48·96
21 47.80
3 - 58.84
-,12
-.80
59.76

+58 58

α Geminorum.

7·6 6·0 3·6
0·0 3·7 3·7
2·2 1·0 3·2
4·7 8·4 3·1
7·2 6·2 3·4
2·2 1·3 3·5
4·6 9·2 3·8
7·0 6·5 3·5
9·2 4·1 3·3
21·8
13·9
7 29 21·73
27 20.37
3 - 58.76
-,12
-,80
59.66

24 Lyncis

3·7 3·4 7·1
7·8 9·7 7·5
1·5 5·2 6·7
5·6 1·2 6·7
9·3 7·6 6·9
7·4 9·2 6·6
1·5 5·6 7·1
5·6 1·8 7·4
9·3 7·2 6·5
23·5
19·0
7 35 23·47
33 23,14
3 - 59.67
+,30
-,80
60.17

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1885phae.proj.1845R

Mar 15.5 ν Obs. Maj. Observer

7.7	7.0	4.7	already
0.4	4.5	4.9	tired
2.6	2.0	4.6	by
4.8	9.6	4.4	long
2.4	7.1	4.5	evening's
2.6	2.7	5.3	work.
5.0	0.0	5.0	
7.5	7.1	4.6	
0.0	4.7	4.7	

22.1

6.8

11 14 22.36

12 20.86

3 - 58.50

-.10

-.80

3 - 59.40±

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1885phae.proj.1845R

Mar 17.5 & Gamma Vir. 20 Comae

	4.6	0.1	4.7	0.3	4.9	5.2
.11	7.1	7.5	.6	2.7	2.4	5.1
4	0.0	4.6	.6	4.8	0.3	5.1
-.04	2.9	1.9	.8	7.0	8.1	5.1
+.02	5.9	9.0	.9	9.2	5.7	4.9
21.23	1.1	3.6	.7	3.7	1.6	5.3
.21	4.0	0.8	.8	6.0	9.2	5.2
	6.9	7.9	.8	8.0	7.0	5.0
	9.7	5.1	.8	0.4	4.8	5.2
			22.5			02.6
			7.2			10.7
	12	80	22.38	12	26	02.56
		28	21.21			
		3	-58.83			
			.00			
			-.80			
			3 - 59.63			

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1885phae.proj.1845R

Mar. 23.3

.20
.12
−.04
+.02
.28
.26

γ Geminorum,

8·1	0·9	9·0
0·0	8·7	8·7
2·2	6·6	8·8
4·2	4·3	8·5
6·6	2·1	8·7
0·9	8·0	8·9
3·0	5·8	8·8
6·2	3·5	8·7
7·2	1·6	8·8
		09·3
		7·2
6	33 37	09·38

η Geminorum

9·0	3·9	2·9
1·4	1·7	3·1
3·7	9·2	2·9
5·9	7·0	2·9
8·1	5·0	3·1
2·7	0·6	3·3
4·9	8·3	3·2
7·0	6·0	3·0
9·4	3·9	3·3
		01·8
		10·5
6	10 2 08	01·55
	08	00·28
		3 −58·73
		−·20
		−·80
		3 −59·73

N. B. Clock put back 3 minutes, without disturbing the pendulum, on the Morning of Mar. 26 i.e. Mar. 25.8

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1885phae.proj.1845R

+64 57

Apr 1,4 — χ Aeri. Maj. — Gr. 1771 — & Leonis.

	7.3	5.9	3.2	—	—		—	6.3	—
-.01	0.3	3.0	3.3	—	—		—	4.0	—
+.02	3.2	0.0	3.2	—	—		—	1.8	—
16.69	6.0	7.0	3.0	—	—		—	9.6	—
.70	9.0	4.2	3.2	—	—		—	7.5	—
	5.0	8.3	3.3	5.7	5.5	1.2	5.3	3.1	8.4
	8.0	5.3	3.3	1.5	6.0	2.5	7.6	0.8	8.4
	0.9	2.2	3.1	6.6	5.8	2.4	9.8	8.6	8.4
	3.7	9.3	3.0	0.9	1.1	2.0	2.0	6.3	8.3
			16.5			6.0			04.2
			+6.5						1.7
			11.1						
	11	02	16.58				11	07	04.19
		03	16.70						
			-60.12						
			.00						
			-.80						
			-60.92						

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1885phae.proj.1845R

Apr. 2.4

.03
.2
-.01
+.02
16.23
.23

.07
.2
-.01
+.04
5-1.65
.68

β Tauri

5.0 7.9 2.9
7.4 5.6 3.0
9.5 2.4 2.9
1.3 1.3 2.6
3.8 9.6 2.8
7.9 5.0 2.9
9.9 2.7 2.6
2.0 0.7 2.7
4.6 6.7 3.3

16.8
8.5

11 42 16.45
43 16.23
-59.78
-.26
-.80
-60.84

γ Aur. Maj.

6.1 6.7 2.8
9.7 3.0 2.7
3.0 9.6 2.6
6.7 6.1 2.8
0.1 2.6 2.7
7.6 5.7 3.3
1.0 2.4 3.4
4.7 8.8 3.5
7.9 5.0 2.9

51.6
9.3

11 42 51.49
47 51.68
-60.19
+.20
-.80
60.79

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1885phae.proj.1845R

		+43 29 λ Obs. maj:			+42 4 γ Obs. maj:					
Apr. 9.3		5.8	2.5	8.3	5.4	1.0	6.4	5.7	2.6	8.3
+.02		8.7	9.7	.4	8.0	8.1	.1	8.6	9.7	8.3
+.02		1.4	6.9	.3	1.0	5.4	.4	1.3	6.8	8.1
14.40		4.1	4.0	.1	3.7	2.6	.3	4.1	3.9	8.0
.44		7.1	1.2	.3	6.4	9.8	.2	7.1	1.1	8.2
+.02		2.9	5.3	.2	2.0	4.3	.3	2.9	5.3	8.2
+.02		5.9	2.7	.6	4.9	1.5	.4	5.8	2.7	8.5
33.40		8.6	0.0	.6	7.7	8.9	.6	8.5	0.0	8.5
.44		1.4	7.0	.4	0.5	5.9	.4	1.3	7.0	8.3
			14.2			33.1				14.1
			3.4			3.2				2.5
	10	09	14.18		10	14	33.17			14.13
		10	14.44			15	33.40			
			−60.26				−60.23			
			.00							
			−.80				−.80			
1327 slow =			60.06				=60.03			
i.e. 1327 fast =			−61.06				−61.03			

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1885phae.proj.1845R

182

Apr. 11.4

-.02
+.02

Actin So proceeds

α Aur. Mag:			α Aur. Mag:		
6.9	2.1	9.0	6.7	5.3	2.0
9.7	9.3	9.0	9.5	2.1	1.6
2.4	6.5	8.9	2.7	9.5	2.2
5.2	3.9	9.1	5.3	6.5	1.8
8.0	1.1	9.1	8.4	3.9	2.3
3.4	5.4	8.8	4.0	7.7	1.7
6.0	2.7 5.4	8.7	7.0	4.5	1.5
9.0 1.8	2.2 6.1	8.9	0.2	1.7	1.9
1.6 4.5	2.1 8.6	8.9	3.0	8.7	1.7
		24.5 27.4			16.0
		8.9			17.7
10	14	24.47			15.93
10	15	33.40	11	03	16.59
		8.93			60.66

-.80

61.46

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1885phae.proj.1845R

Apr. 12 B Geminorum

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1885phae.proj.1845R

Apr. 13.3

	χ Geminorum			27 Lyncis		
.19	7.5	4.2	1.7	9.2	6.0	5.3
.3	9.9	1.9	.8	2.5	2.4	4.9
−.06	2.0	9.4	.4	5.9	9.1	5.0
+.02	4.5	7.1	.6	9.1	5.9	5.0
31.59	1.0	4.9	.9	2.5	2.6	5.1
.55	1.5	0.2	.7	9.0	5.9	4.9
.29	3.9	7.9	.8	2.4	2.5	4.9
.3	6.1	5.6	.7	6.0	9.0	5.3
−.09	8.5	3.2	.7	9.1	5.8	4.9
+.04		31.0			52.5	
53.34		16.3			9.7	
.29		30.86			52.51	
	7 56	31.55		7 57	53.29	
		−60.69			−60.78	
		−.15			+.14	
		−.80			−.80	
		61.64	1327 slow		61.44	
	i.e. 1327 fast = −61.64				−61.44	

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1885phae.proj.1845R

Apr 14 γ Gem. 27 Tauri

	7.3 4.1	1.4	9.0 5.5	4.9
.15	9.7 1.8	1.5	2.2 2.3	.5
.4	2.0 9.4	1.4	5.7 9.1	.8
-.08	4.3 7.0	1.3	9.0 5.8	.8
+.02	6.9 4.9	1.8	2.4 2.4	.8
31.54	1.2 0.0	1.2	9.0 5.7	.7
.53	8.7 7.9	1.6	2.4 2.4	4.8
.25	6.0 5.4	1.4	5.9 9.1	5.0
.4	8.4 3.8	1.5	9.0 5.5	4.5
-.12				
+.04		30.8		52.3
53.74		13.8		7.1
.26		30.73		52.37
	7 56 31.53		7 57 53.26	
	−60.80		−60.89	
	−.15		+.14	
	−.80		−.80	
	61.75		61.55	

At 10h 32m M.T. when an immersion was observed, the Bond clock would have compared above 61.15 i.e. Bond clock about −0.s5 slow.

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1885phae.proj.1845R

Apr. 15

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1885phae.proj.1845R

+43 29

+37 17

Apr. 17 | Obs. May:

31 Locon. Min.

			1.0	2.9	3.9
			3.7	0.6	3.7
			6.1	7.7	3.8
			9.0	5.1	4.1
			1.4	2.7	4.1
1.3	4.0	5.3	6.6	7.4	4.0
4.1	1.1	.2	9.1	4.9	4.0
7.0	8.1	.1	1.7	2.1	3.8
9.8	5.4	.2	4.6	9.7	4.3
		12.7			17.0
		5.5			18.7
		12.61			16.98
	15	17.80	10	21	18.58
		-61.66 .69			-61.58
		-.80			-.80
		62.49			62.38

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1885phae.proj.1845R

Apr. 19. ☌ Ven. Maj

.37
.2
+.07
+.05±
47.64
.76

46.1

47.76

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1885phae.proj.1845R

+61 6

Apr. 19.3 o Hu. Maj.

3.3	~~4.5~~ 8.7	~~7.5~~ 2.0 2.5
8.0	~~8.5~~ 8.5	~~8.5~~ 8.5
2.1	~~6.1~~ 0.2	~~0.3~~ 2.3
6.1	~~2.1~~ 5.9	~~8.2~~ 2.0
0.5	~~8.0~~ 1.6	~~8.0~~ 2.1
9.0	3.0	2.0
3.3	9.0	2.3
7.7	4.6	2.3
2.0	0.6	2.6

.37
.1
+.04
+.05
47.64
.73

46.0
2.1
46.11

& 20 47.73
- 61.62
+.36
-.80
62.06

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1885phae.proj.1845R

Apr. 2, 3 Mrs. Hyi.

47.64
-.04
+.05±
.65

9.0 2.0 2.0
3.2 9.0 .2
7.5 4.6 .1
1.9 0.2 .1

46.0
.4
46.02
8 20 47.65
-61.63
+.76
-.80
62.07

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1995phae.proj.1845R

Apr. 22. o Ursae Maj.

3·7	9·0	2·7
7·6	4·8	2·4
~~2·2~~	0·~~7~~	~~2~~·4
6·3	6·0	2·3
0·7	1·9	2·6
9·0	3·5	2·5
3·5	9·1	2·6
8·0	4·9	2·9
2·0	0·7	2·7

·87
·2
−·07
+1.05−1
47.64
·62

6·3
5·4
46.28
8 20 47.62
61.34
+.36
−.80
61.78

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1885phae.proj.1845R

Apr. 23. β Geminorum.

— —

.18 — —
.13
−.05
+.02
20.71
.65

— —

0.4 9.1 9.5
2.9 6.8 .7
5.0 4.5 .5
7.4 2.0 .4

19.9
7.0
19.78

7 38 20.68
−60.90
−.15
−.80
61.85

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1885phae.proj.1845R

Apr. 25 40 Leyncis

2.1	2.3	4.4
4.6	9.9	.5
7.1	7.2	.3
9.7	4.8	.5
2.0	2.1	.1
7.1	7.1	.2
9.7	4.7	.4
2.1	2.1	.2
4.7	9.7	.4

.19
2
-.04
+.02
7.32
.28

07.2
.2
07.17
9 14 07.28
+60.11
-.09
-.80
61.00

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1885phae.proj.1845R

Apr. 26. 10 Lowr. Mer.

.19
.4
+.08
+.02
14.97
15.07

5.0 5.6 0.6
7.6 3.0 .6
0.1 0.4 .5
2.7 7.9 .6
15.3
2.6
15.29
9 27 15.07
-59.78
-.06
-.80
-60.64

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1885phae.proj.1845R

Apr. 29

31 Leonis Min

3.4	5.3	8.7
6.1	2.7	.8
8.7	0.0	.7
1.0	7.3	.3
2.9	4.9	.8
9.0	9.9	.9
1.6	7.1	.7
4.2	4.6	.8
6.9	2.6	.9

+.02
+.02
15,23
.27

+.02
+.04
55,30
.36

+.02
+.02
18,32
.36

58,57
+.03
+.04
.64

19.6
7.2

10 21 19.38
21 ~~15.2~~ 15.36

~~55.89~~
58.98
-.06
-.80
59.84

β Ursae Maj

1.7	7.2	8.9
5.1	3.4	8.5
9.0	9.9	8.9
2.9	6.0	8.9
7.0	2.2	9.2
4.3	4.9	9.2
8.0	1.0	9.0
2.1	7.2	9.3
5.7	3.3	9.0

59.4
9.3

10 5.4 59.49
54 ~~58.64~~ 58.64
~~55.36~~ 55.36

~~55.87~~
59.15
+.25
-.80
59.70

Seeing the mirror to have been roughly washed on through
short this time 1327 Alone = ~~56.8~~ 59.8

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Apr. 30

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1885phae.proj.1845R

May 1 B Ceti 4d:

	5.0	4.9	9.9
−.03	8.7	1.6	0.3
+.04	2.6	7.4	0.0
	6.8	3.9	0.7
	~~0.3~~		00.3
			1.3
	10	54	00.13
		54	58, 58
			−58.45
			+.25
			−.80
			59.00

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1885phae.proj.1845R

May 2.

26 Hor. Maj.			21 Hor. Maj.		
~~St Lor. Min.~~			~~26 Hor. Maj.~~		
7.2	7.4	4.6	~~0.2~~	1.0	~~1.2~~
1.0	2.6	.6	2.5	8.0	0.5
5.0	9.6	.6	5.0	5.3	0.3
8.4	5.9	.3	7.7	2.7	0.4
2.1		22.1			20.1
~~5.9~~		2.2			1.2
9.6		22.24			20.16
3.6	10 20	~~18.30~~ 20.46		10 21	~~18.30~~
		~~56.06~~			- 58.14
		- 58.22			-.06
		+.24			-.80
		-.80			59.00
		~~58.8~~			
		58.78			

16 Hor. Maj.		
3.9	6.0	9.9
6.5	3.1	9.6
9.0	0.1	9.4
2.2	7.7	9.9
		35.1
		7.9
		34.88
		32.81
		-57.93
		.00
		-.80
		58.73

.18
.2
-.04
+.02
18.33
.30

.20
.2
-.04
+.02
32.83
.81

.29
.2
-.06
+.04
20.46
.46

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May 3 β Ophn. May:

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200

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Hg 6

	γ	Rem. Maj.
	8.8	9.5 8.3
.21	1.9	6.0 7.9
.4	5.6	2.6 8.2
+.08	9.1	8.9 8.0
+.04	3.0	5.1 8.1
5 1.06	9.8	8.1 7.9
.18	3.4	4.8 8.2
	7.0	1.1 8.1
	0.6	7.7 8.3
		5 4.3
		1.3
		5 4.07
	(1 4)	5 1.18
		− 5 7.11
		+.19
		− .80
		5 7.12

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1885phae.proj.1845R

202 1886

May 9 ☉ Rem Maj. ε Leonis

+.03
+.04
14.03
.10

4.8 0.0 4.8
7.0 7.7 .7
9.3 5.3 .6
1.6 3.0 .6
3.8 0.9 .7

+.02 4.6 1.4 6.0
+.02 8.0 8.1 .1
23.40 1.2 4.9 .1
.44 4.6 1.4 .0
8.2 6.4 .6
0.5 4.0 .5
2.9 1.8 .7
5.1 9.6 .7

18.0
0.2
18.02
9 25 14.10
-56.08
+.15
-.80
56.73

27.3
6.2
27.33
9 39 27.44
-56.11
-.18
-.80
57.09

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1885phae.proj.1845R

May 12 γ Leon.

2.2 4.4 6.6

.13 4.3 2.4 .7

2 6.5 6.3 .8

−.03 8.6 8.2 .8

+.02 0.6 6.0 .6

18.82 5.0 1.9 .9

.81 7.0 9.7 .7

9.0 7.7 .7

1.1 5.0 .4

23.3

6.5

23.34

10 02 18.81

−55.47

−.28

−.80

56.55

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May 17

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206

May 16.8

May 15.8 α Androm β Cassiop

126
5
+.13
+.02
20.95
21.10

.28
.5
+.14
+.02
29.86
30.02

.43
.5
+.21
+.05±
06.05
.31

9.1
2.6
4.8 0.1 9.7 9.8
7.1 2.6 7.1 9.7
34.8
4.2
34.86
0 02 30.02
-55.16
-.15
-.80
56.11

3.0 9.0 2.0
7.0 5.0 2.0
11.0
11.00
0 03 06.31
-55.31
+.22±
-.80
55.9
(=55.89±)

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1885phae.proj.1845R

May 17.3 χ Aurigae

.20	5.0	9.7	4.7
.3	8.0	6.7	.7
+.06	1.1	3.6	.7
+.03	4.2	0.5-	.7
02.65-			
.74			

07.2
3.0
07.33
11 40 02.74
58.41
-.08 Humboldt
+.80
56.29

-51.41
+.08
-.80
56.13

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1885phae.proj.1845R

May 19 χ Obs. May

	6.9	?	
+.02	9.6	5.7	5.3
+.03	3.0	2.5	.5
02.65	6.0	9.4	.4
.70	9.3	6.3	.6
	5.1	6.2	.3
	8.6	7.1	.7
	1.7	4.0	.7
	4.8	1.0	.8

07.55
12.8
07.755
11 40 02.70
-54.955
+.08
-.80
55.67

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1885phae.proj.1845R

+56 59

May 21

B Blue May

~~8.8~~ 9.0 ~~7.8~~

2.5 5.0 7.5

6.2 1.3 7.5

0.1 7.7 7.8

~~4.0~~ ~~04.0~~

7.6

03.84

5-8.03

54.19

+.25

-.80

54.14±

.29
.1
-.03
+.05
5-8.01

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1885phae.proj.1045R

May 22 | X Ophe May

.21 | 6.4 1.1 7.5
.2 | 9.5 8.0 .5
-.04 | 2.7 5.0 .7
+.03 | 5.7 2.0 .7
02.65 | ~~8~~ 08.8
.64 | 7.2
08.80
11 40 02.64
-53.84
+.08
-.80
54.56

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1885phae.proj.1845R

+41 58

May 23 8 Can. Var.

	9.5-	5.0	4.5-
11.5	2.2	2.0	.2
.13			
-.04	5.0	9.3	.3
+.02	7.9	6.5-	.4
20.89	0.6	3.9	.5-
.87	6.1	8.2	.3
	9.0	5.6	4.6
	2.0	2.9	4.9
	4.6	0.0	4.6

27.2
4.5
27.24
20.87
-53.63
.00
-.80
54.43

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1885phae.proj.1845R

May 27.8 ~~28~~

.32
.17
+.23
+.02
40.40
.65

.24
.8
−.17
+.03
2.65
2.51

η Pegasi (?)

4·9	2·4	7·3
7·3	0·0	7·3
9·8	7·6	7·4
2·0	5·2	7·2
4·5	2·9	7·4
9·2	8·1	7·3
1·5	5·8	7·3
4·1	3·4	7·5
6·4	1·1	7·5
		48·8
		13·0

22 36 48·68

37 | 40.65

−51.97
−.14
−.80
52.91

χ Ursae maj.

9·7	1·9	1·6
2·8	8·6	1·4
6·0	5·5	1·5
9·0	2·6	1·6
2·0	9·3	1·3
8·4	3·2	1·6
1·3	0·1	1·4
4·5	7·1	1·6
7·6	4·0	1·6
		11·0
		14·6

11 : 39 : 10·77

40 02.51

−51,74
+.08
−.80
52.46

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→ Mean 28.3

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214

May 29.3 43 Comae

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June 1 — 43 Comae — ζ Ursae Majoris

.11	0.6	7.4	8.0	4.7	7.1	1.8
.1	2.9	5.0	7.9	8.1	3.4	.5
	5.1	2.7	7.8	1.9	9.9	.8
−.01	7.7	0.5−	8.2	5.3	6.0	.3
+.03	0.0	8.0	8.0	9.0	2.4	.4
.23	4.7	3.2	7.9	6.1	5.3	.4
.1	7.0	1.0	8.0	9.9	2.0	.9
−.02	9.1	8.7	7.8	3.6	8.0	.6
+.04	1.5	6.1	7.6	7.0	4.4	.4
21.40			43.9			30.9
.42			18.1			15.0
		06	43.95	13		30.79
	13	06	34.60		19	21.42
			−50.65			−50.63
			−.14			+.21
			−.80			−.80
			51.59			51.22

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