KG
11366
v. 389

1976phae.proj.1393.

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1876phaeproj.1393.

α Lyrae $18^h\ 32^m\ 42^s\ +38^\circ\ 40'\ 6''$

1876

Aug. 30	45	0	50.4	48.5	48.8	40.5	45	1	45.0	43.6	42.3	35.6
Sept. 2	45	1	18.1	16.3	14.6	6.5	45	2	11.3	9.8	7.3	2.1
		mid wire + 5 rev.										
3	45	0	33.9	32.2	31.9	24.1	45	2	7.1	5.6	5.7	0.5
~~5~~	~~45~~	~~0~~	~~30.9~~	~~30.1~~	~~30.0~~	~~20.9~~	~~45~~	~~2~~	~~12.0~~	~~10.7~~	~~9.8~~	~~2.5~~
6	45	0	34.0	34.1	33.2	25.9	45	2	6.5	6.3	6.4	59.7
Oct. 3 ✻	45	0	34.7	37.9	37.1	27.2	45	1	55.0	57.7	57.9	48.8
9	45	0	45.0	49.8	47.9	35.9	45	1	48.9	53.4	50.5	41.6
11	45	0	40.7	45.7	43.0	30.0	45	1	57.2	2.6	58.9	48.9
15	45	1	12.1	16.1	13.1	59.6	45	1	4.4	10.1	4.7	54.0

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1876phae.proj.1398

2

Draconis $18^h\ 40^m\ 12^s$ $+55^\circ\ 24'\ 47''$

1876

Aug. 6	0	1	11.0	7.6	8.8	0.5
8	0	1	8.6	5.2	5.1	57.6
9	0	1	10.9	6.6	6.9	57.5
10	0	1	11.9	9.7	7.9	58.9
12	0	1	30.8	27.3	28.1	19.7
13	0	1	17.6	13.9	14.9	7.1

5 wires

no more

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1876phae.proj.1393.

51 Cephei 6h 41m 16s +87° 14' 3" 92 36

1876

Apr. 10	40	0	55.0	59.9	5.7	3.2	40	0	25.4	31.7	37.0	34.1] micrometry
Aug. 3	40	1	31.1	30.9	30.5	20.3	40	1	18.4	19.5	18.5	8.8
6	40	1	42.4	41.4	42.0	31.7	40	1	37.9	38.0	37.9	26.9
8	lost 1st 3 wires 40	1	43.2	41.1	40.2	30.1	40	1	40.0	38.4	37.9	26.9
9	lost 1st 3 wires 40 md. wire 4 fold.	1	46.9	45.1	44.4	34.4	40	1	42.9	41.1	41.5	30.1
10	40	1	47.0	46.5	45.5	34.5	40	1	41.9	39.9	38.9	28.7
12	lost 1st 2 wires 40	1	45.8	43.9	44.6	34.8	40	1	37.7	36.1	35.9	24.5
13	lost 1st 3 wires 40	1	44.5	42.5	42.8	33.1	40	1	39.7	38.0	38.3	27.1
21	40	2	12.0	11.9	11.1	58.9	40	1	45.9	46.4	46.0	33.6
23	40	2	3.0	2.4	2.6	51.9	40	1	56.1	55.6	57.0	44.7
~~26~~	~~40~~	~~2~~	~~4.4~~	~~2.9~~	~~4.1~~	~~53.1~~	~~40~~	~~1~~	~~44.9~~	~~43.5~~	~~45.1~~	~~35.1~~
28	40	1	58.9	58.6	59.9	49.6	40	1	47.9	47.2	49.0	38.0
29	40	1	59.5	59.7	1.9	50.6	40	1	53.1	53.1	55.1	44.9
30	40	2	8.0	8.2	9.9	57.4	40	1	57.2	58.6	0.3	49.4

Sept. 2	40	2	11.9	10.9	10.8	59.5
2	40	2	7.1	6.1	5.6	6.0
2	40	2	2.9	0.5	1.4	50.9
2	40	1	56.1	54.1	55.5	44.1
2	40	1	51.5	50.2	51.4	40.4
2	40	1	48.0	46.9	47.1	36.7
2	40	1	44.1	42.2	42.9	31.9
Sept 2	40	1	41.6	40.5	40.5	29.4

J. F. M.

Sept. 2	40	1	38.5	37.3	37.3	27.1
2	40	1	34.3	33.6	33.2	24.3
Sept 2	40	1	30.2	28.4	28.9	18.7

W. A. R.

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1876phae.proj.1393.

54 Cephei 6h 41m 16s +87° 14' 3"

Sept 2 11 obs for δ Reckon lost - 8m m.

3 8 obs. for δ

~~5 12 " " "~~

6 11 obs. for δ

Oct. 2 7 obs for δ A+1

9 lost 4th wire 17 obs. for δ. seeing very bad.

11 10 obs. for δ

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1876phae.proj.1393.

β Lyrae 18h 45m 28s +33° 13′ 7″

1876

Aug. 6	10	2	23.6	20.1	19.4	15.3	10	4	2.9	59.3	59.4	54.8
8	10	2	25.7	21.1	19.5	14.1	10	3	52.3	48.2	47.1	42.6
9	10	2	27.7	23.6	22.6	16.9	10	3	35.1	31.6	30.9	23.4
10	10	2	27.0	23.2	21.8	15.4	10	3	43.1	39.6	37.9	32.9
12	10	2	29.0	24.5	24.2	18.2	10	4	1.9	57.5	56.7	57.1
13	10	2	38.1	33.2	32.9	27.0	10	3	35.9	31.2	30.4	24.2

no more

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1876phae.proj.1388

σ Sagittarii $18^h\ 47^m\ 31^s\ -26^\circ\ 26'\ 58''$ One reading

1876

Aug.	13	50	0	49.7	42.2	44.3	43.9	rej. $2\frac{2}{11}$ d
	21	50	0	34.0	29.4	30.1	28.2	
	23	50	0	46.8	40.5	42.0	42.1	
Sept.	2	50	1	3.1	55.4	57.2	57.1	
	3	50	1	22.0	16.7	17.9	17.1	
	6	50	0	52.9	48.0	50.7	50.1	

no more

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1876phae.proj.1393.

o Draconis aeq. 18h 49m 21s +59° 14' 9"

1876

Aug. 13	10	2	24.1	19.7	20.5	11.1	10	3	6.9	1.1	3.1	53.2
21	10	2	6.4	5.1	4.9	55.1						
23	10	2	11.9	9.1	9.9	0.1						
Sept. 2	10	2	13.9	10.4	10.3	2.0						
3	10	2	8.9	6.4	7.9	58.1						
6	10	2	11.6	10.1	11.7	1.6						

2y A-½

no more

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1876phae.proj.1393.

8

48 Draconis 1854 1^m 5^s +57° 38′ One reading

1876

Aug. 28	45	2	9.2	7.6	8.7	58.9	45	3	2.2	0.1	1.3	51.7
Sept. 2	45	2	18.7	15.5	15.1	6.9	45	2	58.9	53.7	55.3	47.7
3	45	2	16.6	14.2	14.9	5.7	45	3	31.1	28.1	29.7	20.1
6	45	2	14.5	13.2	14.8	5.8						
Oct. 2	45	2	36.2	37.9	39.1	27.9						

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1876phae.proj.1393.

50 Draconis $18^h\ 50^m\ 24^s$ $+75^\circ\ 17'\ 6''$

1876

Aug. 21	5	4	52.9	50.9	48.9	39.5	10	0	19.5	20.4	18.4	7.8
23	5	4	54.7	52.4	51.1	40.6	10	0	12.7	11.6	10.1	0.0
Sept. 2	5	4	54.9	53.1	49.9	41.1	10	0	13.8	11.8	8.9	0.4
	perhaps lost next to last wire											
3	5	4	58.6	57.1	56.3	46.5	10	0	17.8	17.1	16.1	7.4
6	5	4	54.9	53.0	53.0	44.1	10	0	5.7	5.5	3.9	55.3

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1876phae.proj.1393.10

ζ Lyrae 18h 54m 16s +32° 31′ 9″

1876

Aug. 13	50	4	29.8	25.1	25.7	19.1	55	0	37.1	83.8	34.0	25.9
21	50	4	52.1	50.2	49.1	42.1	55	1	3.7	1,8	1,8	5.2
23	50	4	37.0	34.3	34.1	27.9						
~~26~~	~~50~~	~~4~~	~~33.9~~	~~29.9~~	~~30.9~~	~~24.3~~						
29	50	4	24.5	22.0	22.9	17.4						
30	50	4	36.1	32.8	34.0	27.1						
Sept. 5	~~50~~	~~4~~	~~24.1~~	~~23.1~~	~~21.5~~	~~15.4~~	~~55~~	~~0~~	~~57.2~~	~~55.1~~	~~55.0~~	~~47.7~~

~~no more~~

Oct. 11	50	4	31.8	37.0	33.9	22.4					

no more

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1876phae.proj.1393.

3 Draconis 18h 55m 55s +71° 7' 47"

1876

Aug. 23	15	3	55.9	54.9	53.5	42.0						
~~26~~	~~15~~	~~3~~	~~56.9~~	~~55.0~~	~~53.8~~	~~43.6~~	~~15~~	~~4~~	~~24.8~~	~~22.3~~	~~19.7~~	~~10.6~~
29	15	3	55.1	53.4	53.2	43.1						
30	15	3	58.5	57.9	57.1	46.9	rej. 2 1st d S					
Sept. 6	15	3	58.9	58.7	58.1	47.8	15	4	28.4	28.7	27.2	17.0
	false stroke after wicks											
Oct. 2	15	4	6.0	8.7	7.0	54.6	15	4	24.7	28.7	26.8	14.0
11	15	3	48.1	53.4	49.9	33.4	15	4	20.3	26.9	21.9	7.0
			rej. 2nd wire									

no more

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1876phae.proj.1393.

49 Draconis 18 58 +55 27

1876

Aug	23	55	2	32.9	30.8	31.1	23.9
	28	55	2	20.0	17.2	18.9	10.9
	29	55	2	22.9	20.4	22.0	14.1
	30	55	2	24.6	22.2	24.1	15.4
Sept.	2	55	2	17.9	14.9	14.0	6.0
	3	55	2	23.2	19.9	21.1	13.1

7.0 mag.

no more

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1876phae.proj.1393.

λ Aquilae $18^h\ 59^m\ 37^s - 5^\circ\ 4'\ 6''$

1876

~~August 2~~	30	0	3.5	52.9	57.8	54.1						
3	25	4	3.7	56.1	57.9	55.9	30	0	32.4	25.8	27.8	26.1
~~30~~	~~0~~	~~32.4~~	~~25.8~~	~~27.8~~	~~26.1~~							
6	25	4	7.1	1.4	2.2	0.4						
9	25	4	34.9	33.2	33.9	27.5						
Oct. 11	25	~~4~~ last 1st w	12.9	12.4	11.1	2.7						

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14

1 Draconis $19^h\ 2^m\ 7^s$ $+53^\circ\ 12'\ 8''$

1876

Aug. 23	10	3	45.1	43.4	42.9	36.9	10	4	47.8	46.1	45.2	38.1
Sept. 2	10	3	56.1	53.1	52.9	45.1	10	4	45.2	42.4	41.4	33.4
Oct. 9	10	3	54.0	58.5	58.0	44.3	10	4	37.1	41.1	39.7	29.2
11	10	4	0.2	5.0	3.9	48.9						

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i Lyrae $19^h\ 2^m\ 50^s$ $+35^\circ\ 54'\ 18''$

T 876

Sept.	3	30	1	32.1	30.4	30.1	22.9	30	2	53.0	50.9	49.9	44.2
	6	30	1	26.9	26.1	26.4	20.2	30	2	31.2	30.8	30.4	24.1
Oct.	2	30	1	34.3	36.5	37.4	28.9	30	2	39.1	41.8	40.4	33.2
	11	30	2	16.8	20.3	17.1	5.6						

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1876phae.proj.1393

16

33 Draconis $19^h\ 9^m\ 18^s$ $+56^\circ\ 38'\ 48''$

1876

Sept.	2	45	2	40.0	38.2	37.5	27.7
	3	45	2	21.0	18.4	18.9	10.1
Oct.	2	45	2	27.4	28.7	29.9	18.9
	9	45	2	19.9	22.9	22.9	10.0
	11	45	2	9.4	12.8	11.2	57.7

neg. A_{+1}^{5}

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1876phae.proj.1393.

δ Sagittarii $19^h\ 10^m\ 5^s$ $-19^\circ\ 16'\ 21''$

1876

Sept.	2	35	0	4.8	55.8	57.2	56.9
	3	30	4	59.6	51.3	53.1	53.2
Oct.	2	30	4	59.5	54.3	56.9	56.6
~~|	9	30	4	52.9~~			
	11	30	4	53.3	50.5	49.2	45.9

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1876phae.proj.1393.

18

ζ Deaconis $19^h\ 12^m\ 31^s$ $+6^\circ\ 26'\ 29''$

1876

Aug 30	0	0	6.1	6.7	6.9	56.1
Oct. 11	55	4	56.0	1.4	59.9	43.0

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1876phae.proj.1393.

κ Cygni $19^h\ 14^m\ 13^s$ $+53°\ 8'\ 18''$

1876

Aug. 30	15	2	46.8	44.1	45.4	36.9	15	3	42.9	41.3	41.5	33.8
~~Sept. 5~~	~~15~~	~~2~~	~~34.1~~	~~33.3~~	~~33.9~~	~~23.1~~	~~15~~	~~3~~	~~56.4~~	~~56.8~~	~~57.1~~	~~47.9~~
Oct. 2	15	2	35.8	37.6	39.1	27.1	15	3	31.2	33.6	34.4	22.9
3	15	3	21.5	25.6	26.5	12.7	15	4	0.2	3.0	3.4	49.8
			md wire + foil									
11	15	2	44.9	48.1	46.9	33.2	15	3	35.2	39.8	37.2	23.9

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π Draconis 19 20 +65° 25′

1876

Aug. 30	55	3	16.2	15.9	15.0	5.1	55	3	43.5	42.1	41.2	32.0
Oct. 9	55	2	58.1	0.9	1.4	45.0	55	3	41.5	45.1	42.4	29.5
10	55	3	20.2	27.0	25.1	6.9	55	3	56.3	2.1	59.1	44.4
11	55	3	27.1	mid wire 32.9	30.2	13.9	55	3	42.3	47.2	42.8	28.2

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1876phae.proj.1393.

8 Aquilae 19h 19m 12s +2° 52' 2"

1876

Aug. 26	30	3	15.1	9.1	10.5	9.0	30	4	22.2	15.4	15.2	15.1
28	30	3	8.0	2.1	3.4	1.4	30	4	25.6	20.6	20.8	20.1
Oct. 2	30	3	8.9	7.1	8.1	3.9	30	4	15.6	13.3	14.1	12.5
3	30	3	52.2	51.3	52.1	46.9						
10	30	3	9.6	9.1	8.9	2.6						
11	30	3	12.6	12.9	11.6	4.6						

no more

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1876phae.proj.1398.

22

γ Cygni $19^h\ 26^m\ 33^s + 51°\ 27'\ 50''$

1876

Aug. 30	55	3	15.1	12.9	14.9	6.0	55	4	4.1	1.4	3.4	55.3
Oct. 2	55	3	0.1	1.8	4.3	53.9	55	3	57.1	58.9	58.9	50.6
# 3	55	2	47.0	49.8	51.4	39.6	55	4	22.2	25.0	26.3	14.6
10	55	2	59.9	4.9	5.1	49.9	55	3	55.0	58.4	59.2	44.8
11	55	3	10.9	15.3	13.9	0.1	55	3	58.8	2.7	2.2	48.2
12	55	3	14.5	19.3	18.1	4.1	55	3	59.0	4.6	2.3	48.2

no more

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1876phae.proj.1393.

κ Aquilae 19 h 30 m 10 s −7 ° 18 ′ 11 ″

1876

Aug. 30	40	3	45.3	36.4	38.6	36.1					
Oct. 12	40	3	4.4	2.2	1.9	53.6	40	4	10.7	8.8	7.8	0.4
15	40	3	11.4	10.9	9.1	57.0	40	4	21.3	20.6	17.0	8.0

lost ~~$A_{+2} + A_{+1}$~~

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1976phac.proj.1393.

ε Cygni 19h 33m 5s +49° 55′ 55″

#76

Aug. 26	30	0	6.9	3.7	6.7	58.1	30	1	4.2	1.3	3.2	55.2
30	30	0	15.8	13.7	16.4	7.5	30	1	9.6	7.9	9.6	2.3
Oct. 2	25	4	57.0	59.1	1.9	49.4						
# 3	25	4	36.1	40.2	40.4	27.2	30	1	5.2	8.3	10.9	56.1
10	25	4	43.6	48.6	48.9	34.0	30	0	48.5	52.6	52.9	40.3
11	30	0	10.9	14.6	15.1	2.9	30	0	56.5	1.5	1.9	48.0

vej. A+1

no more

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1876phae.proj.1393.

c Cygni 19 38 30 +50 14 16

1876

Aug.	26	10	1	54.0	50.1	52.9	44.1
	28	10	1	45.4	43.4	45.1	36.1
	30	10	1	41.6	40.6	43.0	34.1
Sept.	2	10	1	59.1	56.1	57.6	48.1
	3	10	1	41.3	39.1	40.1	31.9

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1876cohae.proj.1393

26

γ Aquilae 19h 40m 19s +10° 18′ 36″

1876

March 22	5	0	14.6	15.6	19.9	24.2						
29	5	0	37.8	37.2	46.3	51.1						
Apr. 10	5	0	17.8	16.8	22.1	27.9						
11	5	1	34.0	31.6	36.7	44.3						
17	5	0	22.2	21.1	32.8	38.3						
Aug. 26	5	1	44.0	38.5	37.9	36.9	5	3	1.6	55.2	56.2	54.9
28	5	1	43.1	38.4	38.6	35.5	5	2	58.7	53.2	53.9	52.3
30	5	1	37.2	32.9	33.6	31.6						
Sept. 2	5	1	48.0	42.8	41.9	40.1	5	2	59.8	53.8	53.1	52.1
3	5	1	29.1	24.5	25.1	22.6	5	3	4.6	59.1	59.9	57.5
6	5	1	32.9	29.9	30.9	28.6	5	2	58.8	54.8	54.7	53.0
Oct. 11	5	1	37.8	39.5	37.1	30.6	5	2	46.5	47.8	45.2	39.2
12	5	1	35.0	37.1	34.7	27.9	5	2	46.3	48.4	45.1	40.0
15	5	1	34.9	37.6	34.1	25.4	5	2	55.5	58.2	53.8	47.0
17	5	1	33.1	39.9	34.6	24.1	5	2	51.3	55.0	49.8	41.2
18	5	1	39.2	43.2	37.9	28.6	5	2	41.2	43.6	37.2	29.3
19	5	1	37.1	41.1	36.9	28.1	5	2	55.7	57.9	54.8	47.9
29	5	1	32.0	33.6	33.8	24.3						

measuring

A_{-1}, A_{+2}, A_{+1}

lost A_{-2}

dbl. $A_{-3} \times A_{+3}$

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ζ Aquilae $19^{h}\ 40^{m}\ 19^{s}$ $+10^{\circ}\ 18'\ 36''$

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28

α Aquilae 19h 44m 41s +8° 32′ 23″

1876

Feb. 2	50	2	34.7	37.6	37.8	43.8						
		md. wire + foll.										
15	A 7, 8, A-1, A-2		A. R.									
March 14	50	1	25.7	23.9	30.2	35.0						
22	50	1	27.8	30.6	33.1	39.6						
29	50	1	13.1	13.8	22.2	28.2						
30	50	1	22.7	21.0	30.7	35.6						
Apr. 9	50	1	17.8	18.7	25.9	30.8						
10	50	1	21.3	22.4	27.9	34.2						
11	50	2	3.1	3.8	10.2	17.7						
	A+1	2 + foll.										
17	50	1	50.2	46.6	58.0	3.3						
Aug. 26	50	2	55.1	48.5	50.1	48.5	50	4	7.2	1.3	2.2	58.7
28	50	2	45.9	40.9	41.1	39.8	50	4	3.7	58.8	59.0	57.4
30	50	2	45.8	40.1	41.8	40.0	50	4	15.0	10.0	10.2	9.8
Sept. 2	50	2	46.5	41.7	41.4	38.7						
3	50	2	42.9	37.7	37.9	35.7	50	4	18.9	13.7	13.9	12.1
6	50	2	45.6	41.8	42.9	40.8	50	4	1.3	57.3	58.1	57.6
Oct. 2	50	2	45.9	44.2	45.1	41.1	50	4	1.1	59.3	0.6	56.1
10	50	2	50.7	50.6	51.0	45.0						
11	50	2	47.5	48.9	46.9	38.9	50	4	4.0	6.2	3.7	57.0
	lost A-2	1+2										
12	50	2	42.2	43.9	41.9	34.9						
15	50	2	41.1	43.9	40.4	31.0	50	4	4.3	5.8	2.6	53.8
16	50	3	14.9	19.5	15.3	4.9	50	4	11.6	16.2	10.7	1.5
17	lost A+2	2+1	38.8	41.9	38.1	27.9	50	4	0.5	3.9	59.3	50.2
18	50	2	44.9	47.5	42.8	35.2	50	3	57.2	59.7	54.3	47.2
19	50	2	46.1	49.5	46.3	36.9	50	4	1.2	4.1	0.5	52.0
29	50	2	48.8	47.6	49.7	40.8						

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α Aquilae 19h 44m 41s +8° 32′ 23″

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1876phae.proj.1393.

30

2 Cygni $19^h\ 47^m\ 30^s$ $+52^\circ\ 40'\ 37''$

1876

Aug.	26	45	0	44.0	40.3	41.1	32.9
	28	45	0	42.0	40.4	41.1	31.0
	30	45	0	45.1	42.3	44.9	35.1
Sept.	2	45	0	14.5	12.0	11.9	3.8
	6	45	0	49.2	48.1	49.9	39.7

~~Cat~~ rej. A +1

Cat 12st 2 wires

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β Aquilae $19^h\ 49^m\ 10^s$ $+6^\circ\ 5'\ 46''$

1876

March 22	15	2	51.8	56.8	58.3	4.8
29	15	2	50.8	50.9	58.0	5.6
Apr. 9	15	2	50.3	49.3	56.3	60.0
11	Lost S					
17	A+1 15 (lost A++)	2+ fil. 4	0.9	58.7	8.2	13.3
Aug. 26	15	4	29.0	23.7	24.1	22.4
28	15	4 lost 1 fil. wire	23.1	19.6	19.0	17.6
30	15	4	20.0	17.1	16.6	16.0 rej. 2nd S
Sept. 2	15	4	21.9	16.4	15.9	15.1
3	15	4	25.1	20.0	19.5	18.5
6	15	4	20.5	17.4	16.6	16.4

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82

		h	m	s	°	′	″
2	β Aquilae	19	49	10	+6	5	46

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1876phae.proj.1393.

λ Ursae Min. 19 49 18 +88 55 52

1876

Aug 26	30	1	34.5	33.7	33.2	23.2	30	1	38.3	37.6	36.2	26.4
	the last 4 wires											
28	30	1	35.9	35.9	35.5	24.5	30	1	38.5	39.1	38.1	28.0
	the last 3 wires			Rej. [illegible]		between cent. 2 wires						
30	30	1	34.6	34.8	34.5	23.4	30	1	35.9	37.1	36.1	26.0

~~Sept 2 10 lbs for S A 6 7 8 9 Rej A-1 between cent 2 wires A 9~~

3 10 lbs for S

Oct. (1876) 9 5 lbs. for S Last 3 w of A-2

10 10 lbs. for S

11 10 lbs. for S

12 15 lbs for S lost 1st 2 wires

15 A_{+1} 1 4.5, 6, –, 8, A_{-1} 1, –, 3 8 lbs. for S

15 seeing very bad, clouds. ~~S 4 2 6~~

See Map 16 A1 A 2345 11 lbs for S

17 lost 1st 3 wires. 16 lbs for S

18 lost 1st 3 wires 12 lbs for S

19 lost 1st 3 wires & the last wires 25 lbs.

29 10 lbs. for S A 6 7 8 9

30 41 lbs. for S

Nov 2 6 " " A_{-2} 2345

~~A 2 2345~~ 6 lbs for S A_{-2} 345

Nov 4

Nov. 5 4 lbs. for S A_{-2} 4+5 Stet

~~Oct. 29 23 lbs for S Lost A 9 & 1~~

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34

2 Ursae Min. 19 49 18 +88 55 52

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2 H. Cephei

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	h	m	s	°	′	″
η Aquilae	19	58	9	+6	55	37

1876

Oct. 18	25	4	30.6	34.0	30.0	22.0	30	0	42.5	46.3	40.8	34.9
19	30	0	21.8	26.4	22.9	14.4						
Nov. 5	25	4	39.0	38.2	41.2	30.9	30	0	40.4	40.3	41.9	35.3

lost 1st 2 wires

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Examine setting

66 Draconis 20 h 5 m 35 s +31° 37′ 58″

1876

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1876phae.proj.1393

98

R.C. 1408 $20^h\ 34^m\ 47^s$ $+76^\circ\ 8'\ 3''$

876

Oct. 17 15 4 10.9 18.1 109 56.0
Cent-3 wires.

29 15 4 8.0 11.7 10.1 53.2
A-1

30 15 4 14.3 18.9 12.6 0.2

15 4 23.8 12.1 12.4 54.7
A 8.9 + A_1

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get next # sure 39

One reading

33 Cygni 20h 10m 5s +56° 11' 8"

1876

Oct. 9	15	0	7.0	9.8	9.7	57.2
16	15	0	4.1	11.2	6.8	50.1

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1876phae.proj.1393.

710

One reading next star quick

δ' α² Capricorni 20h 11m 7s − 12° 55' 50"

1876

Oct 9	20	1	28.1	26.2	26.9	21.8						
	~~Middle 5 ~ poor~~				Rej L_{-2}							
	~~17 20 0 24.1~~											
17	20	1	32.3	32.3	29.1	22.4						
29	20	0	Rej 1st 5 53.2	50.4	53.3	46.3	20	1	46.8	42.2	46.6	38.3
	Last one w dim δ											
30	20	0	16.1	12.4	16.0	10.0	20	1	32.9	28.5	33.0	26.9
Nov. 5	15	3	19.6	14.4	19.5	12.4	α 1		Rej L_{+2}			
5	20	0	59.9	54.1	59.5	51.6	α 2		Last L_2 ~ L_{+1}			

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α' + α^c Capricorni $20^h\ 11^m\ 7^s - 12°\ 55'\ 50''$

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1876phae.proj.1393.

Cephei $20^h\ 13^m\ 4^s$ $+77^\circ\ 20'\ 8''$

1876

Oct. 9	5	2	7.5	11.9	9.4	55.0	rej. 2nd	8				
16	5	1	40.7	48.6	41.9	26.2	5	1	59.1	8.1	0.3	44.6
17	5	1	59.0	6.8	59.2	42.1	5	2	12.2	19.6	12.1	55.7
	md. wire fell.											
29	5	1	56.8	1.1	0.4	41.9	5	2	19.4	24.4	23.9	4.3
Nov. 4	5	1	54.0	57.4	59.1	41.6	5	2	4.1	7.4	8.5	53.0
	lost 1st 3 wires											
13	5	1	39.7	44.8	43.1	23.8	5	1	59.6	3.8	2.6	44.2

no more

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1876phae.proj.1393.

ϑ Cygni $20^h\ 17^m\ 45^s + 89°\ 51'\ 2''$

1876

Sept. 2	30	4	8.9	5.7	4.5	59.2	35	0	15.7	14.2	12.7	6.8
Oct. 9	30	4	18.7	20.9	18.9	9.1	35	0	10.3	14.2	11.3	3.0
16	30	4	4.3	10.9	5.1	51.4	35	0	5.9	12.6	6.8	54.7
17	30	4	4.1	9.6	4.3	49.7	35	0	9.8	16.4	9.7	57.7
29	30	4	5.8	8.9	8.9	53.9	35	0	3.1	6.2	6.8	53.9
Nov. 4	30	4	10.6	12.2	14.9	1.9	35	0	3.5	4.3	7.4	56.5

no more

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1876phae.proj.1393.

α Cygni 20h 23m 12s +48° 58' 8"

1876			♀	♃	♀	♄	♀	♃	♀	♃	♀	♃
Sept. 2	25	2	47.4	43.8	44.9	34.5	25	3	38.2	34.6	34.7	27.2
Oct. 9	25	2	33.9	36.4	36.8	22.9	25	3	32.8	35.4	34.9	23.2
16	25	2	44.8	50.9	47.2	31.1	25	3	36.7	43.2	39.2	23.8
17	25	2	39.9	40.1	35.3	18.1	25	3	30.0	36.1	31.4	15.9
29	25	2	26.9	31.8	32.1	14.9	25	3	33.7	37.1	38.2	31.7
Nov. 4	25	2	31.2	32.1	36.8	20.9	25	3	29.7	30.6	34.8	19.8

No more

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1876phae.proj.1393.

ε Delphini $20^h\ 27^m\ 14^s$ $+10°\ 52'\ 46''$

1876

Sept 2	30	2	15.5	10.0	10.0	6.4	30	3	26.3	21.4	20.2	18.2
Oct. 9	30	2	20.4	21.1	19.5	13.1	30	3	25.8	26.5	25.5	20.0
16	30	2	26.8	30.8	25.1	17.1	30	3	41.3	45.0	39.2	30.7
17	30	2	21.1	25.3	19.9	11.0	30	3	22.8	26.1	19.8	11.1
25	30	3	11.9	7.9	12.5	4.8						
29	30	2	16.9	17.2	17.9	7.9	30	3	26.4	26.9	27.3	17.8

lost A+1

no more

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1876phae.proj.1398

16

β Delphini 20h 31m 41s +14° 9' 41"

1876

Sept. 2	15	0	31.1	25.8	25.2	21.5					
Oct. 9	15	0	27.0	27.4	25.4	19.9					
16	15	0	30.1	33.4	28.3	19.1					
17	15	0	32.6	36.0	30.7	20.8	15	1	38.7	41.7	35.8	24.5
25	15	0	28.8	25.8	29.9	24.1	15	1	30.6	26.8	31.0	26.3
29	15	0	35.6	35.7	36.9	25.9	15	1	26.1	26.2	27.2	16.9

no more

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1876phae.proj.1393.

α Delphini $20^h\ 33^m\ 58^s\ +15^\circ\ 28'\ 20''$

1876

Sept. 2	55	1	47.0	40.1	39.0	36.4	55	3	17.6	10.9	9.5	8.9
Oct. 9	55	1	57.0	55.5	54.3	47.1	55	2	50.0	49.3	47.0	43.0
15	55	1	53.6	54.7	50.7	41.7	55	3	3.3	5.1	59.7	50.6
		new sheet										
16	55	2	46.1	48.3	43.5	34.3						
	lost 1st wire											
17	55	1	55.7	56.9	51.9	42.9	55	2	57.3	59.8	54.4	45.4
25	55	2	22.2	17.2	21.8	14.9	55	3	4.0	56.6	3.3	57.2

no more

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8

α Cygni h 20 m 37 s 10 +44° 50′ 4″ α

1876

March 4	30	4	20.8	22.9	25.3	23.0							
14			A. R.										
22	30	4	25.6	29.8	31.8	31.2	35	0	10.0	13.2	17.9	15.7	
27	35	0	15.5	18.7	25.0	23.9							
	md. wire + foll.												
Apr. 17	30	4	38.1	37.8	47.3	46.0							
May 1	35	0	31.8	31.4	42.0	43.2							
3	lost 1st & 2 wires												
	30	4	30.6	29.3	41.3	41.1							
Sept. 2	35	1	34.4	31.3	31.4	21.9	35	1	59.8	56.5	56.8	47.9	
	md. wire + foll.												
Oct. 2	35	1	14.9	16.1	16.5	4.6	35	1	59.4	0.5	1.7	49.9	
# 3	A 1 + foll												
	35	0	36.9	38.5	38.6	27.4	35	1	57.1	58.4	59.9	47.8	
9	35	0	32.2	35.3	33.9	21.1	35	1	38.0	40.7	38.9	27.9	
10	35	0	56.7	59.6	58.9	44.7	35	1	32.0	35.2	34.3	20.7	
12	35	0	48.1	51.6	50.1	34.6	35	1	54.8	58.1	56.6	42.8	
15	35	0	54.2	58.9	55.1	38.1	35	1	46.2	50.3	45.3	32.2	
16	lost 1st & 2 wires												
	35	0	36.2	42.4	37.7	23.0	35	1	33.8	39.6	34.8	20.9	
17	lost A+3												
	35		50.0	55.8	51.4	36.2	35	1	47.7	53.2	47.6	33.6	
25	35	0	46.3	45.6	51.5	36.9	35	1	46.4	45.7	50.7	40.8	
29	35	1	4.2	7.7	8.1	52.3	35	1	30.6	34.1	34.4	19.7	
30	35	0	40.0	42.6	42.9	27.9	35	1	44.8	46.6	46.7	33.0	
Nov. 4	35	0	30.6	31.0	35.2	21.6	35	1	48.7	48.6	52.6	39.6	
5	35	0	47.9	48.8	51.5	37.1	35	1	58.7	59.9	1.8	49.2	
13	35	1	29.5	31.9	33.5	16.9	35	1	55.6	57.6	59.0	43.7	
	A_{-1} + A_{-2}												

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α Cygni 20h 37m 10s +44° 30′ 4″

79.
9
8
9
7
8
2
9
6.
0.8
7
0
8
2
7

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		h	m	s	°	′	″
ε Cygni		20	41	9	+33	30	11
1876							
Oct. 2	55	0	17.4	18.8	19.2	10.2	
15	55	0	12.8	17.4	13.0	59.6	
16	55	0	15.5	21.1	15.8	1.8	
17	55	0	21.4	28.1	22.4	7.1	
30	55	0	16.9	19.7	20.2	7.9	
Nov. 5	55	0	19.6	21.1	23.1	10.8	

no more

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η Cephei $20^h\ 42^m\ 45^s$ $+61^\circ\ 21'\ 13''$

1876

Oct. 2	3	reg.	0	4	26.1	28.2	29.4	160	5	0	51.1	53.1	55.3	40.4
	17		0	4	43.2	48.6	44.8	28.1	5	0	36.3	42.2	37.9	21.9
	25	For inclination 4 obs.												
	25		0	4	53.0	51.2	57.6	40.4	5	0	26.9	27.6	33.9	17.9
	30		0	4	42.5	45.6	46.0	27.1	5	0	39.5	41.1	42.6	26.3
Nov. 4			0	4	42.9	44.7	48.2	30.9	5	0	33.7	34.2	37.9	22.9
	5		0	4	46.9	47.4	50.9	33.6	5	0	28.9	29.9	33.1	17.8

23d + 3d obs. for δ

reg. A+1

no more

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52

μ Aquarii $20^h\ 45^m\ 55^s$ $-9°\ 27'\ 2''$

1876

Oct. 2	50	1	46.9	41.4	44.9	38.8	50	2	~~55.9~~ 56.6	50.5	53.4	48.6
3	50	1	35.0	30.4	32.9	27.1	50	2	55.1	49.6	52.4	46.5
17	50	1	43.4	42.9	38.9	29.7	50	3	4.0	2.1	59.4	50.9
25	50	1	36.7	29.0	35.9	27.6	50	2	39.9	31.4	36.9	32.8
Nov. 4	50	1	41.9	35.4	40.9	32.2	50	2	47.2	41.0	45.8	39.4
5	50	1	41.1	35.8	40.7	30.2	50	2	44.9	39.3	43.2	35.7

no more

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1876phae.proj.1393.

~~53~~

76 Draconis 20h 51m 8.1s +82° 3' 09"

1876

Oct. 3 #	20	2	20.0	27.9	25.1	12.2	20	3	42.5	48.9	45.9	34.8
17	20	2	44.4	54.5	46.2	28.7	20	2	59.1	9.6	1.0	45.1
25	~~For Meridian~~ 6 obs. for inclination											
Nov. 4	20	2	56.9	2.7	4.3	49.1	20	3	4.6	9.9	12.3	58.2
	3rd + 4th obs. for δ											
	20	2	25.5	31.9	32.1	16.6	20	2	35.1	41.1	42.0	25.6
	5 obs. for inclination											
12	20	3	3.2	10.2	7.2	50.6						
												N.P.R.
13	20	2	26.1	35.0	32.3	14.7	~~20~~	~~3~~	~~10.1~~	~~16.3~~	~~14.9~~	~~58.1~~
	reject 2 intervening δ's						20	3	25.0	33.1	30.4	13.0
	no more											

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1876phae.proj.1393.54

	h	m	s	°	′	″
~~Aquarius~~	~~21~~	~~89~~	~~22~~	~~0~~	~~55~~	~~34~~

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1876phae.proj.1393.

~~α Aquarii 21 59 22.0 -0 55 34~~

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1876phaer.proj.1393.

56

[illegible] Cygni 21h 0m 23s +43° 25' 47"

576

Oct. 3	55	4	43.1	43.9	44.1	32.6	0	1	3.6	4.8	4.9	54.9
16	55	4	40.9	45.5	40.9	26.2	0	0	52.8	57.3	52.3	38.8
17	55	4	47.0	51.8	46.5	30.1	0	0	41.8	46.4	41.6	27.3
25	55	4	42.4	41.1	45.6	32.8	0	0	42.1	41.3	45.6	34.8
Nov 12	55	4	58.6	59.8	60.7	44.6						
13	0	0	32.1	35.1	35.9	19.1	0	0	54.4	56.6	58.0	41.1

Lost 1st 2 wires

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1876phae.proj.1393.

Merl-A

ζ Cygni 21h 7m 8.7s +29° 42′ 65″

1876

Oct. 10	40	2	26.8	30.2	29.9	19.5	40	3	30.3	33.8	32.9	23.7
17	40	2	18.9	25.4	21.1	6.1	40	3	29.1	34.4	29.8	17.9
Nov. 4	40	2	38.1	38.0	42.1	29.1	40	3	24.8	25.8	29.8	16.7

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1876phae.proj.1393.

58

γ Draconis 21h 7m 58s +77° 37′ 7″

876

Oct 3	*	45	4	10.4	3.4	0.9	48.8	50	0	11.9	15.4	12.9	0.4
Oct 25		5 obs. for inclination											
	25	45	3	22.7	24.4	27.8	12.6	45	3	46.5	46.9	52.0	35.1
Nov	12	45	3	56.1	1.1	58.4	40.0	45	4	8.8	13.2	9.9	52.8
	13	45	3	47.1	52.2	49.9	30.4	45	4	6.3	10.8	8.2	50.1

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1876phae.proj.1393.

δ Cygni 21h 12m 32s +38° 52′ 19″

1876

Oct. 3#	30	3	6.6	9.8	9.0	59.1	30	4	28.6	31.8	31.0	21.0
10	30	3	12.9	18.1	15.1	2.9	30	4	21.5	27.8	22.7	13.3
	rej. 2 in 1. 8.											
12	30	3	38.6	44.2	41.4	29.1	30	4	31.8	37.3	32.2	20.9
	lost A+1											
16	30	3	30.6	37.9	31.5	17.1	30	4	25.6	32.9	24.7	12.8
#24	30	3	2.1	3.3	3.2	51.9	30	4	27.2	29.6	29.2	18.2
25	30	3	51.9	51.1	54.9	43.5	30	4	24.7	25.2	28.2	19.2
	lost A+1											

no more

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1876phae.proj.1393.

60

α Cephei 21 15 36 +62 3 22

1876

Oct. 2	20	2	34.9	36.6	38.3	24.7	20	3	11.7	12.7	14.0	1.6
3	20	2	17.1	19.2	20.2	7.9	20	3	33.1	34.8	36.1	23.6
10	20	2	43.2	46.5	46.9	32.0	20	3	22.1	25.3	25.2	9.7
12	20	2	50.9	54.5	53.4	37.0	20	3	19.8	24.4	22.6	7.2
16	20	3	5.9	12.0	7.4	50.6	20	3	37.8	43.1	38.8	22.2
	lost 1st 2 wires											
18	20	3	44.8	49.4	46.5	29.2	20	3	28.7	34.8	30.2	13.3
	rej. 2nd 3 wire 3rd											

no more

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1876phae.proj.1393.

δ Ursae Maj. 9 ^{h} 23 ^{m} 24 ^{s} +70° 22' 40" 109 38

1876

Oct. 2	50	1	18.6	22.9	26.2	10.4	50	0	59.1	3.7	5.2	51.3
# 3	50	1	54.1	58.7	59.9	44.9	50	0	24.2	29.9	31.0	16.3
10	50	1	22.4	29.5	29.9	12.4	50	0	53.1	59.7	59.9	42.9
12	50	1	21.3	28.7	26.9	8.2	50	0	56.9	4.1	2.1	46.2
15	50	1	31.1	40.4	35.9	16.2	50	1	5.3	12.2	7.9	50.0
17	50	1	33.9	42.8	37.2	19.6	50	1	3.0	12.1	7.5	49.6

lost 1st 2 wires

no more

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1876phae.proj.1393.

62

β Cephei 21h 27m 2s +70° 0' 43"

1876

Oct. 2	25	0	37.0	40.2	39.0	26.4					
# 3	25	0	13.1	16.9	14.2	2.1	25	22.8	26.4	25.1	12.7
10	25	0	33.9	38.8	35.4	22.2					
12	25	0	42.6	47.4	42.9	27.5					
15	25	0	12.4	19.1	12.0	54.5	25	0 36.0	42.2	36.1	17.7
17	25	0	23.2	32.0	25.6	6.9	25	0 44.7	51.4	45.1	27.2

no more

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1876phae.proj.1393.

122 Cephei = B.A.C. 7510 $21^h\ 28^m\ 28^s$ $+80°\ 0'\ 29''$

1876

Oct. 2	25	3	2.0	7.2	4.4	53.2	25	3	14.9	20.5	17.3	7.6
10	25	2	55.1	2.8	58.3	44.5	25	2	7.4	15.5	9.9	57.5
12	25	2	56.1	5.1	59.7	43.7	rej. 2nd δ					
16	25	2	58.4	8.2	0.4	43.3	25	3	10.2	20.9	11.0	56.3
18	25	2	56.7	8.0	59.1	44.0	25	3	13.6	23.4	14.3	57.1
25	5 Sh. for inclination											
25	25 (3rd + 4th obs. for δ)	3	12.6	16.1	17.4	4.2	25	3	25.2	29.4	30.9	17.1

no more

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1876phae.proj.1398

64

α Capricorni $21^h\ 33^m\ 9^s\ -17^\circ\ 33'\ 30''$

1876

Oct. 18	35	3	46.7	46.1	41.7	38.6						
24	35	3	11.9	7.7	10.4	5.5	35	4	6.5	1.5	4.1	0.3
Nov. 13	35	2	39.1	36.7	6.5	30.5	35	3	39.4	36.2	38.3	31.3
Dec. 5	35	2	44.1	43.1	40.3	30.2	35	3	41.5	41.1	39.2	29.2

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1876phae.proj.1393.

get next #

10 Cephei 21 41 20 60 21

1876

Oct. 10	50	3	6.9	9.3	8.3	52.9						
12	50	3	20.1	25.4	22.5	7.1						
15	50	3	9.2	14.6	9.5	52.9						
16	50	3	11.9	18.1	13.1	56.1						
Dec. 6	50	3	12.9	19.4	15.7	52.9	50	3	54.8	0.2	55.8	35.0
7	50	3	8.3	13.8	9.7	47.8						

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1876phae.proj.1393.

66

τ^2 Cygni 21h 42m 11s + 48° 43' 53"

1876.

Oct. 2	40	1	50.7	51.6	53.2	41.2	40	2	44.1	45.2	45.9	35.1
10	40	2	25.9	29.9	29.8	13.1	40	2	56.6	59.6	59.2	45.8
18	40	1	52.9	58.0	53.7	37.4	40	2	36.7	42.7	37.7	22.0
Dec. 5	40	1	57.8	4.2	1.2	39.9	40	2	40.4	45.4	41.6	23.2
7	40	2	31.1	37.2	32.8	12.5	40	2	55.8	1.2	55.6	36.3

md. wire file. rej. 1st stroke

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1876phae.proj.1393.

μ Capricorni 21h 46m 29s – 14° 8' 19"

1876			E	F	G	H			E	F	G	H
Oct. 2	30	2	25.5	22.1	24.6	20.4	30	3	36.9	33.7	34.9	32.9
12	30	2	41.1	40.1	38.1	31.6	30	3	36.2	36.1	32.4	28.7
16	30	2	36.0	37.2	33.6	25.4	30	3	47.7	48.6	44.2	38.1
18	30	2	35.5	37.1	33.5	24.6	30	3	40.6	41.1	35.7	29.9
28	30	2	30.1	28.5	32.1	23.9	30	3	26.9	25.2	29.2	21.0
Dec. 5	30	2	39.1	38.9	35.0	25.6	30	3	44.1	42.6	38.8	31.7

lost 1st wire

no more

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1876phae.proj.1393.

78

	h	m	s				h	m	s			
	21	50	40							+56	0	
μ Cephei	~~21~~	~~48~~	~~50~~	~~40~~	~~5~~	~~16~~				~~+72~~	~~54~~	

876

Oct. 2	30	2	12.9	14.2	12.9	1.2	30	2	46.9	49.3	46.7	34.8
10	30	2	32.9	37.8	34.0	16.5	30	2	56.9	1.3	58.8	44.7
12	30	2	18.9	23.0	19.9	2.6	30	2	45.8	50.6	45.1	29.6
16	30	2	32.1	37.3	32.9	15.9	30	2	53.3	59.9	52.4	35.7
~~16~~	~~30~~	~~2~~	~~26.9~~	~~34.0~~	~~28.3~~	~~10.6~~						
18	20	0	5.9	13.7	6.9	48.8						
31	25	0	27.8	31.9	33.3	16.7						
Nov. 2	25	0	34.0	27.2	27.9	10.9	25	0	38.3	40.7	40.3	26.2
Dec. 5	20	4	53.1	59.1	57.0	33.4	25	0	39.4	45.0	41.2	23.2
6	25	0	10.2	15.8	11.9	52.4	25	0	34.7	39.4	36.0	17.4
7	20	4	41.7	46.8	41.9	21.5	25	0	27.7	33.8	29.4	10.7

lost pt. 3 times

7.5 mag.

md, wire + pole.

stet

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1876phae.proj.1393.

20 Pegasi α 21 55 δ +12 31 19

1876

Oct. 2	50	4	2.0	1.2	0.8	54.8	55	0	3.2	2.7	2.2	57.0
10	50	3	42.9	45.0	42.0	35.7	50	4	51.3	53.2	59.2	42.3
16	50	4	19.8	23.6	16.7	8.4	55	0	2.8	7.2	1.3	57.6
18	50	4	30.2	34.1	28.8	18.4						
31	50	4	8.1	9.5	8.9	56.9	55	0	3.7	4.8	4.7	55.8
Dec. 5	50	4	5.1	7.6	1.9	48.0	50	4	59.1	62.3	54.9	44.3

new zero for sheet

new zero for sheet, md. wire & fil.

lost 1st wire

no more

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1876phae.proj.13937

10

Aquarii 21h 59m 22s − 0° 55′ 35″

1876			E	F	G	H						
May 16	15	4	7.5	1.4	17.8	25.8						
21	15	4	19.2	18.5	25.8	36.2						
23	20	0	9.9	0.6	21.5	29.2						
	$A_{4,5}$	$A_{-1}+A_{-2}$										
31	15	4	17.3	6.9	27.1	39.3						
Oct. 2	20	0	12.2	9.7	11.7	5.9	20	1	30.5	27.9	29.6	35.5
~~10~~	~~20~~	~~1~~	~~13.4~~	~~12.5~~	~~12.5~~	~~6.6~~						
12	20	0	9.1	8.7	7.6	59.0	20	1	36.1	86.2	34.9	27.6
15	20	0	16.2	16.9	13.1	2.9	20	1	35.7	36.3	31.8	23.9
16	20	0	15.9	17.9	14.2	5.1	20	1	26.6	28.3	23.2	15.9
17	20	0	16.1	18.1	13.2	4.1	20	1	30.5	32.3	27.5	18.5
18	20	0	15.0	16.8	13.9	4.2	20	1	30.0	32.0	26.6	19.0
19	20	1	30.6	32.8	28.4	20.9						
24 #	20	0	15.0	11.0	13.9	8.4	20	1	31.9	28.5	31.9	26.6
25	20	0	9.1	4.1	10.8	4.2						
31	20	0	17.6	16.9	19.2	10.4	20	1	32.8	32.7	33.1	24.3
Nov. 12	20	0	20.4	18.9	20.9	10.9	20	1	32.5	31.2	32.6	23.0
Dec. 5	20	0	19.9	19.9	17.2	5.9	20	1	25.0	24.9	20.6	10.5
	lost some of the wings of A_{-2} and perhaps all of A_{+2}											
6	20	0	36.1	36.4	32.9	19.6	20	1	42.7	37.9	33.9	23.2
7	20	0	24.3	25.6	22.4	9.5	20	1	40.2	41.3	35.7	26.8
10	20	0	39.3	40.7	34.6	20.9						

morning.

VMR

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1876phae.proj.1393.

α Aquarii 21h 59m 22s – 0° 55' 35"

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1876phae.proj.1393.72

72

72 ϕ Pegasi 22h 3m 54s +5° 35′ ″

Oct.19	45	4	46.4	40.8	44.7	36.2						
Oct.31	45	4	59.5	1.3	3.2	60.7						
Nov.5	45	4	59.5	58.4	0.9	51.9	50	0	59.7	0.1	2.6	55.7
12	45	4	49.4	50.6	46.9	40.6	50	0	57.8	58.5	59.8	50.7
Dec.5	50	0	7.5	10.5	6.8	55.2	50	1	9.2	11.3	6.4	5.5
7	50	0	17.2	21.1	16.5	6.8	50	1	4.8	7.2	28	53.2

No more

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1876phae.proj.1393.

ζ Cephei 22h 6m 31s +57° 35' 7"

1876

Oct. 17	50	0	32.9	39.6	35.5	18.2	
19	50	1	16.3	21.7	19.1	2.8	rej. A+1
31	50	0	51.0	54.9	57.9	39.3	
Nov. 5	50	0	56.9	57.6	1.0	45.3	
12	50	0	41.8	44.0	45.3	27.9	
Dec. 5	50	0	57.0	3.0	59.7	38.5	

no more

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1876phae.proj.1393.

74

221 Cephei 22h 7m +71° 43″

1876

Oct. 17	40	2	53.3	0.6	54.2	36.0	40	3	17.3	25.2	26.9	0.0
31	40	3	2.1	8.3	6.5	47.7	40	3	20.3	26.1	24.3	6.7
Nov. 5	40	2	59.2	1.6	2.5	44.6	40	3	17.6	20.8	19.6	3.7
12	40	3	4.2	8.1	6.9	47.1	40	3	17.8	21.2	18.7	1.9
Dec. 5	40	2	55.6	2.9	56.9	34.1	40	3	19.1	25.2	18.6	59.3
7	40 40 obs. for inclination	2	24.2	31.6	25.2	2.5	40	2	41.2	47.9	41.8	20.8

no more

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1876phae.proj.1393.

ε Cephei $22^h\ 10^m\ 23^s + 56^\circ\ 25'\ 14''$

1876

Oct. 17	0	0	32.2	39.7	35.2	17.2	0	1	21.5	25.2	24.3	7.9
19	(0)[2] ave	0	29.2	35.1	32.2	17.2						
31	0	0	37.9	41.4	43.1	27.0	0	1	19.7	23.6	24.5	8.8
Nov. 5	0	0	37.9	39.2	42.1	26.0	0	1	10.2	11.9	14.1	58.6
12	0	0	26.1	28.9	30.8	13.1	0	1	20.3	22.6	23.3	8.4
Dec. 5	0	0	46.4	51.1	48.3	28.7	0	1	24.6	29.7	26.9	72.9

lost 2d wire

no more

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1876phae.proj.1393

76

Aquarii 22h 15m 12s −2° 0′ 0″.9

1876

Oct. 15	25	0	34.0	36.0	31.1	22.0	25	1	45.0	46.4	40.2	32.2
17	25	0	47.0	49.1	43.5	32.9	25	1	45.5	47.3	41.0	33.0
19	25	0	44.5	48.6	44.1	36.5						
31	25	1	28.8	28.6	29.9	18.9	25	1	50.3	49.4	49.8	42.4
	Post 1st 2 wires											
Nov. 12	25	0	48.9	46.9	47.9	38.1	25	1	42.8	41.7	41.2	33.2
Dec. 5	25	0	48.1	47.6	44.5	33.7	25	1	45.3	45.8	41.2	30.9

no more

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1876phae.proj.1393.

3 Lacertae 22h 18m 39s +51° 36' 11"

1876

Oct. 15	45	4	35.4	41.5	37.3	20.4	50	0	25.7	32.6	29.5	12.8
17	45	4	16.1	23.5	19.5	1.8	50	0	21.1	28.9	25.2	7.9
19	45	4	46.4	57.1	49.1	32.5						
31	45	4	14.3	18.9	20.1	1.5	50	0	14.1	17.8	19.0	4.0
Nov. 12	45	4	31.5	35.5	36.4	18.9	50	0	20.4	24.4	25.9	9.9
Dec. 5	45	4	21.6	27.0	24.1	3.4	50	0	19.1	26.9	22.3	2.9

no more

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1876phae.proj.1393

78

ζ Cephei 22h 24m 32s +57° 46′ 32″

1876

Oct. 15	35	4	7.5	13.0	8.1	50.0	35	4	34.8	39.7	34.5	16.9
17	35	4	6.5	12.3	6.9	50.4	40	0	4.3	11.7	6.1	50.5
Dec. 5	35	4	17.6	22.2	17.9	57.1						
7	35	4	14.4	18.6	13.8	54.0						
10	40	0	5.3	58.8	51.9	31.0						

from -101-2 w

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1876phae.proj.1393.

9 H. Draconis $10^h\ 24^m\ 25^s$ $+76°\ 21'\ 20''$ $103°\ 39'$

Cal-9 45 4 2.0 10.7 5.3 49.4

$\Delta\theta \sim \Delta + 1$

31 45 4 27.3 34.2 35.1 45 4 ~~114.57~~ 1.8.6 1.8.9 5.8.9

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1876phae.proj.1393.

Lacertae $22^h\ 26^m\ 9^s$ $+49^\circ\ 38'\ 24''$

1876

Oct. 15	45	2	5.1	11.1	6.0	51.0	45	3	16.1	19.9	14.2	57.4
31	45	2	35.8	39.2	41.3	23.4	45	3	9.8	13.7	14.7	58.8
~~Nov. 15~~	~~45~~	~~2~~	~~18.5~~	~~22.2~~	~~23.9~~	~~5.8~~	~~45~~	~~3~~	~~15.0~~	~~18.1~~	~~18.6~~	~~4.7~~
Dec. 5	45	2	32.6	39.5	35.1	15.2	45	3	10.6	16.6	11.3	53.3
7	45	2	7.9	13.1	9.5	48.6	45	2	57.9	3.8	59.7	40.5

lost $\frac{1}{2}$ at 2 wires

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1876phae.proj.1393.

226 β Cephei $22^h\ 80^m\ 4^s$ $+75°\ 34'\ 56''$

1876

Oct. 25 3 obs. for inclination

25	50	1	16.2	17.1	20.8	4.9	50	1	37.9	38.9	41.4	25.6
31	50	1	10.3	15.3	14.8	5.9						
Dec. 5	50	1	24.4	30.9	25.1	3.4						
~~10~~	~~50~~	~~1~~	~~18.4~~	~~17.8~~	~~10.2~~	~~47.0~~						
13	50	1	26.4	34.0	24.9	3.2	50	1	50.9	57.2	48.5	28.0

1^{st} & 2^{nd} obs. for δ

HSR

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1876phae.proj.1393.82

31 Cephei 22h 32m +72° 59'

1876

Oct. 24*	25	1	22.0	23.2	23.2	9.4	25	2	34.6	35.5	35.3	~~21.3~~
25	25	1	37.9	39.3	40.9	25.4	25	1	58.9	59.6	1.9	46.1
29	25	1	15.1	20.2	17.9	0.5	25	1	37.8	41.3	40.3	22.5
	4 obs for inclination											
30	25	1	22.4	27.1	26.0	6.9	25	1	33.6	38.1	36.3	18.9
	4 obs for inclination											
31	25	1	3.0	6.7	5.8	46.8	25	1	17.3	25.1	19.9	2.2
	6 obs. for inclination											
~~Nov. 15~~	~~25~~	~~1~~	~~39.3~~	~~42.9~~	~~41.4~~	~~22.5~~	~~25~~	~~2~~	~~0.9~~	~~4.5~~	~~2.8~~	~~44.5~~
Dec. 5	25	1	13.9	20.5	12.8	51.9	25	1	25.6	33.5	26.0	4.8
	4 obs for inclination											

no more

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1876phae.proj.1393.

η Pegasi $22^h\ 37^m\ 9^s$ $+29^\circ\ 8'\ 4''.5$

1876

Oct. 24	50	1	5.9	5.5	8.4	58.8	50	2	28.7	25.4	28.8	17.7
25	50	0	57.8	57.6	2.4	52.0	50	2	0.6	59.0	3.9	55.4
29	50	1	10.9	13.9	14.1	1.7	50	2	7.8	10.7	10.9	56.9
30	50	0	55.1	57.4	59.7	44.1	50	2	13.4	15.7	16.2	4.7
31	50	1	10.9	13.3	14.2	1.1	50	2	9.1	11.5	12.3	59.6
Dec 5	50	1	35.9	40.7	36.1	19.4	50	2	9.5	14.3	8.9	55.1

last 1st wire

no more

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1876phae.proj.13954

54

ε Pegasi 21 40 31 +22 54 30

1876

Oct. 24	*	30	0	22.2	22.1	25.1	15.0	30	1	57.7	58.1	59.9	50.8
25		30	0	27.1	27.7	32.8	21.9	30	1	34.6	35.0	37.7	30.2
29		30	0	37.9	40.7	40.0	27.7	30	1	30.6	34.7	33.3	21.9
30		30	0	46.8	50.2	50.2	37.9	30	1	32.8	36.2	35.7	24.5
Dec. 7		30	0	35.9	41.8	38.6	21.1	30	1	31.6	36.4	31.7	17.8
13		30	0	45.3	51.1	42.6	26.2	30	1	38.2	44.3	34.9	21.7

no more

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1876phae.proj.1393.

i Cephei 22h 45m 14s +65° 32' 35"

1876

Oct. 24	50	3	15.3	16.9	16.8	4.4	50	4	24.6	26.1	27.1	12.9
~~25~~	~~50~~	2	59.9	53.4	57.3	41.7	52	3	12.1	12.5	16.4	0.6
	1st 2nd Obs for R.A. Rej three last four.											
29	50	2	53.9	57.9	56.9	38.2	50	3	14.2	17.6	16.1	57.9
30	rej. all S's except 1st + last											
30	50	2	54.2	58.9	59.1	40.7	50	4	15.8	20.3	19.1	1.1
31	50	2	54.1	58.5	57.6	36.3	50	3	14.0	18.4	17.0	58.9
Dec. 5	50	2	59.9	6.4	59.5	36.9	50	3	13.9	20.1	13.9	53.2
	4 obs. for zero elimination											

no more

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1876phae.proj.13936

86

α Piscis Australis 22h 50m 44s −30° 17′ 2″ α

1876			E	F	G	H
	′	′	″	″	″	″
May 21	35	3	14.3	4.3	22.2	33.6
23	35	2	58.3	51.3	9.8	18.8
29	35	3	39.6	26.6	46.5	0.7
31	35	3	6.7	56.9	18.9	33.3

morning

Oct. 24 # lost 1st 2 wires	35	4	38.1	36.6	38.2	34.4	40	0	57.5	54.4	58.9	54.0
25	35	4	24.8	21.9	26.9	21.7	40	0	40.8	38.2	43.8	9.9
29	35	4	36.2	36.9	37.8	27.9	40	0	40.1	40.7	41.3	32.2
30	35	4	26.0	26.1	28.8	19.1	40	0	45.8	45.2	46.8	40.4
31	35	4	39.8	39.8	41.5	32.6	40	0	50.4	49.9	52.3	46.5
Nov. 12	35	4	37.5	37.6	38.0	28.9	rej. 2nd δ					
13	35	4	35.9	36.0	36.8	27.1						
Dec. 5	35	4	36.9	39.1	35.4	23.5	40	0	52.3	53.6	50.2	41.7
6	35	4	35.7	38.2	33.0	22.7						
10	35	4	28.9	32.7	28.8	12.0	40	0	46.1	46.8	41.2	28.9
13	35	4	47.2	50.6	42.9	31.5	40	0	56.2	59.2	52.7	43.5
1877 27	35	4	34.7	38.2	31.9	21.1	40	0	49.1	50.7	45.9	36.6
Jan. 2	35	4	37.9	42.8	35.4	22.5	40	0	57.4	0.7	55.3	44.3

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1876phae.proj.1393.

α Piscis Australis $22^{h}\ 50^{m}\ 44^{s}$ $-30°\ 17'\ 2''$

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1876phae.proj.1393

58

Andromedae 22h 56m 10s +41° 39' 16"

1876

Oct. 25	45	1	15.4	16.1	19.4	7.4
29	45	1	12.0	15.5	15.4	59.4
30	45	1	25.2	29.7	30.5	13.6
Dec. 5	45	1	22.5	28.4	23.1	5.4
6	45	1	17.4	22.7	17.2	14 Var. R.
10	45	1	24.8	31.4	23.0	3.1

no more

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1876phae.proj.1393.

δ Pegasi $22^h\ 58^m\ 32^s\ +14°\ 32'\ 0''$

1876			E	F	G	H	
	'	'	"	"	"	"	
Apr. 17	50	2	1.9	0.2	9.4	12.9	
May 16	50	1	43.2	39.3	54.8	0.3	
21	50	1	48.4	39.5	56.0	4.5	
23	50	1	47.2	39.8	57.0	4.6	
25	50	1	58.3	47.8	5.0	17.0	
30	50	1	51.1	41.3	58.9	11.8	
31	50	1	52.7	42.3	1.0	14.2	

morning

Oct. 24	50	2	53.7	51.1	52.8	46.1	rej. 2nd " δ					
25	50	2	50.0	46.9	50.8	42.4	50	4	10.9	8.3	10.9	5.0
29	50	2	52.0	52.1	51.8	41.1	50	4	8.4	8.8	6.8	56.3
30	50	2	50.5	50.4	50.8	40.0	50	4	11.2	11.4	10.2	2.3
Nov. 4	50	2	54.1	50.5	53.9	45.4						
5	50	2	51.4	49.0	50.9	41.8	50	4	15.6	14.9	14.5	1.2
12	50	3	2.2	1.9	2.1	50.3	50	4	8.8	8.9	6.8	57.6
13	50	2	57.0	56.5	56.9	45.4	50	4	25.0	23.8	23.3	14.2
Dec. 5	50	3	0.2	2.1	55.9	44.2	50	4	15.1	17.1	9.3	58.7
6	50	3	10.9	19.8	13.1	2.1						
7	50	3	5.0	5.4	0.3	47.2	50	4	14.9	16.6	9.7	58.6
10	50	2	55.9	57.4	50.9	33.1	50	4	19.0	20.6	12.2	56.8
13	50	2	59.8	3.8	55.8	40.6	50.	4	8.9	13.0	4.0	51.7
24	50	3	0.7	3.2	56.3	39.9	50	4	21.1	21.6	14.2	0.9
27	50	2	58.5	3.2	56.1	39.7	50	4	16.6	19.7	11.9	0.2
1877 Jan. 2	50	3	48.9	52.7	43.9	30.1	50	4	30.7	34.8	26.8	14.6

All fair.

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1876phae.proj.1393

90

ζ Pegasi 22 h 58 m 32 s +14 ° 32 ′ 0 ″

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1876phae.proj.1393.

π Cephei 23h 3m 56s +74° 4' 42"

1876

Oct. 24 #	40'	3	22.3"	23.2"	23.5"	20.1"	40'	4	26.9"	28.5"	28.5"	13.8"
29	40	3	19.8	23.8	21.0	4.2	40	3	34.1	37.8	35.7	17.1
30	40	3	1.9	5.4	4.9	44.0	40	3	17.9	22.7	21.2	3.0
Nov 4	40	3	15.1	17.4	18.9	1.8	40	3	32.1	34.8	35.5	19.2
	4 ♃s for inclination											
5	40	3	29.1	32.4	31.9	15.3	40	4	4.7	6.7	6.7	49.9
Dec. 10	40	3	45.1	51.3	43.6	18.8	40	4	3.5	7.9	1.7	36.4

no more

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1876phae.proj.1393.

Br. 3077 α 23 h 7 m 16 s +56° 28' 41"

1876

Oct.	25	55	1	55.9	55.2	1.1	46.2	55	2	44.0	45.1	48.3	35.4
	29	65	2	11.2	14.8	15.4	57.8	55	2	47.6	50.2	50.4	34.3
Nov.	4	55	2	7.0	8.0	11.7	56.1	55	2	43.4	44.9	47.5	33.0
	5	55	2	4.9	6.5	8.6	53.1	55	2	50.3	51.9	53.9	40.0
Dec.	6	55	2	9.9	15.2	9.2	54.3	not					
Dec.	10	55	2	12.4	16.6	10.1	48.3	55	2	48.2	52.4	46.8	27.4

no more

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1876phae.proj.1393.

ζ Piscium $23^h\ 10^m\ 41^s$ $+2°\ 35'\ 59''$
$2\ 35\ 59$

1876

Oct. 24	45	3	37.7	35.2	38.0	30.1	rej. 2nd δ					
29	45	3	40.9	41.1	41.9	29.2	45	4	40.7	41.3	40.2	31.3
Nov. 4	45	3	40.3	38.7	41.5	34.4	45	4	40.3	38.8	40.8	34.1
5	45	3	44.2	41.9	44.2	34.8	45	4	45.3	43.6	43.9	36.2
Dec. 6	45	4	45.4	47.2	41.2	30.6						
Dec 10	45	3	42.2	45.2	38.5	22.0	50	0	1.4	1.3	56.8	43.0

no more

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1876phae.proj.1393

94

ι Pegasi 2h 14m 27s +23° 3' 23"

1876

Oct 24 #	20	1	27.1	28.4	30.1	20.0	20	2	53.3	53.5	55.9	48.1
Nov. 4	20	1	46.0	47.2	49.3	39.1	20	2	40.5	41.9	43.5	34.7
5	20	1	40.0	41.6	43.7	31.2	20	2	39.1	40.9	41.9	30.8
Dec. 10	20	1	47.7	52.9	45.8	27.3	20	2	46.2	51.4	46.3	27.7
28	20	1	40.7	46.3	39.4	22.8						
1877												
Jan. 2	20	2	15.0	21.1	13.9	56.9						

last 1st more

no more

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1876phae.proj.1393.

ν Pegasi 23h 19m 9s +22° 42' 58"

1876

Oct. 24	#	40	1	54.1	54.1	56.2	46.9	40	3	17.2	18.2	18.9	11.1
29		40	2	7.8	10.5	10.0	56.2	40	3	4.4	8.6	6.8	55.0
Nov. 4	new sheet	40	2	0.9	1.9	4.6	53.6						
Dec. 10		40	2	52.5	56.1	50.1	33.0	rej. 2nd ⅛					
23		40	2	57.9	4.5	6.9	37.1	40	3	30.7	36.7	28.4	14.8
1877 Jan. 2		40	2	12.9	20.1	11.6	53.4	40	3	8.6	14.2	6.1	54.0

lost A+1
A3+foll.

no more

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1876phae.proj.13936

96

		h	m		°	′							
t Piscium		23	21		+5	40							
1876													
Oct.	24	40	3	29.1	28.5	30.1	24.1	40	4	21.4	20.5	21.6	16.1
	29	40	3	10.7	12.4	11.9	3.4	40	4	4.3	6.6	5.8	57.2
Nov.	4	40	3	10.4	9.1	11.9	4.8	40	4	11.2	10.7	13.2	6.3
Dec.	10	40	3	8.2	11.0	5.0	49.4	40	4	14.7	16.3	10.0	56.4
1877 Jan.	2	40	3	19.1	24.9	15.9	2.9	40	4	13.9	17.7	9.7	0.0

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1876phae.proj.1393.

λ Draconis 11 23 58 +70 1 14 109 59

1876

~~Oct. 24~~	25	4	36.6	38.7	41.5	26.2	25	4	10.6	10.3	16.5	0.2
29	25	4	39.9	44.9	43.3	25.4	25	4	22.6	29.0	29.3	9.5
Nov. 4	25	4	47.6	51.8	55.5	37.2	25	4	25.9	30.2	32.7	16.6
Dec. 23	25	4	38.0	48.2	42.2	16.5	25	4	20.2	30.0	23.2	1.5

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1876phae.proj.1393

72 Pegasi 23 27 32 +30 36.

1876

~~Oct. 24~~	~~45~~	~~1~~	~~47.2~~	~~47.0~~	~~50.5~~	~~38.8~~	~~45~~	~~3~~	~~15.1~~	~~15.8~~	~~17.9~~	8.2
29	45	2	24.3	27.4	27.2	13.2	45	3	8.4	12.5	10.9	58.8
Nov. 4	45	2	0.9	1.5	5.1	53.5	45	2	55.6	56.3	58.8	48.2
Dec. 4	45	2	10.5	16.0	11.9	52.9						
10	45	2	5.1	10.3	4.5	45.3	45	3	7.0	10.6	6.5	48.2
23	45	2	31.8	38.1	32.1	11.6	45	3	16.7	22.3	14.	0.3
1877 Jan. 2	45	2	11.1	17.1	10.1	52.7	45	3	0.7	6.6	59.0	43.8

no more

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1876phae.proj.1393.

* Andromedae 23h 31m 27s +45° 46′ 51″

1876

Nov. 4	35	3	36.0	37.2	39.9	25.5	35	4	31.5	33.2	34.8	20.5
Dec. 4	35	3	32.2	37.0	32.6	12.8						
10	35	3	34.8	38.9	33.4	12.2	35	4	25.2	29.3	24.0	1.8
1877 23	35	4	5.9	12.1	5.2	42.9						
Jan. 2	35	4	20.6	27.1	19.6	58.9	35	4	52.4	58.9	51.1	33.0

lost 1/4 & 1/2 wires

incl. wire + pt.

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1876phae.proj.1392

100

	h	m	s	°	′	″
ζ Cephei	23	34	31	+~~4~~ 76	~~56~~ 55	~~56~~

1876

	′	′	″	″	″	″						
Oct. 24 #25	4	54.8	56.2	57.2	41.6	30	1	5.7	7.5	7.0	52.2	
Oct 29 25	4	38.1	42.2	39.4	21.8	25	4	54.9	59.5	57.2	37.6	6 obs. for inclination
Nov. 4 30	0	24.0	26.9	28.2	10.4	30	0	41.5	44.2	43.7	28.4	
Dec. 4 25	4	47.9	54.6	47.4	25.4	30	0	1.9	8.3	2.8	40.8	40 obs for inclination
23 25	4	37.8	2.7	58.8	29.0	30	0	11.5	18.4	8.8	46.6	

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1876phae.proj.1393.

Cephei h m s ° ′ ″
41 H. ~~Lacertæ~~ . 23 41 57 +67 6 44

1876

Oct. 29	15	3	47.0	51.8	49.7	30.1	15	4	5.1	10.7	8.6	50.2
	4 obs. for inclination											
Nov. 4	15	3	45.9	47.9	49.4	32.8	15	4	6.0	8.7	10.1	53.2
~~12~~	~~15~~	~~4~~	~~5.9~~	~~11.1~~	~~9.0~~	~~51.6~~	~~15~~	~~4~~	~~19.7~~	~~25.1~~	~~22.9~~	~~5.1~~
Dec. 4	15	3	47.8	55.4	46.9	27.5	15	4	11.8	18.3	11.6	51.0
23	15	3	47.1	54.3	55.4	24.6	15	4	0.1	1.6	0.4	36.8
1877 Jan. 2	15	3	43.5	52.2	43.9	21.1	15	4	1.5	9.9	1.5	38.4

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1876phae.proj.1393:

112

	h	m	s	°	′	″
ζ Pegasi	23	46	8	+18	25	34

1876

Nov. 4	lost 1st wire		1.9	59.4	4.4	54.4	0	0	46.2	45.4	48.8	40.2
Dec 4	55	4	30.5	31.8	28.1	11.9	0	0	32.2	33.2	29.3	17.2
23	55	4	29.8	34.9	25.5	10.7	0	0	35.3	38.4	31.6	26.4
Jan. 2	55	4	35.4	39.2	29.7	15.7	0	0	43.7	46.9	40.0	26.3
4	55	4	38.1	42.2	34.9	16.6	0	0	30.2	32.1	26.2	10.0

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1876phae.proj.1393.

ω Piscium 23h 52m 54s +6° 10' 16"

1876

Nov. 4	10	4	16.6	15.9	16.9	10.4	15	0	32.3	32.2	34.3	28.6
12	10	4	27.0	28.9	28.1	17.6	15	0	39.3	39.1	37.8	30.6
13	10	4	18.6	20.1	19.6	10.4	15	0	42.6	43.7	42.8	35.2
Dec. 4	10	4	25.9	28.4	23.1	10.2	15	0	29.6	32.5	27.3	17.3
23	10	4	26.6	33.2	25.3	11.7	15	0	31.2	36.4	29.7	16.8
Jan. 2	10	4	31.0	36.4	28.9	14.8	15	0	37.7	41.4	33.8	23.0

some wrong

wy. A +2 +A

no more

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1876phae.proj.1393

104

30 Piscium $2^h\ 23^m\ 55^s\ 31\ -6^\circ\ 4'\ 2''\ 31$

1876

Nov. 4	5	1	52.9	47.5	52.3	43.4						
12	5	2	7.2	5.8	6.3	54.2	5	2	56.3	52.6	54.1	43.7
13	5	2	7.1	4.4	5.9	54.0	5	2	56.7	54.6	54.5	44.8
Dec. 4	5	1	55.9	55.4	51.9	38.4	5	2	56.7	57.6	53.3	41.9
6	5	1	57.1	57.3	54.0	39.2	5	3	9.3	8.4	3.7	51.0
13	5	2	10.8	12.1	58	50.7						

no more

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Gr. 1852 $11^h\ 58^m\ 52^s$ $+77^\circ\ 36'\ 16''$ 10 2 24

1876

Nov. 4	0	3	54.3	56.9	1.9	41.9	0	3	44.8	48.6	52.8	33.8
12	0	3	57.9	2.5	4.4	42.3	0	3	43.3	48.1	46.9	29.5
13	0	4	14.8	20.1	20.3	0.3	0	3	46.3	50.8	52.9	31.3
Dec. 6	0	3	47.9	55.2	51.1	25.9	0	3	39.1	47.2	41.7	20.0
	lost 1st 2 wires											
23	0	3	51.6	1.1	55.5	29.7	~~0~~	~~4~~	~~36.1~~			
	4 strokes for 1st 8				ref. 2nd 8							
24	0	4	19.8	28.5	21.7	5.1						

no more

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h m s ° ′
α Andromedæ 0 1 40 +28 22

1876

Nov. 4 0 1 3.6 4.7 ~~7.2~~ 54.7 0 2 19.6 ~~21.1~~ ~~24.4~~ 11.6

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γ Pegasi 0 6 32 +14° 27′

1876

~~Nov.~~4 55 0 37.4 35.5 37.7 29.5 55 1 ~~46.8 45.6~~ 47.3 40.3

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Observations of
Pole stars for Equation
Point-Correction.

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Iris Nemausa

~~Polaris~~ 18 12

Sept	50	0	51.2	50.1	50.1	40.4		50	47.95
2	50	0	57.2	56.4	56.9	45.2			53.92
2	50	1	1.5	0.1	0.3	50.2	J. F. M.		58.02
2	50	1	6.1	4.9	4.5	53.4			62.72
2	50	1	9.2	8.1	7.9	56.1			65.82
2									
	50	1	11.7	11.2	9.9	0.5		51	8.32
Sept-2	50	1	17.7	17.4	15.8	4.5	W. A. R.		14.60

Daphne (L.C. N.G.S.)

	50-1								
Sept 2.	40	2	11.9	10.9	10.8	59.5		42	5.77
	40	2	7.1	6.1	5.6	56.0			0.20
	40	2	2.9	0.5	1.4	50.9			58.92
	40	1	56.1	54.1	55.5	44.1	J. F. M.		52.45
	40	1	51.5	50.2	51.4	40.4			48.37
	40	1	48.0	46.9	47.1	36.7			44.65
	40	1	44.1	42.2	42.9	31.8			40.25
	40	1	41.6	40.5	40.5	29.4			38.00
	40	1	38.5	37.3	37.3	27.1		41	35.05
	40	1	34.3	33.6	33.2	24.3	W. A. R.		31.35
Sept. 2	40	1	30.2	28.4	28.9	18.7			26.55

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λ Ursa Min $19^h 49^m$

1876

Sept.	2	30	1	34.5	34.1	33.3	21.8
	2	30	1	37.4	36.9	35.8	26.1
	2	30	1	38.7	38.1	36.5	25.7
	2	30	1	39.6	39.4	37.7	27.1
Sept.	2	30	1	40.6	39.9	38.1	28.1
Sept.	2	30	1	41.1	41.1	38.6	28.3
	2	30	1	41.3	40.6	39.1	28.8
	2	30	1	41.8	41.1	39.1	29.4
	2	30	1	42.5	41.9	41.2	30.6
Sept.	2	30	1	43.8	43.8	41.6	33.1

J.F.M.

Oh. J.

W.A.R.

Sept. 3 Polaris L.b.

5	1	30.6	32.3	33.3	22.8
	1	27.1	28.6	30.0	19.4
	1	26.6	28.7	29.6	19.8
	1	25.4	27.2	28.4	18.3
		25.0	26.5	27.6	17.8

J.F.M

	5	1	30.6	27.1	26.6	25.4	25.0
I			32.3	28.6	28.7	27.2	26.5
G			33.3	30.0	29.6	28.4	27.6
L			22.8	19.4	17.8	18.3	17.8
			29.75	26.27	25.68	24.82	24.22

W.A.R. Sept 3

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1876phae.proj.1393.

δ Was. Min 18h 12m 1876 Sept. 3

Sept-3

	°	′	″	′	″	′	″	′	″	′	″
E	50	0	50.5	0	58.3	1	1.7	1	6.9	1	9.9
F			50.1		58.1		1.9		6.4		9.5
G			51.0		59.1		1.9		6.1		9.4
H			40.5		48.9		51.9		56.0		59.8
		0	48.02	0	58.10	0	59.35	0	63.81	0	67.14

J.F.M.

	°	′	″	′	″	′	″	′	″	′	″
E	50	1	12.4	1	16.8	1	21.5	1	24.8	1	28.6
F			13.6		17.3		21.8		25.4		29.2
G			12.3		17.9		20.9		25.8		29.0
H			3.6		7.1		11.4		15.6		18.8
		1	10.47	1	14.77	1	18.90	1	22.90	1	26.40

W.A.R.

5 Cephei 18 41 (L.C. R.4.8)

	°	′	″	′	″	′	″	′	″	′	″
E	40	2	11.4	2	3.1	1	57.0	1	52.9	1	47.4	1	40.9
F			11.1		2.9		56.9		52.5		46.4		40.6
G			12.5		3.9		58.1		54.1		47.9		40.9
H			1.1		53.2		46.6		42.7		37.0		30.7
		2	9.02	2	0.77	1	54.45	1	50.17	1	44.67	1	38.27

J.F.M.

	°	′	″								
E	40	1	36.5		33.4						
F			36.3		32.7						
G			37.1		33.5						
H			26.5		22.4						
		1	34.1	1	30.3						

W.A.R.

δ Was. Min 19h 49m

	°	′	″		″		″		″		″
E	30	1	36.0		37.2		38.3		40.9		40.5
F			36.1		37.1		38.9		40.4		40.0
G			34.7		36.2		37.5		38.9		39.2
H			24.6		25.6		28.2		28.9		27.9
			32.90		34.02		35.72		37.27		36.90

J.F.M.

	°	′	″								
E	30	1	41.8		43.3		44.6		46.1		45.9
F			42.4		43.6		44.7		46.2		45.6
G			39.8		41.4		43.1		44.2		44.2
H			31.0		32.2		33.0		35.6		34.9
			39.25								

W.A.R.

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1876phae.proj.1393.

S Ursæ Min. 18h 2m 1876. Sept. 5

		′	′	″	″	′	″	′	″	
	50	0	52.2	58.1	1	1.9	1	7.4	
F			52.9	58.4		1.6		7.4	17m.
G			52.2	57.9		0.7		6.3	
H			41.5	48.3		51.9		57.2	

E	50	1 9.5	14.2	19.5	
F		9.9	15.6	19.4	W.A.R.
G		8.8	13.8	18.3	
H		59.5	4.8	8.6	

51 Cephei 1h 18m 41s

E	40	2 16.9	11.0	7.6	1.9	1 57.9	1 51.1	47.1	42.1	
F		17.2	10.7	7.2	2.1	57.9	51.9	47.6	42.7	17.7m
G		16.7	10.8	7.1	1.9	58.9	51.4	47.9	42.9	
H		6.1	1.3	56.8	51.2	47.1	40.2	35.4	32.1	

E	40	1 40.0	36.5	31.9	28.7	
F		39.8	36.1	32.2	28.3	W.A.R.
G		39.6	35.9	31.7	28.8	
H		29.1	25.6	21.6	17.3	

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δ Ursæ Min. h 18 m 12

1876. Sept. 6

		′	′	″	″	′ ″						
E	50	0	49.5	56.4	1 3.9							J.F.m.
H			50.9	57.4	4.4							
H			50.9	56.4	3.9							
H			40.2	47.2	53.6							
			47.88	54.80	1.45							
						″	″	″	″	″	″	
E	50	1	7.6	11.8	16.6	19.9	24.5	27.7	31.3	34.7	38.2	W.A.R
H			9.1	13.7	17.8	21.6	25.8	29.7	33.5	36.2	39.8	
H			8.3	13.8	17.2	21.2	25.7	29.3	32.9	35.3	38.8	
			5.3	3.3	8.2	11.7	15.9	19.7	22.9	25.4	28.6	
		1	6.22	10.65	14.95	18.65	22.97	26.60	30.15	32.50	35.82	

No near edge of field.

51 Cephei h 18 m 41 (L.C. K.G.S.)

E	40	2	13.9	8.5	2.0	1 58.6	53.7	48.1	44.9	40.9		J.F.m.
H			14.6	9.4	3.1	59.1	54.5	49.1	45.4	41.6		
H			14.2	10.0	4.0	0.5	55.9	51.0	46.3	42.1		
			4.1	58.9	57.3	49.1	44.6	39.0	35.0	30.9		
			11.70	6.10	1.60	58.82	52.18	46.80	42.50	~~38.38~~ 38.87		
E	40	1	37.1	33.9	30.6							W.A.R
H			38.4	34.4	31.5							
H			38.3	35.2	32.2							
			27.8	25.1	22.5							
			35.40	32.15	~~29.50~~							

λ Ursæ Min. h 19 m 49

E	30	1	35.5	36.6	37.7							J.F.m.
H			37.0	37.9	39.3							
H			36.5	36.2	38.1							
			24.5	26.1	27.9							
			~~28.37~~	34.20	35.75							
E	30	1	38.2	39.8	40.4							W.A.R.
H			39.9	41.2	41.8							
H			36.7	40.6	41.1							
			~~28.5~~	30.4	31.2							
			36.32	38.00	38.62							

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51 Cephei 6h 41m (L.C. R93)

Oct 2, 11

A	40	1	28.7	40	1	26.1	1	22.0	1	20.5	1	19.9	1	12.4
F			33.1			30.4		25.9		23.7		22.8		16.2
G			35.0			32.5		28.4		26.8		25.8		18.4
H			21.3			18.4		15.0		12.6		11.8		4.4
			29.52			29.35-		22.82		20.90		20.38		12.85-

J. F. M

E	40	1	9.6
F			13.5
G			14.5
H			1.1 9.67

5-1 Cephei 18 41 Morning (R.43)

10	3	3 46	42.4	4' 41	10.1	18.5
		38.3	46.3	7.8	14.2	22.4
		37.6	45.2	6.6	11.1	20.2
		25.0	32.7	5.42	0.0	8.8
		33.87	41.65-	3.18	8.85-	17.48

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1876 Oct. 3

S Wes. Mn. 18 12

	h	m								
♎ 50	0	10.9	17.6	24.9	29.9	37.3	44.1	49.9	55.3	1 1.2	6.5
♐		16.2	22.5	30.3	35.4	42.2	49.6	54.2	0.9	6.9	11.2
♑		16.1	22.8	30.5	35.6	41.9	49.1	54.4	0.1	6.0	11.0
♓		2.4	9.1	16.9	21.6	29.5	35.9	40.9	47.4	52.4	57.9
		56	120	1026	1225	1569	1757	1994	2237	65	2666
		11.40	18.00	25.65	30.62	37.72	44.67	49.85	55.92	1.62	6.65

50	1	10.8	14.6	19.3	24.2	27.2	31.8	33.1
		15.6	19.8	24.0	29.1	32.2	37.0	37.5
		14.8	19.8	23.8	29.9	31.9	35.4	37.4
		1.9	6.4	10.9	16.3	18.8	22.4	24.9
		31	606	780	995	1101	1266	1329
		10.77	15.15	19.50	24.87	27.52	31.65	33.22

J. F. M.

51 Cephei Tuning ~~26 (7.48)~~

10	4	5.58	5-4.4	9.3	12.2	16.0	17.8	21.4	20.4	23.7
		5.86	7.0	12.8	16.9	19.6	21.3	25.7	24.4	27.8
		5.89	5.7	10.7	15.0	17.5	19.9	24.6	22.4	26.9
		4.61	5.53	0.0	3.9	6.6	8.3	12.0	10.2	14.2
	(4)	5.490	(5) 3.18	8.20	12.00	14.95	16.82	20.92	19.35	23.15

J.A.R.

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1876phae.proj.1393.

51 Cephei 6h 41m (L.6.R43)

Oct 2, 11

40	1 28.7	40 1 26.1	1 22.0	1 20.5	1 19.9	1 12.4
	33.1	30.4	25.9	23.7	22.8	16.2
	35.0	32.5	28.4	26.8	25.8	18.4
	21.3	18.4	15.0	12.6	11.8	4.4
	29.52	29.35-	22.82	20.90	20.38	12.85-

J. T. M

40	1 9.6	
	13.5	
	14.5	
	1.1	9.67

51 Cephei 18 41 Nov 2 Morning (R.43)

10 3	34.6	42.4	4' 4.1	10.1	18.5
	38.3	46.3	7.8	14.2	22.4
	37.6	45.2	6.6	11.1	20.2
	25.0	32.7	5.42	0.0	8.8
	33.87	41.65-	3.18	8.85-	17.48

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1876phae_proj.1393.

1876 Oct. 3

S Wes. Mn. 18 12

	h	m								
& 50	0	10.9	17.6	24.9	29.9	37.3	44.1	49.9	55.3	1 1.2	6.5
♂		16.2	22.5	30.3	35.4	42.2	49.6	54.2	0.9	6.9	11.2
♃		16.1	22.8	30.5	35.6	41.9	49.1	54.4	0.1	6.0	11.0
♅		2.4	9.1	16.9	21.6	29.5	35.9	40.9	47.4	52.4	57.9
		56	120	1026	1225	1569	1957	1994	2237	65	2666
		11.40	18.00	25.65	30.62	37.72	44.67	49.85	55.92	1.62	6.65

50	1	10.8	14.6	19.3	24.2	27.2	31.8	33.1
		15.6	19.8	24.0	29.1	32.2	37.0	37.5
		14.8	19.8	23.8	29.9	31.9	35.4	37.4
		1.9	6.4	10.9	16.3	18.8	22.4	24.9
		31	606	780	995	1101	1266	1329
		10.77	15.15	19.50	24.87	27.52	31.65	33.22

J. F. M.

51 Cephei Jimmy ~~R.A.~~

10	4	5.58	5-4.4	9.3	12.2	16.0	17.8	21.4	20.4	23.7
		5.86	7.0	12.8	16.9	19.6	21.3	25.7	24.4	27.8
		5.89	5.7	10.7	15.0	17.5	19.9	24.6	22.4	26.9
		4.61	5.53	0.0	3.9	6.6	8.3	12.0	10.2	14.2
	(4)	5.490	(5) 3.18	8.20	12.00	14.95	16.82	20.92	19.35	23.15

J.A.R.

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1876phae.proj.1393.

1876, Oct. 9

Ebers. Min.

	50	0	17.0	23.3	26.9	30.6	37.0	41.7	46.1	52.9	58.9	1 2.1
F			24.3	30.8	34.1	37.9	43.9	48.2	53.1	59.2	5.1.	8.9
G			23.1	29.9	33.1	36.1	42.6	47.3	52.1	58.9	3.9	7.1
H			7.7	13.1	16.4	21.6	28.1	32.9	37.9	43.7	49.7	51.8
			721	971	1125	1262	1516	1701	1892	2147	2376	99
			18.02	24.27	28.12	31.55	37.90	42.52	47.30	53.67	59.40	6247

E	50	1 9.4	12.9	16.8	20.4	24.6	28.1	31.7	34.2	36.0
F		15.4	18.9	22.8	26.4	30.9	33.8	37.9	40.7	41.9
G		13.4	17.5	21.1	25.8	29.4	32.8	36.1	39.7	40.7
H		0.1	2.9	7.2	11.9	15.9	18.8	22.1	25.0	26.1
		383	522	679	845	1008	1135	1278	1396	1447
		9.57	~~11.0~~ 13.05	16.97	21.12	25.20	28.37	31.95	34.90	36.17

F F m

~~51~~ Dolphin ~~L~~ L C.

40	2	10.4	5.9	1.4	1	53.7	47.1	42.3	37.4	34.1	30.3	25.2
		16.1	11.8	6.6		59.9	53.0	48.2	43.0	40.1	35.4	31.1
		15.2	11.0	6.7		59.9	53.1	47.6	42.6	39.1	35.4	30.8
		0.9	58.4	51.9		45.2	39.8	31.9	26.5	22.9	18.4	16.9
		426	2671	66		2187	1930	1700	1495	1362	1195	1040
		10.65	6.77	1.65		54.67	48.25	42.50	37.32	34.05	29.87	26.00

40	1	21.8	18.7	14.9	11.9	9.4	7.9	5.4
		26.9	23.7	20.4	17.6	14.3	13.2	11.4
		27.4	23.8	20.3	16.6	13.9	12.9	10.8
		11.1	9.3	5.8	2.1	5.97	5.82	5.48
		72	765	614	82	2773	2722	2624
		21.80	19.12	16.35	12.05	9.32	8.05	5.60

Y F m

Mass Min. 1949

30	1	43.9	41.8	42.1	41.5	42.8
		43.9	42.2	41.5	46.9	47.7
		45.9	44.9	45.7	44.9	45.6
		30.8	29.4	30.6	30.9	30.7
		169.5	158.3	165.9	164.2	166.8
		42.38	40.82	41.48	41.05	41.70

Y F m

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1876phae.proj.1393.

Oct-9 1876

~~25 2 135 17~~
~~173~~
~~460~~
~~13~~

51 Lesphia

~~5~~ 10 3 20.8 28.4 38.4 42.6 56.9 3.8 8.5 11.8 16.4 21.4 23.4 25.5 27.3
26.8 35.4 43.9 48.1 2.1 8.4 13.6 17.2 21.7 26.8 28.8 31.1 32.5
24.3 31.8 40.1 44.6 58.4 5.2 9.8 13.5 17.9 23.7 25.1 27.8 28.6
9.6 11.8 26.3 3.10 44.7 8.22 5.66 0.3 3.9 9.3 11.8 13.9 15.4
8.15 11.37 41.58 55.52 2.40 7.12 10.70 14.97 20.30 22.28 24.58 26.02
~~53~~ 13 20.37 28.42 37.25

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1876, Oct 10

30 1 28.2
34.9
32.9
17.2
113.2
26.80

Seeing Good 1 2 3

	Hour. Min.	1	2	3	4	5	6	7	8	9	10	11
Co	30 0	58.5	102.1	3.9	7.5	9.8	12.1	19.9	20.7	22.5	25.4	26.7
A		5.3	8.5	10.9	14.1	16.8	17.6	27.2	28.4	29.5	33.0	33.8
G		4.4	7.1	9.6	11.9	14.9	15.9	25.9	27.2	28.6	31.4	31.6
Ho		4.26	51.2	52.8	57.4	59.1	2.1	8.8	10.0	12.1	17.1	16.1
			2584	2572	2709	2806	477	818	863	9.27	1069	1082
			6440	64.30	67.72	70.15	15.68	20.45	21.58	23.17	26.72	27.05
			02.22									

Seeing bad

5-1 Graphic Measuring

		1	2	3	4	5	6	7
10	25-3.3	81	15.7	22.9	30.2	36.4	42.9	
	4.6	13.2	20.9	28.6	35.7	41.8	49.6	
	5.3	10.2	17.3	24.1	32.7	39.2	46.3	
	4.13	55-6	4.7	11.7	19.1	21.7	33.2	
	52.12	4.78	14.5			35.78	42.78	

Seeing bad

		8	9	10	11	Last-	13	14	15	16
3	5 3.2	1.7	5.0	10.7	15.5	19.8	21.4	24.2	25.4	
	1.2	5.3	10.4	16.0	21.1	25.6	26.6	30.3	31.2	
	5.2	3.9	7.2	12.7	17.2	21.9	23.4	27.2	28.1	
	4.49	5.00	5.37	5.99	6.3	6.8	10.0	12.9	14.4	
	55.12	0.48	4.08	9.82	14.28	19.02	20.35	23.65	24.78	

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1876, Oct. 11

S Ursa. Min. 18 14

50 0 38.1	44.0		1 6.9	10,0	15.0	19.6	22.3	28.0	
45.0	50.8		13.1	16.1	21.1	26.2	28.4	34.9	
42.1	48.0		10.9	14.1	19.0	24.5	26.5	32.5	
26.1	33.7		54.6	59.7	3.4	10.3	9.9	15.7	
15 13	11 65		26 55	27 99	5 85	8 06	7 1	11 11	
37.82	44.12		6.37	9.97	14.62	20.15	21.77	27.77	

51 Cephei 6 41 L.C. (R.4.3) Seeing good

40 2 3.1	56.9	51.5	47.9	42.1	38.5	32.6	27.8	22.1	16.9
9.7	4.0	57.5	53.1	48.2	43.9	38.4	33.9	28.7	23.1
7.9	1.9	56.9	52.8	47.4	42.1	36.4	32.1	27.7	22.0
51.0	46.9	39.0	36.5	30.2	25.9	21.9	15.9	9.7	6.2
25 17	22 97	20 49	19 03	7 9	15 04	13 13	10 9 7	8 2	6 8 2
6 29 5	57.42	51.22	47.57	41.97	37.60	32.82	27.42	22.05	17.05

N Ursa Min.

30 1 4.6	6,1	9.9	11,1	26.3	27.4	29.2	31.0	32.7	33.9
10.1	12.2	16.1	17.0	32.1	34.2	36.1	37.7	39.5	39.9
7.2	9.8	12.9	14.1	29.7	31.4	32.9	34.4	36.4	36.1
51.8	52.8	56.7	58.7	14.5	15.9	17.7	17.4	22.2	20.8
25 37	26 09	27 56	28 09	1 02.6	1 08 9	1 15 9	1 20 5	1 30 8	1 30 7
63,42	65.22	68.90	70.22	25.65	27.22	28.97	30.12	32.70	32,68

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1876, Oct. 12

λ Eas. Min. 19 49 seeing bad.

		1	2	3	4						
E	30 0	55.0	59.0	1 3.1	7.0	7.3	8.1	11.4	1 24.4	26.1	27.8
F		3.1	7.4	11.7	12.8	16.0	16.0	19.0	31.5	33.1	36.4
G		1.3	4.5	7.7	9.9	12.2	13.3	15.5	28.9	30.9	33.0
H		44.9	48.2	52.9	53.6	57.4	55.9	58.8	11.1	12.6	15.1
		2241.3	2391	2554	2017	2729	2733	2847	959	1027	1123
		56.08	59.78	63.85	67.12	68.22	68.32	71.18	23.97	25.68	28.08

E	1 29.1	30.0	32.8	34.6	
F	36.5	38.4	41.1	42.9	
G	33.6	35.1	37.9	38.9	
H	17.1	18.6	21.5	22.4	
	1163	1221	1333	1388	
	29.07	30.52	33.32	34.70	

J. F. M

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Oct. 15

Mean. Min = 19 49

30	10.1	3.9	10.8	27.2	31.1	33.9	33.1	39.1
	7.8	11.3	18.6	34.9	38.7	42.0	41.0	46.4
	2.9	6.1	13.0	30.2	33.6	37.0	36.2	41.5
	45.7	50.1	57.1	12.8	15.7	19.1	18.9	24.1
	236.5	257.4	279.5	105.1	119.1	132.0	129.2	151.1
	59.12	64.35	69.87	26.28	29.87	33.00	32.30	37.78

2 m

2 Mean. Min. 1 12 Morning

	1	2	3	4	5	6	7	8	9	10	11
5 3	24.0	18.6	11.6	7.0	3.0	2 57.0	52.9	51.1	48.7	41.9	36.9
	31.6	28.1	20.9	16.1	11.3	5.1	1.1	59.2	54.7	49.7	45.4
	26.4	23.5	16.9	10.8	7.6	2.4	58.4	55.4	51.7	51.5	42.4
	9.1	4.9	56.0	51.9	48.1	42.0	38.4	35.9	31.7	28.42	24.1
	911	751	2874								
	22.78	18.78	71.85								

	12	13	14	15	16	17	18	19	20	21
2	36.6	30.8	24.9	21.7	16.1	16.1	15.0	12.2	12.8	14.8
	45.4	39.6	35.0	29.9	24.0	24.0	22.4	20.1	21.3	23.6
	40.5	34.1	30.9	26.0	20.5	19.2	18.6	17.2	17.5	19.9
	22.2	15.9	11.4	5.8	2.8	0.5	59.2	58.2	59.1	0.6
				834	634	598	2952	2877	2907	591
				20.85	15.85	14.95	73.80	71.92	72.68	14.78

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1876, Oct. 16

λ Hor. Mon. 1949

2 m

30	I	11.5	12.7	14.8	17.1	33.9	34.7	33.9	36.1	36.9	37.9
		21.5	22.5	25.3	27.1	43.9	43.4	44.8	49.7	46.1	47.3
		17.3	18.5	20.8	22.5	38.9	38.9	39.4	40.1	40.7	42.4
		58.0	59.3	2.2	4.1	20.5	21.2	22.0	22.5	21.1	23.5
		2883	2930	631	708						
		72.08	73.25	15.78	17.70						
	I	39.1	39.2	37.9	38.3	38.3	39.6	39.2			
		48.1	48.2	47.5	48.4	48.2	49.1	49.4			
		42.0	42.1	42.1	42.5	42.4	42.8	42.1			
		24.6	24.9	24.3	24.2	24.7	24.6	24.9			
		1538	1544	1518	1534	1536	1561	1556			
		38.45	38.60	37.95	38.35	38.40	39.02	38.90			

2 strokes for δ

long basket 2

J. P. M

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1876, Oct. 17

λ Was. Min. L 19 m 49 seeing Tolerable

E	30	1 1.9	7.9	11.6	20.1	27.9	28.3	29.9	~~32.8~~ three strokes	34.1	34.9	37.5
F		11.3	16.4	19.8	29.0	37.1	37.4	39.3	42.5	42.6	43.9	45.6
G		5.4	10.1	13.9	22.9	31.4	31.2	33.9	35.2	36.1	37.4	39.6
H		47.3	52.1	57.0	4.1	12.2	13.4	15.6	16.4	18.9	20.4	21.1
		2459	2665	2823	761	1086	1103	1187	1269	1317	1366 ~~3553~~	1438
		61.48	66.62	70.58	19.02	27.15	27.58	29.67	31.72	32.92	34.15	35.95

	37.5	37.4	39.6	40.4	39.1	40.0
	46.1	46.3	48.2	48.0	48.2	48.0
	39.6	39.1	41.9	42.1	41.9	42.1
	22.2	21.1	23.7	24.3	23.7	24.3
	1454	1439	1534	1544	1529	1544
	36.35	35.98	38.35	38.60	38.22	38.60

J. F. M.

L Was. Min. L 1 m 11 L.C. (morning R.A.S.)

E	53	13.7	8.9	3.3	2 55.9 long rattle, 1 more and 2 of last 5	50.0
F		22.9	18.1	12.5	6.0	0.1
G		18.1	12.5	8.0	1.9	55.7
H		0.3	53.9	48.0	43.0	36.9
		550	2734	2518	2268	2027
		13.75	8.35	2.95	56.70	50.67

J. F. M.

E	52	47.4	44.2	40.2	36.5	32.8	20.3	14.9
F		56.9	52.2	48.2	45.6	41.8	41.2	23.8
G		51.3	47.0	43.3	40.1	36.7	34.1	18.9
H		36.6	29.7	25.8	22.8	18.8	17.8	1.7
		1922	1731	1575	1450	1301	1234	593
		48.05	43.27	39.37	36.25	32.52	30.85	14.82

W. A. R.

E		11.6	7.0	1.0	1 56.4
F		19.9	14.4	9.9	6.4
G		14.7	10.4	4.7	1.8
H		56.8	52.4	46.1	43.1
		2830	2642	2417	2277
		10.75	6.05	0.042	56.92

J. F. M.

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1876, Oct. 17

Mean Time. h m 1 11

Sidereal.

E	47.2	46.2	45.8	45.5	44.5	45.1	43.8	45.6	44.6	
F	54.8	54.3	54.0	53.0	53.0	53.3	52.7	53.6	52.7	
G	50.6	49.0	49.1	47.4	48.4	48.6	47.1	48.2	47.7	
H	32.6	31.7	31.7	31.5	30.4	32.0	30.3	31.3	31.0	
	1852	1812	1806	1774	1763	1790	1739	1787	17.60	
	46.30	45.30	45.15	44.60	44.07	44.75	43.47	44.67	44.00	

2 rattles after 5

3 rattles after 5

44.9
53.7
47.6
31.0
1772
44.30

44.9
53.7
48.3
31.5
1784
4460

W. A. R.

Drum shutter open during the whole series of observations

1876phae.proj.1393.

1876, Oct. 18

λ Wash. Mn. = 19 49

Leipzig Mark.

E	30 1	8.5	10.4	18.9	26.5	28.4	29.6	31.0	31.4	32.9	35.2
F		18.2	19.9	28.9	36.5	38.1	38.6	40.7	41.5	41.9	43.9
G		12.9	14.0	22.9	31.3	32.5	33.1	34.9	35.7	36.4	38.9
H		52.8	55.1	4.8	11.9	14.5	14.3	16.5	17.9	19.4	21.2
		724	2794	755	1062	1135	1156	1231	1265	1306	1342
		18.10	985	18.87	26.55	28.37	28.90	30.77	31.62	32.65	34.80
E	1	35.1	35.7								
F		43.4	45.0								
G		37.9	38.9								
H		19.3	21.8								
		1357	1414								
		35.18	35.45								

J. F. M

Oct. 18 λ Wash. Mn. L.b. Mark Leipzig new bond.

25	0	33	4	20	54.3	48.4	25.0	21.1	17.5	13.9	11.2	8.5	6.9	4.7	2.2
		11.8			8.53	5.52	32.7	29.1	25.7	22.1	18.4	17.1	15.7	13.1	10.7
		5.3			8.43	5.48	25.6	21.4	18.5	14.3	11.8	8.4	7.7	5.3	3.2
		49.9			4.13	8.97	8.7	3.9	1.0	69.0	55.0	52.7	51.4	48.7	46.2
		2503					920	755	603	473	374	2667	2617	2518	2423
		2.57					23.00	18.88	15.07	11.82	9.35	6.67	5.42	2.95	0.57
α		03			56.3										
		93			6.7										
		1.7			59.7										
		452			430										
		2365			2257										
		59.12			56.42										

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1876, Oct. 18 Morning (L.C. R.9.5) South Shutter open for the first 5 Observations

Sliding rod

W.A.R.

Observer Mean Time: h m 1: 11

5 3	15.3	10.0	6.5	3.8	2 59.1	57.2	53.2	52.1	49.7	45.1
	~~14.2~~	20.0	15.3	12.8	7.9	56.2	52.4	50.9	57.3	53.7
	19.7	14.6	10.3	7.5	3.6	1.3	58.7	56.8	52.7	49.2
	5~~0~~4	57.3	53.3	50.7	46.0	43.0	40.1	39.9	35.2	31.6
	2826	2819	2654	2548	2366	2177	2044	1997	1949	1796
	13.90	10.47	6.35	3.70	59.15	54.42	51.10	49.92	48.72	44.90

W.A.R.

J.F.M.

5 2	40.2	35.6	33.3	28.6	27.8	25.1	20.9	17.1	15.4	15.1
	49.0	46.0	43.4	38.9	38.4	34.1	30.2	27.1	24.1	25.1
	49.7	41.8	36.5	34.8	33.6	30.0	27.1	23.2	20.0	19.9
	25~~0~~	23.4	21.1	17.2	16.9	12.9	8.6	5.9	3.9	3.7
	1608	1468	1363	1195	1167	1021	868	733	634	638
	46.70	36.70	34.07	29.87	29.17	25.52	21.70	18.32	15.85	15.95

J.F.M.

long rattle

2	11.1	11.5	7.3	5.9	4.4	1.1	1~~0~~59.2	56.8	56.1	53.1
	20.1	19.4	15.4	15.1	13.2	10.0	8.4	5.8	5.8	1.2
	15.1	15.1	11.9	10.1	8.9	5.5	3.5	1.1	0.6	57.8
	57.9	58.8	55.0	53.9	52.3	48.4	46.1	44.4	42.5	40.0
	2842	2848	2696	2650	2588	2450	1172	1080	1050	1521
1	11.05	11.20	7.40	6.25	4.70	1.25	59.30	57.00	56.25	53.02

two rattlesnakes

breaker open

J.F.M.

1	52.8	51.6	52.1	50.2	48.1					
	1.8	1.1	0.5	59.4	57.2					
	58.1	56.8	56.5	55.1	52.9					
	40.2	39.9	37.8	36.9	35.2					
	1529	1494	1465	2016	1934					
	53.2	52.3	51.72	50.40	48.35					

J.F.M.

W.A.R.

1	48.1	48.7	47.2	47.4	48.1	46.7	46.5	45.7	45.8	46.2
	56.9	56.6	55.8	55.2	56.7	54.8	54.8	54.8	53.9	54.2
	51.3	52.1	50.9	50.7	52.1	50.1	49.4	49.2	48.9	48.9
	34.9	35.1	35.2	33.7	35.5	34.7	33.8	33.7	33.5	32.0
	1912	1925	1891	1870	1924	1863	1845	1834	1821	1813
	47.80	48.12	47.28	46.75	48.10	46.58	46.12	45.85	45.52	45.32

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1876, Oct. 19

Greenwich Mean Time 19 49

W. A. R. seeing Newbold.

	h	m									
	30	0	233	32.7	37.7	41.8	46.2	51.8	56.1	58.0	4.4	7.8
W. A. R.			238	42.7	47.9	51.4	56.6	60.4	5.8	8.5	14.1	56.6
			293	38.6	41.8	46.4	51.0	55.6	0.3	3.2	8.4	10.6
			118	20.5	25.7	28.8	33.2	35.1	43.8	45.5	51.5	54.6
				982	1345	1531	1684	1870	2059	2160	2362	2587	2496
				24.55	34.62	38.28	42.10	46.75	51.48	56.50	59.05	64.68	62.40

30	1	25.9	27.8	30.0	30.1	33.2	34.9	35.7	37.1	
J. F. M.		34.4	37.1	38.8	39.1	41.9	43.1	44.9	45.1	J. F. M.
		30.9	33.0	34.4	34.5	37.4	38.5	40.2	40.2	
		11.2	14.3	15.2	16.1	19.0	20.1	21.1	22.3	
		1024	1122	1184	1198	1315	1366	1419	1447	
		25.60	28.05	29.60	29.95	32.87	34.15	35.48	36.18	

30	1	38.6	39.6	40.8	40.8	40.2	41.6	27.1	
W. A. R.		46.8	47.7	48.8	48.7	48.3	48.9	35.4	
		41.6	43.0	43.3	43.2	43.2	44.1	30.2	W. A. R.
		25.2	34.7	25.9	25.9	25.9	26.2	12.4	
		1522	1650	1588	1586	1576	1608	1051	
		38.05	41.25	39.70	39.65	39.40	40.20	26.28	

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1876phae.proj.1393.

1876, Oct. 24 Mommy

2 Coss. Min = 1h 11m (L.C. R.A.) J.F.M.

	5 2 39.1	35.2	23.4	19.1	3.4	1.7	1 59.6	57.6	55.6	54.9	52.8
F	44.2	39.5	27.8	24.0	7.4	5.2	2.9	1.3	1.3	58.9	57.1
G	42.3	39.5	27.8	23.7	7.5	4.9	3.2	1.9	1.2	59.9	58.1
Ho	24.9	22.5	9.4	6.1	48.4	48.6	45.4	44.8	43.7	42.7	41.0
	15.03	1367	584	729	67	04	2311	2256	2218	2164	90
	37.62	34.17	22.10	18.22	1.67	0.10	57.77	56.40	55.45	54.10	52.25

1876 Oct. 25

η Cephei 20h 42m

	extreme−	A+1	A−1	extreme+
0 4	17.2	53.0	5 0 26.9	2.2
	15.9	51.2	27.6	2.1
	21.6	57.6	33.9	8.7
	6.9	40.4	179	52.1
	616	22	1063	5-1
Oct 24	15.40	50.55	26.57	1.27

76 Draconis 20 51

	A+1	A1	A9	A−1 3	A−2 5	extreme−
20 2	34.1	43.6	56.9	3 4.6	19.1	31.5
	38.8	48.7	2.7	9.9	24.7	36.2
	40.1	50.9	4.3	12.3	27.8	38.4
	25.7	34.7	491	58.2	12.1	22.8
	1387	1779	2330	2650	637	1289
Oct 24	34.67	44.47	58.25	6.25	20.92	32.22

77 Draconis 21 8

	extreme+	A+2 1	A1 3	A−1 1	A−2 5	extreme−
45 3	42.9	4 2.6	22.7	46.5	50 0 1.2	19.3
	44.8	3.7	24.4	469	3.4	21.1
	46.9	7.1	27.8	50.0	6.7	
	32.8	57.6	126	351	51.0	
	1674	50	75	1785	23	
	41.85	1.25	21.87	44.62	0.57	

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1876, Oct 25

	A_{-2} 1	A.5	
50 1	44.1	0 58.8	42.2
	45.9	1.8	44.8
	53.4	7.7	52.0
	35.8	50.6	28

122 Cephei 21 28

	A_{+1} 1	A 5	A_{-1} 3	A_{-2} 5	extreme
25 2	37.2	57.9	3 12.6	25.2	39.1
	39.9	1.2	16.1	29.4	42.8
	42.6	3.2	17.4	30.9	43.7
	27.1	48.7	4.2	17.1	29.7
	146.8	410.9	50.3	102.6	155.3
	36.70	57.95	12.57	25.65	38.82

226 Beta Cephei = 22 30

	A_{+2} 4	A.5	A_{-2} 1
50 1	16.2	37.9	57.1
	17.1	38.9	57.4
	20.8	41.4	0.8
	4.9	25.6	45.0
	59.0	143.8	220.3
	14.75	35.95	55.07

C Cephei

	extreme +	A_{-1} 1	A_{-2} 5
50 2	59.9	12.1	47.2
	53.4	12.9	46.8
	57.3	16.4	51.0
	41.7	60.6	35.4

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Oct 28 1876

ε Hydrae Micrometer Lb, (Morning R.G.S.) WNR

5⁻ 2	37,2	28,6	23,5⁻	7,3	5,1	0,2	58,4	56,6	55,3	55,4
	42,5	34,9	28,8	12,4	10,9	5,8	3,4	2,3	0,8	0,3
	41,4	32,9	28,2	11,3	10,2	4,9	2,1	1,3	0,0	59,7
	22,4	15,6	11,7	5,32	5,26	4,72	4,54	4,36	4,17	4,12
	1438	1120	922	264,5	258,6	238,1	229,3	223,8	217,3	216,6⁻
	35,95	28,00	23,05	6,12	4,70	59,52	57,32	55,95	54,32	54,15⁻

Oct 29 1876 · WNR. λ Hor. Micr. 19h 49m

30 0	5,24	5,94	2,7	6,8	10,1	(30,1)	86,7	37,5⁻	38,6	39,3	39,5
	18,4	5,3	8,3	12,3	16,3	*	41,7	43,2	43,6	44,2	44,8
	19,6	5,2	7,9	11,9	15,3		41,8	42,3	42,7	43,8	44,5
	40,8	46,3	50,0	54,6	58,5		24,3	25,1	24,9	26,9	26,7
	2811,5	2362	89	2656	2602		1445	1481	1498	1542	1555
	52,87	59,05	2,22	6,40	10,05		36,12	37,02	37,45	38,55	38,87

Oct 29 1876 β Cephei 21 27

Extreme+	A +1	A 3	Q. Chrom—
20 4 57,0	0 28,8	1 4,4	33,2
1,9	34,5	8,5	38,6
0,2	33,1	7,5	37,6
42,7	15,4	49,7	16,1
2218	1118	2501	1275
55,45	27,95	2,52	31,87

G. T. M.

Oct 29 1876 G. T. M. 31 Cephei 22h 32m

	A_{+2} 1	A_{+1} 3	A_{-1} 1	A_{-2} 5⁻
25 1	15,1	37,8	2 1,9	18,4
	20,2	41,3	5,2	23,2
	17,9	40,3	4,4	21,0
	0,5⁻	22,5	45,9	3,1
	537	1419	2374	657
	13,42	35,47	59,35⁻	16,42

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Oct-29 Cepheus G.T.m 22h 45m

	extreme +	Δ_{+2} 1	Δ_{-2} 5	Extreme −
50	2 53.9	3 14.2	4 13.2	28.9
	57.9	17.6	17.4	33.1
	56.9	16.1	15.4	31.8
	38.2	57.9	56.1	138
	2069	2658	2641	1076
	51.72	11.45	11.02	26.90

Oct 29 Cepheus 23h 3m G.T.m.

	extreme +	Δ_{+2} 1	Δ_{-2} 5	extreme −
	40 3 19.8	34.1	4.6	4 20.0
	23.8	37.8	8.7	23.6
	21.0	35.7	7.5	20.5
	4.2	17.1	48.1	18
	Δ_{+2} 1	Δ 1	Δ_{-1} 3	Δ_{-2} 5
	688	1247	89	659
	17.20	31.17	2.22	16.47

25 4 39.9 Cepheus 23h 32m G.T.m.

		extreme +	Δ_{+2} 1	Δ_{+1} 8	Δ_{-1} 3	Δ_{+2} 5	Extreme −
44.9							
48	25 4	38.1	34.9	30 0 10.9	45.5	1 1.4	15.1
25.4		42.2	59.5	15.4	50.4	6.6	20.6
		39.4	57.2	13.0	48.2	4.7	17.7
		21.8	37.6	54.9	29.3	44.9	59.6
		1415	2092	2742	1734	2376	2930
		35.37	52.30	18.55	43.35	59 40	13.25

41 Herculis 23h 42m G.T.m

	Extreme +		Δ_{-2} 5	Extreme −
15	3 47.0	4 5.1	20.0 27	20.9
	51.8	10.7	8.9	26.4
	49.7	8.6	8.1	25.9
	34.1	50.2	49.9	71
	1786	2546	2496	603
	4465	3.65	2.40	20.07

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Oct 29 2 Mrs Nichols. Seeing good N.P.R.

Ret

20 4	41.7	36.2	31.0	26.0	22.2		10.1	8.9	7.4	5.7	4.2
	46.4	40.3	36.3	31.5	27.5		16.7	14.2	13.5	11.4	9.9
	44.7	38.4	34.2	30.7	26.6		15.3	12.3	11.0	9.8	8.2
	38.4	22.4	15.7	13.3	10.0		58.5	55.4	54.6	53.4	51.6
	171.2	136.3	119.2	101.5	87.9		250.6	270.8	266.5	260.3	254.1
	42.80	34.07	29.80	25.37	21.97		70.15	7.70	6.62	5.07	3.52

Ret

20 4	05	08	05	59.4	59.0	59.1	20 4	05	02	07	32	33 46	59 70
	6.0	6.3	5.3	5.1	4.4			5.8	6.2	6.7	8.8	8.9	9.9	11.2	12.2
	4.7	4.4	3.4	3.3	2.8			4.4	5.1	5.3	6.8	7.7	8.4	9.3	10.2
	46.2	46.4	47.9	46.8	46.6	45.7		47.2	47.3	48.6	50.3	51.2	51.6	53.0	53.4
		2379	2591	2549	2540	2320		2379	2588	2613	88	2611	2545	2594	2628
		59.47	59.77	58.72	58.50	58.000		59.47	59.70	0.32	2.20	62.77	3.62	4.85	5.70

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Oct. 30

Selling very good

2 Rue Min 1-9 49

J. R. M.

30	0	39.9	42.4	47.5	52.9	55.8	58.0	2.5	3.4	7.9	10.8	13.7	15.5
		47.7	50.4	55.6	1.1	3.5	58	10.0	11.4	15.7	17.1	20.6	22.4
		49.2	52.1	57.1	2.1	8.9	65	10.2	11.1	14.9	16.9	19.9	22.5
		27.5	30.1	36.8	42.2	42.7	44.1	51.5	50.5	55.1	57.9	10.4	3.0
		1643	1750	1970	2183	2259	2334	2542	2564	2730	2821	546	634
		41.07	43.75	49.25	54.57	56.47	58.35	63.55	64.10	68.25	10.52	13.65	15.85

30	1	17.1	19.7	23.2	24.9	27.4	28.4	31.6	32.5	35.4	37.1
		24.2	26.5	29.9	32.1	34.1	35.9	37.8	39.2	41.8	43.1
		24.8	26.6	30.0	31.9	33.7	35.4	37.3	38.2	40.8	42.1
		4.8	6.5	10.3	12.4	13.9	16.2	18.5	17.9	20.6	22.4
		709	793	934	1013	1091	1159	1252	1278	1386	1447
		17.72	19.82	23.35	25.32	27.27	28.97	31.30	31.95	34.65	36.17

two cattle after 5

	1	37.7	39.4	39.5	41.4	41.2	43.2	42.9	42.3	42.8
		43.9	45.7	46.1	47.1	47.6	48.3	48.7	47.6	48.6
		42.9	44.4	44.8	46.5	46.1	47.0	47.9	46.9	48.2
		23.8	24.9	25.6	26.9	28.4	28.4	29.4	28.1	29.1
		1483	1544	1560	1619	1633	1664	1689	1649	1687
		37.07	38.60	39.00	40.47	40.82	41.72	42.22	41.22	42.17

long cattle after 5

42.1	42.1	41.2	39.6	38.9	38.2	37.9	36.8	34.9	32.8
48.5	48.7	47.3	45.2	45.9	44.4	43.8	42.9	41.3	39.4
47.4	47.6	46.1	44.6	44.6	43.4	42.1	41.1	39.7	38.1
28.6	28.1	28.1	25.6	25.2	24.8	22.8	22.6	20.2	19.7
1666	1665	1627	1550	1546	1508	1466	1436	1367	1300
41.65	41.62	40.67	38.75	38.65	37.70	36.65	35.90	34.02	32.50

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1876, Oct 30

J.F.M.

31 Cephei 22h 32m

	A +2 1	A +1 1	A −1 3	A −2 5
25	22.4	33.6	6.9	21.2
	27.1	36.1	11.2	25.4
	26.0	36.3	9.9	24.2
	6.9	18.9	5.6	5.8
	524	1269	2586	766
	20.62	31.72	4.65	19.15

Oct. 30

ζ Cephei 22 45

	night	A −2 5
50	2 54.2	4 13.8
	58.9	20.3
	59.1	19.1
	40.7	11
	2124	563
	53.22	14.07

π Cephei 23h 4m Oct. 30

	night	A +2 1	A +1 1	A −1 3	A −2 5	night
40	3 1.9	3 17.9	33.7	4 5.1	18.9	34.4
	5.4	22.7	38.9	10.0	24.1	38.8
	4.9	21.2	37.1	8.3	22.9	37.7
	44.0	3.0	17.9	49.0	2.6	18.7
	2362	648	1276	2524	685	1296
	59.05	16.20	31.90	63.10	17.12	32.40

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1876, Oct. 31 J. F. M. All on this page Oct. 31

31 Cephei

	Extr. +	A_{+2}^{2}	A_{+1}^{3}	A_{-1}^{3}	A_{-2}^{3}	Extr. −
25	1 3.0	17.3	38.1	59.9	2 19.4	35.4
	6.7	25.1	42.1	48	24.1	41.1
	5.8	19.9	40.7	3.2	22.7	37.9
	46.8	2.2	22.3	44.2	4.8	19.4
	23	645	7432	2321	710	1338
	0.57	16.12	35.80	58.02	17.75	33.45

ζ Cephei

	Extr. +	A_{+3}^{1}	A_{-2}^{5}	Extr. −
50	2 54.1	3 74.0	4 11.2	30.5
	58.5	18.4	16.1	35.1
	57.6	17.0	15.1	34.2
	38.3	58.9	5.4	15.7
	2085	2883	78	1149
	52.12	12.07	11.95	28.72

Nov. 2, 1876 λ Was. Min. = 19 49

30	1 38.7	39.1	37.4	38.7	40.5	38.1
	43.4	43.5	42.3	42.5	44.4	42.4
	45.6	45.9	44.6	45.6	46.9	44.2
	26.5	27.1	26.5	27.9	28.9	26.0

J. F. M.

Nov. 4, 1876 λ Was. Min. = 19 49

30	1 40.6	41.4	41.7	41.2	41.1
	44.8	45.1	45.6	45.5	44.9
	47.0	47.1	47.5	46.4	46.8
	28.4	29.6	30.0	29.4	29.9

J. F. M.

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1876, Nov. 1 d Was. Mn L. C. Morning

5 2	21.3	15.9	14.4	11.5	10.1	7.2	5.7
	26.1	21.3	19.9	16.4	15.1	12.9	11.0
	27.6	22.5	20.9	17.9	16.4	13.9	12.2
	9.6	4.2	2.6	0.0	58.4	55.4	53.2
	84.6	63.9	57.8	45.8	2800	2694	2621
	21.15	15.98	14.45	11.45	~~5600~~ 10.00	~~5386~~ 7.35	~~5342~~ 5.52

5 2 4.4
9.1
10.5
5.3.3
25.73
51.46

J. F. M.

1876, Nov. 2 d Was. Mn = 19h 49m

30 1	38.7	39.1	37.4	38.7	40.5	38.1	
	43.4	43.5	42.3	42.5	44.4	42.4	J. F. M.
	45.6	45.9	44.6	45.6	46.9	44.2	
	26.5	27.1	26.5	27.9	28.9	26.0	
	154.2	155.6	150.8	154.7	160.7	150.7	
	38.55	38.90	37.70	38.68	40.18	37.68	

use 2nd altitudes

1876, Nov. 4 d Was. Mn = 19h 49m

30 1	40.6	41.4	41.7	41.2	41.1
	44.8	45.1	45.6	45.5	44.9
	47.0	47.1	47.5	46.4	46.8
	28.4	29.6	30.0	29.4	29.9
	160.8	163.2	164.8	162.5	162.7
	40.20	40.80	41.20	40.62	40.68

J. F. M.

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1876, Nov. 4

76, Draconis 20 h 51 m

	A_2^1	A_2^4	A	A_2^1	A_2^5
20 2	25.5	35.1	53.5	3 12.8	23.8
	31.9	41.1	0.4	19.6	30.6
	32.1	42.0	1.0	19.9	30.6
	16.6	25.6	44.4	3.9	13.4
	1061	1438	2193	562	987
	26.52	35.95	54.82	14.05	24.68

J. F. Mc.

π Cephei = 23 3 Nov. 4

	A_2^1	A_2^1	A_2^3	A_2^5
40 3	15.4	32.1	4 8.1	19.5
	17.4	34.8	9.6	21.4
	18.9	35.5	10.9	22.8
	1.8	1.7	5.6	5.2
	532	1216	2632	689
	13.30	30.40	5.80	17.22

J. F. Mc.

41 Ηb. Cass. = 23 42 Nov. 4

		A_2^1		A_2^2	
	gelb +				gelb –
15 3	45.9	4 6.0	20 0	6.0	24.3
	47.9	8.7		9.9	28.3
	49.4	10.1		10.8	30.4
	32.8	53.2		55.0	12.8
	1860	2580		2617	958
	44.00	4.50		5.42	23.95

J. F. Mc.

41 Ηb. Cass 23 41 Nov. 21

15 4	5.9	19.7	52.9	0 26.2
	11.1	25.1	57.2	30.3
	9.0	22.9	58.9	30.9
	51.6	5.1	38.0	11.6
	2576	728	2070	990
	4.40	18.20	51.75	24.75

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1876, Nov. 5

λ Ursa Min = 19h 49m

30	1	43.2	43.9	44.8	43.9	
f		48.1	48.6	49.0	48.6	J. F. M.
g		49.6	49.9	50.7	50.1	
H		31.6	32.5	33.1	32.4	
		1725	1849	1776	1747	
		43.12	43.72	44.40	43.68	

1876 Nov. 12

γ Draconis 21h 7m

		α_0 +	Δ_{+1}	Δ_{+2}	Δ_{+3}	Δ	Δ_{-1}	Δ_{-2}	α_0 −
45	3	56.1	8.8	27.1		50.2	50 0	9.1	—
		1.1	13.2	32.3		55.8		18.8	— J. F. M.
		58.4	9.9	29.4		57.6		11.5	—
		40.0	52.8	96		34.8		53.2	—
		2156	2647	984		1924		2676	
		53.90	6.18	24.60		48.10		6.90	

1876, Nov. 12 Morning

Polaris 13h 12m L.C.

5	2	19.2	16.2	14.5	9.1	8.4
		24.3	21.9	19.4	14.2	12.9 J. F. M.
		24.4	22.1	19.7	14.3	12.8
		38	1.1	59.1	54.4	52.9
		717	613	2927	2720	2678
		17.92	15.32	13.18	8.00	6.68

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1876, Nov. 13

77 Draconis 21 h 7 m

45 3	47.1	4 6.3	18.3	56.2	50 0 8.9	25.0
	52.2	10.8	23.8	1.1	13.4	30.2
	49.9	8.2	21.1	0.1	12.2	29.0
	30.4	50.1	2.9	40.9	53.2	10.9
	17 96	25 54	66 1	22 83	26 77	9 51
	44.90	3.85	16.52	57.07	6.92	23.77

β Cephei 21 27

20 4 56.5	25 0 18.0	1 17.6	35.8
0.9	22.2	22.1	39.2
1.1	21.0	20.5	37.9
40.9	4.1	3.5	19.3
21 94	653	639	1322
54.85	16.32	15.98	33.05

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1876, Dec. 4

2

23
52
31

2 m
γ Cephei 23 34

25	4	47.9	30	01.9	046.1	1	6.8
		54.6		8.3	53.4		13.0
		47.4		2.8	46.1		6.2
		25.4		40.8	25.1		45.5
		17 53		23 38	17 07		25 15
		43.82		58.45	42.68		2.88

Dec 4 2 Nuova Mm Lb. N.P.

5	2	46.4	42.7	40.7	20.1	17.2	16.0
		53.7	49.8	47.8	27.4	24.9	24.4
		47.8	43.4	41.0	22.4	18.7	16.6
		27.4	22.3	20.3	1.3	58.3	57.2
		17 53	15 83	14 96	7 12	29 91	29 42
		43.82	39.58	37.45	17.80	14.78	13.55

Lost A, R.A.

Dec 5 476 31 Cephei F.M.

25	1	13.9	25.6	25	2	16.7	31.1
		20.5	33.5			23.2	37.7
		12.6	26.0			15.9	30.5
		51.9	4.8			54.8	10.9
		27.91	8 99			29 06	11 02
		9.78	22.48			12.65	27.55

ζ Cephei 22 45 Dec. 5 f.F.M

50	2	59.9	50	3	13.9	50	4	15.5	4	29.9
		6.4			20.1			22.4		36.6
		59.5			13.9			14.9		30.0
		38.9			53.2			53.9		9.1
		22 47			28 11			28 67		10 56
		5 6.18			10.28			11.68		26.40

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.1876 Dec. 5

Polaris 1 12 2 m J.F. Mi.

45 3	9.9	12.8	16.8	19.0	21.9	22.9	25.0	27.8
	19.0	21.6	24.9	27.0	29.9	30.4	33.0	36.2
	11.1	14.0	18.2	18.9	22.0	24.6	25.6	28.5
	50.1	52.5	55.5	59.1	1.2	1.8	3.7	5.9
	27 01	28 09	29 54	30 40	750	797	875	954
	7.52	10.22	13.85	16.00	18.75	19.92	21.87	24.60

50 Cass. 1 52

52.4 3	1163
58.1	212
51.0	148
29.9	131
19 14	28 54
4785	11435

Dre 5 α Near Min. R.L. NPR Morning

5- 2 42 2	388	311	190	172	164
	492	456	387	266	246	236
	426	389	320	253	180	163
	218	188	106	00	572	560
	1558	1421	1124	659	2970	2923
	38.95	35.52	28.10	16.48	14.25	13.08

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1876 Dec. 6 J. F. Mc

Polaris 1 12

45	3	10.4	11.4	15.1	19.0	22.2	24.9	26.0	27.9
		17.9	18.9	21.7	26.4	29.8	32.4	33.1	35.7
		10.8	10.8	17.2	18.0	22.3	25.8	26.4	28.4
		49.8	50.9	55.1	57.5	1.8	2.4	3.6	5.6
		26 89	27 20	28 91	30 09	761	8 55	8 93	9 76
		7.22	8.00	12.28	15.22	19.02	21.38	22.32	24.40

this & last observation not very good perhaps a false Spec.

221 Cephei 22 7 1876, Dec. 7 J. F. Mc

40	2	24.2	41.2	3	17.1	41.6
		31.6	47.9		23.1	47.5
		25.2	41.8		16.8	41.2
		2.5	20.8		54.8	19.8
		8 35	15 17		29 18	15 01
		20.88	37.92		12.95	37.52

226 β Cephei 22 30 J. F. M. Dec. 7 1876

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α Ursae Min. Lb. MKR Dec 7 1876 Morning

5	2	5.30	46.1	40.7	38.8	35.6	23.6	18.4	17.8	16.6	14.4
		0.2	53.2	48.7	45.4	42.7	31.7	26.3	24.8	23.9	22.3
		5-3.6	45.9	41.4	39.3	36.6	24.9	19.4	17.4	17.1	15.4
		32.8	26.9	23.3	19.1	16.3	5.0	5.96	5.83	5.77	5.63
		19 96	17 21	15 41	14 26	13 12	8 02	30 37	29 83	29 53	28 87
		49.90	43.02	38.52	35.65	32.80	20.05	15.92	14.58	13.82	12.18

Dec 9 1876 Morning MKR

α Ursae Min Lb.

5	2	23.5	23.6	22.3	20.7	20.2
		31.2	30.2	28.7	29.1	27.4
		34.2	21.9	22.9	20.8	20.2
		3.7	2.3	0.7	5.92	5.90
		9 29	7 80	7 46	30 98	30 68
		23.22	19.50	18.65	17.45	16.70

Polaris 1h 12m Dec. 10 J. F. M.

45	3	15.7	19.9	22.4	25.5	28.9	30.5
		23.4	27.4	30.6	33.9	36.9	37.4
		14.6	18.8	20.8	25.4	27.6	29.6
		50.1	54.7	57.4	1.1	4.2	5.1
		28 38	30 08	31 12	8 59	9 76	10 26
		10.95	15.20	17.80	21.48	24.40	25.65

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Dec 13 1876 MRR Chem Rm

45	8.98	15.2	26.8	28.4	29.0
	18.7	24.9	36.8	36.8	38.7
	9.7	16.7	27.9	27.8	29.3
	4.93	5.59	7.5	7.9	9.5
	27675	29.27	9.90	10.69	10.65
	4.38688	13.18	24.75	25.22	26.62

Polaris 1h 12m J. F. M. 1876, Dec. 14

45	3	14.0	19.8	21.4	22.7
		23.1	29.1	30.9	31.9
		13.0	19.1	21.3	22.7
		4.99	5.69	5.95	5.97
		25.00	30.49	31.31	31.70
		10.00	16.22	18.28	19.25

Polaris D.M.R. Dec 14 Morning (R.A.S.)

6-	3	0.3	5.79	5.08	4.68	4.34	4.03	3.33	2.81
		8.7	3.5	5.94	5.63	5.28	4.89	4.18	3.80
		0.0	5.47	5.16	4.67	4.33	4.02	3.42	2.97
		4.09	3.47	3.05	2.78	2.30	2.21	1.41	1.03
		22.99	20.78	19.23	17.76	16.33	15.15	12.34	10.61
		57.48	51.95	48.08	44.40	40.82	37.88	30.85	26.52

Polaris

6-	2	7.3	2.7	5.90	5.55	4.89	4.33
		14.6	9.6	5.8	2.0	5.30	4.94
		6.2	1.3	5.80	5.36	4.77	4.16
		4.69	4.10	3.82	3.39	2.86	2.23

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1876, Dec 19

Polaris h m 1 12 f. F. M.

45 3	6.5	9.3	14.1	16.1	19.7
	14.5	17.8	22.2	25.0	29.9
	5.4	7.9	12.0	14.8	20.9
	43.1	45.1	51.1	53.0	57.7
	24 9 5	26 0 1	27 9 4	28 8 9	30 8 2
	2.38	5.02	9.85	12.22	17.05

50 Cass. h m 1 52 f. F. M, 1876, Dec. 19

35 1	48.1	2 9.0	3 2.9	8 19.9	
	54.4	15.5	9.8	16.3	
	45.7	5.4	59.4	~~15.5~~	
	23.0	42.9	37.1	53.9	
	17 1 2	25 2 8	22 9 2	26 5 6	
	42.80	320	57.30	11.40	
		h m			

48 N. Cephei 3 4 Dec. 19 f. F. M.

5 4	40.3	10 0	8.2	0	46.9	1	3.1
1376	47.8	2473	15.2	1661	54.1	23 00	10.9
34.40		1.82		41.52		57.50	
	36.3		4.9		43.5		59.8
	13.2		39.0		21.6		36.2

Polaris Lb. Dec 19 Morning

5 2	59.7	50.0	46.3	2 24.3	25.0
	59	57.0	55.2	36.2	33.7
	59.7	49.9	47.0	28.7	24.5
	39.0	28.5	25.9	5.2	3.3
	22 6 3	18 7 4	17 4 4	9 7 4	8 6 5
	56.58	46.85	43.60	24.35	21.62

Seems very bad

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Dec. 23

χ Cephei $23^h\ 34^m$ 1876, J. T. M.

25 4 54.8	30 0 11.5	42.5	1	1.8
2.7	18.4	50.6		10.4
53.8	9.8	41.5		1.4
29.0	46.6	18.7		37.8
2063	2663	1533		2314
50.08	6.58	38.33		5.85

41 H. Cass 23 41 Dec. 23 J. T. M.

15 3 47.1	4 0.5	20 0 6.4		21.7
54.3	8.6	15.5		29.6
45.4	0.4	7.9		22.3
24.6	36.8	44.1		5.85
1714	2263	2539		3121
42.85	56.58	3.48		18.02

Polaris $2^h\ 1^m\ 12^s$ Dec. 23 J. T. M.

45 3 6.6	12.6	14.7	19.2	20.5	23.1	
15.4	20.4	23.8	27.4	28.8	32.4	
7.0	11.5	14.6	18.2	19.4	23.7	
40.8	49.3	51.8	56.1	56.9	0.5	
2498	2738	2849	909	3056	797	
2.45	8.45	11.22	17.2	16.40	19.92	
			15.22			

β Ursa Min. 2 51 Dec. 23, J. T. M.

5 4 46.3	0 5.2	5 3 47.7	3 24.4	2 35.1	2 17.4
52.8	12.2	57.1	33.2	44.2	27.0
42.7	4.6	47.4	25.5	35.7	18.0
19.6	40.6	24.2	0.4	11.6	53.7
		1764	835	1266	2961
		44.10	20.88	31.65	14.02

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Dec 23 1876 Morning M.P.R.

2 Nunc Nu Lo.

5- 2	5-53	575	448	276	259	248
	3.2	587	516	353	336	333
	54.6	508	440	276	260	250
	34.2	294	230	68	51	34
	20 7 3	19 04	16 34	9 1 73	9 08	8 68
	51.82	47.60	40.85	24.32	22.70	21.70

1876, Dec. 24 J. F. Mc.

Polaris / 12

45 3	9.1	12.1	14.2	16.6	19.1	20.9
	16.9	19.9	23.1	25.9	27.3	29.5
	7.1	11.2	13.4	15.5	18.1	19.7
	43.7	48.2	50.6	53.2	53.9	56.1
	28 56	27 14	28 13	29 12	29 84	30 62
	4.20	7.85 m	11.32	12.80	14.60	16.55

h 2 57

Nu Nu Dec 24 J. F. Mc.

5 3	37.1	3	23.1	2	37.3	23.4
	48.5		32.4		47.2	33.7
	38.8		24.4		37.6	24.2
	15.0		59.6		13.1	59.4
	13 94		31 95		13 52	32 07
	34.85		19.88		33.80	20.18

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Dec. 27 1876 [illegible]. 2 hours Mean.

	R	R	R	R	R	R
45 – 2	55	59.4	8.3	7.2	10.2	15.2
	26	7.5	11.7	15.1	17.8	23.3
	54.4	59.1	2.4	6.6	9.6	14.1
	33.5	39.2	42.9	46.8	49.4	55.1
	20 59	22 58	24 13	25 57	26 70	28 87
	51.48	56.45	0.32	3.92	6.75	12.18

50 Cass. 1 52 2 m G. F. M Dec. 27

35	1	45.4	57.0	3 6.8	8	15.1
		53.9	4.4	12.2		22.9
		43.1	56.4	4.4		13.2
		22.4	34.0	42.5		54.5
		16 48	21 18	24 59		28 27
		41.20	52.95	1.48		10.68

36 No. Cass. 2 26 Dec. 27 G T m.

5	4	31.6	49.9	10 0	53.4	1 7.1
		39.1	57.9		0.1	14.1
		29.2	48.2		51.7	4.2
		7.0	25.8		29.3	44.0
		10 69	15 18		19 45	24 94
		26.72	45.45		48.62	2.35

B Nes Mun 251 G T m Dec 27

5	3	46.4	20.2	2 52.9	31.8	2 14.5
		53.9	29.5	3.1	41.4	24.1
		46.5	20.0	54.8	32.5	15.9
		22.5	56.9	29.4	9.6	51.1
		16 93	30 6.6	20 02	11 53	28 56
		42.32	16.65	50.05	28.82	11.40

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2 m
48 Hb. Ecliptic Dec. 27 J.F.m. 3 4

5 4 48.9	10 0 5.1	39.6	55.7
56.9	14.6	48.2	1.7
45.4	5.1	36.0	52.1
23.5	43.7	16.9	29.1
17 47	24 85	14 27	19 86
43.68	2.12	35.68	49.65

5 2 52.6	48.5	44.0	87.0
00	56.2	51.2	45.1
52.6	47.8	43.3	37.5
83.0	27.9	23.4	17.3

2 hours min more Dec 27 morning.

5 2 27.8	5 2 23.7	23.5	21.0	22.8
34.9	31.4	31.7	29.6	30.4
27.2	24.1	23.3	21.4	22.3
7.7	4.1	4.5	1.3	1.4
9 76	8 36	8 30	7 33	7 69
24.40	20.90	20.75	18.32	19.22

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187 Jan 2 41 N Cons 23h 41m U. T. m.

15 3	43.5	4 1.5	20 0	5.9	19	19.9	
	52.2	9.9		14.1		24.9	
	43.9	1.5		5.4		20.3	
	21.1	38.4		42.3		6.5.5	
	16 07	23 13		24 77		30 40	
	40.18	57.82		1.92		16.00	

Polaris 1 12 Jan. 2 J. T. m.

45 3	0.9	4.9	6.4	8.9	12.8	14.9	17.1	20.2
	9.6	12.1	14.4	17.5	21.4	23.4	25.3	28.4
	1.2	2.5	5.2	7.9	10.5	13.6	15.2	19.1
	36.9	37.8	41.4	43.9	47.7	51.5	54.1	56.1
	22 86	2373	2474	2582	2724	2834	2917	3038
	57.15	59.32	1.85	4.55	8.10	10.85	12.92	15.95

36 Hr. Cass. 2 26 187 Jan. 2 J. T. Mc.

5 4	32.1	48.1	10 0	46.3	1	4.0
	40.2	54.7		55.1		12.2
	30.0	44.0		45.2		2.9
	6.8	21.8		23.6		8.2
	10 91	20 86		17 22		23 45
	27.28	52.15		43.05		58.50

Thus in Lic. MR Jan 2 Morning

5 2	8.2	480	413	362	263	256	201
	4.7	544	483	432	333	326	297
	2.7	466	396	357	258	254	227
	41.4	274	198	148	48	51	19
		17 64	14 90	12 99	9 02	8 87	7 74
		44.10	37.25	32.47	22.55	22.18	19.35

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Jan 3 1877 Morning 24R chs in Lo.

5 2	24.4	21.2	19.0	20.7	19.3
	34.6	28.3	26.1	27.6	26.3
	26.7	20.0	17.8	19.6	18.0
	5.5	5.6	5.3	5.9	5.3
	9 42	30 84	30 62	30 58	30 12
	23.55	17.10	15.05	16.45	15.30

Polaris 1h 12m 1877 Jan. 4 J. F. M.

45 2	58.5	3 5.8	7.4	10.1	13.1	17.3	20.5	22.5
	7.4	13.8	16.1	19.2	23.4	26.1	29.1	31.5
	0.6	4.6	6.6	9.4	12.4	16.4	19.7	21.9
	32.9	40.8	43.3	47.1	49.4	53.0	55.3	58.1
	21 94	26 50	25 34	26 68	27 83	29 28	30 46	31 40
	54.85	1.25	3.35	6.70	9.58	13.20	16.15	18.50

Polaris Lo. Jan 4 Morning 24R

5 2	20.7	18.9	21.3	22.1	22.3
	27.7	25.4	28.6	28.8	28.7
	29.8	18.6	21.4	21.0	22.6
	9.3	5.2	6.3	6.6	6.7
	10 75	30 01	7 16	7 25	31 33
	26.88	15.02	17.90	18.12	16.32

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Reverse from
Circle to Circle

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1877

Polaris L.C. Jan 10 1877 M.A.R. Morning (R.A.)

58 58	41	30	57.2	57.8	57.0
	08	06	54.8	54.9	54.9
	18	13	54.7	55.8	54.6
	38	38	56.7	58.1	54.3
	105	87	234	266	245
	2.62	2.18	55.85	56.65	56.20

Polaris 1h 12m (M.A.R.) Jan 13, 1877 J.F.M.

35 4	43.9	48.4	51.8	52.5	55.8	58.1
	40.5	44.4	49.4	50.2	53.4	56.1
	43.9	47.9	51.1	52.5	55.9	57.7
	44.8	48.9	52.1	53.9	56.2	59.2
	131	296	44	91	213	311
	43.28	47.40	51.10	52.28	55.32	57.78

Polaris 1h 12m 1877, Jan. 14 J.F.M.

35 4	42.4	46.7	50.9	52.8	55.1	56.1
	42.8	45.6	49.9	51.9	54.2	54.3
	44.5	47.3	50.9	53.1	54.9	56.4
	45.2	48.1	52.6	54.0	56.4	57.7
	149	277	43	118	206	245
	43.72	46.92	51.08	52.95	55.15	56.12

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All the circle readings are copied in up to Oct. 2

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