KG
11366
v.412

Fundamental Stars.

From Sept 10 1883 to Nov 27 1883

A37

Sept 10 C = 30 84.7

⊙ 10 14 27

+4 53

504 16.7 230 14.9
8.1 ~~40~~ 4.0
8.0 6.1
24.1 ← 569 21.1
54 14.22 461
Both lines in √ (23 11.52
I line = A_1 + A_1'
II ,, = A_4' α e
Seeing bad.

Sept 11

C = 5082.4

⊙

11 18 3

14 31

R

15 2 4.7 45 2 0.1

. 54.3 50.0

70 56.8 51.9

17 1.75 11.2 6.8 2288

Both lines in ∫ 47 57.20

I L R.A = h_{+1} h A_{-1}

II " = h A_{-1}

Seeing fair

Sept 12 1883 C = $\overset{50}{8}$ 2 4

⊙

11 21 39.00
+4 8

354 56.1
46.7
48.1 2159
51.0 39 53.98

Upper limb in δ
{Reg δ for II limb
{Not well defined.
I limb = b_1 A A_{-1}
II limb A'_2 & A'_{-1}
Seeing steady, Noisy,

Sept. 15 1883. C = 50 84.8

η Serpentis
18.15.13.
− 2 56

P
55.3 17.0
3.4
8.9
21.3
506
58 12,65

α Lyrae
18 32 57
+38 41

P P R
20. 3 56.5 2 46.8 46.8
49.9 41.5 41.3
52.4 41.4 41.7
57.3 48.8 48.6
2161 1786 184
23 54,02 4465 44.60

A₋₁ reject all strokes preceding) A₋₁ 14.3 21

51 Cephei
18 44 42
+92 47

P P
20.3 13.5 3 21.9
16.2 19.0
13.9 22.4
14.4 22.2
520 855
23 13,00 23 21,38

S P N°

o Sagittarii

P P R
25 3 44.1 2 41.8 41.0
32.3 29.2 29.9
37.5 35.0 35.2
52.9 50.0 2 50.0
1668 156 2 156 1
28 41,70 27 39.05 39.02

A₉₆ to 41

Sept-16 c = 12 54.8 c = 12 54.5

☉ 11 35 60
+2 36

γ Draconis
17 53 52
+51 31

R

10	1	56.3	30 4	27.4
		45.8		21.3
		48.2		25.1
		1.4		28.3
		211.7		102.1
	11	52.92	34	25.52

Upper limb in δ
II limb in R.A. = [illegible] +1 [illegible],
Seeing very fair ~~th~~
hazy clouds.

[illegible]

S Ursae Min
18 10 21
+86 37

R

25 3 268
237
261
278
1044

28 26.10

Clouded up

$^{3}A_{10}$ 3, 32 (40)

Sept 17. 1883 C = 50 84.8

☉
11 39 35′
+2 12 32

2nd limb in R.A. 1st limb very doubtful
δ not good. D.B.P.

Sept 18. 1883 C = 5-0 84.8

☉
11 - 43 11
+ 1 49

2nd limb in R. A. + δ of lower limb

	P	P
0 3	6.2	6.3
	56.6	56.1
	58.4	59.0
	11.2	10.8
	24.4	24.2
	6.1	6.0

η Draconis
16 22 23
+61 47
P
15.2 47.0
40.2
43.6
46.6
177.4
17 44.35

α' Herculis
17 9 16
+14 32

Middle group in R A lost δ.

Sept. 18 1883 C = 5.0 84.8

β Draconis
17 27 45
+52 24

β Cygni
19 28 58
27 43

	P	P
401	3.3	3.4
	56.1	56.1
	59.5	59.4
	3.4	3.6
	23	25
41	0.58	0.62

Battery gave out.

Sept. 18. 1883

α Aquilae
19 45 2
+8 34

R.a.

β Aquilae
19 49 32
+6 7

p

55 1 44.4
33.8
36.4
50.5

1651

56 41.28

Sept 19 1883 C.= 50.848

~~B Dra~~ α Herculis
17 – 9 16
+14 32
P ρ
30 2 45.3 45.2
34.3 34.0
36.4 36.1
48.6 48.2
126 135
32 40.65 40.87

α Ophiuchi
17 – 29 27
+12 39
P ρ
25 0 0.8 0.5
50.5 50.5
51.5 51.7
4.5 4.6
2273 2273
24 56,82 56,82

A 1.3.5. 7.9.

γ Cygni
20 18 1
+39 53
P ρ
10 1 ~~16.2~~ 15.5 14.7
6.1 6.4
9.3 9.9
15.5 15.1
464 461
11 11,60 11,52

Gr 3241
20 30 30
+72 08
ρ
55 2 47.1
42.0
43.5
44.4
1770
57 44,25

Sept 19 1883   c = 50 84.8

δ Draconis
19 - 12 32
+ 67 27

	ρ	ρ
352	14.2	14.2
	9.8	9.8
	11.4	11.4
	14.8	14.3
	502	497
37	12.55	12.42

θ Cygni
19 - 25 - 58
+ 27 43

	ρ	ρ
201	9.4	9.1
	59.6	59.6
	2.5	2.2
	12.9	13.0
	244	639
21	6.10	15.98

A 1 3 5 7 9

α Cygni
20 37 26 ~~41 27~~
+ ~~33 32~~
+ 44 52

	ρ
102	25.6
	17.9
	22.0
	26.4
	91 9
12	22.98

ε Cygni
20 41 27
+ 33 32

	ρ	ρ
302	13.6	13.4
	4.0	4.3
	7.0	7.3
	15.4	14.8
	400	398
32	10.00	9.95

Sept. 20 1883 C = 50 84.8

⊙
11 - 50 - 52
+ 1 - 3
P
20 4 56.2
45.3
49.4
2.1
2130
44 53.25
1st limb in R.A.
lower ,, in δ

β Cygni
19 25 58
+27 43
P P
20 1 18.9 18.3
9.5 9.5
11.0 11.2
21.6 21.5
610 605
21 15.25 15.12

β Aquilae
19 49 32
+ 6 7
P P
55 1 50.0 50.1
39.0 39.0
42.4 42.3
55.6 55.4
1870 1868
56 46.75 46.70

θ Aquilae
20 5 14
− 1 10
P
10 3 36.0
22.0
27.7
39.2
1249
13 31.22

Sept 20 1883

γ Aquilae
19 40 40
+10 20
p
40 4 7.8
0.5
59.3
12.4
200
44 5.00

α Aquilae
19 45 2
+8 34
p
30.0 10.6
58.7
1.6
15.5
264
30 6.60

α² Capricorni
20 11 31
− 12 54

55 2 31.1
14.9
21.3
37.0
1043
57 26.08

γ Cygni
20 18 1
+ 39 53

	ρ	p
10 1	22.5	22.9
	15.0	15.1
	18.0	17.8
	23.4	23.1
	789	789
11	19.72	19.72

Took (1 4 5 6 9)
Seeing poor

Sept 21 1883 C = 50 84.8

δ Aquilae
19 00 00
+13 42

	p	P
20 2	31.6	32.1
	20.1	20.7
	23.0	23.0
	35.1	35.2
	1098	1110
22	27.45	27.75

Lost A-,3

δ Draconis
19 12 32
+67 27

	p	P
35.2	26.0	26.1
	22.4	21.9
	23.8	23.6
	26.5	26.3
	987	979
37	24.68	24.48

Lost A-,3.4.
Seeing poor

Sept. 21.

β Cygni
19 25 58
+ 27 43

	p	P
20 1	15.8	16.2
	7.5	7.5
	8.7	8.3
	19.0	19.1
	510	511
21	12.75	12.78

Lost A+,2.

Sept. 22 1883 C = 50

☉ 11 57 33
+ 0 16

Both limbs in RA
Lost δ.

δ Draconis
19 1 23 2
+67 27

		p	p
35	1	10.2	10.0
		5.6	6.0
		6.4	6.6
		9.5	9.5
		317	321
36		7.92	8.02

Lost A+1 A0 1234

		p	p
20	0	4.6	4.5
		54.5	55.8
		56.8	56.5
		7.7	7.2
		36	40
20		0.90	1.00

Lost A+1
Reject first δ
on the sheet

Sept. 25. 1883 C =

☉
12-8-20
-0-5-4.

3rd Limb in R.A.
Lost the rest on account of
Clouds

η Draconis
16 22 23
+61 -47
P
15-3-5.2
1.6
2.6
5.2

146
18 3.65

η Herculis
16 38 51
+39.9

Lost 5

Lost A_0 15 sec.
Cloudy.

α Herculis
17 9 16
+14 32

	P	P_1
30 1	33.5	33.5
	23.9	23.5
	24.2	24.2
	37.1	36.8
	1187	1180
31	29.68	29.50

Lost A_0 4

C = 50 86.6

Sept. 26 1883

⊙ 12 11 56

∗ −1° 18'

	R		
5 0	23.3	251	20.5
	9.2		6.9
	13.4		9.2
	26.0		23.1
	719		597
	5 17.98		26 14.92

γ^2 Urs Maj

15 20 52

+72° 15'

	φ	p	R
45 4	19.6	3596	59.0
	16.5	54.7	54.4
	14.6	54.4	54.0
	16.8	57.5	58.4
	675	2262	2258
49	16.88	48 56.55	56.45

Both limbs J
Lord-A +1 limb II
among bad.

A_{-1}

δ Urs. Min

15 48 16

+78 9

	ρ		ρ	
55 0	10.0	50 4	52.0	52.3
	6.0		50.1	50.4
	4.8		49.8	50.0
	7.9		53.0	53.4
	287		2049	2061
	55 7.18	54	51.22	51.52

δ Ophiuchi

16 8 9

−3 23

	φ	p	R
25 2	18.2	1 14.0	13.7
	6.5	1.8	1.0
	9.7	5.0	4.6
	23.0	18.0	18.6
	574	388	379
27	14.35	26 9.70	9.48

A_{-1} 2345

Sept 26 1883

α Cor. Bor.
15 29 41
+ 27 7

P	R
58.4	58.0
51.4	50.4
50.9	50.3
0.8	1.0
2215	2197
55.38	54.92

α Serpentis
16 38 27
+ 6 48

	P		P	R
15 1	24.8	0	15.0	15.1
	15.0		5.2	4.7
	16.5		6.7	6.7
	30.7		20.5	21.2
	870		474	477
	21.75		11.85	11.92

A₋₁

η Draconis
16 22 23
+ 61 47

	P	P
15 2	58.4	14.0
	52.3	7.2
	55.1	10.8
	57.5	13.4
	2233	454
17	55.82	11.35

β Herculis
16 25 8
+ 21 45

	P		P_3	R
15 4	36.9	3	24.0	22.3
	28.6		16.2	16.3
	29.5		16.0	15.7
	40.0		26.3	26.8
	1350		815	811
19	3375	18	20.38	20.28

Sept 26. 1883

50
C = 86.6

ξ ~~Herculis~~ Ophiuchi
16 30 39
−10 20

P	P	R
. 20.3 9.2	2 10.1	9.8
55.2	55.1	55.7
59.9	59.9	59.6
12.1	12.8	13.2
164	179	183
23 4.10	22 4.47	4.57

η Herculis
16 38 57
+39 9

P	P	R
55 0 39.7	50 4 36.7	36.3
33.9	30.0	29.2
35.5	32.2	31.5
41.2	38.4	38.2
1503	173	152
55 37.58	54 34.32	33.80

α' Herculis
17 9 16
+14 32

P	
. 30 2 48.6	1 27.5
38.2	Lost 2nd σ
40.3	
51.4	
1785	
32 44.62	

β Draconis
17 27 45
+52 24

P	P
40 124.5	0 51.2
17.3	43.6
20.2	52.3
25.1	51.5
871	1986
41 21.78	40 49.65

Sept. 26, 1883

ε Urs Min
16 58 00
+82 14

	P		R	R
50 0	53.7	0	41.2	41.3
	54.0		41.6	41.3
	54.1		41.2	41.4
	55.8		43.6	44.0
	2176		76	80
			41.90	42.00
50	54.40			

η Ophiuchi
17 3 27
−15 34

	ρ		P	R
353	5.3	1	47.9	47.6
	52.0		34.0	33.8
	55.6		38.6	37.6
	11.3		53.0	53.7
	42		135	127
38	1.05	36	43.37	43.17

Ab. to 9.

α Ophiuchi
17 29 27
+12 39

	ρ		P	R
25 0	20.0	20	47.0	7.7
	10.0		57.5	57.7
	10.9		59.3	58.9
	24.0		12.4	11.8
	649		162	161
25	16.22	24	4.05	4.02

β Cygni
19 25 58
+27 43

	ρ		P	R
20 1	9.1	0	8.4	8.0
	0.7		0.1	0.2
	1.0		0.8	0.9
	12.0		11.7	11.7
	228		20 3	20.8
21	5.70	20	5.06	5.20

Sept 26 1883 C = 50 86.6

γ Aquilae
19 40 40
+ 10 20

	P		P	R
404	13.2	3	59.0	58.3
	4.3		48.4	48.8
	5.0		49.5	49.4
	19.1		3.4	4.3
			230 3	230.8
			56.07	56.20

α Aquilae
19 45 2
+ 8 34

	P		P	R
30.0	19.0	25 3	59.1	58.1
	9.5		48.5	48.2
	11.3		50.6	50.3
	25.8		4.5	5.2
			20 2.7	20 1 8
			50.67	58.42

γ Geminorum
6 30 54
+ 16 30

	P		P	R
30 4	45.7	3	30.7	30.7
	35.5		21.0	20.0
	37.1		21.6	21.2
	49.0		34.4	34.0
			277	259
			26.94	26.47

α Can Min
~~51 Cephei~~
~~6 44 42~~
~~+ 87 13~~

	P		P	R
35 1	42.4	0	29.4	29.0
	28.5		16.5	16.0
	32.2		19.0	18.1
	47.1		34.9	35.9
			194	190
			24.95	24.60

Sept. 26 1883 C = 50 86.6

β Aquilae
19 49 32
+6 7

	P		P	Q
1 35 1	54.1	1	41.9	41.3
	43.5		32.0	32.2
	46.0		33.9	34.1
	0.4		48.0	48.2
			35.8	35.8
			38.95	38.95

δ Urs. Min.
6 10 21
+73 23

	ρ
40 3	15.8
	10.1
	11.2
	14.5

Ar. Group. seeing poor
taking D. B. P.

ε Can. Maj
6 53 59
− 28 49

	P		P	R
50 0	38.3	45 4	30.9	31.8
	28.1		21.8	22.5
	30.04		25.3	24.8
	45.~~8~~		40.7	39.8
			387	389
			29.67	29.72

δ Can. Maj.
7 3 36
− 26 ρ 12

	ρ		ρ	R
10 4	46.1	3	36.3	35.2
	33.7		22.1	22.1
	36.0		26.1	26.3
	52.3		42.5	43.0
			127.0	126.6
			31.75	31.65

Sept-26 1883 c = 5086.6

β Can Min	α2 Gem.
7 20 48	7 27 3
+8 31	+32 9
R	R
30 1 40.3	5 50 11.9
29.8	2.7
31.9	3.6
44.6	12.9
146.4	31.1
31 36.60	55 7.78

A_{+1} 4αe

α Can. Mi
7 33 7
+5 32

R
30 1 39.8
30.0
32.2
45.4
147.4
31 36.85

Lost A
+1

β Gem.
7 38 5
+28 19

45 1 32.7
23.8
24.8
34.2
115.5
46 28.88

Sept 27 1883 c = 50 86.6

⊙ 12 15 36
−1 41

	R		P
• 25. 3	46.4	55 4	45.5
	84. 0		33.2
	36.4		34.7
	50.8		49.5
	1676		1629
28	4190	59	4072

Both Circles in δ and R.A.
Seeing fair

α' Herculis
17 9 16
+14 32

	P	P	R
30.2	37.5	1 30.2	30.3
	24.4	17.8	17.9
	26.7	19.4	19.0
	39.3	31.9	32.3
	1279	19.3	19 5
32	31.98	31 24.82	24.87

ω Draconis
17 37 38
+68 49

	P	P	P	R
• 15 1	1,0	0 19.3	0 2.2	2.5
	57.0	13.6	57.6	58.3
	57.3	14.9	59.5	59.3
	0.6	19.0	2.1	2.5
	2359	668	14	26
15	5898	15 16.70	0 0.35	0.65

ψ' Draconis
17 44 01
+72 12

	P	P	P	P
50.2	37.2	11.2	141.4	22.9
	32.4	5.7	35.7	17.2
	33.0	6.0	36.0	16.9
	36.0	9.3	38.9	20.4
	1386	222	1520	774
52	34.65	5.55	51 38.00	19.35

Sept 27 1883

β Draconis
17 27 45
+52 24
ρ
40 1 24.5
17.0
19.2
23.8
845
41 21.12

α Ophiuchi
17 29 27
+12 39
φ φ P R
25.0 12.1 20 4 97 9.2
1.5 590 58.7
2.5 594 58.8
13.3 12.4 13.2
314 20.5 19.9
25 7.85 24 5.10 ~~5~~4.97

reject 2nd σ

γ Draconis
17 53 52
+51 31
ρ ρ P R
30 4 21.4 348.6 7.1 7.5
15.9 41.3 0.0 1.0
17.1 43.5 2.3 2.2
22.1 49.1 7.5 7.8
765 1825 16.9 18.5
4.62
34 19.12 45.62 4.22

22 H. Camel.
18 5 57
+110 38
φ φ φ
25.2 23.8 53.5 3 19.5
21.4 49.6 17.0
26.5 56.1 22.5
24.8 53.1 20.0
965 2123 790
27 24.12 53.08 28 19.75

Sept. 27. 1883

δ Urs. min.
18 10 21
+86 37

	ρ	P
.253	2.5	2 58.9
	58.5	53.6
	58.9	54.5
	2.0	58.3
	19	22 5 3
28	0.48	27 56.32

A 4.1 + c

η Serpentis
18 15 13
− 2 56

	p	ρ	R
55.4	25.5	3 15.4	15.1
	12.0	0.5	1.0
	17.1	5.9	5.4
	31.8	20.1	20.3
	864	419	418
59	21.60	58 10.48	10.45

c M.
δ Draco.
R.T.
A
b

c Uw
κ Cygni
19 14 24
+53 9
uc R.T.
= A AB D E
2345

Sept 27 1883

C.W.

β Cygni
Q. T.

A B ~~C~~ D 2345 ~~D~~ E

β Cygni
19 25 58
+27 43
ρ
20 0 42.7
34.9
35.3
45.8
158.7
A 20 39.68

A B C 2345 D

θ Cygni
R.T.

θ Cygni
M.C.

A

B D

Sept 27 1883

γ Aquilae
19 40 40
+10 20

	P		p	R
40 4	15,1	3	0,8	0,0
	4,3		50,4	50,1
	6,0		51,5	50,9
	20,0		5,3	5,7
	454		2280	2267
44	11,35	42	57,00	56,68

α Aquilae
19 45,4
+8 34

	P		P	R
30.0	14.2	25 4	15,3	15,0
	3,8		4,8	4,5
	5,5		7,3	7,1
	19,4		20,6	20,8
	429		480	474
30	10,72	29	12,00	11,85

3 Urs Maj
20 19
+11 11

	P	P	P
55 0	20,7	36,1	057,6
	18,1	33,8	55,2
	24,5	39,5	1,0
	22,5	38,2	0,8
	858	1476	2346
55	21,45	36,90	58,62

ψ Cygni
19 52 36
+52 7

Q T

A B D E

Sept 27. 1883.

β Aquilae
19 49 32
+6 7
P
30 1 57 0
44.5
48.7
3.5
2137
31 53.42

ψ Cygni
19 52 36
+ 52 7
A

θ Aquilae
20 5 14
− 1 10

	P	P	R
10 2 ~~10 2~~	8.5	2 326	31.6
	51.8	17.5	18.2
	0.5	22.1	23.2
	12.5	36.7	36.0
	183	1099	1090
12	4.58	12 27.48	27.25

γ Cygni
20 18 1
+ 39 53

	P	D	R
10 1	20.2	1 100	10.4
	13.7	23	2.3
	14.3	47	4.7
	20.8	100	10.9
	690	270	283
11	17.25	10 6.75	7.08

Sept, 27. 1883

Gr 3241
20 30 30
+72 08

	p	f
55	11 3.3	0 54.1
	7.1	47.2
	7.9	50.0
	10.3	51.4
	386	2027
56	965	55 50.68

A

Sept 29, 1883 c = 50 56.6

δ Draconis
R 12 32
R.T.
~~A~~ 6
Ri; strokes taper B6

κ Draconis
R.T. U.C.
A_5 B D E. A

θ Cygni
19 25 58
+27 43
R
20 0 50.3
42.8
42.8
53.6
189.5
20 47.38

θ Cygni
R.T.
AB D_{2345} E.

Sept ~~29~~ 30 1883

α Ursae Maj

10 56 23

+62 23

	p		P
40 1	43.7	1	26.8
	36.0		18.1
	36.3		18.5
	40.4		21.9
	156.4		85.3
41	39.10	41	21.32

A_{-1} 345

Oct 1 1883

C = 64.7

☉ 12 38 0
−3 15

θ = 50 64.5

γ Draconis
17 53 52
+51 31

~~304~~	P		P	R
30.4	31.9	3	27.5	26.6
	26.2		19.5	18.8
	26.9		20.5	20.2
	32.5		24.4	25.6
	117.5		139	132
34	29.38	33	23.47	23.30

1st Limb 2nd Limb
A+1 14 A+1 5 A A−1
reject 5
Seeing fair

δ Ursae Min
18 10 21
+86 37

	ρ	P
		3. 2.5
25.3	35.9	~~27.6~~
	31.0	57.4
	32.1	57.2
	33.3	0.3
	132.4	147.4
28	33.10	36.85

Lost
A >0

η Serpentis
18 15 13
−2 56

	ρ		P
55 4	26.9	3	11.4
	13.3		58.0
	17.2		1.9
	30.5		14.8
	87.9		26.1
59	21.98	58	6.52

Oct. 1. 1883

χ Draconis
18 23 10
+72 41

P p
. 20.3 19.1 217.2
13.4 0.0
12.4 0.5
15.3 2.9

60.4 10.6
23 15.10 22 2.65

β Cygni
M.C.
19 25 58
+27 43
R

30 0 4.28
3.51
3.56
4.57
15.92

0 3.980

C = 50 67.5
CW

α Lyrae
18 32 57
+38 41

R T
A B D E.

~~A B~~

β Cygni
R.F.

A B D 234.5 E

Oct 1883

α Lyrae
18 32 57
+38 41

κ Cygni
MC.

κ Cygni
R.T.

P

20 3 16.2
9.0
9.2
15.0

494

23 12.35

A
9

A 5 B D E.

θ Cygni
MC
A

θ Cygni
15 33 16
+45 57
R.T.

A B D 3½ E

Oct. 1 1883 C = 5 0 67.5

γ Aquilae			α Aquilae			
19 40 40			19 45 2			
+10 20			+8 34			
	P	P			P	P
40 4	16.5	3 27	30	0	15.3	3 58.0
	5.0	58.0			3.8	47.6
	6.5	53.1			5.6	49.7
	19.4	6.6			19.0	1.2
	474	04			437	2165
44	11.85	43 0.10		30	10.92	33 54.12

θ Aquilae
20 5 14
-1 P 10 P

10 . 3	41.5	2 44.0
	29.5	30.2
	31.6	34.1
	44.2	46.0
	1468	1543
13	36.70	

ψ Cygni
19 52 36
+52 7

MC.

Lost first wire
of A

Oct. 1, 1883. C W

β Aquilae
19 49 32
+6 7

ψ Cygni
19 52 36
+52 7

P

R T

a B D E

5.51 57.0
47.6
47.6
1.1

2133

56 5332

κ Cephei
20 12 48
+77 21

R.T.

C. W

A C

α^2 Capricorni
20 11 31
−12 54

M. C.

Lost A,

reject 5

Oct 1, 883 C = 50 67.5

γ Cygni
20 18 1
+ 39 53
R T
C, E,

a B D E

θ Cephei
20 27 37
62 36
C, E,
R, T,

a B D E

α Cygni
20 37 26
+44 52

C, E,
R. T.

A B D E

ε Cygni
20 41, 27
+33 32

C, E.
R T

A B D2345

Oct 1. 1883

Θ Cephei
20 27.37
62 36

M C

A

α Cygni
20 37 26
+44 52

ρ
10.2 13.0
4.6
6.0
11.7
A 353
12 8.82

ε Cygni
20 41 27
+33 32
ρ
30 / 41.9
32.5
34.5
41.8
15.07
31 37.68
A

Br 19
20 32 51
+80 7

ρ	ρ	ρ
55.39.5	251.5	35.9
5.6	47.9	31.4
5.0	45.5	30.4
8.4	50.0	33.9
285	1949	1316
58 7.12	5748.72	32.90

Oct. 1 1883 C = 50 67.5

σ² Urs Maj
21 0 5
+11 2 23

ξ Cygni
21 17 56
+29 45

	ρ	p
50 3	11.8	299
	7.2	25.1
	13.1	29.9
	~~11.5~~	~~28.8~~
	436	1137
53	10.90	28.42

C W

R T

A E

1 Ne Procoris
21 20 19
+58 10

	ρ	p
55 0	41.8	17.1
	35.1	59.9
	36.9	3.4
	39.6	5.0
	1534	154
55	38.35	56 3.85

ξ Cephi

Q D

A B D 345 E

Oct. 1. 1883

ξ Cygni
21 17 56
+ 29 45

p
154 17.8
6.9
9.2
18.0

M. C. 519
19 12.98

A A A
+1 -1

α Cephii
21 15 48
62 5

p p
55 346.7 30.2
38.4 21.5
40.9 24.7
45.3 28.4
1713 1048
58 42.82 A 26.20

β Aquarii
21 25 22
-6 5

p
5 3 36.4
22.8
27.0
38.8
1250
8 3.125

β Cephii
21 27 11
70 3

p p
01 52.3 17.4
47.1 11.0
44.5 10.6
48.8 14.9
1927 539
1 48.18 13.48

Oct. 2 1883 C = 67.5

α_2 Gem.

7 27 03

+32 9

R R

55 1 28.9 29.1

18.2 18.6

16.8 17.0

26.6 26.8

90.5 91.5

56 22.62 22.88

α Can. Min.

7 33 7

+5 32

R R

30 3 54.6 54.8

42.0 42.8

42.6 42.2

56.4 67.2

195.9 197.0

33 48.98 49.25

C = 5067.5

o Ursae Maj

9 24 56

+52 13

R

50 3 9.0

59.7

58.2

4.0

10.9

53 2.72

A_{-1}

A_{-1}

ε Leonis

9 35 8

+24 19

R

A_9 A_{-1}

Lost S.

C = 50 67.5

β Gem 7 38 5
+28 19

R R
45 1 329 328
221 229
222 218
310 312
1082 1087
46 27.05 ^18 27.18

α Hydrae
9 21 47
− 8 9

R
10 1 506
84.7
34 4
47.6
166.8
11 41.70
A
$+_1 {}^2 \alpha\, C$

C = 50 64.8
α Leonis
10 2 4
+12 33

P P R
30.2 14.1 1 8.0 6.9
0.6 54.5 54.3
59.1 52.5 52.9
13.7 59 6.8
275 2.09 240.9
80.22
32 6.88 31
5522

β Ursae Maj
10 54 41
+57 1

P
51 9.4
59.4
58.5
58.2
182.5
51 45.62

C 5° 64.8

Oct 2 1883

α Ursae Maj'

10 56 23

+62 23

	p	P	R	R
40 2	37.4	1 46.2	1 29.6	29.3
	27.1	36.4	19.5	20.2
	27.7	35.3	19.4	19.4
	32.0	41.7	24.0	24.4
	124.2	159.6	92.5	93.3
42	31.05 43	39.90	23.12	23.32

Oct 8 1883

☉

12 37 16

−4 1

R P

~~2~~45 3 35.4 13 4 40.3

22.6 27.2

21.1 27.4

1169 37.8 40.8

135.7

2922 19 33.92

Both Limbs in δ and R.A.

Seeing moderate!

C = 50 64.9

ε Urs. Maj

12 48 48

+56 36

P P P

26 $\overset{4}{3}$ 42.4 3 52.1 3 29.9

33.8 43.6 22.3

35.8 45.1 22.6

40.4 50.0 27.5

1524 1908 1023

29 38.10 28 47.70 28 25.58

η Draconis

16 22 23

+61 47

P P

15 2 39.1 2 20

34.0 55.8

38.2 59.1

39.5 59.9

1508 2368

17 37.70 17 59.20

i shone fr 15s

η Herculis

16 38 51

+39 9

P P

50.0 51.2 54 4 38.6

43.4 31.3

44.2 31.6

50.9 37.5

1897 1390

55 47.42 58 34.75

Oct 3 1883

C = 50.649

C = 50 64.8

η Ursae Maj

13 42 52

+49 54

	P		P	P
10 1	22.6	0	41.5	11.2
	15.4		33.9	39
	15.6		338	25
	22.1		37.8	8.0
	757		1470	256
11	18.92	10	36.75	6.40

δ Scorpii

16 8 9

−3 23

	P		P	R
252	18.6	1	32.2	32.8
	3.4		16.5	17.7
	5.2		18.7	18.7
	20.9		34.1	34.4
	481		1015	1036
27	12.02	26	25.38	25.90

ε Urs. Min.

16 58 00

82 14

P	P
54.5	44.9
53.0	41.6
52.1	41.4
55.8	44.0
2154	1719
53.85	42.98

η Ophiuchi

17 3 27

−15 34

	P		P	R
353	3.3	12	53.5	53.3
	46.2		36.2	36.9
	50.0		41.0	40.7
	9.0		59.0	59.2
	1685		1897	1901
38	42.12	36	47.42	47.52

Oct. 3. 1883 C = 50 64.8

α Herculis
17 9 16
+14 32

	P		P
30 2	47.9	18	30.8
	36.0		18.7
	36.1		19.2
	50.0		32.8
	170.0		101.5
32	42.50	31	25.38

β Draconis
17 27 45
+52 24

	P
40 1	28.6
	21.5
	25.7
	29.0
	104.8
41	26.20

α Aquilae
19 45 2
+8 34

	P
30 0	22.6
	9.9
	12.0
	26.6
	71.1
30	17.78

Observation by D. B. P.

3 Urs Min
20 1 9
+111 11

	P
50 4	43.9
	41.7
	47.4
	47.5
	180.5
54	45.12

lost A_{50}

By D B P

Oct 3 1883 C = 50 64.8

ζ Ophiuchi
17 25 27
+12 39

25 0 27.2
16.4
16.5
29.8
999
25 24.98

γ Aquilae
19 40 40
+10 20
p
40 4 12.6
1.3
1.5
16.2
316
44 7.90
Observation taken by D.B.P.

$\underset{+1}{A}$ 12 $\overset{?}{3}$ Clouds.

θ Aquilae
20 5 14
−1 10
p
10 2 32.2
17.3
19.9
34.5
1039
12 25.98
lost $\underset{+1}{A}$ 1

By D.B.P.

α² Capricorni
20 11 31
−12 54
p p
55 2 35.0 34.8
19.6 19.1
23.2 23.2
39.2 39.5
1170 1166
57 29.25 29.15

By D.B.P.

Oct. 3. 1883 C = 50 64.8

y Cygni
20 18 1
+39 53

	p	P
100	9.6	9.5
1	2.0	1.6
	2.3	2.9
	8.6	9.0
	225	230
10	5.62	5.75

By D.B.P.

Gr 3241
20 3880
+72 8

	P
55 0	45.4
	39.4
	39.0
	41.1
	1649
55	41.22

lost A_{+1} 3

By D.B.P.

Br 79
20 52 51
+80 7

		p	p
55	3	16.0	25.9
		14.8	14.4
		11.8	10.5
		15.5	15.2
		581	460
	58	14.52	57 11.50

Lost A_{-1} 1

By D.B.P.

ε Can. Maj c = 50 64.8
6 53 59
-28 49

	P	P	R
50.0	47.3	35.4	33.3
	34.6	22.0	23.8
	27.1	26.1	26.0
	53.0	40.0	40.1
	1620	1235	1232
50	40.50	30.88	30.80

Oct 3 C = 50 64.8

~~α Cygni~~ ~~ε Cygni~~

~~20 37 26~~ ~~20 41 27~~

~~+44 52~~ ~~33 32~~

~~I O~~ ~~P~~

~~10 2 35.5~~ ~~30 18.2~~

~~27.1~~

~~27.0~~

34.0

(Chronograph not working for some)

β Can Min			α² Geminorum		
7 20 48			7 27 3		
+8 31			+32 9		
P	P	R		P	R
30 2 51.8	1 38.9	38.4	55 0	24.1	23.7
42.3	27.8	27.7		14.5	15.2
40.8	27.3	27.8		13.1	13.3
56.1	42.2	41.7		22.4	22.2
1910	1362	1356		741	744
32 47.75	31 34.05	33.90	55	18.52	18.60

A7LC

Oct 3 1883 C = 50 64.8

α Can. min
7 33 7
+5 33

	P		P	R
30 2	53.4	1	40.3	40.2
	43.2		29.6	29.9
	43.3		30.0	29.7
	57.0		44.2	44.8
	1969		1441	1446
32	49 22	31	36 02	36,15

β Geminorum
7 38 5
+28 19

	P		P	R
45 1	34.9	0	27.2	27.0
	25.5		18.8	18.2
	24.8		18.0	17.0
	34.4		28.0	27.1
	1196		92.0	93
46	29.90	45	23.00	22.32

ζ Leonis
10 10 6
+24 0

	P
30 4	52.9
	46.4
	43.1
	54.0
	1964
34	49,10

γ. Leo
10 13 27
20

	P
35 3	56.5
	46.2
	43.9
	58.0
	2046
38	51,15

Oct. 3. 1883 C = 50 64.8

ε Leo.
9 38 8
+24 19

	R	R
451	3.2	3.4
	55.4	55.6
	53.6	53.9
	4.6	5.1
	237.1	373
46	59.28	59.32

α Leonis
12 2 4
+12 33

	P	P	R
38 =	23.6	17.0	6.5
	12.7	56.5	55.8
	10.1	53.6	53.7
	24.0	6.9	7.3
	704	4.0	248.3
32	17.60	1.00	0.82

μ Ursae Maj
10 15 18
~~+42~~ 6

	P		P
55 4	39.1	3	53.0
	28.8		41.0
	29.5		41.6
	36.5		44.1
	1339		1837
59	33.48	58	45.92

α Ursae Maj
10 56 20
+62 23

	P	
40 =	37.0	~~[illegible]~~
	28.1	
	28.9	
	32.7	
	1267	
42	31.68	

Rig 2nd & 3rd

Oct 4 1883 C = 56 64.8

⑥

1 2 40 54

−4 24

	R		P
45 1	37.1	20 2	44.6
	24.1		32.0
	24.7		32.3
	38.2		45.2
	1241		1541
46	31.02	22	38.52

C = 57.0 64.8

ε Ursae Maj

12 48 48

+56 36

	P	P	P
25 4	40.0	3 58.0	31.8
	32.2	50.0	23.0
	32.9	50.7	23.9
	37.8	56.1	28.9
	1429	2148	1076
29	35.72	53.70	26.90

Both Circles in δ and R.A.

Seeing bad.

η Ophiuchi

17 3 27

−15 34

R

35 2 50.0

35.2

36.8

54.0

1760

37 44.00

α, Herculis

17 9 16

+14 32

— — 39.0

28.6

27.0

40.5

A_{12} to A_5

1351

33.78

C = 50 67,8

α Serpentis
15 38 27
+6 45
R

15 0 18,1
6,4
7,2
21,6
533
15 13,32

A +1

α Scorpii
16 22 10
−26 10

10 2 47,3
33,0
36,8
53,9
1710
12 42,75

α Ophiuchi
17 25 27
+12 9

25 0 21,7
16,1
9,7
23,3
708
25 17,70

γ, Draco
17 44 1
+72 12

50 1 55,7
49,3
47,8
52,0
2048
51 51,20

Oct 4 1883 @=52 67,8 (C=50 65.5

γ Draconis
17 13 52
+51 31

α Can. Min
7 33 7
+5 32

		R	R
30	4	224	23.3
		157	174
		17.2	16.8
		230	228
		783	803
34		19.58	20.78

		P		P	R
30	2	58.9	2	42.7	43.5
		47.8		30.0	31.2
		46.3		29.6	29.5
		1.0		44.1	45.0
		2140		1464	1492
	32	5350		3660	3730

Oct 4 1883 B = 30.65.5

β Gem.
7385
+28 19

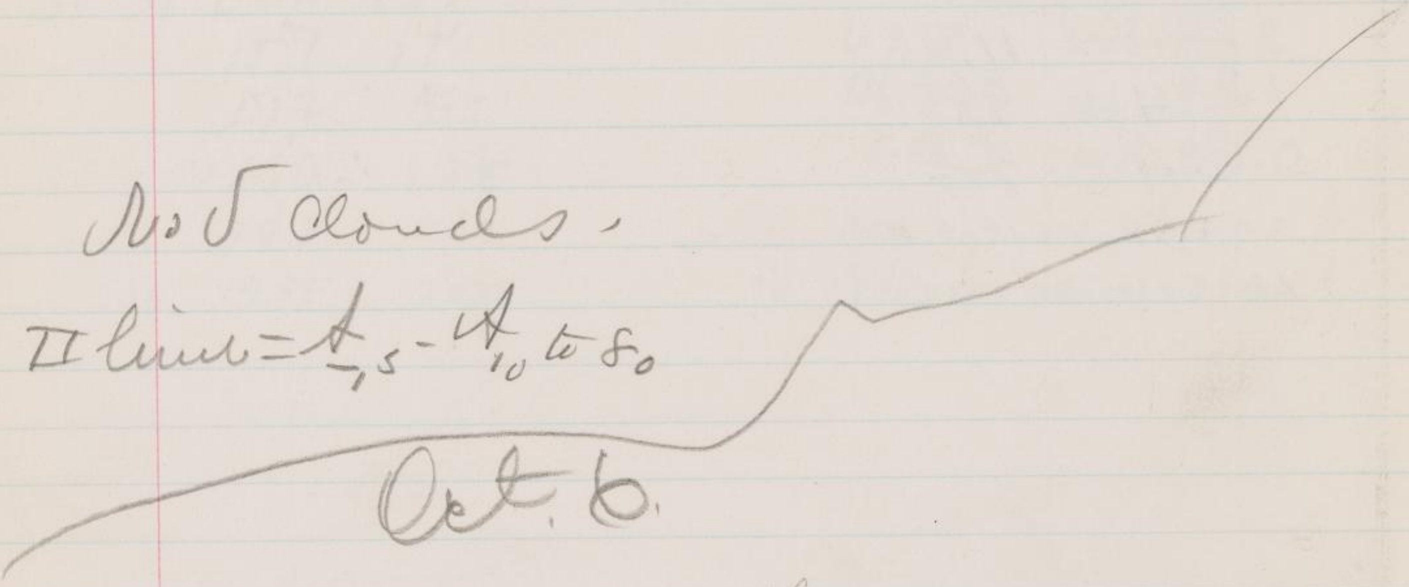
	P		P
45'	35.2	0	22.9
	24.8		11.2
	23.4		9.8
	32.9		9.01
	116.3		154.0
46	29.08	45	38.50

Oct, 5 1883 C=50 65.5

⊙ 12 44 33
−4 47

No 5 clouds.

II limb = $A_{7.5}$ − A_{10} to 8_0



Oct. 6.

γ Cygni
20 18 1
+39 53
p
10 0 9.0
59.3
57.7
5.1

Lost A
+1

113
10 282

Gr 3241
20 30 30
+72 8
p
55 0 43.8
35.9
34 0
38.0

1517
55 37.92

Oct 6 1883 C = 5065.5

①
12 48 12
− ~~4~~5 10

p
55.3 5.3
54.0
48.5
4.0
1118
58 27.95

II limb in R.A.
D.B.P.

α' Capricorni

D.B.P.
Lost A 3 A89 A, Clouds
+1

α Cygni
20 37 26
+44 32
10
10 2 45.8
3?.1
36.2
43.0

D.B.P.

1163
12 29.08

ε Cygni
20 41 27
+33 32

		f	p
30	2	16.6	16.6
		6.5	7.2
		5.0	5.0
		14.2	14.5
		423	433
32		10.58	10.82

Oct 6 1883 C = 56 65.5

Br 79 ~~σ² Urs Maj~~
20 52 5'
+80 7 ~~+112 23~~
p
55 3 21.8
18.7
15.3
20.0
758
58 18.95
Lost one wire

σ² Urs Maj
21 0 5
+112 23
p
40 3 43.9
38.6
41.6
42.5
1666
A_{43} 21 A +1 43 41.65

β Aquarii
21 25 22
−6 5

R. A.
Lost A 1
reject +1 6

ε Pegasi
21 38 25
+9 20
p
40 3 33.9
21.6
20.6
35.5
1116
43 27.90

Oct 6 1883   6 0 65.5'

α Cephei   11 Draconis
21 1,5 48   21 20 19
+62 5'   +98 10

ρ   ρ

55 4 22,6
12,5
13,6   a +1   Seeing very poor
19,1

678
59 16,95

Oct. 8 1883 C = 50 65.5

⊙

12 55 31.30
− 3 56

P

403 46.0
36.5
31.5
46.1
1601
43 40.02

S of lower limb
D. B. P.

θ Aquilae
20 5 14
− 1 10

10 3 47.1
34.2
36.3
51.0
1686
13 42.15

D. B. P. &c.

Gr 3241
20 30 30
+ 7 28
P

551 55.0
48.7
47.0
51.0

2017
56 50.42

α Cygni
20 37 26
+ 44 52
P

10 1 31.5
21.7
21.3
28.5

Aq $\underline{A}_1$ One wire before rattle.
1030
11 25.75

Oct 8 1883   C = 50 65.5

ψ^2 Capricorni
20 11 31 −12 54
P 55 2 44.4 44.9
29.4 28.6
31.8 31.6
48.2 48.7
1538 1538
57 38.45 38.45

υ Cygni
20 18 1
+39 53

One wire before the [illegible]
A A
9 7
lost δ

ε Cygni
20 41 27
+33 32
P
30 / 1.0
56.6
50.6
0.5
2287
30 57.18

Br. 79
20 52 57
+80 7
P
55 2 16.8
12.2
9.9
14.5
534
57 13.35

Oct. 8, 1883 C = 50 65.5

ξ Cygni
21 17 56
+29 45
P P
· 15.3 10.1 10.0
0.1 0.1
0.2 0.4
10.3 11.0
207 215
18 5.18 5.38

γ Cephei
21 15 48
+62 5
P
55 3 10.5
0.8
4.6
7.7
236
58 5.90

ε Pegasi
21 38 25
+9 20
P
· 40 2 18.6
4.0
4.3
19.2
461
42 11.52

Lost A A
+1 1

79 Draconis
21 51 25
+73 9
P
55 1 1.3
53.2
51.9
55.8
222 2
55 55.55

Lost A
2

Seeing poor.

Oct 8 1883 C.

1 H Draconis
21 20 19
+98ρ10
P 55 1 48.5
57.5
58.9
1.5

27

56 0.68

A A
4327 +1

β Aquarii
21 25 22
−6 5
ρ
5. 3 27.6
10.8
13.8
28.1

803

8 20.08

α Aquarii
21 59 45
− 0 53
ρ
55 1 50.8
35.0
37.5
51.6

1749

56 43.72

I

Oct. 9 1883

C = 50 65.5

ε Ursae Maj ×

12 48 48 +56 36

⊙ 12 59 11

−6 19

		R		P
5	1	46.4	35.2	50.0
		32.0		35.4
		31.9		36.6
		45.2		49.4
		1555		1714
	6	38.88	37	42.85

	q	P	P
25.4	48.1	9.0	3 32.5
	38.0	58.6	28.2
	38.0	59.0	24.1
	44.6	5.9	30.1
	1687	125	1099
29	42.18	3.12	28 27.48

Seeing good

both Circles in J and Rt.

η Draconis
16 22 23 ×
+61 47

		P	P
15	3	12.2	54.9
		6.0	47.9
		5.8	48.5
		8.7	51.8
		327	2031
	18	8.18	50.78

η Ophiuchi
17 3 27
−15 34

		R
35	3	34
		49.7
		50.4
		8.2
		2320
	37	58.00

Oct 9 1883 c = 50 65.5

η Ursae Maj ×
13 42 52
+49 54

	P	P	R
10 1	14.2	09.6	9.8
	2.8	59.5	59.9
	4.3	00	0.7
	10.9	6.2	6.8
	322	153	172
11	8.05	10 3.82	4.30

α Bootis ×
14 10 16
+19 48

15	P		P
~~30~~ 2	8.5	1	0.0
	55.8		48.0
	59.0		48.9
	11.5		1.4
	1948		2183
16	48.70		54.58

β Draconis ×
17 27 45
+52 24

	R
24 01	28.9
	22.2
	28.1
	28.1
	1023
41	25.58

α Ophiuchi
17 29 27
+12 38

	R
20 4	24.0
	14.6
	12.1
	28.0
	787
24	19.68

Oct 9 1883 C = 50 65.5

γ Draconis
17 53 52 x
+51 31

R
30 4 32.8
24.9
26.6
32.6
116.9
34 29.22

δ Ursae Min
18 40 21 x
+86 37

R R
25 2 46.8 38.0
42.8 33.6
41.8 32.7
45.7 36.3
177.1 140.6
27 44.28 35.15

τ Aquilae
19 4~~8~~2 34

R
30 0 16.4
5.3
4.6
21.0
47.3
30 11.82

B Aquilae

R
55 1 53.8
42.0
42.9
59.2
197.9
56 49.48

Oct 9 1883 C = 50 6,5

α Lyrae
18 32 57 ×
+38 41

20 4 0,8
52,5
52,2
2,0
2275
23 56,88

η Aquilae
19 40 40
+0 2d

R
40 4 10,0
0,2
58,4
1 5,0
239
44 5,98

3 Lacertae ✱
22 18 58
+51 39

7 Lacertae
22 26 29 ×
+49 41

p p p p
{ 25 0 56.8 204 54.9 { 20 3 36.9 218.6
{ 48.3 47.8 { 30.1 310 7

2

Oct 9 1883 C = 50 6 5.5

10 Lacertae
22 34 1 ✱
+38 26
p p
35 2 q 17.0 137.0
g 8.0 27.5

α Hydrae
9 21 47
−8 9
R
10 15 38.8
38.7
39.1
52.0
1836
A " 45.90
A +.3 α C

ζ Leonis
10 10 ~~27~~ 6
+24 0

γ' Leonis
10 13 27
+20 26
p
35 3 51.1
41.2
39.0
51.2
1825
38 45.62

A No 8
7 tc.

o Ursae Maj c = 50 6.5
9 24 56
+52 13
R
50 2 11.9
3.8
2.6
7,3
256
52 6.40
A_3 αC

c = 50 70.4
α Leo.
10 2 9
+12 33
R
30 2 17.8
6.7
4.1
18.6
47.2
32 11.80

μ Urs. Maj
10 15 16
+42 6
ρ P
55 4 47.2 4) 4.0
36.7 53.0
37.0 53.3
43.2 .00
164.1 230.3
59 41.02 57.58

B Urs Maj
10 54 41
+57 1
P
60 4 37.3
27.1
28.6
33.6
126.6
4 31.65

Oct 9 1883 c = 50 70.4

α Urs Maj.
10 56 23
+62 23

	P	P	P
40 2	50.5	59.9	31.3
	40.6	50.2	21.0
	40.6	51.3	21.4
	45.3	55.4	26.4
	1770	2168	1001
42	44.25 41	54.20	25.02

Oct 10 1883 C = 50 70.4

⊙
13 2 52
− 6 42

	Q		P		P		P
· 25 4	36.4	0 0	52.0	10 1	24.2	0	18.4
	20.6		35.6		13.8		11.5
	23.0		37.5		11.3		10.5
	38.1		51.1		21.5		16.4
	118.1		176.2		70.8		56.8
29	29.52	0	44.05	11	17.70	10	14.20

η Urs Maj ×
13 42 5.2 +49 54

Both Circles in [illegible] Wet
doing very bad.

B Draconis ×
18 22 12
+58 44

20 1 17.0 53.5

13.5 50.0

α Lyrae ×
18 32 57
+38 41

	P		P
20 3	59.0	2	47.0
	49.8		39.6
	50.4		39.5
	58.5		47.7
	217.7		173.8
23	54.42	22	43.45

Oct 10 1883 c = 70.4

γ Draconis X
17 53 52
+51 31
p P P
30 4 30.8 44.5 3 12.4
22.9 36.0 4.5
24.5 37.3 5.4
30.0 43.4 11.5
108.2 161.2 22.8
34 27.05 40.30 33 5.70

~~reject 2nd δ~~

η Serpentis
18 15 13
−2 56
P ~~A~~
55 4 26.8
14.2
17.3
31.0
89.3
59 22.32

Rej. 2nd δ

β Cygni
19 25 58 X
+27 43
20 1 5.8
6.8
6.2
17.2
36.0
21 9.00

Br 79
20 52 51 ×
+80 7
P
55 2 5.2
2.4
0.0
4.0
11.6
57 2.90
Q B, P,

lost A_{+1}

Oct 18^{2} 1883 C = 50 70.4

ξ Cygni
21 17 56 ×
+29 45

P

. 15 4 20.7
12.8
12.8
23.0

693
19 17.32 D B P

α Cephii
21 15 48 ✓
+62 5

P

55 3 2.1
~~54 1~~ 54.1
56.7
0.0

23.29
D.B.P. 58 58.22

ε Pegasi
21 38 25
+9 20
P
.40 24.0
50.5
53.0
47.8

2353
.42 58.82

D.B.P.

79 Draconis
21 57 25 ×
+73 9
P
50 4 56.4
50.7
509
53.5

2115
54 52.88

A, 5
-1
rattle foll δ
Seeing very poor
D.B.P.

Oct 10 1883 C = 50 704

β Aquarii
21 25 22
~~4~~ − 6 5

Reject δ
D.B.P.

β Cephei ×
21 27 11
+ 70 3
P
0 0 53.6
48.0
47.4
50.5

1995

0 49.88
lost A A
D.B.P.

C = 50 704

α Aquarii
21 59 45
−0 5 0
P
55 0 38.9
22.5
27.0
40.8

1292

55 32.30

D.B.P.

C = 50 688
α Hydrae
9 21 47
− 8 9
R
10 1 53.0
38.0
40.4
52.2

1839

11 45.98

$A_{1,2}$ α C

Oct 10 1883 c = 50688

θ Ursae Maj
~~50 2 37.3~~
9 24 56 0
+52 13
42 23

R R
50 2 37.3 38.1
29.6 30.1
30.5 31.4
31.0 34.2
1324 1338
52 33.10 33.45

α Leo
10 2 4
+12 33
42 23
29 50

R P
30 1 11.1 11.1
0.4 ~~59.9~~ 59.7
59.6 59.5
12.4 12.9
238 1432
31 5.95 35.80

α Ursae Maj ✓
10 56 20
+62 23

40 2 48.0 23.0 53.4 1 29.6
38.9 12.0 42.2 19.9
40.8 14.7 44.0 21.4
44.6 19.1 45.2 25.5
1723 688 1888 964
42 43.08 17.20 47.20 41 24.10

1 Ste for this ✓

Oct 18

γ' Leonis
10 13 27
+ 20 26
42 22

θ
35 3 57.9
47.7
47.5
58.2

2113

38 52.82

9
21 56
21 40

μ Urs Maj
10 15 16
+ 4 2 6

	p		p	R
554	23.6	3	54.1	53.6
	13.0		44.2	44.8
	14.9		45.4	45.8
	20.4		51.2	51.8
	719		3 49	1960
59	17.98	58	48.72	49.00

2

Oct 11 1883 c = 50 68.8

☉

13 6 33

−7 5

	R		P
50 2	9.1	20 3	14.2
	52.8		57.9
	57.4		1.7
	11.1		15.4
	1.04		292
52	2.60	23	7.30

α Herculis

17 9 16

+14 32

R

— — 44.4

32.2

33.2

46.7

1565

— 39.12

Both circles in δ & R.A.

Seeing bad. Hazy.

γ Draconis

17 53 52 +

+51 31

		R
30	4	30.0
		22.8
		26.1
		30.8
		1097
	34	27.42

δ Ursae Min

18 10 21 ×

86 37

~~25 3~~

	R	R	R	R
25	30 1.2	32.2	25.0	15.0
	58.3	29.0	22.0	11.7
	0.6	31.3	23.5	13.4
	3.2	33.3	25.0	15.0
	33	1258	955	551
28	8.22	31.45	23.88	13.78

A

70 αC

β Draconis
17 27 45 X
+52 24
R
20 1 27.4
20.0
24.6
28.0
10.00
21 25.00

α Ophiuchi
17 29 27
+12 39
R
20 4 9.6
59.1
0.1
14.2
23.0
24 5.75
A8LC

α Lyrae
18 32 57
+38 41 X
R
20 3 52.3
47.2
48.2
55.4
20.31
23 50.78

~~20 Cephei~~
~~22 1 27~~
~~+62 13~~
~~R~~
~~50 1 46.2 50 40.9~~
~~40.4 56.5~~
~~Chf~~

Oct 11 1883

C = 50 68.8

~~ξ Cephei~~
~~22 6 48~~
~~+ 57 37~~
~~p p~~
~~252 12 9 ' 32.0~~
~~6,8 36.0~~

Chf.

3 Lacertae
22 18 38
+51 39 ✗
p p
250 56.3 ' 24,2

50,0 17,8

Oct. 1 1883

C = 50 68.8.

7 Lacertae
22 26 28 X
✓ +49 41
p p. p
20 341.1 0.5 2 22.0
36.2 55.1 17.8

10 Lacertae
22 34 01 X
+38 26
p
35 2 53.5 6.2 /348
45.6 58.4 27.7

Oct. 13 1883 C = 50 68.8

β Cygni
19 25 58
+27 43
R
20 0 37
53.2
52.8
4.0
23 37
19 58.42

A_{+1} 23 45 A_0 te 40

θ Cygni
15 33 18
+49 57
R
5 2 58
58.2
0.3
3.8
81
7 2.02

A_{+1} 3 ∠ C

50
Oct 14 c=70.6

☉
13 17 35
−8 12
R
55 3 36.1
18.6
26.6
35.0
120.3
58 30.08

η Ursae Maj
13 42 52
+49 54
RR
10 1 13.7
4.2
6.7
13.0
39.6
11 9.90

II limb R A A3 x e
Seeing good –

ε Leonis
9 39 8
+24 19
RR
40 4 56.1
48.2
50.1
58.8
213.2
A_4 ∠ ☉ 44 53.30

α Leonis
10 2 4
+12 33
RR
30 2 22.6
13.0
13.4
25.3
74.3
32 18.58

α Boötis
14 10 16
+19 48
RR
15 2 8.9
8.1
0.0
11.7
287
17 7.18
A_{11} A_{10} to 4_0

θ Ursae Maj
9 24 56
+52 13
RR
50 1 45.0
36.8
35.3
43.0
1641
51 41.02
A α C

γ_1 Leonis
10 13 27
+20 26
RR
— 3 52.7
42.8
45.0
55.2
1957
— 48.92

μ Ursae Maj
10 15 16
+42 6
RR
55 4 20.4
13.3
14.9
19.6
685
59 17.12

Oct 14 1883 C = 50506

β Ursae Maj

10 54 41

+57 1

p

, 5 0 9.9

0.2

3.0

6.7

198

Sort: A* 5 1 4.95

−1

α Ursae Maj

10 56 23

+62 23

		p	p	p
40	2	46.0	' 59.5	, 37.9
		37.3	50.5	28.1
		40.5	53.8	32.2
		42.7	55.5	34.3
		1665	2193	1325
42		41.62	41 54.82	41 33.12

Z

Oct 15 1883 c = 50, 70.6

☉ 13 21 22
−8 35

	R		P
20 1	49.1	40	2 57.5
	33.8		42.1
	39.0		47.2
	49.3		57.0
	1712		2038
21	42.80	42	50.95

II limb R.A.

Both limbs in ✓

Seeing very fine

X   X

η Ursae Maj'

13 42 52
+49 52

	R		P
10 0	30.2	54	58.0
	22.3		49.8
	26.1		54.6
	28.7		57.3
	1073		2197
10	26.82	54	54.92

A_6 & C

3 Lacertae X

22 18 58

+51 39

	P		P		P
25 1	3.4	0	17.8	20.4	44.3
	—		+		~~5~~
	58.0		-11.3		39.2

7 ~~α~~ Lacertae

22 26 29 X

+49 41

	P	P		P
203	42.1	6.9 ~~38.0~~	2	23.3
	—	—		—
	38.0	2.5		

χ Draconis X
18 23 10
+72 41
KR
20 6 20.8
13.7
14.4
18.1
67.0
23 16.75

α Lyrae X
18 32 57
+38 41
KR
20 3 45.4
41.3
42.7
50.6
184.0
23 46.00

A_4 α ⊙

10 Lacertae
x 22 34 01 X
+ 38 26

Lost

η Pegasi
22 37 31 X
+29 37
2 P P P
25.2 34.1 2.9 / 21.0

39.9 54.5 12.5

Oct 15 1883 C = 50 70.6

θ Ursae Maj

9 24 56
+5 2 13
RA

50 3 0.8
57.9
57.3
57.5
2215
53 55.38

50.70.6
ν₁ Leonis

10 13 27
+20 26

R.A.
first Reading

Oct 15

50, 687

β Ursae Maj

10 54 41
+15 71

	ρ		P	P	P
			41	+67 23	
51	12.8	40	2~~2~~.8	57.8	, 35.3
	7.2		32.0	48.6	25.8
	2.7		33.3	50.0	26.9
	8.0		37.4	53.6	31.4
	247		1076	2100	1194
51	6.18	42	2690	5250	41 2985

α Ursae Maj
10 56 23

2

Oct. 16. 1883.

C 50 68.7

☉

13 25 6
− 8 5 7

η Urs Maj
13 42 52 ×
+ 49 54

	R		P		P	P
40 3	57.0	15 0	6.0	10 1	13.0	0 29.6
	40.9		49.5		4.0	21.1
	42.8		53.5		6.2	22.1
	55.0		4.2		11.1	26.5
	1957					
43	4892		2332		343	993
I A4 ∠ C		14	5830	11	858	10 2482

II A+1 A A−1

+1

Both Circles in √
Seeing horrible.

χ Draconis ×
18 23 10
+72 41

α Lyrae
18 32 57 √
+38 41

			R
~~55~~8 56 √	20 3 04	—	0.8
	53.2		53.2
	54.2		52.2
	56.2		0.3
			~~0.8~~
A+45	2223		2265
±1 22	5558		56.62

α Bootis X
× 14 10 16
+19 48

p p
15 2 6.9 1 17.0
56.5 6.1
55.5 4.8
8.0 15.9

69 43.8
17 172 16 10.95

ζ Draconis
17 35 2
+51 31

R
30 3 39.8
31.9
33.2
39.0

Chf

β Cygni
~~19 33 18~~ 19 26 00 X
~~+49 57~~ +27 43

15 4 58.8
50.9
49.9
0.8
220.2
Rey 19 55 01.5 1.51 ∫
Bright field

19 33 18 ×
+ 49 57
p
5 1 16.8
8.0
11.1
14.8
50.7
6 12.68
A 4.5
Bright field

Oct 16 1883 c=50 68.8

3 Lacertae
22 18 38 X
+51 39
p p
25 0 58.3 21.8

50.8 145

7 Lacertae
22 26 29 X
+49 41
p p
20 3 34.1 3.0

28.0 55.5

Oct 16 1883   c = 5 8 68.8

10 Lacertae X

~~2~~ 2 34 1

+ 38 26

P   P

352 53.9   0.8

42.9   51.7

z

Oct. 17. 1883

⊙ 13 28 50
− 9 19

C $\overset{50}{=}$ 71.7 (wrong)

α Boötis
14 10 16
+ 19 48

Lost ~
Circuit failed

	ρ	φ
15 2	10.8	(1) 02.0
	1.8	54.4
	56.2	47.5
	8.8	59.0
	176	2229
17	4.40	16.55.72

β Cygni
19 25 58 ×
+ 7 43

19 33 18 ×
+ 49 57

	R
20 0	48.5
	39.7
	38.1
	48.7
	1750
20	43.75

P
5 1 47.2

40.2

dark field. rej. 2nd

C = 71.2
λ Serpentis
18 15 13
−25 6

RR

55 3 12.1
58.2
59.3
14.0
236
58 5.90

C = 50 67.2
α Lyrae
18 32 57
−38 ~~4~~ 41

RR

20 4 1.6
55.1
53.4
0.7
2308
24 57.70

32 Vulpeculae
20 49 34.
+27 37
P
25 2 21.2 1 42.2
10.7 ~~5~~31.1

Lost first 2 w. of A.

γ Cygni
20 52 49
+40 43

Oct. 17, 1883 C. = 50 ~~71.7~~ 67.2

σ² Urs Maj
21 0 5
+11 2 23
P
40 3 53.4
51.2
56.5
54.5
2176
43 54.40
DBP
A 21
71

δ Cygni
21 7 5 6 ×
+29 45
P
15 4 21.8
14.1
12.9
23.8
726
19 18.15
DBP
reject first stroke for δ

β Aquarii
21 25 22
−6 5
P
52 14.1
0.0
1.8
15.1
310
52 7.75
DBP

79 Draconis
21 51 25 ×
+73 9
P
550 0.5
53.8
54.3
54.8
2204
54 55.10
D.B.P. lost A, 2
reject first stroke for δ

α Cephei
21 27 11 X
+62 5
P
55 4 15.9
6.5
8.3
12.1
52.3
59 13.08
D.B.P

1 H Draconis
21 20 19
+98 10 X
P
55 1 6.4
0.1
1.0
44
119
56 2.98
A 2, A 71, D.B.P,

α Aquarii
21 59 45
− 0 53
P
55 1 33.8
18.0
21.0
34.6
107.4
56 26.85
D.B P

P
454 4.8
0.1
4.0
4.1
13.0
49 3.25

Oct 17 1883 C = 50 ~~71.7~~ 67.2

9 H Draconis
22 55 7
10 3 41 X
p
250 12.0
6.5
7.3
8.5
D.B.P. 343
25 8.58
A 1
+
Seeing very bad

226 B Cephei
22 30 13
+75 37
p
251 35.8 X
28.3
26.8
30.9
121.8
26 30.45
D.B.P.
lost A A2 7
+1
Seeing very bad

α Piscis Australis
22 51 9
−30 13
p
10 4 36.2
24.8
25.9
41.2
128.1
D.B.P. 14 32.02

α Urs Maj
22 56 24 X
+11737

Qa

lost A
+1

D B P

Oct 17 1883

η Pegasi
22 37 30
+ 29 36
P
25 1 34.9
24.3
250
34.5
1187
26 29.68

Lost A+1 A,2
DBP

i Cephei
22 45 31
+ ~~26~~ 35 X
P
25 4 49.5
43.2
42.7
46.2
1816
29 45.40

DBP

C = 50 67.2

α Pegasi
22 58 50
+14 34
P
25 3 2.2
~~30~~ 50.9
48.2
2.1
2234
DBP 28 55.85

C = 50 65.0

e Leo
10 2 4
+12 33
R
30 0 17.4
5.4
2.0
15.0
A5×C 3.98
30 9.95

Oct 17 1883

ζ Leo. γ' Leonis

10 13 27

+10 26

v

A_{10} to 7.0

m 5

Oct. 17.

Z

Oct. 18 1883

C = 6.5.0

☉ C 50 6.5.0

η ~~Bootis~~ 1120 Mag

1 3 42 3 2

+ 49 54

13 32 35

− 9 41

		R		ρ		ρ	ρ	
25	2	56.1	554	2.8	101	6.3	14.6	X
		88.2		44.9		57.8	55.0	
		40.3		46.7		57.1	4.3	
		55.1		1.0		2.2	10.8	
		1897		2154		34	347	
	27	47.42	59	53.85	11	8.50	8.68	

Both limbs in D & R.A.

lost A, 1

Seeing good.

C = 50 6.5.0

x Cygni X X

19 14 24

+ 53 10

		ρ		ρ
55	0	24.5	504	39.0
		~~14.8~~		~~30.4~~
		13.2		29.9
		~~19.3~~		~~36.2~~

i Cygni X X

19 26 45

+ 57 29

3	ρ	ρ	ρ	ρ
35 0	50.7	19.1	2.0	304 33.1
	42.0	10.2	32.9	25.0

Oct. 18 1883 c 60 65.0

δ Aquilae
19 00 0
+13 42

	ρ		ρ
202	45.2	1	47.6
	31.9		33.5
	29.4		32.3
	44.1		45.5
	1506		1589
22	37.65	21	39.72

δ Draco.
19 12 32
+67 27 X

35 1	53.9
	48.2
	47.1
	50.0
	1992
36	49.80

X θ Cygni X
19 33 18
+49 57

	ρ	ρ	ρ	ρ
52	19.0	0.9	1 29.8	14.3
	10.1	51.3	21.4.	6.1

θ Andromedae X
22 56 32
+41 42

	ρ	ρ
20.2	34.8	0.2
	23.4	49.2

Dark field

Oct 18

α Pegasi

22 58 56

+14 35

	P	ρ
23	4 32,7	3 13,8
	18,9	59.3
	17,4	58,1
	33,1	12,7
	1021	239
29	25,52	28 5,98

I

Oct 22. 1883

① C = 50 41.6

13 47 41
−11 7

~~n Ursae Majoris~~
~~13 42 52~~
~~+49 24~~

	R		P
50 3	59.1	25 0	15.5
	42.2		57.0
	43.0		59.1
	56.3		13.0
	2006		246
53	50.15	25	6.15

Both Circles in δ and R.A.
Seeing bad

~~0 Draconis~~ ×
~~18 49 28~~
~~+59 24~~

R Leporis × bf
~~16 5 14 6~~ ×
~~+43 47~~

15 1	59.2	14.4	48.9
		~~1.9~~	
	46.7	1.9	36.0

bf = bright field-dark wires
df = dark field bright wires

c = 50 41.6

α Bootis.
14 10 16
+19 48

	p	p
15 2	20.8	1 10.9
	9.8	58.4
	8.1	56.8
	20.2	8.5
	589	146
17	14,72	16 3,65

c = 50 40.1

α Lyrae b.f.
18 32 57
+38 41 X

	p	p
20 3	59.1	2 52.1
	50.5	43.9
	48,1	41.5
	53.6	48.6
	2133	1861
23	5332	22 4652

ζ Aquilae bf
19 0 0
+13 42

20 2	48.5	1 26.8
	34.2	12.2
	32.6	10.5
	45.2	23.5
	1605	730
22	40,12	21 18,25

δ ~~[illegible]~~. bf X
19 12 32
+67 27

35. 2	39.5	5.8
	34.9	59.8
	31.8	58.1
	35.2	
	~~58.1~~	
	1414	
37	3535	

Oct 22 / 1883 c = 70.1

x Cygni bf x
19 14 23
+53 9

55 0 13.6 50 42~~6~~.7
2.3 16.5

θ Cygni d-b-f X
19 30 18
+49 57

52 34.6 ~~1~~9.0 '47.0 21.6
26.5 59.4 37.9 12.0

α Pegasi
22 5 8 36
+14 34 ~~27 27~~
p
254 18.6 315.2
5.2 2.4
2.5 0.6
16.3 14.9
426 331
b.f. 29 10.65 28 8.28

c = 70.1
β 2. 3077 X
23 7 31
+56 31
p δ p p
30 3) 6.5 .2 37.1 6.8
~~27.0~~
57.8 27.0 57.2

b. f.
Lost first w

Oct 22 1883 c = 70.1

B Cygni
19 25 58 X
+27 43
P   p
20 1 31.1   0 20.0
18.0   9.2
15.3   6.5
26.1   17.6

905   533
21 22.62 20 13.32

d.b.f.
o Andromedae
22 56 32 X
+41 42
P
20 2 ~~36.8~~ 43 4   1 45.0
―――   ―――
35.8   43.5 } Sum

ε Leo. c = 73.3
10 2 4
+12 33
R
30 1 11.5
59.6
55.3
9.1
158
31 39.5

Rej 15 - S

γ, Leonis
10 13 27
+20 26
R
35 2 51.2
39.2
35.4
47.3
1731
37 43.28

Oct 22 1883 e = 53,3

β Ursae Maj
10 54 41
+57 1

No ✓

A +1 345 – ✓

α Ursae Maj
10 56 23
+62 23
R
40 2 43.4
32.8
31.4
37.3
145.2

42 36.30

γ Ursae Maj
11 47 35
+54 21
R

40 3 47.3
37.1
34.7
40.8

Reg 15 ✓

Oct 22 1883 c = 5873.3

χ Ursae Maj
11 3 0
+45 8
p
55 1 34.0
22.3
19.4
27.6
1033
56 25.82
A_{+1}, 2 + C.

δ Leo
11 7 45
+21 10

	p		p
50 4	32.7	3	48.2
	21.2		38.7
	17.8		33.4
	29.2		45.2
	1009		1655
54	25.22	53	41.38

Lost A_{+1}

Oct. 23 1883

⊙ 13 51 29
−11 28
R P

15 0 8.2 45.1 20.2
51.1 3.1
52.2 3.6
6.0 19.0

2375 459
16 59.38 46 11.48

Both limbs in δ and R.A.
Seeing very fine.

Oct 26 c = 50 73.4

α Cephei
21 20 19
+62 5 10
5.4 19.3
~~1~~8.7
7.9
12.8

487
9 12.18
D.B.P.

1 H Draconis
21 20 19
+98 10
P
55 0 38.6
47.8
47.5
57.0

2029
55 50.72
A 3 strokes for each W.

D.B.O.

Oct. 26 c = 5073.4

Br 79
20 52 57
+ 80 7
ρ

53 2 35.2
29.9
23.6
29.9
1186
57 29.65
lost A 1 2
rej 1st +1 stroke for δ
D. B. P.

ζ Cygni
21 7 56
+29 45'
ρ

15 3 14.9
2.8
0.3
10.5
485
18 12.12
Lost A +1 A 1 2 3 4 5
D. B. P.

ε Pegasi
21 38 25
+ 9 20
ρ

40 2 28.9
13.8
12.1
26.2
42 2025 → 810
D. B. P.

α Aquarii
21 59 45
−0 53
ρ

55 0 59.9
42.2
42.9
56.8
55 50.32 → 2013
D. B. P.

Oct 26 1883

22 6 B Cephei
22 30 13
+75 37
p

25 1 37.3
27.4
23.2
27.3
11 5 2
26 2 8.80
D.B.P

C = 50 73.4
η Pegasi
22 37 30
+29 13
P

25 1 31.1
18.3
16.4
26.8
9 2 6
26 23.15
rej stroke for 2nd w.
D.B.P.

α Mrs. Magonis
22 56 24
+11 7 37

lost $\underset{-1}{A}$, rej δ

α Pegasi
22 58 54
+14 34
25 3 16.9
1.9
5.8.8
12.9
3 0 5
28 7.62

ι Cephei
22 45 31
+65° 35′

254 45.2
36.4
33.0
37.4
1520
29 38.00

D B P

α Piscis Australis
22 51 9
−30 15′

A, in Ra
ūj' δ

D, B, P,

Oct 27 1883

c = 50 67.8

α Leo.

10 2 4

+12 33

R R

30 0 17.0 16.8

2.2 2.6

58.8 59.8

14.3 13.2

323 324

30 8.08 8.10

A_3 α ☉

Rej. 15" 5

β Leo.

10 10 6

+24 0

R

0 4 55.8

45.2

41.9

53.8

1967

4 49.18

α Ursae Maj

10 56 23

+62 23

R

40 3 4.2

52.0

50.1

56.0

2223

43 55.58

γ Urs Maj

11 3 0

+45 8

55 1 40.2

27.8

25.8

32.3

A_4 α ☉

1261

56 31.52

γ' Leo
10 13 27
+20 26
R

25
50.8
47.8
0.2
221.3
– 55.32

β Ursae Maj
10 54 41
+57
R
— – 17.8
4.3
3.6
~~1~~7.8
35.5
– 8.88
A₃ 2 ☉. Polar groups

δ Leo
11 7 45
R +21 10
55 0 9.5
56.8
52.4
5.3
40
55 1.00

Oct. 28 1883 ⊙ = 5267.8

⊙
14 10 46
−13 11

No. 5
A. R. A_{+1} A 1st limb

α Cephei
21 15 48
+62 5
R
55 3 12.1
2.4
2.8
7.1
24.7
58 6.18
A_{-1}

β Cephei
21 27 11
+70 3
R
0 1 13.2
5.0
0.7
6.5
25.4
1 6.35
A_5 α c A_{-1}

ε Pegasi
21 38 25
+9 20
R
40 3 28.8
15.2
13.7
28.4
86.1
43 21.52

1 H Draconis

21 20 19

R +19 8 10

55 1 48

56.4

55.0

59.0

2352

55 58.80

71

β Aquarii

21 25 22

− 6 5

5 4 38

46.1

47.1

0.2

2172

9 54.30

79 Draconis

21 5 125

+73 9

R

55 0 71

58.2

55.7

58.8

2398

54 59.95

Agle

α Aquarii

21 59 45

− 0 53

R

55 1 57.8

40.8

41.7

53.2

1955

56 48.88

Oct 28 1KB c = 50 67.8

32 Ursae Maj
22 9 32
+11 14 18
R
45 254.8
46.4
50.9
51.0
2031
47 50.78

9 N Draco
22 25 7
+10 34 1
R
20 4 54.0
48.2
46.2
45.8
1972
24 49.30

i Cephei
22 45 31
+6 5 35
20 4 37.0
27.2
25.3
30.4
1199
24 29.98

α Ursae Maj
22 58 24
+11 7 37
R
— — 2.0
56.2
58.7
59.8
2367
59.18
−1

226 B Cephei
22 30 13
+75 37

R
25 1 490
38.2
36.7
41.4
165.3
26 41.32

η Pegasi
22 37 36
+29 36

R
25 2 31.6
18.2
19.2
29.0
98.0
27 24.50

α Pegasi
22 58 54
+14 34
R
25 4 32.4
17.8
15.7
30.6
96.5
29 24.12

Oct 29 1883 C = 50 67.4

ε Leonis
9 39 8
+24 19

	φ		P	R
451	27.8	0	11.5	10.7
	17.9		04	0.6
	15.8		56	58.2
	25.9		90	9.3
	874		195	188
46	21.85	45	4.87	4.70

α Leonis
10 24
+12 33

	φ		P	R
30 2	34.6	1	18.8	18.9
	22.4		56	5.8
	20.4		41	5.2
	32.8		~~172~~	18.0
	1102		57	479
32	27.55	31	11.42	11.98

μ Urs Maj
10 15 16
+42 6

	P		P
0	09.8	55 3	57.2
	59.1		46.2
	58.8		45.8
	49		51.2
	126		2004
0	3.15	58	50.10

β Urae Maj
10 54 41
+57 1

Not

A_{+1} A

ζ Leonis
10 10.6
+24 0

P P

304 9.5 3 44.1
1.2 34.9
57.3 33.5
8.7 43.6
167 1561
34 4.18 39.02

γ' Leonis
10 13 27
+20 26

P

35 4 3.6
52.8
50.3
1.2
2279
38 56.98

A_6 tC

α Ursae Maj
10 56 23
+62 22

R R

40 2 52.5 1 35.8
44.8 25.7
42.8 26.6
45.8 30.0
1839 1181
42 45.98 29.52

ψ Ursae Maj
11 3 0
+45 8

R

155 2 16.1
6.3
4.9
11.1
384
57 9.60

Oct 29 @ = 67.4

@ = 50 7 3.7

δ Leo
11 7 45
+21 1 0

	R	R
50 4	59.9	59.7
	48.6	48.9
	46.8	46.8
	59.2	58.8
	2145	2142
54	53.62	53.55

β Leo.
11 43 1
+15 14

	PR	PR	R
50	1 23.8	0 8.2	8.2
	9.2	54.1	54.0
	7.3	52.3	52.0
	19.8	4.9	45.1
	601	39 5	39 3
	50 15.02	50 59.87	59.82

η Boötis = 13 49 3
+19 0

	P		P
5 0	37.0	0 4	33.2
	23.1		19.4
	22.6		19.6
	33.6		33.0
	1183		1052
5	29.58	4	26.30

α Draco
14 1 9
+64 57

	R
5 3	32.6
	29.8
	22.2
	26.0
	1036
8	25.90

Oct. 29,

γ Ursæ Maj
11 47 35
+54 21

	P	P	P
4 50	0.6 40	4 19.9	3 39.2
	50.1	6.0	28.4
	50.9	6.9	28.9
	55.2	11.8	32.2
	2168	446	1287
45	54.20	44 11.15	43 32.18

η Urs. Maj
13 42 52
+49 54

	P	P	P
10	1 36.8	0 52.6	16.5
	25.1	42.2	5.2
	26.3	43.2	6.2
	32.0	48.2	12.2
	1202	1862	401
11	30.05	10 46.55	10.02

α Boötis
14 10 16
15 48

15 2	18.0	1 29.8
	5.2	16.7
	5.8	16.9
	17.0	28.5
	460	919
17	11.50	16 22.98

Z

Oct 30 1883

⊙ C = 7.37

14 18 26 1
−13 51

R ρ

35 2 39.7 53 57.6
22.8 40.2
25.0 42.2
41.0 58.0

1285 1980

37 32.12 8 49.50

~~C = 7.37~~ C = 7.48

β Cygni
19 25 58
+27 43 X

ρ ρ

20 1 29.2 0 15.4
18.4 5.2
18.8 5.9
28.2 15.2

946 417

21 23.65 20 10.42

Both limbs in δ & R.A., seeing very good.

β Aquilae
19 49 32
+6 7

ρ ρ

55 2 2.3 0 49.0
48.8 35.7
50.5 37.6
4.3 50.7

2259 1730

57 56.48 55 43.25

20 Cephei
22 1 27 X
+62 13

θ Cygni
19 33 18
+ 49 57

X

	ρ.		ρ.	ρ.
3 2	30.3	/	35.4	17.0
	43.7		30.0	11.3

α Aquilae
19 45 2
+ 8 34

	ρ		ρ
30.0	24.1	25 4	15.2
	11.2		1.2
	12.4		3.2
	26.0		15.9
	737		355
30	18.42	29	8.88

β Cassiopeiae
0 2 56
+ 58. 30

X

	ρ	ρ
3 8 3	59.6	21.5
	49.2	12.3
	52.4	154
	55.5	17.4
	2167	666
33	54.18	16.65

γ Pegasi
0 ~~7~~ 7 14 32 ✓

	ρ		ρ
301	54.2	0	46.4
	40.0		32.2
	42.9		34.2
	54.0		35.9
	1911		1487
31	47.78	30	37.18

A. V. F.

Oct 30 / 83

κ Cass
0 26 21 ×
+62 17

ρ ρ ρ
45 2 44 0 10.4 1 21.5
~~35.7~~
37.9 3.4 15.2
~~40.0~~

d. v. f.

ζ Cass
0 30 27 ×
+53 15

ρ
45 4 23.0 3 16.6
17.1 10.0

d. v. f

α Coro 4 33 52
+55 52 X

P, P
101 0.0 59.8
51.9
51.5
8

b f

2, Coro
0 37 56 X
+74 21

P P P
40 4 41.5 3 46.5 20.8
58.2 39.9 14.3

b f

Oct 31 1883

⊙ c = 74.5

14 22 21
-14 10
-1'

C = 71.1
79 Draconis
21 51 25
+73 9

A 679 A_{-1} 124
Cloudy
Some wires doubtful.

D. B. P.

β Urs. Maj
22 54 41
122 59

α Urs. Maj
22 56 24
+117 37

R.A.

. 30 01.8
56.3
2.0
0.6
07
30 0.18
lost
A A
-1 97

D. B. P.

γ Lacertae
22 26 28
+49 41

B Cephei
22 30 13
+75 39

A 345689 A -1, 1 2 3 4

A 5789 A -1, 1 2

Seeing very bad

α Cephei
9 15 48
11 7 55

α Hydrae
9 21 47
-8 9

		R		R
10	3	52.9	15 0	9.0
		45.8		2.0
		48.8		5.0
		51.2		5.9
		1987		219
	13	49.68	15	5.48

		R
10	2	56.8
		38.4
		40.8
		53.1
		1894
	12	47.35

Oct 31

~~Nov~~ 1883 c = 50 71.1

~~β Cephei~~ θ Ursae Maj

9 ~~27 11~~ 9 24 18

~~109 57~~ +52 13

R

50 3 5.8

56.2

55.4

0.8 ~~6~~

2382

52 59.55

β Cephei

9 27 11

109 57

Lost ?

A_{71} α C

γ_1 Leo

10 13 27

R

— 57.2

44.2

43.7

55.0

2001

— 50.02

U Ursae Maj

10 15 16

~~+43~~ 6

R

59.1

47.0

48.0

54.6

2087

52.18

A_4 α C

C = 50 71.1 ~~76.4~~
5
ε Leo
9 38 8
+24 19 R
45 1 14.1
3.0
1.0
12.2
30.3
46 7.58

C = 76.4
α Leo
10 2 4
E +12 33 R
30 2 14.7
2.6
59.7
13.0
30.0
32 7.50

β Ursae Maj
10 54 41
+57 1
50 17.0 04 28.5
4.9 19.4
6.1 19.1
10.3 23.8
38.3 90.8
5 9.58 4 22.70

α Ursae Maj
10 56 23
+62 23
ρ ρ
40 2 33.2 2.6 139.0
22.0 52.0 28.6
23.8 53.2 29.4
27.7 57.0 33.1
106.7 224.8 130.1
42 26.68 56.20 41 32.52

Oct 31 1883 C = 76.4

χ Urs. Maj 11 30
+45 8

	p	p	
55 2	15.2	~~15.1~~	55 1273
	4.0	~~9.72~~	15.8
	3.5	~~11.8~~	15.1
	8.8	15	20.8
	215		790
57	5.38	56	19.75

Lost 1st w

δ Leo
11 7 45
p +21 10 p

	p			p
55 0	9.1	~~50.3~~	50 3	51.5
	55.9	~~54.5~~		40.4
	53.9	~~40.5~~		39.0
	6.1	~~36.6~~		50.1
	150			1810
55	3.75		53	45.25

E Urs Maj
12 48 48
+56 36

	p		p
30 0	0.8	25 3	56.2
	47.8		43.8
	45.3		42.9
	52.2		49.3
	2061		1922
29	51.52	28	48.05

n Wrockey
B 4252
+45 14

	p	p
10 0	45.8	20.8
	34.6	9.8
	35.1	10.8
	40.4	15.1
	1559	565
10	38.98	14.12

A_6 +c

β Leo.
11 43 1
+15 14

P P
30 1 16.0 50 0 4.8
2,1 50.0
8,3 48,1
12.9 1.6
313 2245
51 7,82 49 56,12

γ Ursae Maj
11 47 35
+54 21

P P P
40 4 56.8 6.8 3 36.7
46,2 56.0 25.2
46.4 56.2 26.4
51.1 1,3 30.9
2005 103 1190
44 50,12 0.08 43 29.75

α ~~Leo~~ Boötis
14 10 16
+19 48
P P
15 2 18.0 1 11.8
4.2 52.0
4.3 58.0
16,4 10.3
429 1391
17 10.72 16 34.78

I

Nov 1 1883 ~~c = 5~~

☉ c = 50 76.4

14 26 16
−14 29

	R		p
15 1	36.8	45 2	46.3
	20.0		30.4
	21.8		31.2
	36.8		46.1
	1154		1540
16	28.85	47	38.50

Both limbs in δ & RA.

Seeing very fine

c = 72.3

θ Cygni
19 33 18 X
+49 57

5 2	12.2	1	42.9	21.1
	4.6		35.0	12.8

7 Lacertae
22 26 28 X
+45 41

	p				
20	335.4	2	57.4	31.8	16.2
	28.1		48.3	24.9	8.3

	p	p		p	p
5 1	42.8	−13.7	0	50.5	27.1
	36.0	6.8		42.2	21.8
	32.1			39.2	19.5
	37.0	7.9		40.3	22.2
	1479			1722	906
6	36.98		5	43.05	22.65

d.t.f.

Nov. 1 1883 c = 72,3

γ Aquilar

4 19 48 40
+10 20

P P
40 4 10,7 3 2,2
59,2 50,2
58,1 ~~2~~8,9
12,1 3,2

201 2045
44 5,02 43 5,12

α Aquilar
19 45.2
+8 34

P P
.30 0 23,0 25,4 7,8
11,5 55,2
11,2 55,3
25,1 9,2

708 75
30 17,70 29 1,88

41 Ophiu X
23 42 19
+6 79

P P P P
5 ~~4~~ 0 21,5 ~~4~~ 3 4 39,7 26,8 8,7
~~20,~~
14.1 30,8 20,5 1,5

Gr 4163
23 49,9 X
+73 43

P
15 3 16,5
9,6
8,1
11,2
454
18 11 35

Lost A 12 A A −1,12
+1 7

clouds

rej 1st Star for D.B.P.

Nov. 1 1883 C = 72.3

β Cassiopeae		γ Pegasi
0 2 56	×	7 11
+58 30		+14 32
p		p
30 4 28.6		30 0 57.0
19.2		38.1
19.6		37.0
23.9		49.1
913		1752
34 22.82		30 43.80
rej 1st stroke ford		A_9 tc

D. B. P. 9

X Cass
0 26 21 X
+62 17

P
452 47.8

38.0

D.B.P.

Nov. 2 1883 c = 72,4

	β Aquarii		ε Pegasi
	21 35 22		21 38 23
	−6 5		+9.20
	ρ		ρ
5 2	28.8	40 2	22.4
	11,7		8,4
	14,3		6,8
	26,2		21,8
	810		594
7	20,25	42	14,85

D., B. P. Clouds stop work.

Nov 3 1883

c = 5072,4

☉

C = 5072.4

14 34 8

−15 7

P

50 4 19,3

1, 6

2 5

18,3

417

54 10,42

D.B.P.

Both limbs in R.A.
lower limb in δ

α Cephei

21 15 48

+62 5

P

55 4 23,6

14,1

13,8

18,0

695

59 17.38

DBP

β Cephei

21 27 11

+70 3

P

0 1 1.8

47.9

49.3

54.1

2131

0 53,28 D.B.P.

A, TC.

ε Pegasi

21 38 25

+9 20

P

40 3 30,2

23,1

16,1

30.3

997

43 24,92

1 H Draconis
21 20 19
+ 98 10
P
55 1 1.8
53.4
52.9
56.1
224 2
55 56.05
~~Sest~~ A-, 54 A_{11}
D.B.P.

β Aquarii
21 | 25 22
− 6 5
D.B.P.
rej stroke fwd

D.B.P.

79 Draconis
21 51 25
+ 73 9
P
50 4 57.1
48.6
45.8
49.9
201.4
54 50.35
A-, 45
seeing very bad
D.B.P.

α Aquarii
21 | 59 45
− 0 33
P
55 2 2.6
46.1
46.3
0.8
215 8
57 53.95
D.B.P.

Nov 3 1883 c = 5072,4

	9 H Draconis			226 B Cephei
	22 25 7			22 30 13
	103 41			+75 37
	P			P
25 0	10,1		25 1	34,7
	2,2			25,0
	2,3			22,9
	4,2			28,9
	188			1095
25	4,70	D, B, P,	26	27,38

lost A_1 54 A_3 tc

	α Piscis Austr.			α Urs. Maj.
	22 51 9			22 56 24
	−30 15			+11 37
	P			P
15 1	0,8		30 ~~45~~ 1	10,0
	48,1			3,8
	48,5			6,6
	8,3			8,0
	2207			284
15	55,18	D.B.P.	31	7,10

rej all wires before A_7

Nov. 3. 1883.   C = 72.4

η Pegasi
22 37 30
+29 36
p
25.2 39.1
27.0
27.2
37.1
1304
27 32.60

ι Cephei
22 45 31
+65 35
p
25 3 36.5
48.0
45.8
50.0
2003
D. B. P. 28 50.08

o Cephei
23 13 50
+67 28
p
35 1 44.4
35.9
33.8
39.1
1532
36 38.30
D. B. P.

λ Draconis
23 24 27
+110 1

Lost A, 54 + δ

D. B. P.

Z

Nov. 5 1883

c 5074.~~4~~8

☉ C = 50 72.4

14 42 4
− 15 44

P

30 1 12.5
54.8
54.7
11.3
133
31 3.32

1st limb in RA + the δ taken by D.B.P. 2nd limb in RA. by W.A.R.
Seeing very fine.

α Aquilae
19 45 2
+8 34

		p		p
30	0	21.1	254	18.3
		7.9		3.8
		6.2		4.0
		22.1		19.4
		57³		455
30		14.32	29	11.38

β Cygni
19 25 58
+27 43

		p		p
20	1	30.1	0	16.6
		19.1		3.2
		18.5		2.6
		31.8		15.8
		995		382
21		24.88	20	9.55

ε Draconis
19 48 34
+69 58

		P	P
5	1	47.0	0.0
		40.4	52.9
		37.1	49.2
		40.9	53.3
		1654	2154
6		41.35	53.85

Nov 5 C = 50 74.8

θ Cygni
19 3 8 18
+ 49 - 57

P P P
5 2 20.3 58.1 29.2
11.2 47.8 20.0

γ Aquilae
19 40 40
+10 20

P P
40.4 22.0 36.8
7.1 52.5
7.2 51.8
22.1 7.0

584 2381

44 14.60 44 59.52

ψ Cygni
19 52 36
+ 52 7

P P P P
5°51 53.5 22.6 0 1.9 38.6

44.0 12.7 51.7 28.0

3 Urs Maj
20 19
+ 111 11

P
50.4 54.2 55 0 42.0
57.1 37.8
54.2 39.9
53.2 38.5

2127 1582

54 53.18 55 39.55

Nov 5 1883 | c = 50 74.8

β Cass ×
0 2 5 6
+ 58 30

		p		13/5	p
30	4	27.1	3	~~12.2~~	13.5
		16.2		~~7.5~~ 2.0	3.2
		17.9			4.0
		23.2		~~7.2~~	7.2
		844			279
	34	21.10		33	6.98

d.~~p~~.f.

{Br 6} ×
0 9 3 6
+ 76 18

	p	p	p
45 1	58.0	33.8	9.5
	51.2	—	—
	48.5	24.0	58.4
	51.6	—	—
	2093		
46	52.33		

d. f.

C = 5074.8 ×

α Cass
0 33 52
+ 55 54

	p		p		p
10 1	0.2	0	14.1	54	53.2
	50.0		2.8		43.8

d.f.

C = 50 7~~4~~5.1
B Lev
11 43 1
~~11 47 35~~ + 15 14

		R
50	1	6.8
		52.6
		50.0
		4.1
		2335
	50	58.38

Nov 5' 1883 C = 50 74,8

κ Cassiopeiae X
0 26 21
+62 17

ρ Cassp. X
0 30 27
+53 15

P P

45 2 41,8 5,0 146,2 26,1
~~33,9~~
33,9 56,6 37,1 18,2

d. f.

45 4 28,7 341,8 16,8
~~19,~~
19,2 31,2 6,0

d. f.

C = 50 75,1

7 Ursae Maj
11 47 35
+54 21

R R

40 4 55,3 150
44,1 453
44,1 44,1
49,8 49,7
193,3 194,1

44 48,32 48,52

I

Nov 6 1883

☉ C = 75,1

14 4 ~~8~~6 2
−16 2

	R		P
45 4	29,0	20 0	51.8
	12,8		32.0
	13,4		34.7
	30,0		51,1
	852		1696
49	21,30	20	42,40

II limb in RA
Both limbs in δ
Seeing good but limbs
rather indistinct on account of haze

C = 75,1

π Pegasi +
22 43 +32 36

P	P
25 21,1	15 9,0
50,0	47,2

b. f.

β Cass
0 ~~2~~ 56 ×
+58. 30

	P		P
30	4 23,2	3	31,1
	11,7		20,2
	14,5		21,8
	18,0		25,9
	674		
34	16,85		990

d. b. f. 33 24,75

~~[Br 6]~~
~~0 9 36~~
~~+7 ~~6~~8 18~~

η Cephei
22 64 7 ×
+57 37

3 Lacertae
22 18 58 ×
+51, 39

	P	P		P	P
25 1	25,1	0 58,1	25 0	58.1	20 4 1,1
				~~49.8~~	
	15,2	49,0		49.8	53..1

B.f.

A_{+1} 34 – A 6789 A_{-1} 123

κ Cass
0 26 21 ×
+62 17

ζ Cass
0 30 27, ×
+53 15

			P		P		
$\overset{4}{\cancel{1}}$52	43.5	7,1	^{1}27,2	45 4	31,5	^{3}40.0	23,6
	34.9	58.9	18.9		21.9	80.2	14.0

d.f.

lost $\overset{A}{9}$ + A_{-1} 45

A_{456789} A_{-1}

Nov 6 1883
c = 5075.1

α Cass
0 33 52   X
+55 54
· 10 0 59.4 54 46.7

48.8 37.8

Lost A, 14 5′
d.f.

Z

Nov 7 1883 c = 75.4

☉
14 50 2
−16 20

No δ following limb in RA
limb indistinct on acct
of Haze

c = 75.1
θ Cygni
13 33 N
+49 57
R

5 1	40 4
	31.0
	32.2
5	36.0
	139 6
6	34.90

Lost ~~A~~ 41

c = 75.1
γ Aquilae
19 40 40
+10 20

	p	p
40	4 18.7	3 7.5′
	3.4	55.1′
	4.8	53.5′
	18.8	7.5′
	477	36
44	11.92	43 0.90

α Aquilae
19 45 2
+8 34

	P		P
30 0	26.5	25.4	8.9
	13.6		56.2
	13.5		56.1
	27.1		10.0
	807		11.2
30	20.18	29	2.80

Nov 7 ~~ε Draco~~ c=75!

ε Draco
19 48 34
+69 58

	p	p	p	p
5 1	51.9	13.6	0 43.2	30.0
	43.1	5.0	34.6	21.3
	39.6	2.6	32.1	18.9
	43.9	6.9	36 0	23.0
	178 5	28 1	145 9	93 2
6	44.62	7.02	5 36.48	23.30

4 Cygni
19 52 36
+52.8

	p	p	p
55	1 32.5	0 46.3	35.2
	~~22.2~~		
	23.2	36.0	25.8

j Cygni
20 15 2
+39 53

10 0	54.0	13.6
	44.5	3.2
	43.0	2.0
	49.5	8.9
	191 0	27 7
10	47.75	6.92

Lost first 2 wires

d f.

4 Cas
23 15 39
+61 38

25 1 24.0 0 53.9 24.9
15.2 44.1 16.0

o¹ Cygni
20 9 57 X
+46 23

p p p p
401 22.0 0 46.0 9.1 35.~~4~~59.5
11.2 35.3 38.2 48.1

b. f. lost first w

x Cephei
20 12 48 X
+77 21

40 ~~2 31.0~~ p p p
402 45.6 36.8 23.9
35.8 26.1 13.7

b. f.

O Cass X
0 38 12
+47.39

p p p
250 59.2 32.0 9.6 20 4 37.0
47.6 20.6 57.4 26.1

Y Cass X
0 49 39
60 5

55 4 51.2 34.2
42.0 24.7

a f

Nov 7 C = 75.1

β Androm
1 3 11
+35 0

04 28.0 3 20.5
— —
17.0 10.0

η Urs Maj
13 42 52
+49 54

p p
10 1 37.2 0 29.2
24.1 16.9
24.2 16.8
30.1 22.0
1156 849
11 28.90 10 21.22

Z

Nov 8 1883

C = 75.8

⊙
14 54 3
- 16 3 6

R P
204 44.8 55 0 59.0
26.8 40.2
28.0 40.3
44.0 57.1
1436 1966
24 35.90 55 49.15

Both limbs in V
Seeing fair.
Lost first wire each limb

C = 75.8
θ Cygni
19 33 18
+49 57
P ×
5 1 34.4
~~22.5~~
24.8
—

A f & C
Font et 7*
Seeing bad.

ε Draco
19 48 34 ×
+69 58
P P
5 ~~4~~0 0 56.4 39.6
48.2 29.1
45.3 27.1
49.7 31.5
1996 1273
5 49.90 31.82
A 6 fc,
60

κ Cygni ×
19 52 36
+52 8
P
55 1 30 5 0 49.0 36.0
— — —
21.2 38.0 25.3

A+, 4 fc

C = 758

γ ~~Aquilae~~ δ Cygni ×
~~19 40 40~~ 19 41 19
~~+10 20~~ ~~+44~~ 51
ρ ρ ρ
10 3 48.2 253.1 31.2

37.0 40.6 19.1

ι Aquilae
19 45 2
+8 34

30 0 27.2 25.4 10.8
13.7 57.1
12.8 56.2
27.5 11.0

812 151
30 20.30 29 3.78

0, 1 Cygni ×
20 9 57
+46 23
ρ
40 1 23.8 30.5 10.9

12.0 18.8 57.8

κ Cephei ×
20 12 48
+77 21

~~γ Cyg~~ Nov 8 1883

γ Cygni C = 7 5.8

2 h 18 2 ×

~~13~~9 B

		p	p
10	0	40.8	8.8
		30.0	58.2
		27.1	55.8
		34.4	16.6
		1323	194
10		33.08	4.85

A_3 ~~te~~.

Nov 11 1882.

C = 50 71.8

ζ Leo.
10 10 6 +24 0
R
0 4 103
1 0.2
36.8
7.8
551
4 13.78
A_6 ✓ ☉

γ^1 Leo,
10 13 27
~~+20~~ 26
R
— — 6.9
55.4
53.7
55.3
2113
– 52.82
1

a = 7 58
α Urs Maj
10 53 23
+62 23

		ρ	ρ		ρ
40	2	56.0	13.0	1	44.1
		44.5	2.9		34.1
		45.3	3.0		34.3
		48.2	5.9		37.2
		1940	248		1497
	42	48.50	6.20	41	37.42

χ Urs Maj
11 30
+45 8

		ρ		ρ
55	2	38.8	10	34.2
		28.2		24.1
		26.6		21.9
		31.7		26.5
		1253		1067
	57	31.32	56	26.68

Nov 11 1883

μ Ursæ Maj
10 15 16
+42 6
55 4 5.4
56.1
54.0
0.0
23 55
58 58.88
A
+3 ~ C

C = 7.5.8
B Urs Maj
10 5 44 41
+57 1

P P
5 0 22.8 0 4 44.6
11.4 36.8
11.3 36.6
15.6 40.0
611 1580
5 15.28 4 39.50

C = 7.5.8
δ Leonis
11 7 49
+21 10

P P
55 0 13.0 50 43.6
0.2 57.0
58.1 49.9
9.4 0.4
207 2249
55 5.18 54 56.22

C = 78.2
ε Urs Maj
12 48 48
+56 36

P P P
2 5 4 57.1 6.8 3 43.8
39.3 57.5 32.9
40.4 56.8 32.4
45.0 1.0 37.0
1758 21 1461
29 43.95 0.52 28 36.52
A
+1 12] and A 3 ~ C

Z

Nov 12 1883

⊙ 15 10 13

−17 45

C = 78.2

P

5 3 38.1
20.3
21.0
35.2
1146
8 28.65

Gr 3241
20 30 30
+72 8

P ×

5 5 18.8
59.0
56.6
58.7
131
56 0.78

1 limb
2nd limb R A A, α Q b.f. DBP
Seeing unsteady.

Br 2777
21 7 49
+77 39

25 0 58.0 44.0 9.9 20.4 52.6
44.9 31.0 56.7 41.0

d.f.

π² Cygni
21 14 2 28
+48 46 ×

P P

15 3 28.3 43.2 18.7
16.2 31.1 6.7

d.b.f.

Nov 12 1883 C = 782

α Cygni
20 37 26
+ 44 52 X
P
10 2 24.3
12.9
11.0
17.2
654
12 16.35

b. f. W.A.R.

61 Cygni pr
21 1 39
+ 38 10 X
P P P
50 3 45.4 10.4 2 44.6
32.2 57.6 31.7

0 Cass
0 38 12 X
+47 39
P P P
25 1 9.1 0 34.7 2.6 20 4 45.0
52.1 17.4 45.8 30.0

d b. f.

B Androm
1 3 11
+35 0 X
P P P
0 4 32.1 35 5.8 26.2
17.0 40.4 10.8

d b. f.

Nov 12 1883

C = 78.2

δ Cass
1 18 10 ×
+ 39 38

	ρ	p	ρ
25 2	26,2	1 58,9	16,5
	11,9	46,3	1,4
	9.2	42,6	58.9
	13,5	47,3	3,5
	608	1951	203
27	15,20	26 48,78	5,08

C = 71.2

η Ursae Maj
13 42 52
+49 52

	p	ρ
10	1 44,1	0 47.6
	31,2	35.2
	28.8	31,5
	32,5	33.8
	13.66	1501
11	34,15	10 37,52

γ Bootis
14 27 18
+38 50

	ρ		p
15 0	31,9	10 4	46,9
	19,2		35,3
	13,5		30,1
	21,7		38.0
	863		1503
15	21,58	14	37,58

A, 5 + C

ε Bootis
14 39 49
+27 35

	p		ρ
30 0	55,9	25 4	54.7
	42.4		42,1
	36.8		36.6
	47.4		46,1
	1825		1795
30	45,62	29	44.88

Nov 12 1883

η Bootis
13 53
+15 0

	p		p
5 0	48.5	0 4	34.3
	32.5		21.0
	27.2		14.4
	38.8		26.5
	1470		962
5	36.75	4	24.05

α Bootis
14 10 16
+19 48

	p		p
15 2	31.6	1	13.1
	17.1		58.5
	11.8		52.9
	24.2		5.5
	847		100
17	21.18	16	2.50

β Urs. Min
14 51 0
74 38

	p		p	p	p
2 5 3	6.5	2	47.0	20.4	3.2
	54.5		34.0	6.9	50.0
	48.6		29.3	1.8	45.1
	52.7		32.9	6.1	49.3
	2223		1432	352	2076
28	55.58	27	35.80	8.80	51.90

Nov 13 1883
⊙ C = 71.1
15 14 18
− 18 1

		p		p
15	2	48.2	45 4	33.3
		30.1		15.8
		28.0		14.4
		431		27.1
		1494		906
17		37.35	49	22.65

II limb in R A. A ~ C
Both limbs in δ
Seeing fair.

C = 71.1
α Cor Bor
15 29 41
+ 27 7

		p		p
55	3	21.8	2	13.6
		7.0		0.2
		3.7		56.5
		12.7		5.7
		452		160
58		11.30	57	4.00

δ Cephei
20 27 37
+ 62 36

		p	p		p	p
25	3	51.5	28.2	2	48.9	31.0
		36.9	13.7		34.0	16.6

α Cygni
20 37 26
+ 44 52

10 2 22.3
10.8
5.2
12.4
507
A_3 + C 2 12.68

(? A_{+1_3} ~~AB~~ A.R.E.)

Nov 13 1883

C = 50 71.1

O' seq Cygni'

20 9 5'7 + 46.23

P P P

40 1 25.9 0 41.0 12.9

10.5 24.5 56.0

C = 71.1

y Cygni

20 18 2

+ 39 5'3

P P

10 0 58.4 24.5

40.5 8.0

A, +c

Z

Nov 14. c = 72,1

κ Cephei
20 12 48 ✗
+77 21

p p p p
40 3 22,8 12,0 ^{2}56.8 37.9
5,6 54.6 39,9 22,1

b f

γ Cygni
20 18 2
+39 53 ✗

p p
10 ~~7~~ 0 45,1 21,3
28,1 3,5

H_2 ~~tc~~
b f

π^2 Cygni ✗
21 42 28
+48 46
p p p
15 ~~45~~ 3 28,2 ^{2}55.7 26,5
14.0 40,2 11,6

b, d, f.

ι Androm ✗
23 32 24
+42 37 p
25 214.2' 18.1
56.2 0.0
p
25 0 56.2
38.0

b, d, f.

o Cass ✗
0 38 12
+47 39
25 10.0 ^{0}32.6 7,2
52.2 15,0 49,9
~~45.0~~

d, b. f

Nov 14 1883

θ cephi
20 27 37 X
+62 36

25 3 20.9 1.5 2 362
6.1 46.1 20.0

Lost A.
7.

b. f.

α Cygni
20 37 26 X
+44 52

p
10 2 50.2
38.2
34.6
41.2
164 2
12 41.05
b f

β Androm X
1 3 11
+35 0

0 4 33.5 347.0 15.8

13.1 30.9 59.0

d. b. f

C = 63.3

δ Cass.
+8.0 18 10
+59 38 X
p p p
25 2 7.0 41.1 8.9
53.5 26.8 54.5
50.8 24.7 51.4
55.6 29.9 56.8
2269 1216 2316

b. f. 56.72 30.40 57.90

Nov. 14 1883 C = 72.5

α Bootis
141016
+1948

	p	p
152	16.7	11.0
	2,2	56.9
	56.0	50.4
	9.0	3.5
	239	18
17	5.98	16 4,50

Nov 15 1883

⑮ 72.3

15 22 30

-11 32

	R		P
	~~15. 81~~		
15.4	8.1	50	030.8
	51.8		11.0
	47.8		8.2
	3.1		24.0
	2308		740
18	57.70	50	18.50

Both limbs in P and R ✓.

Spot A_{+1} II limb.

Seeing very bad.

Nov 16 / 1883 c = 72,5′

K Draconis
0 28 29
+109 34
D B P
P
30 36,4
56,5
54,8
55,5
2032
32 50,80

α Cass
0 33 52
+55 34
D, B, P.
P
5 44 9,8
36,9
33,0
38,2
1579
9 39.48
Lost A, 1

B Androm
+1 3 11
+35 0
P
0 3 23,9

5,0
D B P
rej first δ

δ Cass
1 18 9
+59 37
P
25 134,1
19,5
16,4
21,6
D B P
916
26 2290
Lost A +1

Nov. 16 1883

o Cass
0 38 13
+47 39
D. B. P.
p
20 4 50.9

33.4

A_{-1}

γ Cassiop.
0 49 38
+60.5
D. B. P
p
55 4 53.9
39.8
37.6
41.1

1724

59 43.10

φ Persei
1 36 20
+50.6

552 50.3
~~37.2~~
33.0

D. B. P.

A_3 &c.

β Arietis
1 48 9
+20 14
p
50 0 13.6
58.3
51.5
4.1

75
50 1.88

Nov 16 1883 C = 72,5

50 Cass	γ Androm.
1 53 17	1 36 41
+ 71 50	+ 41 46
ρ	ρ
16 2 1,0	15 2 30,1
47,2	14,9
41 3	16,1
46 8	16,2
13 55	7 13
12 33.88	

A_{41} 3+c D.B.P. Lost A_{+1} ~~*~~ 17 17.82

Nov 16 1883

α Arietis
2 0 33
+22 54
p

5 3 38.2
24.1
19.4
30.0
111.7
8 27.92

D. B. P.

C = 72.5

η Urs. Maj
13 42 52
+49 54
p

10 0 37.1
24.2
18.5
23.8
103.6
10 25.90

D. B. P.

Z

Nov 17/1883 C = 72.5

Gr 3241
20 30 30
+72 8

ρ

55 1 54.6
42.4
36.1
39.9
173 0
56 43 25
D. B. P.

α Cygni
20 37 26
+44 52

ρ ρ

10 2 48.5 58.4
36.0 44.0
29.6 38.7
36.2 45.9
1503 187 0
46.75
12 37.58 W. A. Q.

Br 2777 ~~Cygni~~
21 7 57
+77 39

	ρ	ρ	ρ	ρ
25 0	56.0	40.0	25.8	11.7
	36.9	22.8	7.8	53.0

Lost A 7.1

bf

π^2 Cygni
21 42 28
+48 46

	ρ	ρ	ρ
15 3	30.2	49.3	22.5
	12.1	30.3	4.9

d ~~*~~ b.

Nov. 17 1883

V Cygni X
20 52 49 X
+ 40 43

P P P
20 1 29.0 1.1 0 31.2
9.2
41.0 50.5

b.f.

61 Cygni pr
21 1 39 X
38 10

P 2 P
5 0 3~~5~~58.1 2 59.0
39.0 39.0

b.f.

R Cass X
0 2 56
+58 3d

30 3 48.8 32.0
31.2 14.8

b f

R Cass X
0 26 21
+62 17

P P P
45 2 43.0 13.3 2.3
25.7 57.0 45.0

d, b. f.

Nov 17

C = 72,5

~~ψ Cass~~
~~0 30 7~~
~~+53 15~~

o Cass
0 38 12
+47 39

X

P P P
25 ~~4~~ 0.0 34.6 204 54.2

40.9 14.9 35.8

d.b.f

C = 70.5

δ Cass
1 18 9
59 38

X

P P P
252 21.0 52.8 34.6 18.4

4.8 35.0 16.3 0.5

η Ursae Maj
13 42 52
+49 54

R
10, 35.8
21.8
17.8
23.8

992

11 24.80

Nov 17 1883 C = 72,5

η Cass X
0 42 ~~8~~
+57 12

50 2 56,4 39.8
38,9 22.9

d, b, f.

β Andm X
1 3 11
+35 0

0 42 8.8 356.2 23.6
10.9 37.3 ~~4.1~~

d. b. f.

α Bootis
14 10 16
+19 48
R
15 1 18.6
4.5
58.6
11,8
335

16 8.38
A_{-1} 2 α e

Nov 18

☉ c = 72.5

15 34 54
−19 16

R

0 3 31.3
11.9
8.4
25.6
77.2
3 19.30

S = Upper limb
Both limbs in [illegible],
Lost 1st 2w of 1st line
seeing good

c = ~~72.~~ 79.6

γ Cygni
20 18 1
+39 53

R

10 0 21.5
9.9
4.7
13.3
49.4
10 12.35

A 23 45
−1

ε Cygni
20 41 25
+33 32

R

30 2 32.8
18.7
13.4
24.0

ε Ursae Maj
12 48 48 +56 36

R

30 0 11.8
58.3
53.0
0.3

C = 79.1

Gr 3241
20 20 30
+7 28
R
5 1 35.1
25.7
18.9
22.9
102.6
6 25.65

Rej 151'' ∫

α Cygni
20 37 26
+44 52
R
10 2 35.6
24.8
19.1
24.2
106.7
12 26.68

Nov. 19. 1883 C = 76.0

V Cygni
20 5 24 9
+ 40 43
p p p
20 126.4 0 33.0 14.1
10.2 16.9 58.0

β Cass.
0 2 56 + 58 30
p
30.3 32.2
18.2

b. f.

D. B. P.
b. f.

C = 76.0

β Androm
1 3 11
+ 35 0
p
0 4 27.8
13.4

δ Cass
1 18 9
+ 59 37
p
25 1 9.3
56.8
53.1
0.0
12
26 0.30
A, 2 te
71

D. B. P.

Nov. 19. 1883.

C = 76.0

ζ Cass.
0 30 27,
+53 15

4 5 4 35.1

22.6

D, B, P,
bf

γ Cass
0 49 38
+60 5

P
55 3 44.4

31.7

D, B, P,
A9 A~~*~~,

C = ?

ζ Ursae
Maj
12 48 48 +56 36

		R
30	0	41.
		52.4
		48.7
		54.8
		22.00
30		55.00

η Urs. Maj
13 42 15.2
+49 5.4
C = 765

		P		P
10	1	42.0	0	34.0
		30.2		22.5
		28.0		19.2
		32.8		25.2
		1330		1009
	11	33.25	10	25.22

Nov 20 1883

☉ C. = 76.5

15 43 15

−19 44

R P

30 1 26.2 0 2 45.9

7.1 28.3

5.5 27.9

23.2 43.5

6 2 0 14 5 6

31 1.5.50 2 36.40

Both limbs in Γ 2 R A.
seeing fairly good

C = 76.5

π Cephei

23 4 10

+74 45

ρ p

15 3 52.4

40.3

A_{71}, 4 &c

Z

Nov 21 1883

C = 50 78.2

ε Cygni

20 41 27 ×

4 +33 32

A.R.

η Cephei ×

20 42 54

+61 24

R

40 0 34.8

23.4

23.8

27.8

109.8

40 | 27.45

A +1 30c Rejistd

20 Cephei ×

22 1 27

+62 13

P P

50 1 41.9

29.2

D.B.P.

ξ Cephei ×

2 2 6 47

+ 57 37

P P

25 2 12.8

59.0

D.B.P.

Nov. 21 C = 78.2

ν Cygni

~~203~~ 20 52 49 ×

+40 43

R

20 1 23.5

11.5

9.8

23.5

68.3

21 17.08

61, Cygni

21, 1 39 ×

+38 10

R

50 3 47.8

37.8

34.2

43.2

163.0

53, 40.75

β Cass ×

0 2 5.6

+ 58 30

P P

30 4 23.7 3 47.4

11.1 ~~——~~ 35.6

d. f.

Lost A_{50} - to A_{-1}, 2

ζ Cass. ×

0 30 27

+ 53 15

P P

45 4 15.7 3 53.0 24.6

2.2 39.9 12.8

d f

Lost some of A

Nov 21 1883 c = 78,2

α Cass X

0 33 52
+55 54
' p p p
10 0 58,8 20,8 54 53,4

45,2 7,5 41,3

2

Nov. 22 1883

① C = 78.2

15 51 38

✱ − ☾ 2 10

	☾		p
5 5 1	30.8	25.4	4.0
	31.2		45.3
	33.2		48.0
	48.7		2.0
	1639		2193
	56 .40,98		28 ∫ 54,82

Both limbs. in ∫

II limb in RA,

Seeing bad. None.

C = 80.5

3 Lacerta

22 18 58 ×

+5 13 9

	p	p	p
25 1	1,8	12,9	204 50,9
	49,4	1.1	40.9

d.b.f.

Nov 22 1883

10 Lacertæ C = 80.5°

22, 34, 0 X

+ 38 26

P P

35° / 58.0 41.1

45, 29.0

A.J. t.c

L. f.

Nov 24 1883 C = 80.5

η Ursae Majoris
13 42 52
+49 54
R
10 1 36.9
25.6
25.1
29.1
116.7
11 29.18

η Bootis
13 48 3
+19 0
R
5 0 47.0
33.2
30.6
41.3
152.1
5 38.02

Nov 25 1883

☉ c = 79.8

16 4 20

−20 47

R

30 4 29.7

10.9

13.4

26.8

80.8

34 120.49

Upper limb

Both limbs in Ct

Seeing very fine

CHf

c = ~~82.7~~ 77.8

γ Cors.

0 45 38

+60 5

R

55 4 49.1

37.2

39.4

41.9

167.6

59 41.90

Nov. 25 1883

C = 77.8

S Coca
1 18 9
~~1 19~~ 37

R

25 1 23 4
11 0
12 4
15 1
6 1 9
26 15 48
A 8 i ©

Nov 26 1883

c = 79.2

ε Ursae Maj.

12 48 48

+56 36

R

25 4	51.6
	39.1
	38.2
	43.6
	1725
29	43.12

C = 81.5

α Virginis

13 18 38

−10 33

	p	p
35 1	45.2	0.0
	25.0	40.0
	25.9	40.4
	38.9	53.0
	1350	1934
36	33.75	48.35

α Bootis

14 10 16

+19 48

		~~R~~P		P
15	2	22.0	1	14.8
		17.3		1.0
		5.2		57.8
		16.5		9.8
		610		234
17		15.25	16	5.85

Nov 28

C = 81.5

η Urs Maj
13 42 52
+ 49 54

	φ	ρ	ρ
10	1 46.1	0 56.0	30.9
	35.2	43.4	19.1
	33.8	42.4	17.9
	38.0	46.9	22.0
	1531	1887	899
11	38.28	10 47.18	22.48

η Bootis
13 49 3
+19. 0

No. δ.

A_4 tc.

I

☉ Nov 27 1883

16 12 52

− 21 10

A_3 + c 2nd limb

Seeing very good

$c = 81.5$

b_1 Cygni ×

21 1 39

+38 11

50 345,0 3,2

32,0 49,1

π^2 Cygni ×

21 42 28

+ 48 46

p

15 3 31,4

19,2

v. f.

lost A_1

7 Lacertae

22 26 28

+ 49 40 ×

p p

15 3 41,0 231,7

31,0 21,2

d. v. f

Nov 27

C = 81.5

Bz,27°7
B 21 7 (4)
+77 39 ×

p p p p
2 5 0 59,2 40,6 27,9 11,2

46,0 27,8 14,3 57.6

74 Cygni
21 32 16 ×
+39 58

p p p
10 1 12,0 0 28,8 0,2

57.6 15.0 45.8

d.b.f.

ε Cass.
1 45 59 ×
+63 6

p p
55 4 23,2 3 44,0 20,1

10,1 32,8 8.2

d.f.

β Arietis
1 48 11
+20 14

45 4 18.8 53.9

4.3 39.5

A_{-1} d f

Nov. 27 1883 C = 81.5

50 Cass

1 53 28
+71 51

	p		p	p
104	1.4	3	33.0	13.7
	49.1		23.0	55.9

df

γ Androm

1 56 43
+41 46

	P	P
153	8.2	33.8
	53.7	19.3

d.f.

η Urs Maj

13 42 52
+49 54

Ra only

A_8 +C

α Bootis

14 10 16
19 48

	P		P
152	25.0	1	18.8
	10.2		3.8
	6.8		59.1
	17.8		10.5
	598		322
17	14.95	16	8.05

1883phae.proj.141SR

Nov. 27	C = 81.5
×	×
α Arietis	β Trianguli
20 34	22 35′
+22 54	34 26
	p p
5-4 52.9 347.0	35-3 35.0 227.8
38.8 31.7	19.3 12.1
rej 1st w d. f.	lost 1st w d. f.

Nov 28

Sun = 28 Obs. to Nov 1
Stars = 415 Obs to Nov 1

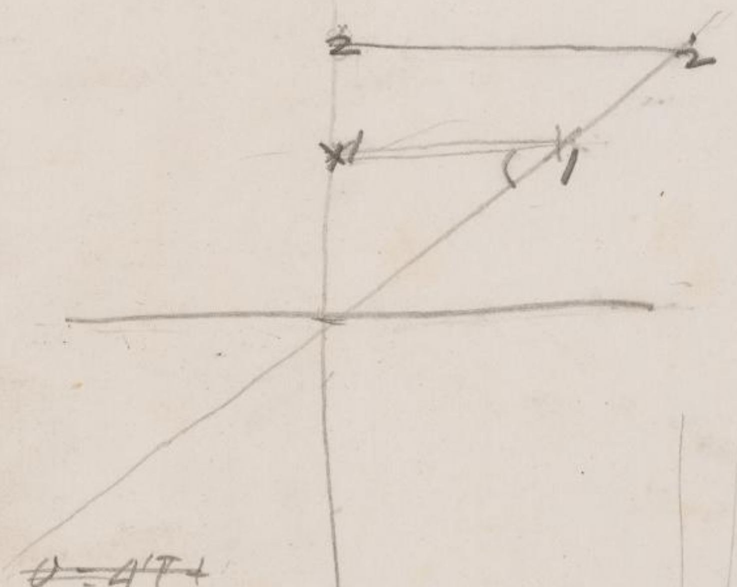
Raw

114	9,1	10,1	10,2
~~91~~		10,9	9,8
13,4	7,0	11,1	9,4
13,2	7,3	10,7	10,2
12,0	6,7	11,4	9,0
11,8	6,9	11,8	9,8
13,7	7,0	10,1	10,2

20 0 331

28,7
26,7
41,7

508
31.2 25
33.2
48.7



T cos δ

$m = b \sec\varphi - n \tan\varphi$

$0 = T - RA + (4T + m) + n \tan\delta + c \sec\delta$

~~$0 = 4T +$~~

$0 = T \angle RA + 4T + a\frac{\sin(\varphi - \delta)}{\cos\delta} + b\frac{\cos(\varphi - \delta)}{\cos\delta} + \frac{c}{\cos\delta}$ ✓

$= T \angle RA + 4T + a\mathfrak{A} + b\mathfrak{B} + c\mathfrak{C}$

$0 = T - RA + (4T + m) + n \tan\delta + c \sec\delta$ ✓

$m = b \sec\varphi - n \tan\varphi$