

KG
11365
88

B.17

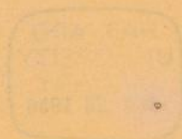
No. 17

Reduction of Transits.

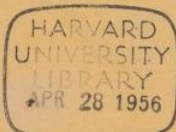
1854 Aug. 9 to Nov. 27. 1854

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KG 11365.88



KG-11365.88



854 Aug. 9

W.C. B.

Ill. East

$a = +0.18$

$b = +0.41$

$c = 0.00$

Polaris s.p.		α Virginis		γ Urs Maj		γ Bootis		α Bootis	
40	26.2		32.3		26.3		—		0.3
49	29.2		46.2		48.0	+19° 8	28.08 59.0		15.0
58	23.7		0.2		9.3		27.96 13.4		29.7
7	20.5		14.2		30.7		28.05 28.0		44.2
16	14.6		28.2		52.2		27.97 42.1		58.9
25	10.4		42.1		13.4		27.87 56.9		72.4
13 34	13.0 13	18	56.2 13	43	35.1 13	48	28.22 11.9 14	10	28.3
	17.6		219.4		215.0				188.8
	18.2		14.20		30.74		28.02		44.11
	0		0		0		0		0
13 7	18.2 13	18	14.20 13	42	30.74 13	47	28.02 14	9	44.11

Aug. 11

$$a = + 0.17$$

$$b = + 0.40$$

$$c = 0.00$$

Ill. East

W. C. B.

S. Ophiuchi

48.6

2.3

16.1

29.8

43.8

57.4

16 8 11.3

209.3

29.90

0

11 16 7 29.90

1854 Aug. 13/14

$$\begin{aligned}
 a &= +0.45 \\
 b &= +0.40 \\
 c &= 0.00
 \end{aligned}$$

W.C.B.

J.L. Paul

α Tauri		β Orionis		β Tauri		δ Orionis		ϵ Orionis	
	41.0		40.5		—		42.5		58.0
	55.3		54.5	+28° 29	—		56.5		11.7
	9.6		8.5		54.95 39.3		10.3		25.5
	24.0		22.2		54.95 54.9		23.8		39.3
	38.3		36.2		55.18 10.8		37.8		52.9
	52.6		50.1		54.79 26.0		51.4		6.7
4	29	6.9 5	9	4.0 5	18 54.96 41.9 5	26	5.2 5	30	20.6 5
	227.7		216.0				227.5		214.7
	23.96		22.29		54.95		23.93		39.24
	0		0		0		0		0
4	28	23.96 5	8	22.29 5	17 54.95 5	21	23.93 5	29	39.24 5

1854 Aug. 1³/₄

M. C. B.

Ill. Part

 α Orionis

0			25.5			
7			39.2			
1			53.0			
3			6.9			
9			20.9			
7			34.7			
6	5	48	48.6			
7			228.8			
4			6.97			
			0			
24	5	48	6.97			

1854 Aug. 14

$a = +0.14$

$b = +0.40$

$c = 0.00$

Ill. East

M.C. B.

 α Bootis β 2nd Min

7.9

49

28.8

22.5

50

17.2

36.2

51

9.3

52.0

52

1.5

6.7

52

34.0

21.0

53

41.8

14 10

38.8

54

38.5

182.1

192.1

51.73

1.73

0

0

14 9

51.73

52

1.73

1854 Aug. 14/15

$$a = + 0.14$$

$$b = + 0.40$$

$$c = 0.00$$

Ill. Time

W.C. B.

Moon II 0

26.8

41.0

55.8

10.7

25.1

40.1

3 15 54.9

254.7

74.7

10.67

0

3 15 10.67

Aug. 15 1854

$$a = + 0.13$$

$$b = + 0.40$$

$$c = 0.00$$

Ill. Ear

Y. H. P.

 α Lyrae β Lyrae γ Lyrae 7.8 mag

+38 39 55.78 20.6

48.2

50.0

55.32 37.7

4.6

6.1

55.35 51.3

20.7

27.6

55.82 13.4

37.3

39.2

55.58 30.7

53.9

51.7

18 33 55.67 48.1 18

10.2

12.0

12

46

26.7

46

28.5

201.6

214.5

32 55.59

37.37

39.21

0

0

0

18 32 55.59 18

45

37.37 18

45

39.21

Aug 17/6 1884

$$a = + 0.13$$

$$b = + 0.40$$

$$c = 0.00$$

N.C.B.		Ill. Pair		Moon 10	
α Ceti		α Persei	17 Tami	γ Tami	
—		46.8	22.8	88.6	26.4
+3° 31	—	8.4	37.8	13.6	41.4
34.1820.4		29.3	52.7	28.7	56.5
34.1534.1		50.1	7.6	43.8	11.6
34.2548.0		11.6	22.8	58.6	26.8
34.32 1.8		32.4	37.7	13.5	41.8
2 56 33.9615.3 3	15	53.8 3	37 52.8 3	40 29.04	6 56.9
		232.4	234.2	245.8	261.4
		352.4	54.2	305.8	81.4
34.17		50.34	7.74	43.69	11.63
0		0	0	0	0
2 55 34.17 3	14	50.34 3	37 7.74 3	39 43.69 4	6 11.63

1854 Aug ¹⁵/₁₆

$a = +0.13$

$b = +0.40$

$c = 0.00$

Ill. Part

W.C.B.

 δ Tami α Tami

+18° 51'

44.6

58.9

18.2

27.5

0.40 14.9

41.9

0.52 29.5

56.1

4 21 0.60 44.2 4 29 10.1

252.7

192.7

0.51

27.53

0

0

4 21 0.57 4 28 27.53

1864 Aug 16

 $a = + 0.12$
 $b = + 0.40$
 $c = 0.00$

Ill. Star

 α Lyræ

Catalogue Stars

K.M.S.		α M.C.B.		Ill. 2 an		C = 0.00								
β Vir. Min		α Scorpii		α Lyrae		Catalogue Stars								
	27.3		38.2		3.4	—	21.9							
	20.5		53.3		21.2	—	35.9							
	12.5		8.8		38.7	—	49.3							
	4.3		23.9		56.2	—	3.3							
	57.0		39.4		14.0	—	16.8							
	49.1		54.7		31.3	—	30.2							
14	54	41.4	16	22	10.0	18	36	26.4	18	38	44.3			
	212.0		228.3		214.1						201.7			
	4.57		24.04		56.30						3.10			
	0		0		0						0			
14	52	4.57	16	21	24.04	18	32	56.30	18	35	45.04	18	38	3.10

Aug 16, 1854

Name of observer uncertain.

W.C.B.

H. Parr

Catalogue Stars.

185

		49.8		34.2		59.7		19.4		24.1					
		2.7		47.7		12.6		33.2		38.2					
		18.3		1.9		27.5		47.2		51.9					
		31.3		14.8		41.2		0.4		5.4					
		45.3		29.3		54.7		14.5		19.5					
		58.7		43.2		8.4		28.0		33.0					
18	43	12.3	18	49	56.9	19	11	22.4	19	12	42.1	19	15	46.9	19
		218.4			228.0			226.8			184.8			219.0	
		31.20			15.43			40.93			0.69			5.57	
		0			0			0			0			0	
18	42	31.20	18	49	15.43	19	10	40.93	19	12	0.69	19	15	5.57	19

Aug 16 1854

$a = + 0.12$

$b = + 0.40$

$c = 0.00$

W.C.B.

Ill. Ear

Catalogue Stars

 α Aquilae β Aquilae

185

1			19.1			16.7			59.2			24.2
2			32.8			30.2			9.2			38.0
9			46.7			44.2			22.7			52.0
4			0.2			57.9			36.7			6.9
5			14.0			12.0			50.8			19.8
0			27.7			25.4			4.7			33.2
9	19	20	41.5	19	22	39.4	19	45	18.4	19	49	47.2
0			182.0			225.8			197.7			220.3
7			0.29			57.97			36.81			51.76
			0			0			0			0
7	19	20	0.29	19	21	57.97	19	44	36.81	19	49	51.76

854 Aug 24

$a = + 0.07$

$b = + 0.38$

$c = + 0.02$

All. Par

C. M. T.

Bootes

 β UMa Min α Cor. Bor.

185				49	39.3			51.9
+19° 57'				50	31.8			7.2
	7.34	52.7		51	24.2			22.7
	7.45	7.4		52	16.4			38.2
	7.50	22.1		53	8.7			53.7
	7.42	36.6		54	0.3			9.0
14	10	7.50	51.4	54	53.3	15	30	24.7
					174.0			207.4
		7.44			16.29			38.20
		0			0			0
14	10	7.44	14	52	16.29	15	29	38.20

13

13

Aug 28

$a = +0.05$

$b = +0.37$

$c = +0.02$

H. E. E. E.

W.C.B.			" "			" "			" "		
α Virginis			Moon TO			2 Librae			β Librae		
		1.6			54.6			19.3			41.3
		15.4			8.9			33.4			58.2
		29.3			23.3			47.7			9.2
		43.3			37.6			2.2			23.0
		57.5			52.1			16.3			36.9
		11.3			6.3			30.4			50.8
13	19	21.3	14	14	20.9	14	44	41.0	18	11	4.9
		183.7			203.7			194.3			221.3
		303.7			263.7			14.3			161.3
		43.39			37.67			2.03			23.04
		0			0			0			0
13	18	43.39	14	13	37.67	14	44	2.03	15	10	23.04

854 Aug 29

$$a = + 0.04$$

$$b = + 0.36$$

$$c = + 0.02$$

ell. Part

W.C.B.			"			"			"			"		
Bootis			α^2 Librae			β Urs Min			Moon 10			β Librae		
		6.0			20.9			46.4			33.0			42.9
		20.4			31.2			38.8			47.6			56.9
		36.0			49.3			30.7			2.4			10.8
		51.1			3.6			23.2			17.2			24.7
		7.1			17.9			11.6			31.9			38.7
		22.5			32.1			7.6			46.7			52.7
14	40	38.2	14	44	46.5	14	51	0.315	7	1.6	15	11	6.5	19
		180.7			205.1			162.6			180.4			233.2
		360.7			25.5						120.4			173.2
		51.53			3.64			23.23			17.20			24.74
		0			0			0			0			0
14	39	51.53	14	44	3.64	14	54	23.23	15	6	17.20	15	10	24.74

Aug 29

W.C.B.

Ill. Star

 γ Aquilae α Aquilae

9		53.9		14.7		43.9	
9		7.9		28.6		57.7	
8		21.7		42.3		11.3	
7		35.7		56.2		25.3	
7		49.7		10.2		39.0	
7		3.7		23.9		52.7	
5	19	41	17.7	19	45	38.1	19
2			190.3			214.0	50
2			250.3			394.0	6.7
74			35.76			56.29	236.6
			0			0	176.6
							25.23
74	19	40	35.76	19	44	56.29	19
							49
							25.23

Aug 30 1854

W.C. B.

Oct. Fair

$a = + 0.03$

$b = + 0.36$

$c = + 0.02$

β Librae			β Scorpii			Moon TO			σ Scorpii			α Scorpii		
		44.7			30.8			17.0			51.4			59.4
		58.4			41.6			32.3			6.5			14.9
		12.3			0.0			47.1			21.8			30.0
		26.2			14.8			2.8			36.9			45.5
		40.2			29.3			17.9			52.1			0.7
		54.0			43.6			33.2			7.2			15.9
15	11	8.0	15	58	38.5	16	3	48.7	16	14	22.6	16	22	31.4
		243.8			222.6			199.4			198.1			197.8
		183.8			102.6			19.4			258.5			317.8
		26.26			14.66			2.77			36.93			45.40
		0			0			0			0			0
15	10	26.26	15	58	14.66	16	3	2.77	16	13	36.93	16	21	45.40

Sept. 4. 1854

$\alpha = + 0.04$

$b = + 0.36$

$c = + 0.01$

N.C. A.

Ill. East

 α Capricorn γ Capricorn δ Cygni

Moon TO

 δ Capricorn

1854

4		27.8		8.1		22.7		8.2		42.7			
9		42.5		23.4		38.6		23.7		37.4			
0		56.9		38.9		54.1		38.7		11.8			
5		11.0		54.1		10.0		54.0		26.0			
7		25.9		9.2		25.9		9.1		40.2			
7		40.0		24.3		41.9		24.2		54.7			
7	20	33	54.9	20	39	39.9	57.8	21	29	39.6	21	41	9.2
		259.0		197.9		251.0		197.5		242.0			
		79.0		377.9		71.0		377.5		182.0			
0		11.29		53.99		10.14		53.93		26.00			
		0		0		0		0		0			
0	20	33	11.29	20	38	53.99	10.14	21	28	53.93	21	40	26.00

854 Sept 7

$a = +0.04$

$b = +0.36$

$c = +0.01$

Old East

C. W. J.

Cor. Bor.

" Serpentes

" β Scorpii" δ Ophiuchi

13.0

52.4

42.9

30.0

28.4

6.2

57.3

43.7

43.7

20.6

12.0

57.4

59.3

33.9

26.6

11.2

14.8

47.8

41.3

24.9

30.1

01.3

51.7

38.7

15 30

41.7

15

39

11.6

15

59

10.4

16

8

52.5

19

235.0

177.2

246.2

258.4

59.29

33.89

26.60

11.20

0

0

0

0

15 29

59.29

15

38

33.89

15

58

26.60

16

8

11.20

19

Sept 7

C. W. 7.

J. L. Fair

2 nd Set of Jupiter			1 st Set.			4 10			4 11 0		
		44.1			49.8			55.3			58.3
		59.0			4.4			10.2			12.2
		14.0			19.3			24.9			27.8
		29.0			34.3			39.8			42.9
		43.8			49.2			55.0			58.0
		58.9			4.0			9.9			12.8
19	19	13.8	19	19	19.1	19	19	24.8	19	19	27.8
		263.0						219.9			240.8
		29.00			34.30			39.99			42.97
		0			0			0			0
19	18	29.00	19	18	34.30	19	18	39.99	19	18	42.97

854. Sept 1911

$a = + 0.05$

$b = + 0.36$

$c = + 0.00$

Off East

W.C.B.

p Tami

p Orionis

e Orionis

53.3

28.0

43.2

8.9

41.8

57.0

24.8

55.3

11.0

40.3

9.0

24.1

55.9

23.0

38.3

11.4

36.5

52.0

5 19

27.35

26

50.35

31

6.0

221.9

243.9

232.0

40.26

9.13

24.57

0

0

0

5 18

40.265

26

9.135

30

24.57

1854 Sept. 12

$a = + 0.05$

$b = + 0.36$

$c = - 0.01$

Ill. Ear

C. M. L. ^{mag}
916.7-8. + 0° 29'

S. Aquilae

* 930.8-9. + 0° 51'

		38.9			51.3			7.2			14.5			32.0
		52.3			5.3			20.6			27.8			45.9
		6.2			18.9			34.4			41.7			0.0
		20.2			32.9			48.0			55.3			13.7
		33.8			46.6			1.8			9.2			27.3
		47.3			59.9			15.7			23.0			41.1
19	12	1.6	19	15	14.2	19	20	29.5	19	20	36.9	19	36	55.0
		200.3			229.1			157.2			208.4			215.2
		20.04			32.73			48.17			55.49			13.60
		0			0			0			0			0
19	11	20.04	19	14	32.73	19	19	48.17	19	19	55.49	19	36	13.60

930.7. + 0° 1'

*
52.4
6.3
20.0
33.5
47.3
1.2
15.0
175.7

19 82 33.39

Sept. 12. 1854

C. N. 7.

Ill. Star

$a = +0.05$

$b = +0.36$

$c = -0.01$

		" "		" "		" "		" "		" "		" "		" "	
34. 8-9. + 0° 48'		938. 8-9. + 0° 24'		939. 7. + 0° 41'		943. 8. + 0° 29'		947. 8. + 0° 49'							
39.0		36.7		6.9		27.3		29.4							
52.5		50.3		20.4		41.1		43.3							
6.3		4.0		34.2		54.8		56.8							
19.9		17.7		48.0		8.3		10.5							
34.0		31.5		1.7		22.2		24.5							
47.6		45.5		15.7		35.9		38.0							
19	37	1.2	19	39	58.9	19	42	29.6	19	45	49.7	19	48	52.0	19
200.5		244.6		156.6		239.3		254.5							
20.07		17.71		48.07		8.47		10.64							
0		0		0		0		0							
19	36	20.07	19	39	17.71	19	41	48.07	19	45	8.47	19	48	10.64	19

Sept 12

C. N. 7.

Ill. Pass

	950.8. - 0° 2'		957.8. + 1° 2'		958.8. + 0° 45'		(961).7-8. + 0° 26'		966.8. + 0° 52'	
9.4		44.1		49.0		19.9		7.5		50.0
8.3		57.4		2.7		33.8		21.1		4.1
7.8		11.47 14.4		16.2		47.1		34.8		18.0
6.5		25.2		30.0		0.9		48.5		31.7
5.5		39.2		43.9		14.7		2.2		45.7
4.0		52.9		58.0		28.5		16.2		59.4
3.0	19	52 6.8 19	56	11.6 19	59	42.2 20	7	30.0 20	12	13.2
1.5		237.0		211.4		187.1		160.3		222.8
64		25.29		30.20		1.01		48.61		31.83
		0		0		0		0		0
64	19	51 25.29 19	55	30.20 19	59	1.01 20	6	48.61 20	11	31.83

Sept. 12, 1854

C. N. 7.

Ill. Part

$$a = + 0.05$$

$$b = + 0.36$$

$$c = - 0.01$$

3. 8-9. + 0° 56		976. 7-8. + 0° 54 (977). 7-8. + 0° 24		979. 8-9. + 0° 46		981. 8-9. + 0° 31		9
	17.2		15.6		8.7		10.2	49.2
	30.9		29.2		22.0		23.9	2.9
	44.6		42.9		35.9		37.6	16.7
	58.3		56.7		49.6		51.2	30.3
	12.0		10.3		3.6		5.3	43.9
	25.7		24.1		17.1		18.7	57.8
20 15	39.7	20 19	38.1	20 23	31.0	20 28	32.7	20 33 11.7
	228.4		216.9		167.9		179.6	212.5
	58.34		56.70		49.70		51.37	30.36
	0		0		0		0	0
20 14	58.34	20 18	56.70	20 22	49.70	20 27	51.37	20 32 30.36

Sept. 12

C. N. 7.

Ill. 8 at

987. 9. + 0° 26'	α Cygni		
18.2	9.3		
31.7	28.8		
45.6	47.9		
59.0	7.1		
13.0	26.8		
26.7	46.0		
20 31 40.4 20 39	5.7		
234.6	171.6		
59.23	7.37		
0	0		
20 34 59.23 20 38	7.37		

854 Sept. 13

$a = +0.05$

$b = +0.37$

$c = -0.02$

Ill. Mut

P. N. 7

16. 7-8. +0° 29'				931. 7. +0° 1'				933. 8-9. +0° 51'				934. 8-9. +0° 48'			
40.8				53.5				54.3				34.2			40.4
54.7				7.1				8.1				47.9			54.3
8.3				20.6				21.9				1.8			8.0
22.0				34.6				35.5				15.7			22.0
35.7				48.3				49.5				29.5			35.5
49.4				2.2				3.0				43.2			49.6
19 12 3.0 19 15 15.9 19 33 16.8 19 36 56.9 19 37 3.0 19															
213.9				182.2				189.1				229.2			212.8
21.98				34.60				35.59				15.60			21.83
0				0				0				0			0
19 11 21.98 19 14 34.60 19 32 35.59 19 36 15.60 19 36 21.83 19															

Sept. 13

C. N. T.

Ill. West

		" "		" "		" "		" "	
γ Aquilae		943.8. + 0° 29'		947.8. + 0° 49'		β Aquilae?		950.8. - 0° 2'	
0.4	19.2		29.2		31.4		—		45.9
4.3	33.2		43.9		48.4 + 6	3	50.7323.1		59.7
8.0	47.0		56.8		58.9		50.5336.7		13.4
2.0	1.2		10.6		12.7		50.7550.7		27.2
5.5	15.0		24.2		26.3		50.604.4		41.0
9.6	29.2		37.8		40.3		50.8118.4		54.8
0.0	19 41 43.0	19 45 51.7	19 48 52.6	19 50 —	19 52 8.3				
2.8	187.8	254.2	268.6		290.3				
83	1.11	10.60	12.66		50.68				27.19
	0	0	0		0				0
83	19 41 1.11	19 45 10.60	19 48 12.66	19 49 50.68	19 51 27.19				

854 Sept. 13

C. W. T.

W. H. West

$$a = +0.05$$
$$b = +0.37$$
$$c = + 0.02$$

18549	57.8. + 1° 2'	958.8. + 0° 45'	(961). 7-8. + 0° 26'	966.8. + 0° 52'	973.8-9. + 0° 56'	97
	50.7	21.8	9.0	52.4	18.8	
	4.7	35.6	23.1	6.3	32.9	
	18.3	49.5	36.6	20.0	46.4	
	32.1	3.2	50.4	33.7	0.3	
	46.0	16.7	4.2	47.6	13.9	
	59.6	30.3	18.0	1.3	27.7	
19	56	13.3	19	59	44.3	20
	224.7	201.4	7	31.7	20	12
				14.9	20	15
				176.2	181.2	20
	32.10	3.06	50.40	33.74	0.17	
	0	0	0	0	0	
19	55	32.10	19	59	3.06	20
			6	50.40	20	11
				33.74	20	15
				0.17	20	

1854 Sept. 13

C. W. T.

All. West

	976. 7-8 + 0° 54' (977). 7-8. + 0° 24'				979. 8-9. + 0° 46'				981. 8-9. + 0° 31'				987. 9. + 0° 26'			
56																
8			17.3		10.4			11.8			51.0				19.7	
9			31.0		24.2			25.8			4.9				33.5	
4			44.7		37.9			39.4			18.7				47.3	
3			58.5		51.7			53.4			32.3				1.2	
9			12.4		5.5			7.0			45.8				15.2	
7			25.9		19.0			20.8			59.6				28.9	
2	20	19	39.5	20	23	32.7	20	28	34.4	20	33	13.4	20	35	42.4	
2			229.3			181.4			192.6			226.7			187.8	
17			58.47			51.63			53.23			32.39			1.11	
			0			0			0			0			0	
7	20	18	58.47	20	22	51.63	20	27	53.23	20	32	32.39	20	35	1.11	

Sept. 13 1854

$$a = + 0.05$$

$$b = + 0.37$$

$$c = - 0.02$$

H. M. W.

C. W. 7.

Cygni

10.9

30.7

50.1

9.2

28.7

47.9

20 39

7.1

184.6

9.23

0

20 38

9.23

1854 Sept. 19/10

$$a = + 0.05$$

$$b = + 0.37$$

$$c = - 0.02$$

Ill. Mer

W.C.B.

 α Orionis γ Geminor

2.31 20.7

57.1

+7° 23 2.36 34.7

12.7

2.24 48.4

27.6

2.05 2.0

43.0

58.3

2.30 30.0

13.2

5 49 22 143.76

37

28.6

240.5

2.25

42.93

0

0

5 49 2.25 6

36

42.93

1854 Sept. 16

W. C. O.

J. H. S.

$a = +0.06$

$b = +0.37$

$c = -0.02$

		β Librae		β Scorpii		Cat. 938		Cat. 939		α Aquilae	
—		—		18.9		59.9		30.0		1.5	
—8	50	55.80	28.0	30.6		13.7		48.8		15.4	
		55.56	41.6	44.9		27.3		57.8		29.2	
		55.75	55.7	59.8		41.2		11.4		43.0	
		55.71	9.6	14.4		58.0		28.0		57.1	
		55.44	23.2	28.9		8.5		38.6		11.0	
15	11	55.54	37.3	15 57 42.5	19 38	22.3	19 40	52.3	19 44	24.6	6
				238.0		227.9		258.9		161.8	
		55.63		59.71		41.13		11.27		43.11	
		0		0		0		0		0	
15	10	55.63	15 56 59.71	19 37 41.13	19 40	11.27	19 43	43.11	6		

Sept. 7/18

$a = + 0.66$

$b = + 0.37$

$c = - 0.02$

W.C.B.

All. Mer

 α Canis Maj α Leonis

3.6

52.2

18.2

6.8

32.5

20.5

46.9

34.6

1.2

48.7

18.5

2.4

29.8

16.8

147.7

181.7

46.81

34.53

0

0

46.81

34.53

Sept. 18 1854

7.21.1.

alt. Mer

$a = + 0.06$

$b = + 0.27$

$c = - 0.03$

γ Aquilar	β Aquilar	α Aquilar	α^2 Capricor	α Cygni	α
37.7	27.7	58.2	18.8	29.3	
51.9	41.7	12.4	30.0	49.0	
5.8	58.5	26.2	44.2	8.4	
19.7	9.2	40.3	58.3	27.8	
33.5	23.0	54.2	12.4	47.2	
47.6	36.8	7.9	26.4	6.3	
19 40 1.7	19 48 50.7	19 44 21.9	20 10 40.5	20 37 25.7	17
197.9	244.6	221.1	227.6	193.7	
19.70	9.23	40.16	58.23	27.67	
0	0	0	0	0	
19 39 19.70	19 48. 9.23	19 43 40.16	20 9 58.23	20 36 27.67	17

Sept. 19

$$a = + 0.06$$

$$b = + 0.37$$

$$c = - 0.03$$

Olb. Hall

H.C.B.

 α Ophiuchi

712 49.1241.0

9.1755.1

9.15 9.2

9.1023.2

9.2437.4

17 289.0351.2

9.13

0

17 28 9.13

1854. Sept. 19/20

$a = +0.06$

$b = +0.37$

$c = -0.03$

Obs. m.

W.C.B.

 α Canis Maj

-16° 31'

42.15 42.2

42.25 56.6

42.14 10.8

6 38 41.9125.0

42.13

0

6 37 42.11

Sept. 20.

$$a = + 0.07$$

$$b = + 0.37$$

$$c = - 0.03$$

Ill. Mus

M.C. B.

- γ Draconis μ 'Sagittarii'

5.4

17.9

27.8

32.9

49.9

47.5

12.0

2.3

34.0

16.8

56.2

31.6

17 54 18.0 18

5 46.3

203.3

198.3

11.90

2.19

0

0

17 53 11.90 18

5 2.19

1854. Sept. 20/21

$a = + 0.07$

$b = + 0.37$

$c = - 0.03$

Ill. Mar

M. C. B.

 α Canis Maj. α Canis Min. β Gemini

59.3

57.6

13.8

11.0

+28° 22 21.97 50.8

28.0

28.1

2190 6.3

42.4

38.8

2194 22.0

56.7

52.7

2206 37.7

11.2

6.4

2208 53.3

6

39

28.6

7

32

20.2

7

37

—

237.0

211.8

42.43

38.83

21.99

0

0

0

6

38

42.43

7

31

38.83

7

37

21.99

Sept. 24/25

$a = + 0.07$

$b = + 0.37$

$c = - 0.03$

M.C. B.

Ill. Mar

 α Canis Maj α Canis Min β Geminor

58.2

56.2

34.0

12.8

10.3

49.8

26.9

24.1

51.3

41.2

37.9

20.9

55.7

51.7

36.6

10.0

5.5

52.2

6 39

24.2 7

32

19.1 7

37

7.6

229.0

204.8

206.4

41.29

57.83

20.91

0

0

0

6 38

41.29 7

31

37.83 7

36

20.91

1854 Sept. 25

$a = + 0.07$

$b = + 0.37$

$c = - 0.03$

Oll. Mer

7. H. S.

5 Bygni

2 Pegasi

55.5

18.8

11.6

33.0

27.3

46.8

42.9

0.8

58.8

14.6

14.6

28.5

21 7

30.1

21

37

42.7

240.8

185.2

16

42.97

0.74

0

0

21 6

42.97

21

37

0.74

16

1854, Sept. 27

$a = + 0.08$

$b = + 0.37$

$c = - 0.04$

W.C.B.

Ill. Mar

"

"

"

"

 α Scorpii

Moon TO

 α Ophiuchi γ Draconis

		39.1			12.0					3.6
		54.6			27.9	+12° 40'	7.02	38.9		28.9
		9.9			43.3		6.87	52.8		47.8
		28.0			58.9		6.95	7.0		10.0
		40.3			14.6		7.10	21.2		31.9
		54.8			30.1		7.04	33.2		54.0
16	21	10.9	16	44	44.7	17	28	6.93	49.1	17 54 16.0
		238.1			231.5					189.2
					411.5					69.2
		28.07			58.79			6.98		9.90
		0			0			0		0
16	20	28.07	16	43	58.79	17	28	6.98	17	53 9.90

1854 Sept. 28

$a = +0.08$

$b = +0.37$

$c = -0.04$

Ill. Wind

N.C. B.

Moon TO

 μ 'Sagittarii δ 'Sagittarii

44.0

16.4

50.0

0.2

31.3

6.0

16.0

46.0

21.9

32.0

0.8

37.8

47.9

19.5

53.8

4.0

30.2

9.4

19.8

18

5

44.8

18

12

25.2

163.9

188.0

204.1

223.9

5.0

264.1

31.99

0.71

37.73

0

0

0

31.99

18

5

0.71

18

11

37.73

Sept. 29

$a = + 0.08$

$b = + 0.37$

$c = - 0.04$

7. H. S.

All. W. M.

γ Draconis		μ Sagittarii		δ Sagittarii		α Lyrae		β Lyrae						
	3.0		15.6		49.2		3.7		49.2					
	25.5		30.4		4.9		21.5		5.9					
	47.2		45.0		20.9		39.3		22.2					
	9.7		59.8		36.9		56.8		38.2					
	31.5		14.7		52.8		14.2		55.0					
	53.7		29.2		8.7		32.0		11.3					
17	54	15.6	18	5	44.1	18	12	24.5	18	32	49.3	18	45	27.8
		186.2			238.8			197.9			216.8			209.6
		66.2			418.8			257.9			396.8			269.6
		9.46			59.83			36.84			56.69			38.51
		0			0			0			0			0
17	53	9.46	18	4	59.83	18	11	36.84	18	31	56.69	18	44	38.51

1854 Sept. 29

$a = +0.08$

$b = +0.37$

$c = -0.04$

7.21.5.

Oct. 1854

for fol. β Lyrae		Moon TO		α Sagittarii	
	51.0		29.2		1.2
	7.8		46.1		16.9
	24.3		2.0		32.3
	40.5		17.8		48.0
	56.9		33.9		3.4
	13.2		50.0		18.9
18 45	29.9	18 54	5.9	18 58	34.3
	223.6		184.9		152.0
	283.6		124.9		335.0
	405.1		17.84		47.86
	0		0		0
18 44	40.51	18 53	17.84	18 57	47.86

Sept. 30

$$a = + 0.08$$

$$b = + 0.37$$

$$c = - 0.04$$

C.M.T.		B.P.B.		Ill. Mar					
τ Sagittarii		γ Aquilae		α Aquilae		β Aquilae		Moon ~~IX~~	
	0.0		34.0		54.9		24.0 15.4		15.4
	16.0		48.2		8.9		38.1 31.2		31.2
	32.2		2.1		22.8		51.8 47.2		47.2
	46.9		16.0		36.8		8.8 3.0		3.0
	2.4		30.0		50.6		19.5 18.8		18.4
	18.0		44.1		4.4		32.4 34.6		34.6
18	58	33.6 19	39	57.9 19	44	18.1 19	48 47.0 50.2 19	59	50.2
	149.1		232.3		196.5		219.6 200.4		200.4
			112.3		256.5		39.6		20.4
	47.01		16.04		36.64		5.66		2.91
	0		0		0		0		0
18	57	47.01 19	39	16.04 19	43	36.64 19	49 5.66 19	59	2.91

Sept. 30 1854

$a = +0.08$

$b = +0.37$

$c = -0.04$

J. H. Ware

G. D. B.

 α^2 Capricorn π Capricorn

12.3

11.8

26.5

26.3

40.5

40.8

54.8

54.3

8.8

9.9

22.9

24.2

20

10

37.0

20

19

38.7

202.8

207.0

382.8

387.0

54.69

55.29

0

0

20

9

54.6920

18

55.29

1854 Oct. 1/2

 $a = + 0.08$
 $b = + 0.36$
 $c = - 0.04$

W.C.B.

M. M.

δ Gemini	α^2 Gemini	α Canis Min.	β Gemini
34.8	23.2	—	30.9
49.8	39.7	+5° 36' 34.56 7.0	46.8
4.6	58.8	34.59 20.8	2.1
19.4	12.0	34.65 34.7	17.8
34.3	28.3	34.58 48.4	32.6
49.1	44.5	34.69 2.3	49.2
7 12 3.97	26 0.8	7 32 34.76 16.1	7 37 4.7
198.9	204.3		185.1
19.41	12.04	34.64	17.87
0	0	0	0
7 11 19.41	7 25 12.04	7 31 34.64	7 36 17.87

1854 Oct. 2

$a = +0.08$

$b = +0.36$

$c = -0.04$

T. U. S.

Old. Mer

2 Capricorn

2 Pegasi

2 Aquarii

Moon IV 5 Aquarii

	—	14.4	46.5	59.0	—
-20 7	—	28.6	0.8	14.2 -11° 25'	—
—	—	42.6	14.9	29.0	—
—	—	56.5	29.2	44.1	57.05 57.1
50.15 4.8	—	10.3	43.5	58.8	57.06 5.1
50.24 19.5	—	24.2	57.5	13.7	57.17 19.2
21 29 50.39 34.2	21 37 38.02	59 11.7	22 3 28.5	22 23 33.2	22
	214.6	214.1	248.3		
	394.6		307.3		
50.26	56.37	29.16	44.04	57.13	
0	0	0	03.90	0	
21 29 50.26	21 36 56.37	21 58 29.16	22 2 44.04	22 57.13	22

1854 Oct. 2

Jlt. West

7.26.1

5 Pegasi

α Aus. Pis.

24.4

43.0

38.9

59.2

52.8

15.2

6.8

31.2

20.7

47.0

34.6

2.7

22 34

48.6

22

50

19.0

226.8

217.8

46.8

6.69

31.04

0

0

22 34

6.69

22

49

31.04

1854 Oct. 5/6

$a = 0.00$
 $b = +0.30$
 $c = -0.05$

Ill. Mus

C. W. 7.

α Canis Min.

β Gemino

	—		27.7
+5 36	—		43.7
	~~30.49~~		~~16.7~~
	31.85		31.9
	31.58		45.4
	31.69		59.3
7	3231.96	13.3	7 37 1.6
			223.4

31.77 14.77

0 0

7 31 31.77 7 36 14.77

1854, Oct. 7

$a = -0.03$

$b = +0.30$

$c = -0.05$

W.C.B.

Ill. Ma

 α Lyrae β Lyrae γ Lyrae

56.6

41.8

14.4

58.4

+33' 12' 33.08 0.3

31.8

14.8

33.10 16.7

49.5

31.3

32.85 32.9

7.0

47.9

33.26 49.7

24.7

4.2

33.17 6.0

18 32 42.2 18

45

20.6 18

45 33.03 22.3

226.2

219.0

49.46

31.29

33.08

0

0

0

18 31 49.46 18

44

31.29 18

44

33.08

1854, Oct. 9/10

$$a = -0.06$$

$$b = +0.28$$

$$c = -0.06$$

Oct. 11

N.C.B.

 α Leonis

40.8

55.1

9.1

23.2

37.2

51.3

5.4

222.1

23.16

0

23.16

10

1

10

0

17

17

1854 Oct. 16

$a = -0.17$

$b = +0.22$

$c = -0.05$

Ill, near

W. L. B.

 α Herculis γ Draconis

6.7

55.4

20.9

17.6

35.0

39.6

49.3

1.9

3.5

23.9

17.7

46.0

17 8

31.8

54

7.9

164.9

192.3

49.27

1.76

0

0

17 7

49.27

53

1.76

1854 Oct. 7/18

W.C. B.

Ill. Hui

$a = -0.19$

$b = +0.22$

$c = -0.02$

 α Leonis γ Leonis

Moon MO

 β Leonis

—

26.3

47.6

43.9

+12 41

—

44.3

1.9

58.6

—

56.1

16.2

12.8

26.25 26.3

10.6

30.4

27.0

26.30 40.4

25.4

44.7

41.2

26.24 54.4

40.4

58.8

55.7

10

1 26.23 8.4 10

6

58.0

10

14

13.1

11

42

9.8

18

255.1

212.7

249.0

75.1

189.0

26.25

10.73

30.39

27.00

0

0

0

0

10

0 25.25 10

6

10.73

10

18

30.39

11

41

27.00

18

1854, Oct. 19

$a = -0.21$

$b = +0.22$

$c = -0.02$

Ill. Time

T. H. S.

 α Lyrae β Lyrae δ Aquilae

		57.7	—			50.8
		18.0 +33° 12'	—			5.0
		32.7	31.90 15.5			19.0
		50.1	32.15 32.2			23.3
		7.8	32.06 48.5			47.4
		25.5	32.07 4.9			1.6
18	32	43.0 18	45 ^{32.13} 21.3 18	59		15.3
		231.8				172.4
		50.26	32.06			33.20
		0	0			0
18	31	50.26 18	44 32.06 18	58		33.20

1854. Oct. 21

$a = -0.23$

$b = +0.25$

$c = 0.00$

Alt. Nor

W.C.B.

 α Sphincti γ Draconis α Lyrae

18.3

56.2

57.5

32.4

18.8

15.1

46.4

40.7

32.7

0.5

2.9

50.4

14.6

24.9

8.0

28.7

46.9

25.4

17

28

42.7

17

54

9.0

18

32

42.9

183.6

199.4

232.0

0.51

2.77

50.29

0

0

0

17

28

0.51

17

53

2.77

18

31

50.29

1854 Oct. 24/25

$$a = -0.25$$

$$b = +0.26$$

$$c = +0.01$$

All, Mr

~~W.C.B.~~ α Leonis α Urs. Maj.

Polaris s.p.

48.1

40 57.5 3.9

59.3 +62° 32' 32.17 32.7

88° 32' 9.2

13.4 31.96 2.2

57 57.6 53.9

27.5 32.00 32.1

6 55.6 57.3

41.6 32.07 1.9

15 54.0 51.2

55.4 32.23 31.8

—

10 1 9.7 10 56 31.90 1.1

—

252.0

27.43 32.05

56.16

0

0

0

10 0 27.43 10 54 32.05 13

6 56.16

1854. Oct. 24

Jell. Me

$a = -0.25$

$b = +0.26$

$c = +0.02$

C. M. 7		" "		" "		" "		" "		" "		" "		" "	
Aquilae		E Aquilae		928.8. + 0° 59'		991.9. + 0° 47'		996.8. + 0° 28'							
50.2		21.0		27.7		25.76	44.8		48.8						
4.1		35.2		41.5		25.83	58.4		2.7						
18.1		48.9		54.7		25.83	12.1		16.3						
31.9		2.8		8.9		—			30.2						
48.8		16.7		22.6		—			43.9						
59.7		30.5		36.6		—			37.7						
19 44 13.5	19 47 44.4	20 41 50.1	20 48 —	20 54 11.1	20										
223.3	199.5	241.3		210.7											
31.90	2.79	8.76		25.81		30.10									
0	0	0		0		0									
19 43 31.90	19 47 2.79	20 41 8.76	20 48 25.81	20 53 30.10	20										

Oct. 24

C. M. P.

11.11.11

	1001. 8-9. + 0° 9'	1003. 7-8. + 0° 34'	1006. 8-9. + 1° 2'	1010. 8-9. + 0° 34'	1014. 8-9. + 0° 4'
8	3.4	34.1	51.0	35.8	46.0
7	17.2	48.1	4.9	49.8	0.0
3	30.9	1.9	16.4	3.4	13.7
2	44.8	15.7	32.3	17.2	27.5
9	58.6	29.2	46.2	31.0	41.1
7	12.3	43.1	59.9	44.8	54.9
1	20 58 26.0 21 0	56.7 21 5	13.3 21 9	58.3 21 14	8.5
7	193.2	228.8	226.0	240.3	191.8
10	44.74	15.54	32.29	17.19	27.40
	0	0	0	0	0
10	20 57 44.74 21 0	15.54 21 4	32.29 21 9	17.19 21 13	27.40

Oct. 24, 1884

C. N. 7.

Ill. Mar

$a = -0.25$

$b = +0.26$

$c = +0.02$

(1018). 7. + 0° 29'		(1024). 89 + 0° 27'		(1029). 8. + 0° 39'		ε Pegasi		(1031). 8. + 0° 11'		(10
11.8		5.3		51.9		12.1		28.0		
25.8		19.2		5.9		26.0		52.0		
39.6		33.0		19.3		39.9		5.6		
53.2		46.7		33.2		53.9		19.3		
6.9		0.7		46.9		7.9		33.0		
20.7		14.2		0.7		21.8		46.9		
21 19 34.0	21 26 27.9	21 34 14.3	21 37 35.7	21 40 0.6	21					
192.0	147.0	172.2	197.3	195.4						
53.14	46.71	33.17	53.90	19.34						
0	0	0	0	0						
21 18 58.14	21 25 46.71	21 33 33.17	21 36 53.90	21 39 19.34	21					

Oct. 24

E.N. 7.

Ill. Mer

1854phae. B

11	(1033).8. + 0° 4'	1029. 9. + 0° 34'	1042.8. ~~0°~~	1049.8. + 1° 8'	1053.8-9. + 0° 53'
8.0	16.0	24.9	36.9	—	35.5
2.0	30.0	38.6	50.7	—	49.4
0.6	43.9	52.3	4.3	56.843.1	3.0
1.3	57.8	6.1	18.2	56.9557.0	16.8
3.0	11.6	20.0	31.8	57.0410.8	30.7
5.9	25.0	33.8	45.7	57.1524.6	44.4
6	21 43 38.9	21 47 47.3	21 50 59.4	21 59 56.85	22 6 38.0 58.0
1.4	223.2	223.0	247.0		237.8
34	57.60	6.14	18.14	56.96	16.83
	0	0	0	0	0
34	21 42 57.60	21 47 6.14	21 50 18.14	21 58 56.96	22 6 16.83

Oct. 24. 1854.

$$a = - 0.25$$

$$b = + 0.26$$

$$c = + 0.02$$

C. W. 7.

J. L. M. 11

1055.9 + 0° 9'		1056.9 + 0° 3'		1057.9 + 0° 1'		1059.45 + 0 38		1060.8-9 + 0° 55'		10
15.3		46.5		48.4		1.4		34.4		
29.2		0.2		21		15.2		48.4		
42.9		14.0		15.9		28.9		2.0		
56.7		27.4		29.8		42.7		18.9		
10.6		41.6		43.4		56.4		29.7		
24.2		54.3		57.3		10.0		43.4		
22 11 37.8	22 15	9.0	22 15	11.0	22 18	23.8	22 20	57.0	22	22
216.7		194.0		207.9		178.4		230.8		
56.67		27.71		29.70		42.63		15.83		
0		0		0		0		0		
22 10 56.67	22 14	27.71	22 14	29.70	22 17	42.63	22 20	15.83	22	22

Oct. 24

C. W.

Ill. M.

55	1061.8. + 0 50	5 Pegasi			
4.4	17.2	22.2			
3.4	31.6	26.4			
2.0	44.7	30.2			
1.9	58.4	4.2			
1.7	12.1	18.0			
1.4	21.9	32.0			
2.0	22 25 39.7	22 34 46.0			
.8	229.0	209.0			
3.3	58.43	4.14			
	0	0			
83	22 24 58.43	22 34 4.14			

1854. Oct. ²⁴/₂₅

$a = -0.25$

$b = +0.26$

$c = +0.02$

All. Mer

N. C. B.

Polaris s. p.

 η Uss. Maj.

	40	3.7		33.2	
	48	58.0		54.9	
	57	56.6		19.8	
	6	51.0		37.6	
	15	55.8		58.8	
	24	47.5		20.2	
13	32	53.8	13	42	41.5
		326.4			262.0
		55.20			37.43
		0			0
13	6	55.20	13	41	37.43

11

11

1854. Oct. 27/26

$a = -0.25$

$b = +0.26$

$c = 0.00$

W.C.B.

Ill. Mus?

 δ Leonis β Leonis

Polaris s.p.

 γ Mus Maj

28.2

45.9

39

56.8

33.5

43.6

0.1

49

3.5

54.7

57.7

14.6

58

2.3

16.1

12.4

28.7

7

0.3

37.4

27.2

42.9

15

57.2

58.8

41.9

56.9

24

55.1

20.1

11 6

56.7

11

42

11.6

13

33

51.9

13

43

41.6

267.1

200.7

227.1

262.2

12.44

28.67

58.16

37.46

0

0

0

0

11 6

12.44

11

41

28.67

13

6

58.16

13

42

37.46

1854. Oct. 26

C.N.7.

D.L. Ear

$a = -0.22$

$b = +0.22$

$c = 0.00$

91.9. + 0° 4'	996.8. + 0° 2'	1001.8-9. + 0° 9'	1003.7-8. + 0° 34'	1010.8-9. + 0° 34'	(101
—	49.4	4.0	34.7	36.1	
—	2.9	17.4	48.2	50.0	
—	16.9	31.2	2.0	3.8	
26.25 26.2	30.5	48.0	15.5	17.5	
26.37 40.1	44.2	58.8	29.8	31.2	
26.46 53.9	57.8	12.4	43.1	45.0	
20 4726.43 7.7	20 54 12.0	20 58 26.3	21 0 57.2	21 9 58.9	21
	213.7	195.1	230.5	242.5	
			15.79		
26.38	30.53	45.01	0	17.50	
0	0	0		0	
20 46 26.38	20 53 30.53	20 57 45.01	21 0 15.79	21 9 17.50	21

C. N. 7.

H. S. 11

(1014). 8-9. + 0° 4'					(1018). 7. + 0° 29'					(1024). 8-9. + 0° 27'					(1029). 8. + 0° 39'				
46.8					12.2					4.5					51.8				52.4
0.2					28.9					18.0					19.8				6.0
13.9					39.7					31.6					33.0				20.0
27.8					53.1					41.8					47.0				33.5
41.7					7.1					59.6					0.8				47.2
54.2					20.9					13.4					14.5				0.9
21 14 9.1 21 19 34.9 21 24 27.1 21 26 28.4 21 34 14.9																			
194.4					194.2					200.0					148.3				174.9
27.77					53.46					45.71					46.90				33.56
0					0					0					0				0
21 13 27.77 21 18 53.46 21 23 45.71 21 25 46.90 21 23 33.56																			

Oct. 26

Ill. Fraie

$a = - 0.22$
 $b = + 0.22$
 $c = 0.00$

1854phae.pr

C. N. 7.		2 Pegani		(1031).8. + 0° 16'		(1033).8. + 0° 4'		1039.9. + 0° 34'		10					
6.9		12.6		38.6		16.6		25.3							
20.7		26.4		52.1		30.5		39.0							
34.6		40.3		6.0		44.3		52.7							
48.4		54.2		19.6		58.1		6.6							
2.4		8.1		33.5		11.9		20.4							
16.2		22.0		47.2		25.3		33.9							
21	37	30.4	21	37	35.9	21	40	0.9	21	43	39.3	21	47	47.9	21
159.6		199.5		197.9		226.0		225.8							
48.51		54.21		19.70		58.00		6.54							
0		0		0		0		0							
21	36	48.51	21	36	54.21	21	39	19.70	21	42	58.00	21	47	6.54	21

Oct. 26

C. H. 7.

Al. Far

1854phae. p	10. 1.	11	12	13	14
4	1049.8. + 1° 8' (1053).8-9. + 0° 53'	1055.9. + 0° 9'	1057.9. + 0° 1'	(1059).5. + 0° 3'9	
3	16.1	35.8	15.8	48.8	1.9
2	29.9	49.7	29.5	2.5	15.4
1	43.7	3.4	43.3	16.3	29.1
6	57.2	17.2	57.1	30.0	42.9
4	17.1	31.0	10.8	43.6	56.6
9	24.6	44.6	24.5	57.3	10.2
9	21 59 38.6 22 6	58.6 22 11	38.2 22 15	11.3 22 18	24.2
8	221.2	240.3	219.2	209.8	180.4
4	57.31	17.19	57.03	29.97	42.91
	0	0	0	0	0
4	21 58 57.31 22 6	17.19 22 10	57.03 22 14	29.97 22 17	42.91

1854. Oct. 26

C.N.T.

M. Lat

$$a = -0.22$$

$$b = +0.22$$

$$c = 0.00$$

6 Pegasi

60.8-9. + 0° 55'		1061.8. + 0° 50'			
38.0		17.5		22.9	
48.7		31.3		36.9	
2.5		44.9		60.9	
16.0		58.8		4.7	
30.0		12.6		18.6	
43.6		26.2		32.6	
22 20 57.5	22 25	40.1	22 34	46.7	
233.3		231.4		213.3	
16.19		58.77		4.76	
0		0		0	
22 20 16.19	22 24	58.77	22 34	4.76	

1854. Oct. 26

$a = -0.22$

$b = +0.22$

$c = 0.00$

W.C.B.

M. Pave

 α Lyrae β Lyrae α Aquilae

43.9

50.6

0.2

4.3

16.6

18.3

33.0

32.1

49.5

46.1

5.9

0.0

22.3

14.0

171.4

165.4

33.06

32.20

0

0

33.06

32.20

1854. Oct. 26/27

$$a = -0.22$$

$$b = +0.22$$

$$c = 0.00$$

H. Fair

W.C.B.

Polaris S.p.

 γ Ues. Maj. β Ues. Min.

39 57.2

33.9

48 57.421.0

49 4.8

54.9 74

45 49 59.513.1

57 58.0

16.3

50 57.6 5.3

6 57.5

37.9

51 60.149.9

15 53.2

59.1

52 60.541.9

24 51.2

20.214

53 60.14.4

13 33 51.413

42

42.0

228 33.3

264.3

assumed an error of 10
in the middle wire

56.14

37.76

59.20

0

0

0

13 6 56.14 13

41

37.76 14

51 59.20

1854 Oct. 27

$$a = -0.09$$

$$b = +0.23$$

$$c = +0.01$$

Z.H.S.

Ill. East

α Lyrae	β Lyrae	δ Aquilae	ϵ Aquilae	Moon TO
—	—	52.1	19.9	49.4
+38 39 51.48 16.3	33 12 33.13 0.3	6.2	33.5	5.1
51.42 33.8	33.34 16.9	20.4	47.2	21.2
51.46 51.4	33.35 33.3	34.6	1.1	37.2
51.42 9.0	33.40 49.4	48.9	14.9	53.0
51.28 26.4	33.32 6.1	2.8	28.5	8.9
18 32 51.37 44.2 18	41 33.49 22.8 18	59 17.0 19	18 42.3 19	40 24.9
		182.0	187.4	199.7
		24 2.0	7.4	259.7
51.40	33.34	34.57	1.06	37.10
0	0	0	0	0
18 31 51.40 18	44 33.34 18	68 34.57 19	18 1.06 19	39 37.10

854. Oct. 27

$$a = -0.09$$

$$b = +0.23$$

$$c = +0.01$$

J.H. Fair

T.H.S.

α Aquilae

ε Sagittarii

		—			47.5				
8	29	—			2.8				
		—			18.4				
		—			34.1				
	32.42	46.3			49.7				
	32.46	0.2			5.0				
19	4432.38	14.1	19	54	20.0				
					177.5				
					237.5				
	32.42				33.93				
	0				0				
19	43	32.42	19	53	33.93				

1854. Oct. 28

$a = -0.08$

$b = +0.25$

$c = +0.01$

W.C.B.

ell. Ear

α Cygni	Moon TO	η Capricorn	61' Cygni	61' Cygni
21.7	43.9	15.4	31.8339.6	33.2341.0
40.8	59.3	30.1 + 38° 2	31.8857.0 + 38° 2	33.0858.2
0.2	14.7	44.6	31.9714.5	33.2715.8
19.8	30.4	59.3	31.8631.8	33.3633.3
39.2	45.9	14.0	31.7749.2	33.2750.7
58.4	1.2	28.6 21	1 32.27 7.1 21	1 33.67 8.5
20 37 17.9	20 44 17.0	20 56 43.4		
198.0	212.4	235.4		
138.0		415.4		
19.77	30.34	59.34	31.93	33.31
0	0	0	0	0
20 36 19.77	20 43 30.34	20 55 59.34	21 0 31.93	21 0 33.31

1854. Oct. 28

$a = -0.68$

$b = +0.25$

$c = +0.01$

W.C.B.

Ill. East

 δ Cygni α Capricorn β Aquarii γ Pegasi

49.1

17.7

4.8

12.9

4.9

31.9

18.4

26.8

20.7

46.2

32.3

40.8

36.5

0.7

48.8

54.5

52.3

15.2

59.8

8.5

8.0

29.5

13.6

22.2

21 7 23.9 21

14 44.0 21

24 27.6 21

37 36.5

195.4

186.2

202.3

202.2

255.4

5.2

382.3

382.2

36.49

0.74

46.04

54.60

0

0

0

0

21 6 36.49 21

14 0.74 21

23 46.04 21

36 54.60

1854. Oct. $\frac{31}{32}$

$a = - 0.05$

$b = + 0.31$

$c = 0.00$

M.C.B.

J.H. Fare

 α Hydraz α Urs Maj α Leonis α Urs Maj α Leonis

36.8

46.8

4.4

13.36 29.2

50.5 +52° 20'

0.5

34.1 +21° 19' 13.39 43.9

4.3

14.8

3.6

13.27 58.5

18.1

28.9

33.5

13.45 13.4

32.1

57.94 20.4

43.0

3.4

13.47 28.2

45.9

57.81 42.7

56.9

33.0

9 21 0.09 2458.17 5.7 10 1 11.3 10 56 3.4 11 613.31 57.6

187.7

202.2

115.1

18.24

57.97

28.89

33.59

13.37

0

0

0

0

0

9 20 18.24 9 23 57.97 10 0 28.89 10 54 33.59 11 6 13.37

1854 Nov. 2

$$a = -0.04$$

$$b = +0.31$$

$$c = +0.01$$

H. E. Carr

J. H. S.

Cassiopeia

Moon TO

Piscium

57.5 —

36.1

21.5 +4 46 —

49.8

46.0 —

3.6

10.4 —

17.4

34.9 51.34 5.4

31.3

59.5 51.49 19.6

48.2

23.8 1 14 51.41 33.7

59.1

253.6

242.5

73.6

122.5

10.51

17.50

0

0

10.51 1 13 51.41

17.50

1854. Nov. 4.

$a = -0.07$

$b = +0.30$

$c = 0.00$

P.S.C.

ell. East

5 Pygmi		α Fomalhaut?		α Andromedae		2 Perseus		γ Pygmi	
23.9		43.0		0.3		40.9		39.02	24.8
38.4		59.1		18.6		54.8	+14° 42'	39.25	39.2
52.7		18.2		30.1		8.8	2 fin	39.21	53.4
6.4		30.8		46.7		22.3	int	39.14	7.5
20.3		46.8		2.3		36.3		39.11	20.8
34.2		2.9		17.8		49.8			
22 34 48.3	22 10	18.8	0	1	33.6	23 32	3.8		
224.2		216.6			146.4		216.7		
6.31		30.94			46.63		22.39		39.15
0		0			0		0		0
22 34 6.31	22 9	30.94	0	0	46.63	23 22	22.39		39.15

1854, Nov. 4

$$a = -0.07$$

$$b = +0.30$$

$$c = 0.00$$

ell. Ears

P.S.C.

 α Canis major β Ucti γ Polaris

58.1

28.8

38

48.7

21.8

42.9

48

36.8

46.7

57.6

57

31.2

11.2

12.0

6

33.0

35.6

26.5

15

43.7

59.9

41.0

24

38.1

0 33

24.90

36

58.71

33

42.6

258.2

264.5

11.17

12.07

0

0

0 32

11.170

36

12.071

6

31.09

Nov. 7. 1854

$a = -0.12$

$b = +0.29$

$c = -0.02$

Ill. East

J. H. S.

P.S.C.

Polaris

 α Arietis

	39	37.9		9.9
	48	39.8		24.9
	57	34.9		39.9
	6	34.0		
	15	33.2		54.7
	24	29.8		9.6
1	33	38.4		24.3
		248.01	59	39.4
				202.7
		35.43		
		0		54.67
1	6	35.43		0
			1	58 54.67

854. Nov. 5/6

$$a = - 0.09$$

$$b = + 0.29$$

$$c = - 0.01$$

M. Earl

W.C. B.

x Leonis

48.7

2.8

16.8

31.0

45.1

58.8

10 1 13.1

216.3

30.90

0

10 0 30.90

1854. Nov. 8

$a = -0.14$

$b = +0.28$

$c = -0.03$

P.S.C.

Ill. Tau

P. S. C.		" 5 Pegasi		" α Pis. Aus.		" α Pegasi		" 2 Piscium						
α Aquarii		5 Pegasi		α Pis. Aus.		α Pegasi		2 Piscium						
	32.9		26.0		44.6		44.0		42.6					
	46.5		40.0		0.2		58.1		56.2					
	0.1		53.9		16.3		12.3		10.1					
	14.1		7.9		32.2		26.5		23.8					
	27.8		21.8		48.2		40.7		37.9					
	41.5		35.8		4.1		54.8		51.3					
1	58	55.5	22	34	50.0	22	80	20.1	22	58	9.2	23	33	5.4
	218.4		235.4		165.7		245.5		227.3					
	14.06		7.91		32.26		26.50		23.91					
	0		0		0		0		0					
1	58	14.06	22	34	7.91	22	49	32.26	22	57	26.50	23	32	23.91

1854, Nov. 8

$a = -0.14$

$b = +0.28$

$c = -0.03$

P.S.C.

H. Ear

P.S.C.			"		"		"		"	
7 Oct 3 No			α Andromedae		α Cassiopeae		Polaris		α Arietis	
30.1			1.5		59.3	28 32 15.3	—		10.2	88
44.1			16.9		23.9		48 34.0 36.5		25.1	
58.8			32.6		48.0		57 37.5 38.3		40.0	
13.4			48.3		12.5		6 36.7 35.0		54.9	
27.8			3.8		37.0		15 38.5 36.4		9.9	
			19.6		1.2 1		24 37.4 33.3		24.8	
23	56	56.8 0	1	35.2 0	33	25.9	—	1	59	39.9 13
				157.9		207.8			204.8	
			48.26		12.54		36.82		54.97	
			0		0		0		0	
0	0	48.26 0	32	12.54 1	6	36.82 1	58	54.97	13	

Nov. 8/9

Ill. Ear

P.S.C.

Polaris s.p.

88° 32' 15.5"

49 55.7 55.1

58 57.4 53.4

7 56.5 58.2

16 57.7 57.0

25 62.5 59.1

13 34 57.0 52.9

—

56.63

0

13 7 56.63

1854. Nov. 9/10

$a = -0.16$

$b = +0.27$

$c = -0.03$

W. C. B.

W.C.B.

 α Leonis

49.9

4.2

18.2

32.2

46.3

0.2

10 1 14.7

165.7

32.24

0

10 0 32.24

Nov. $\frac{12}{12}$

$a = -0.21$

$b = +0.26$

$c = -0.05$

N.E. B.

Ill. Part

 ρ Leonis

Moon 110

S Leonis

22.7

46.6

17.86 33.7

36.7

0.8 +21

19'

17.29 47.8

50.9

14.9

17.57 2.8

4.6

29.3

—

18.5

43.9

—

32.5

58.0

—

10 25 46.7 10

53 12.7 11

7 17.9 12.2

212.6

206.2

33.6

4.66

29.46

0

0

10 25 4.66 10

52 29.46 11

6 17.66

Nov. 13. 1854

$$a = -0.22$$

$$b = +0.25$$

$$c = -0.06$$

Ill. Ear

P. S. C.

5. Aquilae

+13° 39' 38.67 10.4

38.52 4.4

38.453 8.4

38.585 2.7

38.67 6.9

18 59 38.74 21.2

38.61

0

18 58 38.61

Nov. 19/20

$a = -0.30$

$b = +0.19$

$c = -0.09$

Jll. Carl

H.C. B.

S Leonis

36.4

51.1

5.8

20.4

35.2

49.9

11 7 4.9

203.7

20.53

0

11 6 20.53

Nov. 20. 1854.

$a = -0.31$

$b = +0.18$

$c = -0.09$

H. S. Fair

γ. H. S.

γ Pegasi

2.1

16.1

30.4

44.5

58.7

13.1

0 6 27.3

192.2

44.60

0

0 5 44.60

Nov. 23

$a = -0.34$

$b = +0.74$

$c = -0.10$

P.S.C.

ll. East

α Urs Maj'		β Leonis		β Leonis		Polaris S. p	
	13.2		37.8		55.2	88° 32' 20.4	—
	48.1		52.6		9.5		—
	12.8		7.1		23.8		—
	42.4		21.8		38.0	6 53.054.7	
	12.2		36.7		52.3	15 58.251.9	
	42.2		51.4		6.3	24 55.554.0	
10	57	12.3	6.2	12	42	20.9	13 33 58.352.5
	178.2		213.6		206.0		
			0				
	42.66		21.94		38.00		55.00
	0		0		0		0
10	54	42.66	21.94	12	41	38.00	13 6 55.00

1854. Nov. 25

$a = -0.36$

$b = +0.11$

$c = -0.11$

Ill. Σ are

"

"

"

W.C.B.
Cygni

Moon TO

 μ Capricorn α Aquarii

30.2

24,2441.8

53.1

49.3 -20' 44" 56.3125.9 -14' 14"

7.6

8.9

56.33 41.1

24,7910.5

21.4

28.0

56.45 56.4

23,1523.1

35.8

47.7

56.21 11.421

4525,1439.3

50.1

7.0

56.14 26.5

132—

4.1

20 37 26.4 21

2656,2241.9

33—

21

59

18.6

197.5

190.7

28.21

24,31

250.7

35.81

0.

0 3

0

20 36 28.21 21

25 56,2821

45 24,31

21

58

35.81

1854 Nov. 25*

Hl. San

J. W. S.

M. B.

 α Lyrae γ Aquilae

		7.3		39.0
		24.7		52.9
		42.1		6.9
		0.2		20.8
		17.8		34.8
		35.1		48.8
18	32	52.9	19	40
		180.1		2.8
		0.1		206.0
		0.01		146.0
		0		20.86
		0		0
18	31	0.01	19	39
				20.86

* observations with West Transit are omitted.

1854phae.proj...887