

KG  
11365  
75

B.4

No. 4.

*Reduction of Transits*  
*April 2. 1850 to Oct. 5. 1850*

Sold by T. Groom & Co., Stationers, India Building, 82 State St., Boston.



KG 11365.45













1650phac.proj....758

KG-11365.75









1850. April 2.

$a = -0.23$

$b = -0.12$

$c = +0.20$

Ill. West

M. C. B.

 $\alpha$  Tauri

7 29.5

43.7

58.

12.5

27.0

41.0

4 28 55.1

266.8

12.40

-2

4 28 10.40

1850. Apr. 6

$a = -0.20$

$b = -0.12$

$c = +0.20$

B.P.B.

Ill. West

 $\alpha$  Hydrae $\alpha$  Leonis $\alpha$  Leonis

40.

42.5

48.8

54.

57.8

3.0

7.5

13.0

17.0

21.3

28.0

30.9

35.0

43.0

45.2

49.0

58.1

59.5

9 22

2.8

9 39

13.0 10

2

13.5

209.6

253.4

217.9

21.37

27.91

31.13

-2

-2

-2

9 21

19.37

9 38

25.91 10

f

29.13



1850, Apr. 6/7

$a = -0.20$

$b = -0.12$

$c = +0.20$

Bell. Wren

M. C. B

M. C. B

 $\alpha$  Aquilae $\beta$  Aquilae

54.7

24.

8.6

37.7

22.5

51.4

36.5

5.3

50.4

19.2

4.3

33.1

19 45

18.2

19

49

46.6

195.2

217.3

36.46

5.33

-2

-2.

19 44

34.46

19

49

3.33

EP. 56

1850, Apr. 7

$a = -0.20$

$b = -0.12$

$c = +0.20$

S.P. B.

Ill. Wren

 $\epsilon$  Leonis $\alpha$  Leonis

		46.3			52.0
		1.0			6.3
		16.3			20.3
		31.0			34.5
		46.5			48.5
		1.3			2.7
9	39	16.5	10	2	16.7
		158.9			181.0
		31.27			34.43
		-2			-2
9	38	29.27	10	1	32.43



1850. Apr. 7/8

$$a = -0.20$$

$$b = -0.12$$

$$c = +0.20$$

M.C.B.

Ill. West

$\gamma$ Aquilae		$\alpha$ Aquilae		$\beta$ Aquilae	
	38.0		58.0		27.1
	51.9		12.0		41.2
	5.7		26.6		55.1
	20.0		39.9		9.0
	33.9		53.3		22.7
	48.0		7.4		36.7
19 41	1.8	19 45	21.4	19 49	50.4
	199.3		218.0		242.2
	19.90		39.71		8.89
	-2		-2		-2
19 40	17.90	19 44	37.71	19 49	6.89

1850. Apr. 9

$a = -0.18$

$b = -0.12$

$c = +0.20$

W. C. B.

J. L. West

 $\gamma$  Aquilae $\alpha$  Aquilae

1.3

15.2

 $+10^{\circ} 15'$ 

29.8

23.0 23.

43.1

23.0 37.0

57.

22.9 50.8

10.6

19 41 23.1 4.9 19 45

24.8

181.3

23.00

43.04

-2

-2

19 40 21.00 19 44 41.04



1850. Apr. 10

$a = -0.18$

$b = -0.12$

$c = +0.20$

Ill. West

L.P.D.

 $\alpha$  Leonis

59.5

13.5

27.2

41.2

55.5

9.5

23.5

229.9

41.48

-2

39.47

10 2

10 1

19

19

1860. Apr. 11 A.M.

$a = -0.18$

$b = -0.12$

$c = +0.20$

Ill. West

w.e. B.

 $\alpha$  Aquilae

5.0

19.1

32.9

47.0

1.0

14.8

19 45 28.7

148.5

46.93

-2

19 44 44.93



1850, Apr. 12.

$$a = -0.17$$

$$b = -0.12$$

$$e = +0.20$$

Ill. West

W. C. B.

♂ Leonis

47.5

2.0

16.8

31.4

46.3

1.0

11 8 16.2

161.2

31.60

-2

11 7 29.60

1850. Apr 15 A.M.

$a = -0.17$

$b = -0.12$

$c = +0.20$

Ill. West

W.E.B.

 $\alpha$  Aquilar

16.4

30.5

45.0

58.5

12.5

26.4

19 45 40.4

229.7

58.63

-2

19 44 56.53



1850 Apr. 15

$a = -0.16$

$b = -0.11$

$c = +0.20$  All. West

W.C.B.

 $\alpha$  Leonis $\delta$  Leonis

					56.3
+12	42	55.727.6			11.1
		55.541.4			26.1
		55.555.5			41.0
		55.910.0			56.2
		56.024.2			10.5
10	2	55.838.0	11	8	25.2
		<del>15.7</del>			226.5
		55.73			40.93
		-2			-2
10	1	53.73	11	7	38.93

1850 Apr 17/18

$a = -0.16$

$b = -0.11$

$c = +0.20$

Jell. Vent

G.P.B.

 $\alpha$  Aquilae

25.2

39.0

52.5

6.8

20.8

34.5

48.3

227.1

6.73

-2

4.73



1850, Apr. 18

$a = -0.15$

$b = -0.10$

$c = +0.20$

Del. West

W.C.B.

2 Leonis

" 2 Leonis

14.7

21.4

30.3

36.0

45.4

49.7

0.2

4.0

15.7

18.0

31.0

32.0

9 39

46.2

10

2

46.0

183.5

207.1

0.70

3.87

-2

-2

9 38

58.70

10

2

1.87

1850. Apr. 21. A.M.

$a = -0.13$

$b = -0.09$

$c = +0.20$

Ill. West

W.C.B.

"

 $\alpha$  Aquilae $\beta$  Aquilae

33.0

2.3

47.3

16.4

1.3

30.2

15.1

44.2

29.0

58.5

43.0

12.2

19 45

56.9

19

50

28.5

225.6

189.3

15.09

44.19

-2

-2

19 45

13.09

19

49

42.19



1850, Apr. 20

$a = -0.14$

$b = -0.09$

$c = +0.21$

Ill. West

M.C. B.

U.S. Maj

 $\delta$  Leonis $\beta$  LeonisJupiter 1<sup>st</sup> limbJupiter 2<sup>d</sup> limb

42.4

9.8

27.2

12.5

25.0

42.5

41.7

39.8

57.0

+7° 45'

12.0

53.8

11.3

46.0 4.4

48.3 20.6

41.9

9.0

25.2

46.2 32.3

48.2 48.2

11.7

24.0

39.5

~~44.3 39.2~~

448.4 16.1

10 57

41.4

11

8

38.5

11

43

54.0

11

4 45.9 27.4

0.5

20

203.6

199.9

256.7

11.94

54.27

10.96

46.03

-2

-2

-2

-2

10 56

9.94

11

7

52.27

11

43

8.96

11

3 44.03

48.3

20

1850. Apr. 24. A.M.

$a = -0.13$

$b = -0.09$

$c = +0.21$

J. H. West

W. C. B.

 $\alpha^2$  Capricorn

57.

11.

24.6

38.5

53.0

7.0

20 12 20.8

211.9

38.84

-2

20 11 36.84



1850. Apr. 25. A.M.

$$a = -0.12$$

$$b = -0.09$$

$$c = +0.21$$

St. West

n. c. B.

Cygni

19.2

38.6

58.0

17.3

36.5

~~58.0~~

20 39

18.3

240.9

17.27

-2

20 38

15.27

1850. Apr. 29. A. M.

$a = -0.11$

$b = -0.08$

$c = +0.20$

Ill. West

W.C. B.

2 Orionis

 $-1^{\circ} 18'$ 

44.6 44.6

44.5 58.3

44.5 12.0

5 31 44.7 28.8

44.56

-2

5 30 42.56



1850 Apr. 29

$$a = -0.11$$

$$b = -0.08$$

$$c = +0.20$$

Sle. Wm

m.c.o.

x Virginis

47.0

1.2

15.0

29.5

43.1

57.3

18 20 11.2

204.3

29.19

-2

13 19 27.19

1850. Apr. 30. A.M.

$$a = -0.11$$

$$b = +0.08$$

$$c = +0.20$$

Ill. West

n.e. 3			"		
$\alpha^2$ Capricorn			$\alpha$ Cygni		
		12.2			32.0
		26.7			51.4
		40.7			10.8
		54.5			30.0
		9.1			49.5
		22.8			9.0
20	12	37.0	20	39	28.2
		203.0			210.9
		54.71			30.13
		-2			-2
20	11	52.71	20	38	28.13



1850. May 1/2

P. B.

J. L. West

$a = -0.09$

$b = -0.06$

$c = +0.19$

Aquarii		Pis. Au	
—		47.8	
—		3.9	
+ 8° 29	—	19.5	
19.5	19.5	35.6	
18.9	32.8	51.5	
19.2	47.0	7.5	
22	1 18.9 0.5	22 52 23.2	
		189.0	
	19.12	35.57	
	-2	-2	
22	0 17.12	22 51 33.57	

1850 May  $\frac{2}{3}$ 

$a = -0.08$

$b = -0.06$

$c = +0.19$

L. P. B.

Ill. West  
L. P. B. $\alpha$  Pis. Ans. $\beta$  Aquarii

50.3  
6.5  
22.3  
38.4  
54.0  
10.0  
22 52 26.0  
207.5  
38.22  
-2  
22 51 36.22

\* 16.6  
30.8  
44.7  
58.3  
12.0  
26.0  
21 26 39.8  
228.2  
58.31  
-2  
21 25 56.31

\* Data unknown



1850. May 6/7

$$a = -0.08$$

$$b = -0.06$$

$$c = +0.18$$

Ill. West

G.O.B.

x Pis. Ans.

40.0

56.0

22.0

27.9

43.8

59.9

22

51

15.5

255.1

27.87

-2

22

50

25.87

1850. May 9/10

$a = -0.07$

$b = -0.05$

$c = +0.18$

All West

L.P.B.

S Lygni

1.5

17.3

33.0

49.0

4.8

20.6

21 8 36.3

162.5

48.93

-2

21 7 46.93



1850. May 16

$a = -0.04$

$b = -0.03$

$c = +0.17$

Ill. West

M. C. B.

12 Can. Ven.

36.2

54.3

12.8

30.1

47.6

5.4

12 51 23.5

209.9

29.99

-2

5

12 50 27.99

50.82

1850. May. 19

$a = -0.02$

$b = -0.07$

$c = +0.17$

alt. West

N.E.O.		" "		Moon TO		" "	
Mr. May		8 Leonis		Moon TO		77 Leonis	
		0.0		19.2		19.4	
+ 62° 34'		14.8		33.4		33.5	
32.0		29.5		47.2		46.8	
2.0		44.3		1.8		1.2	
31.7		58.8		15.9		14.9	
1.7		13.5		30.0		28.9	
10 57	31.2	11 8	28.4	11 12	44.0	11 15	42.4
183.6		189.3		191.5		187.1	
		309.3		11.5		07.1	
1.94		44.19		1.64		1.02	
-2		-2		-2		-2	
10 55	59.94	11 7	42.19	11 11	59.64	11 14	59.02



May  $\frac{21}{12}$  1850

$$a = -0.01$$

$$b = -0.03$$

$$c = +0.17$$

Ill. West

W. C. B.

$\alpha$  Pis Aus.

$-30^{\circ} 25'$

2.0 2.1

2.2 18.2

2.1 34.0

22 57 2.1 49.8

2.10

-2

22 51 0.10

May <sup>23</sup>/<sub>24</sub> 1850.

$a = -0.01$

$b = -0.03$

$c = -0.17$

\* Alt. West

M. C. B.

 $\alpha$  Aquarii

10.1

24.0

38.0

51.6

5.1

18.6

22 0 32.

179.4

51.34

-2

25 24 39 49.34



1850 May 27/28

$$a = 0.00$$

$$b = -0.03$$

$$c = +0.17$$

Ill. West

M.C.B.

Aquarii

20.4

34.4

48.2

2.1

15.6

29.1

43.0

17.8

1.83

-2

214.2594459.83

1850. May 29.

$a = +0.02$

$b = -0.04$

$c = +0.16$

W. C. B.

Ill. West

W. C. B.			Ill. West								
$\gamma$ Urs. Maj	$\gamma$ Bootis	$\alpha$ Bootis	$\epsilon$ Bootis	$\alpha^2$ Librae							
34.7	50.8	7.5	42.0	55.0							
56.6	6.0	22.5	37.0	9.3							
18.2	20.2	37.2	12.5	23.7							
40.0	34.3	51.3	28.0	38.0							
0.5	48.8	5.9	44.0	52.3							
22.4	4.0	20.5	59.3	6.5							
13 44 44.0	13 50 18.3	14 11 35.4	14 41 15.0	14 45 20.6							
216.4	182.4	180.3	257.8	205.4							
39.43	34.63	51.47	28.14	37.91							
-2	-2	-2	-2	-2							
13 43 37.43	13 49 32.63	14 10 49.47	14 40 26.14	14 44 35.91							



1850, May 29

$a = +0.02$   
 $b = -0.04$   
 $c = +0.16$

Ill. West

Mr. C. B.

$\beta$  Urs. Min

	50	38.7
	51	31.7
	52	23.7
	53	15.5
	54	8.0
	54	59.5
14	55	51.3
		228.4
		15.49
		- 2
14	53	13.49

1950phae.prj.1.75B

1850. June 1/2

$a = + 0.06$   
 $b = - 0.05$   
 $c = + 0.16$

Ill. West

M. C. B.

Polaris

88° 30' 19.5"

1 7 1.0

59.30

- 2

1 6 57.30.



1850. June  $\frac{2}{3}$ 

$a = +0.07$

$b = -0.05$

$c = +0.16$

Ill. West

M. C. B.

5 Pegasi

2 Pis Aus.

28.5

44.2

42.6

0.5

56.5

16.5

10.5

32.3

24.5

48.2

38.5

4.0

22 36

52.3

22 52

20.0

253.4

165.7

10.49

32.24

-2

-2

22 36

8.49

22 51

30.24

1850, June 7<sup>th</sup>

$a = + 0.09$

$b = - 0.06$

$c = + 0.15$

L. P. B.

Ill. West

Andromeda

~~x Scarpia~~

15.0

30.8

46.3

2.0

17.5

33.0

3 48.6

193.2

1.89

2

0 0 2 59.89



1850 June 11.

$a = +0.11$

$b = -0.07$

$c = +0.15$

Jl. West

W. C. B.

 $\alpha$  Bootis

37.0

52.0

6.8

21.4

36.2

50.8

14

12

8.3

209.5

21.36

-2

14

11

19.36

1850 June 11/12

$a = +0.12$

$b = -0.07$

$c = +0.15$

Ill. West

M.C. B.

 $\alpha$  Andromedae  $\gamma$  Pegasi

24.2

20.9

40.2

35.2

56.0

49.8

11.5

4.

27.2

18.0

42.8

32.5

3

58.3

8

46.5

260.2

206.9

11.46

3.84

-2

-2

2

9.460

8

1.84



1850. June 13

$a = -0.13$

$b = -0.08$

$c = +0.15$

N. P. O.

Ill. West

Leonis

12 Can. Ven.

2 Virginis

15.8

43.3

12.6

30.

0.5

27.0

44.2

18.5

41.0

58.2

36.5

55.0

12.0

54.3

9.0

26.3

12.0

22.7

10 3

40.2

12

52

29.5

13

20

36.5

226.7

194.6

203.8

58.10

36.37

54.83

-2

-2

-2

10 2

56.10

12

51

34.37

13

19

52.83

1850. June 14

 $a = +0.14$   
 $b = -0.08$   
 $c = +0.15$ 

Ill. West

M.C.B.		"		"	
Moon TO		$\alpha$ Leonis		12 Can. Ven	
	35.8		18.0		45.8
	51.2		32.2		3.5
	6.0		46.3		21.0
	20.3		0.3		39.0
	34.8		14.5		56.7
	49.2		28.6		14.0
9	59	3.5	10	3	42.5
	200.8			12	52
	140.8				31.6
	20.11				211.6
	-2				271.6
					38.80
					-2
9	58	18.11	10	2	58.34
				12	51
					36.80



1830. June 19.

McC. B.

 $\epsilon$  Bootis

"

 $\alpha$  Serpenti

Ill. West

$a = + 0.17$

$b = - 0.06$

$a = + 0.15$

30.5 2.8

46.0 17.0

1.5 31.0

17.0 45.0

32.3 58.7

48.0 12.3

14 42 3.7 15 40 26.5

179.0 193.3

17.00 44.76

-2 -2

14 41 15.00 15 39 42.76

1850. June 21

$a = +0.18$

$b = -0.04$

$c = +0.14$

G.P.B.

J.H.S.<sup>\*</sup>

Ill. West

12 Can Ven

x Virginis

Moon TO

x Scorpii

2.0

29.

49.8

22.0

19.8

47.5

4.3

37.4

37.8

56.5

18.7

52.4

35.1

11.

33.8

7.7

17.8

25.

48.4

23.4

30.5

39.

2.7

38.3

12 52

48.0

13

20

52.5

16

8

17.5

16

23

53.4

205.5

260.5

175.2

234.6

80.5

235.2

54.6

55.07

11.50

33.60

7.80

-2

0

-0

0

12 51

63.07

13

20

11.50

16

7

33.60

16

23

7.80

\* J.H.S. observes and G.P.B. records.



1850. June. 25

$a = + 0.18$

$b = - 0.04$

$c = + 0.14$

H. West

M. C. B.

x Bootis

10.7

25.3

40.0

54.6

9.5

24.2

14 12 38.8

203.1

54.73

-2

14 11 52.73

1850. June 30. A.M.

$$a = +0.19$$

$$b = +0.05$$

$$c = +0.11$$

Old. West

W.E. B.

$\alpha$  Aurigae

16.8

32.0

46.8

1.8

16.6

31.5

2

2

46.3

018.8

1.69

-2

5 2

1

59.69



1850. July 4.

$a = +0.19$

$b = +0.06$

$c = +0.11$

Ill. West

M.C. B.

 $\alpha$  Bootis

34.0

48.2

3.0

18.0

32.3

46.8

14 13 1.5

183.8

17.69

-2

14 12 15.69

1850. July 7/8

$$a = +0.20$$

$$b = +0.08$$

$$c = +0.10$$

G.O.B.

All. Men

 $\alpha$  Auctis

35.9

50.8

6.0

20.5

35.6

50.5

2 3

5.0

204.3

20.61

-2

2 2 18.61



1850. July 19<sup>th</sup>

$$a = + 0.20$$

$$b = + 0.09$$

$$c = + 0.10$$

Ill. West

G.P.B.

2 Tami

19.0

33.5

47.8

2.1

16.3

30.8

4 31 45.0

194.5

2.07

-2

4 31 0.07

1850. July. 12<sup>th</sup>

$a = +0.20$

$b = +0.10$

$c = +0.09$

W.C.B.

Ill. West

 $\alpha$  Herculis $\alpha$  Ophiuchi

54.0

4.5

8.6

19.0

23.0

33.0

37.3

47.2

51.5

1.3

5.6

15.4

17 12

19.6

17

32

29.5

149.6

149.9

37.09

47.13

-2

-2

17 11

35.09

17

31

45.13



1850 July. 17

$a = +0.20$

$b = +0.12$

$c = +0.09$

Ill. West

M.C.B.

 $\beta$  Ceti.

13.3

27.4

41.3

55.1

9.0

23.0

15 13 36.8

205.9

55.13

-2

15 12 53.13

1850. July 22/23

$$a = +0.21$$

$$b = +0.12$$

$$c = +0.09$$

J.L. West

W.C.B.

2 Arietis

11.0

26.0

40.7

53.8

10.7

23.6

2 3 40.5

210.3

53.76

-2

2 2 53.76



1850. July.  $\frac{23}{24}$

$a = +0.20$   
 $b = +0.12$   
 $c = +0.09$

Ill. Mer

G. P. B.  
 & Persi

49.8

11.0

31.9

53.0

14.2

35.3

3

18

56.0

251.2

53.03

-2

3

17

51.03

1850. July, 26.

$a = + 0.20$

$b = + 0.12$

$c = + 0.09$

Ill. West

m. c. B.

 $\alpha$  Lyrae

19.8

27.5

55.3

13.0

30.7

48.2

18 37 6.0

210.5

12.93

-2

18 36 10.93



1850 Aug. 1

$a = + 0.20$

$b = + 0.12$

$c = + 0.09$

Ill. West

M.C.B.

v Lyræ

17.0

34.5

51.6

9.6

27.0

44.5

18 32 2.0

186.2

9.46

-2.5

18 31 6.96

1850. Aug. 6/7

$a = +0.20$

$b = +0.12$

$c = +0.09 \quad \backslash$

Ill. Hert

M.C.B.

2 Orionis

5 51 5

14

29

47

0

15.5

52 320

142.5

46.07

-0

5 51 46.07



1850. Aug. 8

$a = +0.20$

$b = +0.11$

$c = +0.09$

Ill. West

W. C. B.

 $\alpha$  Bootis $\beta$  Abs. Min  $\alpha$  Coronae

54.9 53 19.5 32 21.5

9.5 4 8.0 37.0

24.0 5 4.0 52.5

38.6 5 58.0 8.0

53.2 6 49.5 23.5

8.0 7 41.5 38.0

14 14 22.5 14 58 34.0 15 33 53.5

210.8 234.0

38.69 7.71

-2 0

14 13 36.69 14 55 56.36 15 33 7.71

1850. Aug. 9/10

$a = +0.20$

$b = +0.11$

$c = +0.09$

Ill. West

C. M. J.

 $\alpha$  Orionis

51 12.0

26.5

41

54.

8

22.

5 52 36

199.5

54.21

0

5 51 54.21



1850. Aug. 12

$a = + 0.20$

$b = + 0.11$

$c = + 0.09$

Ill. West

O.M.T.

 $\alpha$  Serpentis

15	41	8.0
		22.5
		36.5
		50.5
		8.5
		18.5
15	42	33.5
		174.0
		50.57
		0
15	41	50.57

1880. Aug. 14.

$a = +0.20$

$b = +0.11$

$c = +0.09$

Ill. West

C. N. Z.

 $\alpha$  Bootis

14 13 7.0

22.0

36.5

51.0

5.5

20.0

14 14 35.0

177.0

51.00

- 0

14 13 51.00



1850 Aug. 15/16

$a = +0.20$

$b = +0.11$

$c = +0.09$

Ill. West

C. W. J.

2 Tauri

42

56.5

11

25

39.5

54

4 33 8.5

236.5

25.21

0

4 32 25.21

1850 Aug 14/17

$$a = +0.20$$

$$b = +0.11$$

$$c = +0.09$$

C. W. T.

Ill West

2 Jani

45

59.5

13.5

28

42.5

58.5

10.5

255.5

27.93

-0

27.93



1850. Aug 18/17

$a = +0.20$

$b = +0.11$

$c = +0.09$

Ill. West

C.M.T.

 $\beta$  Orionis $\alpha$  Bootis

51

19.5

5

34.0

19

48.5

33

3.0

46

17.7

60

32.1

13

14.5

14

14

46.5

228.5

201.3

32.64

3.04

-0

-0

5

12

32.6414

14

3.04

1850. Aug. 21

$a = +0.20$

$b = +0.11$

$c = +0.09$

M. West

C. N. T.

 $\beta$  Librae

34.5

48.5

2.5

16.5

30.5

44.

14 58.5

235.0

16.43

-0

15 14 16.43



1850. Aug 21/22

$a = +0.20$

$b = +0.11$

$c = +0.09$

Ill. West

C. W. T.

 $\alpha$  Canis Maj

10

24

38.5

53.

7.

21.5

6

44

35.5

189.5

52.78

1800. Aug. 22

$a = +0.20$

$b = +0.11$

$c = +0.09$

Ill. West

C. W. T.

2 Virginis

57.5

12.

25.5

39.5

53.5

7.5

13 23 21.5

217.0

39.56

-0

13 22 39.56



1850 Aug. 23

$$\begin{aligned} a &= +0.20 \\ b &= +0.11 \\ c &= +0.09 \end{aligned}$$

Ill. West

~~8~~ M. C. B

$\beta'$  Scorpii

<sup>n</sup>  
S Ophirchi

2 "Scorpii"

13.9

$$-19^{\circ} 23'$$

-3' 18

29.5

-26° 6'

43.5

393 940

532

40.9 41.0

37.2  
11.0

417 51 5

11.0

24.7

16 3

11.4 55.0

16

38.4

11.

220.2

11. 40

57. 17

40.47

-2

77  
-2

-2

16 3

24

16

卷 17

3845

1850. Aug. 25/26

$$a = +0.20$$

$$b = +0.11$$

$$c = +0.09$$

Ill. West

M. C. B.

$\alpha$  Tauri

10.2

24.8

39.5

53.5

7.5

21.8

4 33

36.0

193.3

53.33

-2

4 32

51.33



1850. Aug. 27/28

$a = +0.19$

$b = +0.11$

$c = +0.10$

Ill. West

W. C. B.

 $\alpha$  Tauri

15.0

29.7

44.0

58.2

12.4

26.7

4 33 41.0

227.0

58.14

-2

4 32 56.14

1850. Aug. 30

$a = +0.18$

$b = +0.11$

$c = +0.11$

ell. Vert

me. B.

2 Syrac

45.0

2.5

20.0

37.6

35.0

12.8

18 38 30.3

203.2

37.60

-2

18 37 25.60



1850. Aug. 30/21

$a = +0.18$

$b = +0.11$

$c = +0.11$

Ill. West

W.C.B.

 $\alpha$  Tauri

22.4

37.2

54.5

8.0

20.1

34.0

4

33

48.4

219.6

5.66

-2

4

33

3.66

1850 Sept. 3

$a = 10.17$

$b = +0.11$

$c = +0.12$

Ill. West

W. C. B.

2 Cygni

18.0

37.0

56.8

15.8

35.0

54.5

20 43 13.5

230.6

15.80

-2

20 42 13.80



1850. Sept. 8/9

$a = + 0.14$

$b = + 0.12$

$c = + 0.13$

Jll. West

W. C. B.

2 Canis Maj

58.3

13.0

27.2

41.3

55.4

9.7

6 45 24.

228.9

41.27

-2

6 44 39.27

1850 Sept. 9.

$a = +0.14$

$b = +0.12$

$c = +0.13$

C. W. T. obs and B. P. B. rec,

Ill. West

2 Cygni

31.3

50.8

9.9

29.3

48.8

7.8

20 43 27.4

205.3

29.33

-0

S 20 42 29.33



1850. Sept. 10.

$a = +0.10$   
 $b = +0.12$   
 $c = +0.14$

J. L. West

C. M. J.

*Scorpii*

38.0

33.5

9.0

24.5

19.5

55.0

16 27

10.0

229.5

24.21

0

16 26

24.21

1850 Sept. 12

$a = +0.09$

$b = +0.12$

$c = +0.15$

Ill. West

C. W. 7.

 $\alpha$  Serpenti

27.5

41.

54.5

8.5

22.5

36.

50

240.6

8.57

0

15 43 8.57



1850 Sept. 12/13

$a = +0.08$

$b = +0.12$

$c = +0.15$

Ill. V. Ver.

C. W. T.

2 Orionis

41.3

55.3

9.2

23.1

37.2

51.0

5 54 4.7

221.8

23.27

-2

5 53 21.27

1850 Sept. 14/15-

$a = +0.07$

$b = +0.12$

$c = +0.16$

Ill. West

W.C.B.

2 Orionis

45.8

0.0

13.8

27.9

41.5

55.0

5 54 9.0

193.0

27.57

-2

5 53 25.57



1850. Sept. 16

$\alpha = +0.06$

$b = +0.12$

$c = +0.17$

C. N. Z.

W. C. B.

J. B. West

$\alpha$ Thuculis	(3) Capricor	Moon IV	$\gamma$ Capricor	$\beta$ Aquarii									
31.5	9	49.0	0	52.5	1	36.0	9	25.5					
46.0	0	3.0		7.5		50.0		39.5					
0.5		17.5		21.5		<del>45.5</del>		53.5					
14.5		31.5		36.5		19.0		6.5					
28.5		45.5		51.0		33.5		20.5					
43.0		59.5		6.0		48.5		34.5					
14	47.0	20	11	12.5	32	21.0	21	3	2.5	21	30	48.0	
	221.0			219.5		256.0			434.0			48.0	
	14.43			31.36		36.57			19.14			6.85	
	-0												
14	14.43	20	10	31.36	20	31	36.57	21	2	19.14	21	20	6.85

1950phae.proj...75B

1850 Sept. 17

$$a = +0.06$$

$$b = +0.12$$

$$c = +0.17$$

Ill. West

W.C.B.

2 *Huaculis*

3 34.5

48.5

2.5

17.0

31.0

45.0

17 14 59.5

118.0

16.86

17 14 16.86



1850 Sept. 18

$a = +0.06$

$b = +0.12$

$c = +0.17$

Ill. West

C. W. Z.

v Bootis

4 34.5

50.0

4.0

18.5

33.5

47.5

14 16 2.5

130.5

18.64

14 15 18.64

1850. Sept. 17

$a = +0.06$

$b = +0.12$

$c = +0.17$

Ill. West

C. W. T.

$\gamma$ Capricorn		$\nu$ Aquarii		Moon IV		$\delta$ Capricorn		$\mu$ Capricorn	
	37.5	7	13.0	1	20.0	3	33.0	0	55.0
	52.5		27.0		34.5		47.0		8.0
	7.0		41.0		49.5		1.5		23.0
	22.0		55.0		4.0		16.0		37.5
	36.5		9.5		20.0		44.5		51.0
	51.0		23.0		34.0	21 45	0.0		6.0
21 3	8.5	21 8	37.5	21 22	48.5		17.2, 0	21 52	20.0
	215.0		206.0		210.5				260.5
	22.14		55.14		4.35		16.00		37.21
21 2	22.14	21 7	55.14	21 22	4.35	21 44	16.00	21 51	37.21



1850. Sept. 19/20

$a = +0.06$

$b = +0.12$

$c = +0.17$

W. C. B.

J. L. West  
C. W. G. $\mu$  Gemini $\epsilon$  Canis Maj

9 46.0

8 31.5

1.3 0

47.5

16.2 0

3.0

31.0

18.5

45.7

35.0

1.0

50.0

6 21 15.9

7 0 6.0

157.1

191.5

31.01

18.78

-2

-0

6 20 29.01

6 59 18.78

1850 Sept. 20/21

$a = +0.06$

$b = +0.12$

$c = +0.17$

Ill. West

C. W. 7

C. W. 7.		2		x		B					
$\beta$ Orionis		$\epsilon$ Orionis		$\alpha$ Orionis		$\beta$ Geminor					
0	18.5		33.5		0.5		58.0				
	32.0		47.0		14.0		10.0				
	45.5		1.0		28.0		30.5				
	59.5		14.5		41.5		46.0				
	13.0		29.0		55.5		1.5				
	26.5		42.5		9.5		18.0				
5	31	40.5	5	35	56.5	5	54	25.5	7	43	83.0
		235.5			224.0			174.5			197.0
		59.35			14.86			42.07			45.29
					0			-0			
5	30	59.35	5	35	14.86	5	53	42.07	7	42	45.29



1850. Sept. 21

$a = +0.05$

$b = +0.12$

$c = +0.17$

C. M. 7.

J. L. West

C. M. 7.		" "		" "		" "		" "		" "		" "		" "	
ε Urs. Maj		α Bootis		α Bootis		α Cor Bor		α Serpens							
	10.0		43.5		17.5		12.0		50.5						
	31.5		58.0		33.5		28.0		4.0						
	53.0		12.5		49.0		43.0		18.0						
	14.0		27.0		4.5		59.0		32.0						
	35.5		42.0		20.0		14.0		46.0						
	57.0		56.5		35.5		29.0		59.5						
13	49	18.5	12.0	14	45	51.0	15	35	45.0	15	44	13.5	16		
	219.5	14	16	251.5		211.0			230.0			163.5			
	14.21		27.36		4.43		58.57		31.93						
13	48	14.21	14	15	27.36	14	45	4.43	15	34	58.57	15	43	31.93	16

1950phaseproj. 75B

1850. Sept. 21

Alt. West

C. W. 7.

$\beta'$  Scorpii

"  
 $\delta$  Ophiuchi

"  
 $\alpha$  Scorpii

7.5			29.0			27.0			6.5
0			53.5			41.0			22.5
0			8.0			54.5			37.0
0			22.5			8.5			52.5
0			37.5			22.0			8.0
5			51.5			35.5			23.0
5	16	4	6.0	16	13	50.0	16	27	38.0
5			218.0			238.5			187.5
93			22.57			8.36			52.50
93	16	8	22.57	16	13	8.36	16	26	52.50



1850. Sept. 22/23

$a = +0.05$   
 $b = +0.12$   
 $c = +0.18$

Ill. Mer

C. M. Y.

Canis Min

7 29.0

42.0

56.5

10.5

24.0

38.0

7 38 52.0

72.0

10.28

7 38 10.28

1850. Sept. 23.

$a = +0.05$

$b = +0.12$

$c = +0.18$

J. H. M. W. M.

C. W. G.

 $\alpha$  Ophiuchi

4 1.0

15.0

29.0

42.5

57.5

11.5

17 35 25.5

182.0

43.14

17 34 43.74



1850 Sept. 23/24

$$a = +0.04$$

$$b = +0.11$$

$$c = +0.18$$

Ill. Mus

C. M. 7.

Hydrae

17.5

31.0

44.5

58.0

12.5

26.5

40.5

231.5

58.79

-0

58.79

9 27

9 26

1850 Sept 24

$a = +0.04$

$b = +0.11$

$c = +0.18$

J. H. W.

C. M. G.

 $\alpha$  Ophiuchi

2.7

17.2

31.4

45.4

59.4

13.4

17 35 27.5

197.0

45.28

-0

17 34 45.28



1850. Sept. 24/35

$$a = + 0.04$$

$$b = + 0.11$$

$$c = + 0.18$$

111.1111

C. W. Y.		C. W. Y.		C. W. Y.	
$\alpha$ Luminor.		$\alpha$ Camis Min.		$\beta$ Luminor.	
1	2.0		35.0		—
	18.0		49.0		57.2 26.0
	25.0		2.5	+28' 23	57.1 41.5
	51.0		16.5		56.9 57.0
	7.0		30.0		56.4 12.0
	23.5		44.0		56.8 28.0
7 32	39.5	7 38	57.5		—
	176.0		234.5		
	50.85		16.36		56.88
	-0		-0		-2
7 31	50.85	7 38	16.36		54.88

1850. Sept. 27/28

$a = +0.04$

$b = +0.11$

$c = +0.19$

All. Mer

C. M. 7.

 $\alpha$  Leonis

6 38.5

~~32.5~~

7.0

21.0

34.0

48.0

10 8 2.5

205.5

20.78

0 -

10 7 20.78



1850. Sept. 28

$a = + 0.03$   
 $b = + 0.11$   
 $c = + 0.19$

Alt. var

Q. V. 7.  
 $\beta$  Libae

$\alpha$  Coronae

$\alpha$  Serpentinis

5	13.5			32.5	50.6	9.0
	28.5			48.0		—
	41.5			3.0	+6° 54'	51.3 37.5
	55.5			19.0		—
	9.5			34.0	?	56.6 10.5
	23.5			49.5		—
15	16	37.0	15	36	5.0	51.1 33.5
		208.0			191.0	
		55.43			18.72	Mean of 3 wires 51.00
		-0			-0	0
15	15	55.43	15	35	18.72	51.00

1850 Sept 29/30

$a = +0.02$

$b = +0.11$

$a + b = 0.19$

Ill. Wm

C. W. 7.

$\alpha$ Cani Maj		$\delta$ Gemini		$\alpha$ Cani Min		$\beta$ Gemini		Moon						
4	55.2	7	31.0		49.5		24.0		12.0					
	9.4		46.0		3.5		40.5		27.0					
	24.0		1.1		17.0		56.0		42.0					
	38.3		16.1		31.0		122.0		56.0					
	52.3		31.0		45.0		27.5		12.0					
	7.0		45.7		58.5		43.5		26.5					
6	46	21.2	7	19	0.7	7	39	12.0	7	43	58.5	8	7	47.5
		207.4			171.6			277.5			82.0			278.0
		38.20			15.94			31.07			11.71			56.85
		-2			-2			-0			-0			-0
6	45	36.20	7	18	13.94	7	38	31.07	7	43	11.71	8	6	56.85



1850phae.proj...75E

1850 Sept. 30

$a = +0.03$   
 $b = +0.11$   
 $c = +0.19$

Ill. West

C. W. 7.

$\alpha$ Serpentis		$\alpha$ Coronae					
	15.5		37.5				
	29.5		53.5				
	43.5		8.5				
	57.5		24.5				
	11.0		39.5				
	24.5		55.0				
15	44	38.5	15 36	10.5			19
		220.0		229.0			
	57.14		24.14				
	-0		-0				
15	43	57.14	15 35	24.14	55.82		19

1850 Sept. 31

$$a = +0.03$$

$$b = +0.11$$

$$c = +0.19$$

Ill. West

O. W. 7.

S. Aquilae

S. Aquilae

23.0

54.5

36.5

8.0

50.5

22.0

4.0

36.0

17.5

50.0

31.0

4.0

19 25

45.5

19

51

17.5

208.0

192.0

4.00

36.00

0

0

19 25

4.00

19

50

36.07



1850. Oct.  $\frac{2}{3}$

$$a = +0.03$$

$$b = +0.11$$

$$c = +0.19$$

Ill. West

C.W. 7.

$\epsilon$  Hydrae

$\alpha$  Herculis

20.5

19.0

34.5

33.5

48.0

47.5

1.5

1.5

16.0

16.0

30.0

30.5

8

46

43.5

17

15

44.5

194.0

192.5

2.00

1.79

-0

-0

8

46

2.00

17

15

1.79

1850 Oct 4/5

$$a = +0.03$$

$$b = +0.11$$

$$c = +0.19$$

Geo. West

C. W. 71

$\alpha$  Leonis

57.5

12.0

25.5

40.0

62.5

8.0

10 8 22.8

218.5

39.78

-0

10 7 39.78



1850. Oct. 4

$$a = +0.3$$

$$b = +0.11$$

$$c = +0.19$$

Ill. Men

C. W. G.

 $\alpha$  Serpentis

27.0

40.5

54.0

8.0

22.0

36.0

15 44 49.5

237.0

8.14

-0

15 44 8.14

















1850phae.proj...75b