

KG
11365
85

B.14

No. 14

Reduction of Transits

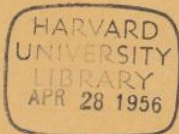
1853 May 1. to Nov. 2 1853

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KG-11365, 85



KG 71365.85



May. 1/2 1853

$a = -0.13$

$b = -0.06$

$c = +0.01$

M. M. M.

N. C. B.

Pis. Ans.

30.7

46.8

2.8

18.7

34.6

50.5

5.8

189.9

18.56

0

18.56

May 4

$$a = -0.11$$

$$b = -0.04$$

$$c = +0.01$$

ell. nit

M.C.B.

2 Hydrae

13.9 32.3
 -8° 1 —

13.9 0.0

13.9 13.9

14.0 27.9

13.9 41.6

9 21 14.1 55.6

13.95

0.

9 21 13.95

1853. May 7.

$a = -0.08$

$b = -0.03$

$c = +0.00$

Ill. Mer

N.C.B.

Canis Maj

Hydrae

53.7

37.7

8.0

51.7

22.5

5.5

36.8

19.4

51.0

33.4

5.3

47.2

6 40 19.8 9 22 1.0

197.1 195.9

36.73 19.41

0

0

6 39 36.73 9 21 19.41

1853 May. 10

$a = -0.06$

$b = -0.03$

$c = -0.01$

Jell. Mel

W.C. B.

 α Canis Maj

0.2

14.7

28.8

43.5

57.5

12.0

6 40 26.3

183.0

43.29

0

6 39 43.29

1853 May 13

$a = -0.03$

$b = -0.02$

$c = -0.02$

R. F. B.			R. F. B.			J. L. Weil C. M. T.			C. M. T.			W. C. B.		
Canis Min			Geminor			Moon TO			Leonis			Leonis		
		5.8			42.9			15.1			56.8			2.4
		19.8			58.8			30.8			11.9			16.7
		33.7			14.5			46.0			27.0			30.5
		47.5			29.9			1.5			42.1			44.6
		1.2			41.6			17.0			57.2			58.7
		15.0			1.1			32.1			12.3			12.8
7	33	28.6	7	38	16.7	7	52	47.7	9	39	27.4	10	2	26.8
		151.6			209.5			190.2			234.7			192.5
		331.6						10.2			294.7			312.5
		47.37			29.93			1.45			42.10			44.63
		0			0			0			0			0
7	32	47.37	7	37	29.93	7	52	1.45	9	38	42.10	10	1	44.63

May 14

$a = -0.02$

$b = -0.02$

$c = -0.02$

C. N. T.		M. C. B.		J. L. Warr.		C. N. T.		R. F. B.	
Moon TO		α Hydrae		δ Leonis		α Leonis			
	25.0		54.6		—		4.9		
	40.6		8.4	+24 27	—		18.9		
	59.5		22.2		44.5	29.4	33.0		
	10.5		36.1		44.6	44.6	47.1		
	26.0		50.1		44.7	59.8	1.3		
	41.0		3.9		44.6	14.8	15.2		
8	47	56.19	22	17.89	29	44.6	29.8	10	2
	254.7		193.1				149.8		
	74.7		253.1				329.8		
	10.67		36.15			44.60	47.11		
	0		0			0	0		
8	47	10.679	21	36.159	38	44.60	10	1	47.11

1853. May 7

$a = 0.00$

$b = 0.00$

$c = 0.00$

L. P. B.

Alt. West.

	Urs Maj	S Leonis	S Hydrae	Moon TO
--	---------	----------	----------	---------

	29.2	54.3	38.6	27.3
--	------	------	------	------

	59.5	9.2	52.9	41.7
--	------	-----	------	------

	29.3	23.8	7.0	55.9
--	------	------	-----	------

	58.9	38.7	21.2	10.1
--	------	------	------	------

	28.9	53.3	35.3	24.3
--	------	------	------	------

	58.7	8.1	49.6	38.6
--	------	-----	------	------

10	57	28.2 11	8	22.9 11	14	3.3 11	28	52.7
----	----	---------	---	---------	----	--------	----	------

		292.7		210.3		208.4		250.6
--	--	-------	--	-------	--	-------	--	-------

		412.7		270.3		148.1		70.6
--	--	-------	--	-------	--	-------	--	------

		58.96		38.61		21.20		10.08
--	--	-------	--	-------	--	-------	--	-------

		0		0		0		0
--	--	---	--	---	--	---	--	---

10	55	58.96 11	7	38.61 11	13	21.20 11	28	10.08
----	----	----------	---	----------	----	----------	----	-------

May 17.

B.P.B.

Ill. West

r Virginis

β Leonis

π Virginis

		58.2			12.6			0.7	
		12.3			26.7			14.7	
		26.1			20.9			28.5	
		39.9			55.4			42.4	
		53.9			9.6			56.3	
		7.7			23.7			10.1	
11	40	21.5	11	43	38.1	11	55	23.9	
		219.6			207.0			176.6	
		279.6			387.0			296.6	
		39.94			55.29			42.37	
		0			0.29			0	
11	39	39.94	11	42	55.30	11	54	42.37	

1853 May 20.

$a = -0.01$

$b = +0.01$

$c = -0.01$

Ill. Wind

G. P. B.

Virginis

" 5 Virginis

" 7 Bootis

" Moon TO

" 5 Bootis

13.6

59.4

25.8

23.9

27.7

13.3

40.5

48.6 +27° 42

41.7

26.9

54.9

2.8

55.7

40.7

9.5

17.1

2.8 2.9

9.6

54.5

24.1

31.5

3.0 18.6

23.5

8.2

38.7

45.8

2.9 33.9

13 19

37.5

13

29

21.8

13

49

53.0

14

13

0.0

14

403.1

49.6

10

209.3

224.8

246.5

179.7

389.3

284.8

66.5

119.7

55.61

40.69

9.80

17.10

2.95

0

0

0

0

0

13 18

55.61

13

28

40.69

13

49

9.50

14

12

17.10

14

40

2.95

10

1853 May 27

$a = 0.00$

$b = +0.03$

$c = 0.00$

J.H. West

L.P.B.

 α Leonis

29.1

43.3

57.3

11.5

25.7

39.9

10 2

54.4

261.2

11.60

0

10 2

11.60

1853 May 31/33

$$a = -0.00$$

$$b = +0.03$$

$$c = 0.00$$

Alt. West

N. C. B.

B. B. B.

Polaris

α Aurigae

21	17.8	—			551.3
0	49	9.8	25.5		10.7
	58	8.4	16.2		25.5
	7	10.5	12.2		40.5
	16	10.5	3.9		551.3
1	24	9.8	55.8		10.2
	—	2		1	25.2
					222.7
		9.80			40.54
		0			0
1	7	9.80	2	0	40.54

1853 ~~May~~ June 5/6

$a = -0.00$

$b = +0.04$

$c = 0.00$

M. C. B.

 α Pis. Ans.

Ill. West-

15.3

32.0

47.8

3.6

19.4

35.4

22 49 51.3

204.8

3.54

0

22 49 3.54

1863 Jan 9

C. M. 7.

Ill. Mar

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

S Leonis

S Hyd. et Crat.

42.1 26.6

57.1 40.8

11.7 54.9

28.5 9.0

41.2 23.4

55.9 37.4

10.7 51.5

245.2 243.6

26.46 9.08

0 0

26.46 9.08

1853 June 11

$$a = +0.01$$

$$b = +0.05$$

$$c = 0.00$$

Ill. Mse

C. 7.

 α Canis Maj α Leonis

		31.6		10.0	
		46.0		24.4	
		0.5		38.4	
		15.0		52.5	
		29.1		6.8	
		42.9		20.6	
6	38	57.7	10	1	34.7
		223.3			187.4
		14.76			52.48
		-2			0
6	38	12.76	10	0	52.48

1853 June 13/14

$$a = + 0.01$$

$$b = + 0.06$$

$$c = + 0.01$$

Ill. West

C. W. 7.

 α Lictis

33.6

48.7

3.7

18.6

33.3

48.3

2

0

3.3

189.5

18.50

0

7

59

18.50

1853 June 15

$a = +0.01$

$b = +0.06$

$c = +0.01$

Ill. Men

J. S. H.
F. R. V. γ Virginis γ Virginis

9.3

59.3

23.5

13.2

37.0

26.8

51.0

40.6

4.7

54.3

18.1

8.2

12

13

32.1

12

35

21.7

575.7

224.1

50.82

40.58

0

0

12

12

50.82

12

34

40.58

1873 June 15/16

W. C. B.

 α Cassiopeiæ

$$a = + 0.01$$

$$b = + 0.06$$

$$c = + 0.01$$

J. L. Moore

J. L. Moore

26.7

51.7

15.5

40.3

4.9

29.2

0 33 53.6

221.9

40.27

0

0 32 40.27

1853 June 16

D.S. M.

Moon 1

$a = +0.01$

$b = +0.06$

$c = +0.01$

Ill. Mer

B. R. C. 4649

25.7 5.5

39.9 19.4

53.9 33.2

8.2 46.8

22.4 1.0

36.6 14.9

50.7 28.6

237.4 149.4

57.4 329.4

8.20 47.05

0 0

8.20 47.05

13 45 8.20 13 47 47.05

1863 June 17

$a = +0.01$

$b = +0.06$

$c = +0.01$

Ill. Mer

A.S. 21.

Polaris

39 28.0

48 22.5

57 11.9

6 9.4

15 0.1

23 52.9

1 32 41.3

174.1

7.91

0

1 6 7.91

1853 June 17

$a = +0.01$

$b = +0.06$

$c = +0.01$

Ill. West

G.S.H.

 α Leonis α Uls Maj

21.5

33.6

+62°

33

49.7

3.8

8.5

8.6

17.9

8.7

38.5

22.1

8.7

8.3

46.010

568.738.0

206.6

3.80

8.65

0

0

3.8010

55

8.65

18+3 June 18

1871.

All. West

 $a = +0.00$ $b = +0.07$ $c = +0.01$

α Canis Maj		α Leonis		α Urs Maj		α Virginis		γ Urs Maj		
	28.9		23.2		—		19.9		15.1	
	43.6		37.5 + 62° 33'		—		33.9		36.6	
	57.7		51.3	10.2	40.4		47.9		57.9	
	12.3		5.6	10.2	10.3		1.8		19.5	
	26.6		19.7	10.4	40.2		16.0		41.0	
	40.3		33.8	10.4	10.0		29.7		2.5	
6	39	51.4 10	1	47.8 10	56 10.5 39.8	13	18	43.7 13	43	23.7
	26.4 8		218.9				192.9		196.3	
	84.8		38.9				12.9		136.3	
	12.1 1		5.56		10.34		1.84		19.47	
	0		0		0		0		0	
6	39	12.19 10	1	5.56 10	55 10.34	13	18	1.84 13	42	19.47

1853 June 18

a = 0.00

b = +0.07

c = +0.01

J.S. 21.

Alt. Mer

γ Bootis

α Bootis

ζ^2 Librae

ξ Librae

Moon

32.1

48.4

87.4

40.8

5.6

46.8

3.8

82.0

55.2

20.7

1.1

17.5

6.1

9.0

35.8

16.0

32.6

20.4

23.1

50.6

30.5

47.3

34.7

37.0

5.4

41.0

1.8

48.9

51.0

20.4

13 48

59.6

14

10

16.4

14

44

3.3

14

50

5.0

15

42

35.3

231.1

167.8

202.8

221.1

173.7

111.1

227.8

142.8

161.1

353.7

15.87

32.54

20.40

23.03

50.53

0

0

0

0

0

13 48

15.87

14

9

32.54

14

43

20.40

14

49

23.03

15

41

50.53

1853 June 18.

D.S. 21.

Ill. Mus.

x Ophiuchi

φ Ophiuchi

		22.1			36.4
		37.0			51.0
		51.4			4.8
		6.1			19.4
		20.7			33.6
		35.2			48.1
16	16	49.6	16	24	2.2
		222.1			197.5
		42.1			135.5
		6.01			19.35
		0			0
16	16	6.01	16	23	19.35

1853 June 20

$a = 0.00$

$b = +0.07$

$c = +0.01$

I.S. M.

Ill. Men

m 2.8

Canis Maj			" "			" "			" "			" "		
α Canis Maj			α Urs Maj			α Virginis			γ Urs Maj			γ Bootis		
32.5			43.9			23.0			18.4			31.3		
46.9			13.7			37.0			40.0			50.1		
1.5			43.6			50.9			1.4			4.4		
15.5			13.5			5.0			22.7			19.0		
29.8			43.6			19.0			44.0			33.6		
44.2			12.9			33.0			5.7			48.1		
6 39 58.5	10	56	43.0	13	16	46.9	13	43	27.0	13	49	27		
228.9			214.2			214.8			159.2			193.2		
15.55			13.46			4.97			22.74			19.03		
0			0			0			0			0		
6 39 15.55	10	55	13.46	13	18	4.97	13	42	22.74	13	48	19.03		

June 20, 1853

G. S. H.

Ill. Mer

 α Bootis ϵ Bootis β Librae

		57.5			25.6			2.6
		6.3			41.5			16.6
		20.9			56.8			30.5
		31.4			12.1			44.5
		51.3			28.1			56.6
		4.9			43.4			12.6
14	10	18.5	14	39	59.1	15	10	26.4
		187.8			266.7			191.8
		35.40			12.38			44.54
		0			0			0
14	9	35.40	14	39	12.38	15	9	44.54

June 21. 1853

$a = 0.00$

$b = +0.08$

$c = 0.00$

H. M. M.

D.S. M.

2 Virginis

24.7

38.7

52.9

6.7

20.8

14.5

48.7

227.0

6.71

0

6.71

1853 June 23

$a = 0.00$

$b = +0.08$

$c = 0.00$

Ill. Mar

Jul. 24.

α Vir Maj		α Virginis		γ Vir Maj		γ Bootis		α Bootis						
	48.9		28.1		23.4		40.4		56.4					
	18.9		42.2		45.0		55.3		11.3					
	48.9		56.2		6.2		9.7		25.7					
	18.5		10.0		27.7		24.2		40.5					
	46.4		24.1		49.2		38.5		55.2					
	18.2		37.9		10.6		53.3		9.8					
10	56	47.9	13	18	51.9	13	43	31.9	13	49	7.8	14	10	24.5
		249.7			250.4			194.0			229.2			223.4
		18.53			10.06			27.71			24.17			40.49
		0			0			0			0			0
10	55	18.53	13	18	10.06	13	42	27.71	13	48	24.17	14	9	40.49

1853 June 25

$a = +0.01$

$b = +0.08$

$c = -0.01$

P.S. H.

Jlt. West

α Leonis

α Urs. Maj.

δ Leonis

δ Hyd. et Crat.

α Bootis

—			—			17.9			2.5			59.8		
+12°	41	17.2 49.1	+62°	33	21.8 22.3			32.8		16.6			14.5	
		17.1 3.0			21.5 51.7			47.5		30.6			29.5	
		16.9 16.9			21.6 21.7			2.2		44.8			44.1	
		17.1 31.2			22.0 51.8			16.9		58.9			58.7	
		17.0 45.1			21.7 21.3			31.7		13.3			13.1	
10°	1	—	10	56	—	11	7	46.4.11	13	27.2	14	10	27.8	2
								195.4		193.9			247.8	
		17.06			21.72			2.20		44.84			43.83	
		0			0	11		0		0			0	
10	1	17.06	10	55	21.72	11	7	2.20 11	12	44.84	14	9	43.93	7

1853 July 1

$a = +0.02$

$b = +0.09$

$c = -0.03$

Ill. Mer

C. M. T.

 α Arietis

2.8

18.0

32.8

47.6

2.5

17.5

2 0 32.3

153.5

47.64

0

7 59 47.64

1853 July 1/2

$a = +0.02$

$b = +0.09$

$c = -0.03$

Ill. Mar

C. M. T.

2 Jani

42.1

56.5

10.7

25.1

39.7

53.9

4

29

8.0

235.0

25.00

0

4

28

25.00

July 5/6

$a = +0.03$

$b = +0.10$

$c = -0.04$

J. H. Miller

C. W. T.

d Tami

3.0

16.5

31.9

46.2

6.5

14.6

4 27 29.1

141.8

411.97

0

4 26 451.97

1853 July 77

$a = +0.03$

$b = +0.10$

$c = -0.05$

C. W. 7.

Alt. over

"

"

 α Andromedae γ Pegasi α Comae

Polaris

	—		—		—		38	27.5	
+28° 17'	—	+14° 22'	57.2	28.9	+55° 44'	28.3	39.6	47	27.0
	—		57.3	43.1		28.4	4.0	56	15.2
4.7	4.8		57.1	57.1		28.3	28.4	5	13.0
4.9	20.5		57.2	11.4		28.3	52.7	14	4.0
4.8	36.0		57.1	25.1		28.5	17.3	22	55.7
0	0 4.7	51.4	0	5 57.3	39.8	0	22 28.2	41.3	1
									13
									192.4
	4.78		57.20		28.33			10.34	
0	0		0		0			0	
0	0	4.78	0	4	57.20	0	31	28.33	1
								5	10.34
									13

1853 July 7

$a = + 0.03$

$b = + 0.10$

$c = - 0.05$

Ill. Mus

Q. W. T.

Polaris s.p.			Virginis			γ Urs. Maj'		
38	26.8				1.4			56.7
47	20.4				15.7			18.5
56	13.0				29.5			39.8
5	5.4				43.5			1.2
14	2.0				57.7			22.4
22	48.4				11.5			43.9
13	31	49.9	13	17	25.4	13	42	5.2
		165.9			184.7			187.7
	6.56				43.53			1.10
	0				0			0
13	5	6.56	13	16	43.53	13	41	1.10

1853 July 7/8

$a = +0.03$

$b = +0.10$

$c = -0.05$

Ill. Mer

C. M. T.

 α Andromedae γ Pegasi α Cassiopeae

Polaris

17.1

13.7

27.5 14.2

38 29.0

22.9

28.2

27.4 38.7

47 23.4

48.2

42.3

27.4 3.0

56 16.0

4.0

56.4

27.7 27.8

5 12.2

19.8

10.6

27.5 57.9

14 3.4

35.4

24.7

27.5 16.3

22 51.0

50.7

39.0

327.4 40.5

31 49.7

208.1

214.9

192.4

188.7

4.01

56.41

27.49

9.81

0

0

0

0

4.01

56.41

31 27.49

5 9.81

1853 July 9/9

$a = +0.03$

$b = +0.10$

$c = -0.05$

Ill. Mus.

C. N. 7.

 α Canis major

Polaris

13.4 88 31 17.0 38.97 26.9

88 31 17.0 38.0 0 47 115 27.4

2.2

28.9

51.2

15.3

0 32 39.9

187.0

26.71

10.60

0

0

0 31 26.71 1 5 10.60

1853 July 12/13

$a = + 0.04$

$b = + 0.01$

$c = - 0.06$

Ill. War

C. N. T.

 α CassiopeaPalmer & ~~X~~

10.7 38 7.3 24.4

35.3 31 17.5 47 11.2 27.0

59.5 5.6 7.5 11.4

24.0 5 8.3 10.0

48.4 —

12.5 3 —

0 32 36.8 1 31 12.4 50.5

227.2

23.89 9.34

0 0

0 31 23.89 1 5 9.34

July 13/14

$a = + 0.04$

$b = + 0.12$

$c = - 0.06$

Ill. mme

C. N. 7.

 α Cassiopeae

Polaris

			38	24.7
+55°	44	23.7	35.0	26.9
		24.2	59.8	16.3
		24.2	24.3	13.4
		23.8	48.2	4.2
		23.7	12.5	56.1
0	32	24.0	37.1	49.7
				191.3
		23.93		10.19
		0		0
0	31	23.93	1	9
				10.19

1853 July 14

C.N.7.

All Mar

$a = + 0.04$

$b = + 0.12$

$c = - 0.06$

Can. Ven.		" Virginis		Polaris s.p.		" Bootis	
27.4		57.5		—		26.2	
48.4		11.6	88° 31' 17.8"	—		40.8	
3.1		25.7		—		55.4	
20.7		39.5		—		10.2	
38.2		53.5		—		24.6	
54.9		7.5		22 6.7 51.0		39.1	
12 49 13.7 13	17	21.4 13	31 10.0 53.0	14	8	53.7	14
204.4		216.7				250.0	
144.4		276.7				70.0	
26.63		39.53	8.35			10.00	
0		0	0			0	
12 48 26.63 13	16	39.53 13	5 8.35 14	8		10.00	14

July 14

C.W.7.

Ill. War

Moon TO 2³ Librae

		22.9		15.2	
		37.3		29.7	
		51.6		43.8	
		6.0		58.0	
		20.3		12.3	
		34.7		26.6	
14	18	49.4	14	42	40.8
		222.2		226.4	
		42.2		406.4	
		6.03		58.05	
		0		0	
14	18	6.03	14	41	58.05

$$C = -0.06$$

Ill. Wier

T. M. S.

Bootis

2 Bootin

2^o Librac

8⁴ Libras

11
Moon 70

[illegible]

1850 July 15

Ill. Mus.

7.24.51
y Libran

y Libran

18.8

-14 18

33.4

47.5

1.9

16.0

31.6 0.00

30.2

15 27 31.574.0

15 35

44.6

142.4

12.4

31.55-

1.78

0

0

15 26 31.55-

15 35

1.78

1853 July 17/18

$a = +0.05$

$b = +0.14$

$c = -0.07$

Alt. Max

C.M.T.

d Aurigae

$0^{\circ} 1' -$
 $+45^{\circ} 51' -$
 $-$

52.8 52.9

53.0 12.8

53.0 32.4

5 6 52.9 52.0

52.92

0

5 5 52.92

1853 July 18

$a = +0.05$

$b = +0.14$

$c = -0.07$

G.P.O.

Ill. Mar

4 Sagittarii			Moon TO			α Lyrae			β Lyrae			γ Sagittarii			
		—			26.9			10.2			55.3			13.5	
-23° 48'		—			42.9			27.8			11.9			28.4	
		—			58.5			41.4			28.0			43.2	
		—			14.2			3.0			44.5			58.0	
		—			29.8			20.7			0.9			12.9	
		—			41.7			38.3			17.5			27.7	
17	52	54.6	29.6	18	30	1.6	18	33	55.7	18	46	33.9	18	57	42.5
					219.7				204.1			192.0			226.2
					99.7				21.1			312.0			406.2
		54.60			14.24			3.01			44.57			58.03	
		0			0			0			0			0	
17	51	54.60	18	29	14.24	18	33	3.01	18	45	44.57	18	56	58.03	

1853 July 18

$a = +0.05$

$b = +0.14$

$c = -0.07$

Sep. Mar

L. P. B.

 π Sagittarii

22.4

37.4

52.2

6.8

21.7

36.3

19 2 51.0

227.8

47.8

6.84

0

19 2 6.84

1853 July 20

$a = + 0.05$

$b = + 0.15$

$c = - 0.07$

ell. Mer

Q. M. 7.

 α Ophiuchi

29.0

43.1

57.4

11.4

25.6

39.6

17 28 53.8

259.9

11.41

0

17 28 11.41

1853 July 21/22

$a = +0.06$

$b = +0.15$

$c = -0.07$

Ill. Wm

C. W. 1

 α Persei

50.6

11.8

33.0

54.0

151.0

36.2

3

14

57.1

257.7

53.96

0

3

13

53.96

1853 July $2\frac{1}{2}$

$a = +0.06$

$b = +0.17$

$c = -0.07$

Ill. Mass

C. M. M.

2 Penni

+49° 20' 53.611.1

53.253.3

53.314.4

53.435.6

3 14 53.756.9

53.44

0

3 13 53.44

1853 July 27/28

$$a = +0.07$$

$$b = +0.20$$

$$c = -0.07$$

ell. Merc

C. N. 7.

 α Aurigae

52.2

12.1

31.7

51.6

11.0

30.8

5

6

50.4

239.8

51.40

0

5

5

51.40

July 30

$a = + 0.08$

$b = + 0.22$

$c = - 0.08$

Dec. War

The H.S.

 α Bootis γ Mus Maj

15.2

41.6

30.1

3.1

44.4

24.3

59.1

45.8

13.5

7.2

28.4

28.6

14 9

42.7

50.0

233.4

200.6

59.06

45.80

0

0

14 8

59.06

45.80

1853 Aug %

$a = +0.08$

$b = +0.23$

$c = -0.08$

* Ill. Mar

C.W.7.

 α Arietis

10.6

25.7

40.5

55.6

10.4

25.2

1 58

40.3

208.3

55.47

0

1 57

55.47

Aug 8/9

$a = +0.09$

$b = +0.27$

$c = -0.08$

Ill. Mer

C.N.T.

W.C.B.

 α Aurigae α Canis Maj

0.4

15 51 54.0 14.6

14.8

53.9 34.2

29.2

53.9 54.0

42.4

54.0 13.8

57.9

54.0 33.4

12.1

5 6 53.9 53.0 6

39

16.4

1

184.2

53.95

43.45

0

0

5 5 53.95 6

38

43.45

1853 Aug 9/10

$a = +0.09$

$b = +0.27$

$c = -0.08$

H. W. W.

R. Z. B.

7. 21. 5.

"

 α Aurigae α Orionis α Canis Maj

55.8

36.0

1.2

55.4

50.1

151.9

35.0

3.3

30.0

55.6

17.4

44.4

14.6

31.4

58.6

34.1

45.0

13.1

5 6 54.2 5

47

59.0

6

29

77.4

264.1

247.2

180.6

54.87

17.45

44.37

0

0

0

5 5 54.87 5

47

17.45

6

38

44.37

1853 Aug 11

G. P. B.

Ill. Mer

$a = +0.11$

$b = +0.29$

$c = -0.08$

 α Bootis ε Bootis

Moon TO

19.8

53.9

10.4

34.5

9.4

25.1

49.0

25.0

39.6

3.8

40.4

54.3

18.2

56.0

8.8

33.0

11.4

22.2

14 9

47.4

14

39

27.0

14

57

37.9

205.7

223.1

198.3

25.7

283.1

379.3

3.67

40.44

54.19

0

0

0

14 9

3.67

14

38

40.44

14

56

54.19

1853 Aug 1/12

$$a = +0.11$$

$$b = +0.29$$

$$c = -0.08$$

J. A. Bates

J. A. Bates

 α Canis Maj

46.1 3.10

-16 31 46.0 17.4

45.8 31.5

46.0 46.0

45.9 0.2

46.0 28.9

45.97

0

45.97

1853 Aug 17/13

G. P. B.

Obl. Wind

Canis Major

2.2

17.7

32.0

46.2

0.6

14.9

6 39

29.3

143.9

46.27

0

6 38

46.27

1853 Aug 15

$a = +0.11$

$b = +0.28$

$c = -0.09$

L.P.B.

Ill. Mer

 α Lynae δ Lyrae

Moon TO

 h^3 Sagittarii

14.2

6.4

12.2

55.7 10.1

32.0

20.7

28.1

-25° 12 56.0 28.7

49.7

34.6

43.7

19 27 56.1 40.9

7.3

49.0

59.7

24.7

3.0

15.2

42.4

17.3

31.0

18 33

0.1

18

59

31.2

19

7

46.7

170.4

162.2

236.6

50.4

342.2

416.6

7.19

48.89

59.51

55.93

0

0

0

0

18 32

7.19

18

58

48.89

19

6

59.51

19

27 55.93

1853 Aug 16

$a = +0.11$

$b = +0.28$

$c = -0.09$

B.O.B.

Ill. Mar

γ Aquilar	α Aquilar	δ Sagittarii	Woon TO	ρ Capricorn
—	6.3	20.6	14.4	56.7
+10 16 —	20.4	36.3	29.6	11.2
27.5 13.6	34.1	52.7	46.1	25.7
27.7 27.7	40.3	7.3	0.9	40.2
End of 1? 28.6 42.6	2.1	22.8	16.2	58.6
27.4 55.3	16.0	38.2	31.8	9.0
19 4027.6 9.4 19 44 29.7 19 48 54.6 20 12 48.2 20 21 23.5	14.8	23.8	186.9	226.9
	328.9	52.5	6.9	281.9
27.56	48.27	7.50	0.98	40.27
0	0	0	0	0
19 39 27.56 19 43 48.27 19 48 7.50 20 12 0.98 20 20 40.27	46.99	7.50	0.98	40.27

1853 Aug 2/22

$a = + 0.10$

$b = + 0.27$

$c = - 0.09$ Ill. Mail

C.N.7.

 α Augijar

11.9

31.7

51.4

11.2

30.8

50.5

10.2

197.7

11.10

- 2.0

9.10

1853 Aug 23/24

$a = +0.10$

$b = +0.28$

$c = -0.09$

Ill. Mer

J. A. B.

α Canis Maj

14.6

29.2

43.2

57.8

17.2

26.5

6 39 40.9

224.4

57.77

0

6 38 57.77

1953 Aug 26

$a = +0.09$

$b = +0.25$

$c = -0.09$

H. M. M.

C. N. T.

 α Aurigae

11.0

30.9

50.5

10.3

30.1

49.8

5 7 9.5

192.1

10.30

0

5 6 10.30

1853 Aug. 28/29

$a = +0.09$

$b = +0.25$

$c = -0.09$

Ill. Ill. m

C. W. T.

 α Orionis

8.1

22.0

33.9

49.7

3.6

17.5

5 49 31.3

167.1

49.60

2

5 48 47.60

1853 Sept. 5

$a = +0.08$

$b = +0.23$

$c = -0.08$

Ill. War

J. A. B.

 α Bootis

39.6

54.3

8.9

23.4

38.0

52.9

14 10 7.3

224.4

23.49

0

14 9 23.49

1853 Sept. 6/7

$a = +0.07$

$b = +0.23$

$c = -0.08$

Ill. West

J. A. B.

 α Canis Min β Gemini

23.4

0.7

37.5

16.2

51.0

32.0

5.0

47.5

18.7

2.0

32.1

18.8

7 32

46.5

7

37

34.3

214.6

112.5

4.94

47.50

0

0

7 32

4.94

7

36

47.50

1853, Sept. 8

$a = + 0.07$

$b = + 0.23$

$c = - 0.08$

J. A. B. J. L. West

J. A. B.

Pus min sp Moon TO

1.0 40.0

54.1 55.2

46.0 9.6

38.2 24.9

30.5 39.7

22.8 54.8

14 05 18.0 15 38 9.4

207.6 233.6

267.6 173.6

38.23 24.80

0 0

14 5 38.2315 37 24.80

Sept 8/9

$a = +0.07$

$b = +0.23$

$c = -0.08$

Ill. Men

C. W. T.

 β Geminor

2.4

18.2

33.6

49.3

5.0

20.6

7 37 36.1

165.2

49.32

0

7 36 49.32

1853 Sept 7/12

$a = +0.04$

$b = +0.24$

$c = -0.09$

Ill. Mer

W.C.B.

J.A.B.

 α Orionis α Canis Maj ϵ Canis Maj

41.9

30.4

55.9

45.0

28' 46"

24.12

52.9

9.7

59.2

23.9

8.2

24.0

13.6

23.9

24.0

37.6

28.1

24.1

39.8

51.4

42.3

24.2

55.5

 δ 50 5.26

39

56.7

6

54 24.1

11.0

225.7

275.3

23.67

13.61

24.07

0

0

0

 δ 49 23.67

39

13.61

6

53

24.07

Sept 10 1853

$a = +0.05$

$b = +0.23$

$c = -0.08$

Ill. Warr

7.25. 6.8 C. N. 7 m

Moon TO

7 Draconis

 μ' Sagittarii

.45.4

10.0

—

1.3

32.1

-21°

6

4.4

35.0

17.0

54.2

4.1

49.4

32.5

16.7

4.3

4.3

48.1

38.4

4.3

19.0

4.0

0.8

4.3

33.7

17 43

19.5

17

56

77.7

18

7

4.4

48.5

167.8

171.3

227.8

115.3

32.54

16.40

4.30

-2

0

0

17 42

32.54

17

55

16.40

18

7

4.30

4.30

1853 Sept 7/12

$a = +0.04$

$b = +0.24$

$c = -0.09$

Jl. Mue

J. A. B. "

"

"

.50.9.8

β Geminor			α Canis Min			β Geminor		
		56.7			27.8			51.0
		13.6			42.1			21.0
		29.4			55.9			36.5
		45.4			9.5			57.2
		2.1			23.5			7.8
		18.2			37.0			23.3
7	26	34.7	7	32	51.0	7	37	38.8
		200.1			241.8			184.6
		45.72			9.40			52.08
		0			0			0
7	25	45.72	7	32	9.40	7	36	52.08

1853 Sept. 12

$a = + 0.02$

$b = + 0.24$

$c = - 0.09$

A. P. B.

All. West

α Lyrae	β Lyrae	γ Sagittarii	δ Aquilae	π Sagittarii
—	29.3	43.2	31.7	52.4
+38 39 —	41.0	58.2	46.0	7.3
—	57.4	12.9	0.2	21.9
—	14.0	27.9	14.2	36.7
32.3 49.9	30.3	42.9	28.3	51.4
32.2 7.4	46.7	57.4	42.6	6.2
18 32 32.4 25.1	3.4 18 46	12.4 18 57	56.6 18 59	21.0 19 2
	217.1	254.9	217.6	196.9
	97.1	194.9	99.6	256.9
32.30	13.87	27.84	14.23	36.70
0	0	0	0	0
18 32 32.30	18 45 13.87	18 56 27.84	18 59 14.23	19 1 36.70

Sept 12. 1853

L. P. B.
S. W.

Ill. Mar

$a = +0.02$

$b = +0.24$

$c = -0.09$

Aguilar		Aguilar		Moon TO		Capricorn	
	9.4		30.1		49.8		46.6
	23.7		44.1		5.6		1.2
	37.5		58.0		21.0		11.5
	51.6		11.8		36.8		30.1
	5.5		29.9		54.4		44.7
	19.5		39.7		8.0		59.1
19	40	19	44	19	50	20	20
	33.6		53.6		23.9		13.7
	150.78		263.72		199.5		210.9
	360.8		87.2		259.5		
	51.53		12.88		37.07		30.13
	0		0		0		0
19	39	19	44	19	49	20	19
	51.53		12.46		37.07		30.13

1853 Sept 13

$$a = +0.01$$

$$b = +0.25$$

$$c = -0.09$$

G.P.B.

Ill. Men

r Capricorn			π Capricorn			α Cygni			Moon TO			β Cygni		
		48.1			48.1			4.0			—			3.6
		2.7			2.8			23.3	-22.1		—			21.2
		17.4			17.3			47.8			—			38.8
		32.2			31.8			2.2	23.45	23.5				56.1
		46.5			46.2			21.6	23.53	38.9				13.5
		1.0			0.8			41.1	23.52	54.2				30.9
20	12	15.8	20	20	15.3	20	38	0.4	20	522365	9.6	21	1	46.5
		163.7			162.3			155.5						212.6
		223.7			222.3			15.5						392.6
		31.96			31.75			2.21						56.08
		0			0			0						0
20	11	31.96	20	19	31.75	20	37	2.21	20	57	23.54	21	0	56.08

853 Sept 13.

$a = +0.01$

$b = +0.25$

$c = -0.09$

Ill. Mer

G. P. B.

 δ Cygni β Aquarii ϵ Capricorn

30.5

45.0

44.4

46.6

59.1

59.2

2.2

12.9

13.8

18.2

26.9

28.5

33.9

40.6

43.1

49.8

54.4

57.8

5.3

8.1

12.4

186.5

247.0

259.2

126.5

187.0

199.2

18.08

26.71

28.45

0

0

0

18.08

26.71

28.45

1853 Sept 19

$a = -0.04$

$b = +0.24$

$c = -0.07$

Hll. Mer

C. W. T.

 α ophiuchi

54.0

8.0

22.3

36.4

50.1

4.6

17 21 18.1

194.3

36.33

0

17 30 36.33

1853 Sept 22/23

J. A. B.

H. & B.

 α Leonis

$a = -0.05$

$b = +0.24$

$c = -0.06$

H. W. W.

26.6

40.7

54.7

9.2

23.2

36.8

10 3 51.0

242.2

8.89

-2

10 3 6.89

Sept 25/26

$a = -0.06$

$b = +0.24$

$c = -0.06$

C.N.T. W.C.B. records

Ill. West

 α Leonis

34.5

48.7

2.7

16.7

30.8

44.9

10 3 59.1

237.4

16.77

0

10 3 16.77

1853 Sept. 29

$a = -0.08$

$b = +0.23$

$c = -0.05$

Ill. West

C. M. 7.

 γ Draconis

58.5

20.8

43.9

5.0

27.0

49.0

11.3

215.5

5.07

0

5.07

Sept 29/30

$a = -0.08$

$b = +0.23$

$c = -0.05$

C.M.T.

Ill. New

 β Gemini

27.3

43.0

58.1

14.2

29.8

41.3

7 40 1.2

219.2

14.18

2

7 39 12.18

1853 Oct. $\frac{2}{3}$

$a = + 0.11$

$b = + 0.23$

$c = - 0.05$ Ill. Mer

C. W. 7.

 α Hydra α Leonis

41.4

51.2

55.5

5.5

9.4

19.5

23.2

33.5

37.0

47.7

51.0

1.8

9 24 04.8 10 4 15.9

222.3 175.1

23.19

33.59

-2

-2

9 23 21.19 10 3 31.59

1853, Oct. 5/6

$$a = -0.13$$

$$b = +0.23$$

$$c = -0.04$$

Ill. Mar

C. M. 7.

 α Leonis

58.3

12.5

26.5

40.6

54.8

8.9

10 4 22.8

224.4

40.63

-2

10 3 40.62

1853 Oct. 10/11

$a = -0.17$

$b = +0.22$

$c = -0.03$

Ill. Mar

C. N. 7.

2 Hydra

59.0

13.0

26.9

40.9

54.7

8.5

9 24 22.3

225.3

40.76

-2

9 23 38.76

1853 Oct. 11

$$a = -0.17$$

$$b = +0.22$$

$$c = -0.03$$

C. W. T.			" "			Ill. W. T.			" "			G. P. B.			" "		
α^2 Capricorn			ν Capricorn			ψ Capricorn			61 Cygni			5 Cygni					
		32.5			18.5			58.8			47.4			14.5			
		46.8			32.9			14.4			5.0			29.8			
		1.0			47.3			29.4			22.3			45.9			
		15.0			2.0			44.7			39.7			2.0			
		29.0			16.6			0.0			57.0			17.8			
		42.9			31.0			15.8			14.7			33.5			
20	13	57.0	20	35	45.5	20	41	30.5	21	4	32.2	21	10	49.4			
		224.2			193.7			193.1			212.3			192.9			
		104.2			13.7			313.1			278.3			12.9			
		14.89			1.94			44.71			39.76			1.84			
		2			2			2			2			2			
20	13	12.89	20	34	59.94	20	40	42.71	21	3	37.76	21	9	59.84			

Oct. 11, 1853

$a = -0.17$

$b = +0.22$

$c = -0.03$

"

L. P. B.

C. M. T.

J. P. B.

Moon TV

S Capricor

 μ Capricor α Aquarii

34.5

34.3

34.4

50.0

48.5 -14° 14'

8.0

8.0

3.0

21.7

20.0

17.4

35.5

35.0

31.5

38.6 52.8

49.5

50.0

46.0

38.6 7.0

3.0

21 35 5.021 43 0.324

4988.721.2 22 2 16.7

199.5

188.8

188.8

139.5

121.0

248.8

19.93

17.29

38.63

35.54

2

-2

-2

2

21 34 17.93 21 42 15.24 21 48 36.63 22 1 33.54

1853. Oct. 12

$a = -0.18$

$b = +0.21$

$c = -0.03$

Oll. Mer

"

"

C. W. 7.

L. P. B.

Oll. Mer

"

"

 β Lyrae δ Cygni β Aquarii δ Capricorn μ Capricorn

		11.8			16.5			31.3			36.0			88.2
		28.3			32.4			45.5			50.8			12.5
		44.5			47.7			59.0			5.0			26.5
		1.0			4.0			13.1			19.5			40.5
		17.5			20.0			26.5			33.8			54.8
		34.1			35.6			40.5			48.0			9.2
18	44	50.5	21	6	51.5	21	23	54.3	21	39	2.5	21	45	23.3
		187.7			207.7			270.2			191.6			225.0
		7.7			27.7			90.2			135.6			285.0
		1.10			3.96			12.89			19.37			40.71
		-2			2			-2			2			2
18	43	59.10	21	6	1.96	21	23	10.89	21	38	17.37	21	44	38.71

1853 Oct, 12

$a = -.18$

$b = +.21$

$c = -.03$

H. W. M.

S. P. B.

Moon TO

 α^2 Aquarii δ Aquarii α Pegasi

22.5

30.2

32.0

7.9

37.0

44.5

46.5

22.3

51.7

58.5

0.5

36.3

6.5

13.0

15.0

50.8

21.1

26.8

29.7

4.9

35.7

41.0

43.8

19.0

22 25

50.3

22

41

55.5

22

46

58.2

22

57

23.3

224.8

269.5

225.7

174.2

44.8

489.5

105.7

354.5

6.40

12.79

15.10

50.60

-2

2

2

2

22 25

4.40

22

41

10.79

22

46

13.10

22

56

48.60

1853 Oct. ¹³/₁₄

$a = -0.21$

$b = +0.21$

$c = -0.03$

Ill. Mer

C. N. 7.

 α Leonis

16.0

30.3

44.4

58.5

12.5

26.6

10 0 40.8

229.1

58.44

2

9 59 56.44

1853. Oct. 14

$a = -0.24$

$b = +0.20$

$c = -0.03$

J. H. Mear

L. P. B.

Piscium			Piscium			Piscium			Andromedae		
	11.8			—			57.3		30.6		
	28.5	-3° 35'		—			11.2		46.4		
	39.2		52.7	39.0			25.0		2.2		
	53.2		53.0	53.0			38.7		17.5		
	6.8		52.7	6.5			52.6		33.2		
	20.8		52.9	20.4			6.3		48.8		
23	32	34.5	23	40.5	34.1	23	57	19.8	0	d	4.1
	191.8						210.9		182.8		
	371.8						270.9		122.8		
	53.11			52.84			38.70		17.54		
	2			-2			2		2		
23	31	51.11	23	39	50.84	23	50	36.70	0	0	15.54

1853 Oct. 14

All. Mer

Moon TO		12 Ceti	13 Ceti		
	38.0		20.9		—
	52.2		34.5	$-4^{\circ} 24'$	11.1 43.6
	6.2		48.3		10.8 57.0
	20.5		2.2		11.0 11.0
	34.5		16.0		11.0 24.8
	48.5		29.7		11.3 38.8
0	6	2.7 0	22	43.6 0	27 11.2 52.5
	202.7		195.2		
	142.6		15.2		
	20.37		2.17		11.07
	2		-2		-2
0	5	18.38 0	22	0.17 0	27 9.07

1853 Oct. 15

$a = -0.24$

$b = +0.20$

$c = -0.03$

G.P.B.

Ill. Mer

α Andromedae

γ Pegasi

12 Ceti

13 Ceti

33.5

30.2

24.0

32.6

49.2

44.4

38.0

46.5

4.7

58.6

51.5

0.0

20.3

12.7

5.5

14.0

36.2

27.0

18.8

27.8

51.7

41.2

32.8

41.6

0 1

7.3

0

5

55.6

0

22

46.5

0

27

55.4

0

202.9

269.7

217.1

217.9

142.9

89.7

37.1

97.9

20.41

12.81

5.30

13.99

2

2

2

2

0 0

18.41

0

5

10.81

0

22

3.30

0

27

11.99

0

Oct. 15

L. P. B.

Alt. Max

Moon TO

42 Ceti

6 Ceti

 μ Piscium

		54.2				31.8		20.6
		8.5	-1°	17	50.5	23.0		41.8
		22.3			50.5	36.8		59.7
		36.6			50.5	50.5		13.6
		50.5			50.5	4.3		27.6
		4.1			50.5	18.0		41.3
0	53	18.6	1	12	50.5	31.8	1	16
		195.2						55.5
		255.2						275.3
		36.47			50.50			95.3
		2			-2			13.61
0	52	34.47	1	11	48.50	1	16	11.61
								1
								22
								00.23

1853 Oct. 17/18

$a = -0.24$

$b = +0.19$

$c = -0.04$

H. M. M.

Q. N. 7.

 α Leonis

27.9

42.0

56.0

10.1

24.3

38.4

10 0 52.5

281.2

10.17

2

10 0 8.17

1853 Oct 19/20

$a = -0.24$

$b = +0.19$

$c = -0.04$

H. M. M.

C. M. 17.

 α Leonis

33.4

47.6

1.7

15.8

30.0

44.0

58.0

230.5

15.79

2

13.79

1853 Oct. 24/15

$$a = -0.24$$

$$b = +0.18$$

$$c = -0.04$$

Ill. Ver

W.C.B.

x Mo Maj

3.2

32.6

2.4

32.3

2.3

31.5

10 56 2.0

106.3

32.33

0

10 54 32.33

1853 Oct. $\frac{10}{31}$

$$a = -0.24$$

$$b = +0.18$$

$$c = -0.04$$

Ill. Mass

M. C. B.

 α Leonis α Urs Maj

		4.4	Oct $\frac{10}{32}$		21.8
		18.5			52.3
		32.5			22.0
		46.7			51.8
		1.0			21.5
		15.0			51.3
10	1	29.0	10	56	21.0
		147.1			241.7
		46.73			51.67
		-2			0
10	0	44.73	10	54	51.67

