

KG  
11365  
60

A. 60

*A. 60*  
*Meridian Circle*  
*1864 Dec 30<sup>th</sup>* \_\_\_\_\_  
\_\_\_\_\_ *1865 Jan 18<sup>th</sup>*  
Sold by T. Groom & Co., Stationers, India Building, 82 State St., Boston.

KG-11365.60





All derivations in this book are of period 125.

KG 11365.60



1864 Dec 30th All West

next page

AM

XVII 192: S. Sulphur

a Regasi

39 Cephei

H

c Pucium

~~a Regasi~~

y Per Maj sp

335-

23

26

40.0

320

240

9.2

37.7

27

43.8

360

28.3

13.0

40.4

28

28.1

38.6

31.4

21.4

43.9

29

28.0

42.2

35.6

23.8

47.5

30

24.2

45.6

39.3

32.5

203.0

164.1

194.4

158.6

103.9

22 38 40.60

23

28

32.82

23

33 38.88

23

42 31.72

23

47 20.78

2.49

0.82

23 26

39.5-  
40.5-1

27

42.9  
43.7  
44.7-2

28

27.3  
28.0  
29.0-3

29

26.9  
27.7  
28.3  
29.1-4

30

24.1  
24.6-5

1864 Dec 30<sup>th</sup> All West  
AM

$\alpha$ Piscium	$\alpha$ Andromedae	$\gamma$ Pegasi	5 <sup>th</sup> Min 13	6 <sup>th</sup> Min 13
54.6	55.9	48.6	0 11 5.9	
58.4	0.3	53.0	12 12.5	
1.1	3.1	55.7	13 26.2	
4.9	7.2	59.5	14 20.1	0 16 28.6
8.0	11.2	2.9	15 38.9	18 49.3
127.0	77.7	219.7	113.6	
7.0	17.7	279.7		
23 53 1.40	0 2 3.54	0 6 55.94	0 13 22.72	
52 23.28	1 25.58	17.89		

0 11	3.8 4.7 5.9 7.0 8.3	1
12	11.5 12.5 13.6	2
13	25.8 26.6	3
14	20.134	4
15	38.3 38.9 39.51	5
$40^{\circ} 26' 20''$ 8.43449 2.22946 2.40053 41.68 1 47.12 37.81 4 11.49 39.64		

next page

12 Ceti	$\alpha$ Cassiopeae	$\beta$ Ceti	$\delta$ Piscium	$\gamma$ Cassiopeae
409		20.4	130	1.2
44.8	26.1	24.4	16.8	8.8
47.6	30.8	27.0	19.6	14.4
57.2	37.3	31.0	23.2	21.5
57.4	43.4	34.5	26.4	27.9
238.9		137.3	99.0	73.8
0 23 47.78	0 33	0 37 27.46	0 42 19.80	0 49 14.76
9.54		36 49.17		

864 Dec 30<sup>th</sup> M. West  
AM

43 Cephei H	E. Perseus	$\beta$ Andromedae	Palanis	$\alpha$ Antis
	28.5	41.8	1 6 11.3	6.4
51 1.7	32.5	46.7	8 54.4	10.4
36.6	35.1	50.0	60 42.9	13.4
52 23.2	38.8	52.4	13 11.2	17.2
53 6.1	42.1	58.3	15 28.5	20.7
	187.0	251.2	153.3	68.1
0 21 39.93	0 56 35.40	1 2 50.24	1 10 54.11	2 0 13.62
	55 57.23			1 59 35.58

0 51 06 | 2  
18  
2.8

51 35.7 | 3  
36.6  
37.5

52 228 | 4  
23.7

53 45.6  
6.6

A 40.42 1 25.63  
B 40.10 42.10  
C 40.01 3.41  
D 39.14 37.44

1 6 11.0  
14.5  
16.6  
18.5  
20.7

8 51.1  
52.2  
53.9  
55.2  
56.3  
57.6

10 40.1  
42.3  
43.5  
44.9

13 7.9  
9.0  
10.3  
11.2  
12.2  
13.2  
14.7

1 15 27.5  
28.5  
29.5

next page

20 Nov Ann B  
In 2099 SP

67 Ceti

3<sup>2</sup> Ceti

ε Ceti

γ Ceti

2	2	20.1		47.6		31.8		34.7		51.2				
	3	13.3		51.7		35.7		38.7		53.7				
	4	10.6		54.1		38.3		41.5		57.8				
	4	52.7		58.0		42.0		45.1		1.5				
	5	54.8		81.2		45.2		48.5		4.7				
		151.5		212.6		193.0		208.5		170.3				
										290.3				
2	4	6.30	2	10	54.52	2	21	38.60	2	33	41.70	2	36	58.06
					16.17			0.40						19.85

2 2 19.5  
20.73 12.0  
12.9  
13.7  
14.74 9.5  
10.6  
11.54 51.9  
52.7  
53.65 54.5  
55.2

1864 Dec 30<sup>th</sup> Ill West  
AM

41 Aries		9 Eridani		a Ceti		δ Aries		α Perseus						
	34.9		22.8		46.5		27.6		12.3					
	39.3		26.7		50.3		31.4		18.4					
	42.1		29.3		52.8		34.4		22.3					
	46.2		33.0		56.6		38.3		27.7					
	50.0		36.4		59.8		41.9		33.1					
	212.5		148.2		266.0		173.6		113.8					
2	42	42.50	2	50	29.64	2	55	53.20	3	4	34.72	3	15	22.75
								14.98		3	56.58			

Land 1864

a Tauri

c Eridani

6.0	7.1
10.0	11.2
12.6	13.8
16.4	17.5
19.7	21.0
64.7	70.6

3 18 12.94 3 27 14.12

✓ 22 58	-0.26	+ 37.85	-37.62	+ .18	
23 33	-0.29	37.77	37.72	+ .05	
52	-0.29	37.83	37.75	+ .08	
✓ 0 2	-0.23	37.73	37.78	-.05	2342" 37.760
✓ 6	-0.26	37.79	37.77	-.02	(3)
23	-0.23	37.91	37.79	+ .12	
37	-0.40	37.89	37.81	+ .08	
56	-0.28	37.89	37.84	+ .05	
✓ 2 0.	-0.24	37.80	37.93	-.13	
10.	-0.34	37.91	37.76	-.15	
21	-0.28	37.92	37.95	-.03	228 37.860
36.	-0.30	37.91	37.98	-.07	(2)
✓ 55	-0.30	37.92	38.00	-.08	
3 4	-0.25	+ 37.89	38.02	-.13	

±0.72 106

f<sup>2</sup> f<sup>m</sup> +37.851P<sub>0</sub>R +0.084J<sub>0</sub> (Clock Stops)

1865 Jan 2<sup>a</sup> All Night  
AM

$\epsilon$ Tauri	$\epsilon$ Leporis	$\alpha$ Aurigae	$\beta$ Orionis	$\gamma$ Orionis
20.4	3.0	59.4	21.8	22.1
24.4	7.1	4.9	25.5	26.1
27.0	9.9	8.8	28.6	28.6
31.2	14.1	14.1	32.3	32.4
34.4	17.2	19.0	35.4	35.6
137.4	51.3	106.2	143.6	144.8
		46.2		
4 54 27.48	4 59 10.26	5- 6 9.24	5- 7 28.72	5 10 28.96
	46.63	46.15	8 4.98	

next page

$\beta$ Tauri	64 Camel B	$\delta$ Orionis	$\alpha$ Leporis	$\epsilon$ Orionis
3.7	5 18 19.6	25.7	5.4	40.9
8.0	18 13.8	29.3	9.2	44.7
10.6	11 43.4	32.0	12.0	47.2
15.3	19 26.0	35.9	15.9	51.0
18.9	20 6.3	39.2	19.4	54.3
56.5		162.1	61.9	238.1
5 17 11.30	5 18 17.79	5 24 32.42	5 26 12.38	5 28 47.6
47.94		8.64	48.56	23.82

85° 7' 17.8 8.9302

A	48.02	78.28
B	48.60	39.10
C	46.51	3.11
D	48.02	34.22
E		80.25

1865-Jan 2<sup>d</sup> Ill West

AM

$\alpha$ Columbae	$\kappa$ Orionis	$\alpha$ Orionis	$\theta$ Aurigae	1 Samsonum
3.5	40.0	10.7	(58.8)	
(7.8)	43.9	14.5	53.7	
11.4	47.0	17.3	56.6	204
15.8	50.7	21.0	1.6	24.5
19.8	53.8	24.4	5.7	28.2
58.3	235.4	87.9	175.7	
			295.7	
5 34	11.46	5 40	47.08	5 47
			17.58	5 49
			53.94	5 55

next page

$\nu$ Quernis	$\gamma$ Summum	40 Draconis	41 Draconis	$\mu$ Summum
108	2.4	43.9	30.5	6.2
14.6	6.6	49.9	40.3	10.4
17.5	9.2	2.5	45.6	13.2
21.2	13.4	9.6	1.5	17.3
24.6	16.9	24.4	7.5	20.7
88.7	48.5	130.3	125.4	67.8
<del>54</del>		10.3	5.4	
54 17.74	6 6 9.70	6 9 .2.06	6 9 1.04	6 14 13.56
54.05				49.90

1865 Jan 2<sup>d</sup> All West  
AM

$\beta$ Canis Maj	$\gamma$ Geminorum	23 Camel	$\gamma$ Geminorum	51 Cephei
4.2	15.3	6 22 4.6	13.7	6 33 49.4
8.3	19.6	25.1	17.6	35 10.2
11.0	22.7	39.6	20.1	36 3.4
14.8	26.4	0.4	24.3	37 22.1
18.5	29.0	19.3	27.7	38 28.3
56.8	113.2	89.0	103.4	113.4
		209.0		
6 16 11.36	6 20 22.64	6 22 41.80	6 29 20.68	6 36 10.68
			56.97	

5 0 36.661	5 0 -0.43	-36.80	+36.66	-14	
30 636	7 -0.21	<del>36.72</del> 37.12	36.66	-04	6 33 47.7
6 0 611	8 -0.35	36.61	36.65	+04	48.6
30 586	18 -0.23	36.87	36.65	-22	49.7
	25 -0.31	36.52	36.64	+11	518
	27 -0.40	36.58	36.64	+06	
5.34 +36.658 (5)	29 -0.32	36.52	36.64	+12	35 9.7   2
	48 -0.28	36.64	36.62	-02	10.7
	6 20 -0.26	36.57	36.64	+04	
	15 -0.24	36.58	36.64	+02	36 29   3
	30 -0.26	36.55	36.59	+04	4.0
	5 35 -36.632			+068 106	37 21.4   4
	My. Rat 0.050				22.1
					22.9
					38 26.5   5
					29.2
					28.1
					29.3
					30.5

End Jan 2<sup>d</sup>1215 Jan 3<sup>d</sup> Ill. WestM. K. Page  
FHS

15 Canis Major

α Andromedae

γ Pegasi

Moon I

ζ Cassiopeiae

6.2

42.4

35.3

31.5

42.6

10.8

46.8

39.3

35.3

49.2

13.8

49.8

42.3

38.1

53.2

18.1

53.8

45.9

41.8

59.6

22.1

57.8

49.3

45.2

4.9

71.0

250.6

212.1

191.9

209.5

269.5

6 44 14.20

obscure

50.12

0

5

42.42

0

8

38.38

0

28

53.9

1

25.51

6

17.85

1863-~~June~~ 3<sup>d</sup>. Ill. West  
748

$\beta$ Ceti	$\epsilon$ Picum	Polaris	$\times + 2^{\circ} 26.3$	$\times + 1^{\circ} 50.3$
7.0	15.3	1 4 54.9	34.8	29.2
11.0	19.1	7 35.5	38.6	33.1
13.9	21.8	9 20.3	41.4	35.8
17.6	25.3	11 51.6	45.1	39.2
21.3	28.7	14 6.4	48.5	42.8
70.8	110.2	168.7	208.4	180.1

0 36	14.16	0 35	22.04	1 9	33.74	1 24	41.68	1 26	36.02
	49.12		57.17						

1 4 48.7  
53.4  
47.0  
59.5

7 30.7  
34.7  
37.1  
39.4

9 15.3  
16.9  
20.0  
21.1  
22.3  
24.4

11 49.7  
50.6  
51.5  
52.5  
53.7

14 32.  
4.4  
5.6  
6.6  
7.7  
10.9

next page

* +0° 12.7	* + 1 50.7	$\gamma$ Piscium	$\gamma$ Ceti	* + 2° 40.4
10.2	40.9	43.4		15.0
14.1	44.7	47.4		19.2
16.7	47.5	49.8		21.7
20.3	51.2	53.6	17.2	25.3
23.8	54.5	56.8	20.7	28.8
85.1	238.8	251.0		110.0
1 27 17.02	1 30 47.76	1 33 50.20	1 37	1 38 22.00
		34, 25.50		

1865 Jan 3<sup>d</sup> Ill Mut  
FHS

* + 2° 50.9	* Ceti	* + 2° 24.1	a Perseus 100	a Antares
45.5	162	27.0	23.0	
44.4	20.0	30.9	26.8	
52.1	22.8	33.5	29.7	
55.6	26.5	37.2	33.1	3.8
59.0	29.7	40.5	36.5	7.4
261.6	115.2	169.1	149.1	
1 40 52.32	1 42 23.04	1 52 33.82	1 54 29.82	1 59 0.16
				35.54

0.07 7.23  
0.16 3.64

End

0	1	-0.23	-35.62	+35.60	$\frac{2}{2}$	Am
6		-0.26	35.69	35.59	-1	
34		-0.40	35.86	35.53	+17	
54		-0.28	35.41	35.52	+11	7145
134		-0.29	35.59	35.48	-11	
20		-0.24	35.62	35.45	-17	
<u>157</u>			-35.495		$\pm 155$	10h
Pre-R			0.050			
July			+0.010			
			<u>0.055</u>			

1865 Jan 4<sup>th</sup> Ill West  
Am

o Tauri	57 Per Min B	E Eridani	8 Eridani	7 Tauri	3
57.0		55.4	8.3	48.7	
58.0	3 19 31.7	59.2	11.8	53.0	
0.6	21 3.0	1.9	14.7	55.7	
4.4	22 12.3	5.6	18.4	59.7	
7.6	23 16.8	8.8	21.7	3.3	
124.6		130.9	74.9	220.4	
4.6		10.9		280.4	
3 17 0.92	3 20 56.17	3 26 2.18	3 36 14.98	3 38 56.08	3
				39 29.78	
	3 19 30.4   2 33.0				
	21 0.6   3 2.6 3.7 5.0				
	22 10.3   4 11.0 12.0 13.5 14.9				
	23 42.0   5 43.0 44.5 45.7 46.9 48.2 49.3 50.5 51.5				
X					
2	56.83				
C	56.17				
D	58.26				
E	<u>53.21</u>				

next page

3 Pucci	γ Eridani	Gr 750	0.1 Eridani	δ Tauri
59.5	5.2	3 53 34.8		30.2
4.2	9.0	54 20.5	41.7	34.4
7.2	11.6	52.2	44.4	37.2
11.4	15.4	55 35.7	48.0	40.8
15.5	18.8	56 16.6	51.5	44.5
97.8	60.0	159.8		187.1
37.8				
3 45 7.56	3 51 12.00	3 54 55.96	4.2 4 44.68	4 14 37.42
	45.48		5. 18.26	

3 53 34.4  
35.3

54 19.7  
20.6  
21.3

54 57.8  
52.5

53 33.7  
36.0

56 15.7  
16.6  
17.6

44.78 6.72  
44.62 3.38  
44.67 0.27  
44.64 2.94

1865 - Jan 4<sup>th</sup> Ill. West  
AM

64 Tauri	$\epsilon$ Tauri	$\alpha$ Tauri	53 Eridani	$\mu$ Eridani
40.2	5.3	32.0	21.0	6.7
44.2	9.5	35.7	25.1	10.6
47.1	12.0	38.7	28.0	13.2
51.0	16.1	42.5	31.5	17.0
54.2	19.5	45.8	34.9	20.3
236.7	62.4	194.7	140.5	67.8
4 15 47.34	4 20 12.48	4 27 38.94	4 31 28.10	4 37 13.56
	46.23	28 12.63		

next page

$\epsilon$ Aurigae	$\epsilon$ Tauri	$\epsilon$ Leporis	$\alpha$ Aurigae	$\beta$ Orionis
32.7	22.8	5.9	2.3	24.4
37.5	27.0	10.1	8.1	28.3
40.7	30.0	13.1	11.9	31.1
45.0	33.8	16.7	17.2	34.5
49.0	37.5	20.3	21.7	38.0
204.9	151.1	66.1	61.2	156.3
4 47 40.98	4 57 30.22	4 59 13.22	5 6 12.24	5 7 31.26
48 14.74		46.63	46.15	8 4.98

1863-Jan 4<sup>th</sup> Ill West  
AM

7 Aurigae	3 Tauri	64 Camel B	3 Leporis	8 Aurigae
24.5	6.3		488	78.2
28.5	10.7	5 18 16.7	53.1	31.9
31.2	13.9	58.4	56.0	34.7
34.9	18.0	19 28.5	57.8	38.4
38.2	21.7	20 9.6	3.3	41.6
157.3	70.6		221.0	174.8
			281.0	
5 10 31.46	5 17 14.12	5 18 50.71	5 21 56.20	5 24 34.96
	47.94			25 8.64

5 18 15.7  
16.7  
17.6 / 2

18 48.0  
48.7 / 3

19 28.1  
28.9 / 4

20 9.2  
10.1 / 5

Sum

57.32

49.10

57.57

50.92

50.71

Emel

<i>ε Aurigae</i>	<i>α Columbae</i>	<i>16 Aurigae</i>	<i>α Aurigae</i>	<i>δ Aurigae</i>
43.5	6.0	43.0	13.2	57.3
47.2	10.9	46.8	17.3	56.3
50.1	13.9	49.5	20.0	59.6
53.7	18.3	53.3	23.6	4.0
57.1	22.3	56.5	27.0	8.2
251.6	71.4	249.1	101.1	179.4
				299.4
5- 28 50.32	5 34 14.28	5 40 49.82	5 47 20.22	59.88
29 23.82			53.95	

1865 Jan 9<sup>th</sup> All West  
AM

End

B Cts

γ Cassiopeia

15.9 56.7

20.0 4.4

22.8 9.6

26.6 17.1

30.2 23.4

115.5 111.2

57.2

O 35 23.10 O 47 10.24

36 49.04

Jan 4<sup>th</sup>

339 -0.24 -33.94 +34.04 +.10

52 -0.38 33.86 34.02 +.16

45 -0.34 33.92 34.01 +.09

21 -0.25 34.00 33.99 -.01

✓ 28 -0.26 33.95 33.98 +.03

48 -0.22 33.98 33.96 -.02

50 -0.43 33.84 33.95 +.11

✓ 7 -0.21 34.02 33.94 -.18

✓ 8 -0.35 34.07 33.94 -.13

✓ 18 -0.23 34.05 33.93 -.12

5<sup>4</sup> 10<sup>m</sup> + 34.038 (5)

25 -0.31 33.99 33.93 -.06

29 -0.31 33.81 33.92 +.11

✓ 48 -0.28 -34.00 33.90 -.10

448 -33.964 ±0.80 106

0.060

0.064

+0.063

O 36 -0.40 -26.34

Rec'd  
July

1865 Jan 11<sup>th</sup> Ill West

AM

nut page

$\alpha$ Pegasi	$\alpha$ Andromedae	$\gamma$ Pegasi	$\beta$ Cassiopeiae	$\alpha$ Cassiopeiae
31.9	54.3	47.2	53.7	17.2
(36.1)	58.6	51.3	0.4	24.2
39.0	1.6	53.9	5.1	28.9
45.9	5.6	57.6	11.2	35.0
	9.5	1.2	16.5	41.4
	129.6	211.2	86.9	146.7
	9.6	271.2	26.9	
22 57 39.08	0 1 1.92	0 5 54.24	0 29 55.38	0 32 29.34
58 2.38	25.40	6 17.75		

0.0140

A 39.02 6.88

C 39.27 0.27

D (39.11) 3.01

E 38.96 7.06

165 Jan 11<sup>th</sup> All West  
AM

$\beta$ Ceti	$\beta$ Andromedae	Polaris	* for Cygia	FAV	Jan 11	d*	-17° 18'
18.5	40.2	1 5 5.9		34.6			18.7
22.5	44.8	2 44.2		39.2			21.9
25.5	48.2	9 29.5		44.5			<del>24.7</del>
29.4	52.5	12 3.7		45.7			25.6
32.9	56.6	14 14.7		48.7			29.0
128.8	242.3	98.0		212.6			116.9
0 36 25.76	1 1 48.46	1 9 43.60	1 24 42.48				1 25 23.32
49.01							8.7
							12.9
							15.7
							19.6
							23.0
							79.9
		1 4 37.2					
		5 1.0					1 25 15.98
		38					
		60					
		78					
		10.6					
		12.7					
		7 42.5					
		43.5					
		44.8					
		46.1					
		9 27.2					
		28.3					
		30.5					
		32.0					
		12 0.0					
		1.4					
		2.7					
		4.5					
		6.0					
		7.4					
		14 12.3					
		14.0					
		15.5					
		16.8					

next page

$\nu$ Perseus	$\tau$ Ceti	* pri: $\chi$ Ceti	$\chi$ Ceti	$\beta$ Arctus
55.4	183	164	27.9	41.8
59.2	22.4	20.4	32.0	46.1
1.8	25.0	23.1	34.6	48.8
5.6	29.0		38.3	52.8
8.8	32.4		41.8	56.3
130.8	127.1		174.6	245.8
1 10.8				
1 34 2.16	1 37 25.42	1 42	1 42 34.92	1 46 49.16
25.41				47 12.43

865 Jan 11<sup>th</sup> S. M. West  
AM

67 Ceti	0 Ceti	0 Tauri	8 Cardani	8 Persei
460	27	4.5-	5.5-	(46.2)
498	70	8.4	9.4	54.1
520	9.1	(112)	12.0	58.2
56.2	12.9	(15.2)	15.9	3.6
59.6	16.2	18.0	19.2	8.4
263.6	47.9	57.3	62.0	172.6
				292.6
2 8 52.72	2 12 9.58	3 17 <del>11.44</del>	3 26 12.40	3 32 <del>18.52</del>
10 16.03				

next page

$\delta$ Eridani	$\zeta$ Puppis	$\gamma$ Eridani	Gr 750	$\gamma$ Tauri
16.2	9.7	153	3 53 45.7	38.2
22.3	14.0	19.2	54 30.0	42.4
25.0	17.5	22.0	55 2.1	44.8
28.6	21.7	25.7	55 46.4	48.9
31.9	25.7	29.2	56 25.2	52.3
126.0	88.6	111.4	149.1	226.6
$\Sigma$ 36 25.20	$\Sigma$ 45 17.72	$\Sigma$ 51 22.28 45.42	3 55 05.82	4 11 45.32

1865 Jan 11th All West

AM

δ Tauri			64 Tauri			ε Tauri			α Tauri			53 Eridani			11		
		40.7			30.4			15.5			420			315			
		44.5			32.5			19.8			462			355			
		47.5			57.2			22.6			489			382			
		51.2			1.0			26.4			526			41.9			
		54.7			4.5			29.9			561			453			
		238.6			167.6			114.2			245.8			192.4			
					287.6												
4	14	47.72	4	15	57.52	4	20	22.84	4	27	49.16	4	31	38.48			
								46.19		28	12.59						

next page

<i>u Eridani</i>	<i>v Aurigae</i>	<i>i Tauri</i>	<i>e Leporis</i>	<i>a Aurigae</i>
16.8	432	332	161	126
(20.6)	478	374	201	184
23.2	570	401	231	220
27.0	554	440	272	273
(30.3)	592	477	308	320
118.0	256.6	202.4	117.3	112.0
4 38 <del>29.6</del>	4 47 51.32	4 54 40.48	4 59 23.46	5 6 22.46
	48 14.71		46.59	46.13

1865 Jan 11<sup>th</sup> All West  
AM

3 Orionis	1 Orionis	13 Leporis	8 Orionis	a Leporis	2
346	33.0	59.2	38.5	182	
38.7	38.8	3.2	42.4	22.3	
41.4	41.6	6.2	45.0	24.9	
45.1	45.2	9.9	48.8	28.9	
48.4	48.5	13.4	52.0	32.2	
208.4	209.1	91.9	226.7	126.5	
		31.9			
5 7 41.68	5 10 41.82	5 22 6.38	5 24 45.34	5 26 25.30	5
8 4.95			25 8.64	48.54	

next page

<i>E Orionis</i>	<i>R Orionis</i>	<i>a Orionis</i>	<i><math>\theta</math> Aurigae</i>	<i><math>\gamma</math> Gemmae</i>
53.7	53.2	23.6	1.7	26.6
57.7	57.1	273	6.3	30.5
0.2	59.8	302	9.6	33.4
4.0	3.4	340	14.4	37.5
7.2	6.9	37.4	18.4	41.1
122.4	180.4	152.5	50.4	169.1
0.56	300.6			
5-29 <del>24.56</del>	5-41 0.08	5-47 30.80	5-50 10.08	5-55 33.82
23.82		53.95		

1865 Jan 11<sup>th</sup> All W

AM

$\alpha$ Crionis	$\eta$ Gemmonum	$\kappa$ Columbae	$\mu$ Gemmonum	$\beta$ Canis Maj
<i>x mistletoe</i> 23.7	15.4	15.8	19.2	17.0
27.6	19.4	20.5	23.4	21.3
30.4	22.2	23.9	26.0	24.0
34.2	26.1	28.4	30.2	27.7
37.5	29.9	32.5	33.7	31.3
153.14	113.0	121.1	132.5	121.3
5 59 30.68	6 6 22.60	6 11 24.22	6 14 26.50	6 16 24.26
56.08			49.95	

next page

$v$ Summorum	$2\frac{1}{2}$ Camel #	$\gamma$ Summorum	$5\frac{1}{2}$ Cephei #	$a$ Canis Maj
28.4	16.6	26.6	6 34 1.7	43.7
32.6	37.3	30.6	35 22.1	47.8
35.5	51.8	33.3	36 16.2	57.5
39.3	13.0	37.3	37 31.1	54.1
42.6	31.7	40.5	—	57.7
178.4	150.4	168.3		253.8
	270.4			
6 20 35.68	6 22 57.08	6 29 33.66	6 36 22.40	6 38 50.76
		57.02		39 13.99

6 34 0.6  
1.7  
2.9

35 21.1  
22.2  
23.1

36 15.5  
16.2  
17.0

37 29.1  
30.0  
31.1  
32.0  
33.2

17 21.37  
21.41  
22.66  
23.87

1843 Jan 11<sup>th</sup> Ill West

AM

<i>Canis Maj</i>	<i>+ Canis Maj</i>	<i>ε Canis Majoris</i>	<i>γ Sannorum</i>
19.0	27.0	50.6	37.7
23.6	31.2	52.9	41.2
26.8	33.7	58.0	44.9
31.2	37.6	2.3	48.5
35.0	40.9	5.9	52.2
135.6	170.4	171.7	224.5
		291.7	
6 44 27.12	6 47 34.08	6 52 58.34	6 55 44.90
		53 21.48	

End

Clock - Rate rather wild

22	58	-0.26	-23.56	+23.68	+32
0	2	-0.23	23.71	23.83	+12
6		-0.26	23.77	23.83	+06
37		-0.40	23.65	23.80	+15

23 22 +23.680 (3)

23 56 -23.672

~~45~~

47

2 9 -0.34 23.65 23.74 +09

+0.005

3 52 -0.38 23.52 23.66 +14

6 46 2 +0.005

4 21 -0.25 -23.68 23.64 +04

48 -0.22 [23.61] 23.62 +01

5 0 -0.43 23.56 23.61 +05

7 -0.24 23.58 23.60 -28 ✓

8 -0.34 23.61 23.60 -01 ✓

25 -0.31 23.61 23.59 -02

27 -0.39 23.63 23.59 -04

30 -0.31 23.57 23.59 +02

48 -0.28 23.73 23.57 -16 ✓

6 0 -0.26 23.66 23.57 -09

15 -0.24 23.69 23.56 -13

30 -0.26 23.62 23.54 -08

39 -0.39 23.62 23.54 -08 ✓

53 -0.48 23.62 23.53 -09

24 12

-23.645

+0.052

+0.035

+0.044

±.095 10h

43 35 2

77 47 17

JMS 135 -0.29 -23.54

147 -0.25 -23.52

141 -23.530

23.659

+0.129 1.6

Am

$$\begin{array}{r} 15 \\ 0.02 \\ \hline 510 \end{array}$$

5 55 +23.710 (4)

Violent change of Rate

30 18 6

5 20<sup>m</sup> -23.631 15

JMS 135

147

Break  
July

15 Jan 12<sup>th</sup> M.M.

T.H.S.

3 Cephei

70 Piscium?

ε Piscium

\* + 1 46.7

\* + 1 39.4

0 47 58.6  
 0 49 58.6  
 50 32.5  
 51 19.4  
 52 1.5

37.2  
 40.9  
 43.6  
 47.4  
 50.6

27.6  
 31.5  
 34.1  
 37.9  
 41.2

47.4  
 51.4  
 53.8  
 57.5  
 0.8

180  
 120  
 146  
 184  
 21.6

219.7

172.3

210.9

76.6

0 50 36.03

0 57 43.94

0 55 34.46  
 57.06

1. 1

270.9  
54.18

1 315.32

35.87

36.30

35.91

36.03

36.03

next page

<i>Salvus</i>	<i>4 Caspian</i>	$\times + 2^{\circ} 36.3$	214 <i>Camel B</i>	$\times + 2^{\circ} 56.3$
1 5 2.5	480	27.7	18 58.0	47.5
7 42.8	55.0	31.7	19 44.6	57.2
9 32.6	4.9	34.3	20 18.1	57.7
11 59.0	14.4	37.9	21 8.5	58
14 15.0	22.9	41.3		
151.9	148.2	172.9		2113
	28.2			271.3
1 9 42.38	1 16 5.64	1 17 34.58	1 19 41.29	1 24 54.26

1 4 52.0	1
5 28	
6.7	
7 39.9	
41.1	
42.6	2
46.8	
9 28.6	
31.0	
32.3	3
33.5	
37.8	
11 53.0	
56.7	
57.0	
59.5	4
12 1.7	
3.6	
14 11.1	
12.6	
13.5	5
17.9	
19.7	

B	10.32
C	11.26
D	10.35
E	42.22
	41.29

1865- Jan 12<sup>th</sup> All West  
JH8

+ 20 17.5	* + 10 43.0	* + 20 49.3	* + 10 58.3	* + 10 34.9
	41.6	7.0	20.7	44.5
	43.4	10.7	24.4	48.4
	48.3	13.4	27.2	50.9
25.0	52.0	17.2	30.8	54.6
31.4	55.2	20.5	34.2	58.0
	242.5	68.8	137.3	256.4
1 23-	1 26 48.50	1 32 13.76	1 33 27.46	1 34 57.28

next page

* + 2° 51.8	* + 2° 40.4	* + 2° 50.9	219 Camel B.	a Pucier	Free	Full
24.2	27.6	58.1	1		38.4	—
28.1	31.5	2.7	1	45	—	39.3
30.8	34.0	4.7			41.8	—
34.4	37.8	8.4	46	17.4	—	45.7
37.8	41.0	11.7		50.9	48.7	—
155.3	171.9	85.7				
		25.7				
1 36 31.06	1 38 34.38	1 41 5.14		1 54 42.20		

42.24	42.21
42.06	42.35
42.04	
42.11	42.28

165 Jan 12<sup>th</sup> Ill West  
 1948

some trouble here

+ 2° 39.1

a Arctis

\* + 0° 13.5

\* + 2° 5.2?

o Ceti?

38.3

42.0

45.2

5.4

9.5

12.5

16.4

19.9

63.7

15.7

19.6

22.3

25.9

29.2

112.9

19.4

23.2

25.9

29.5 5?

32.9

130.9

1 55-

1 59

12.74

2 2

22.58

2. 5-?

26.18

35.42

next page

$\star + 0^{\circ} 52.1$	$\star + 1^{\circ} 1.7$	$\epsilon$ Ceti	$\gamma$ Ceti	$\star + 1^{\circ} 50.7$
57.3	39.8	33.7	50.3	54.8
53.3	37.6	37.7	54.4	58.7
57.8	40.3	40.5	56.9	1.4
1.4	43.9	44.1	0.5	4.9
5.0	47.2	47.5	3.8	8.3
190.8	202.8	203.5	765.9	128.1
			285.9	8.1
2 24 34.16	2 25 44.56	2 32 40.70	2 36 57.18	2 43 1.62
			36 19.71	

865 Jan 12<sup>th</sup> Ill West  
TWS

			* + 10 23.6			* + 20 54.3			$\eta$ Eridani			$\epsilon$ Aurigae		
			53.5		124			38.0			21.8			1.5
			57.5		13.9			42.0			25.8			5.7
			0.2		18.6			44.7			28.4			8.7
			3.8		22.1			48.4			32.0			12.5
			7.0		25.4			51.6			35.6			15.9
			12 2.0		94.0			224.7			163.5			44.3
			2.0											
2	44	0.4	2	46	18.50	2	47	44.94	2	49	28.70	2	51	8.86

next page

<i>a Ceti</i>	<i>B Pumi</i>	<i>d Antis</i>	<i>12 Eridani</i>	<i>* pue 3 Eridani</i>
45.5	54.2	26.6	51.1	30.0
49.5	59.3	30.8	55.7	34.0
52.0	2.7	33.6	58.7	36.6
55.7	7.6	37.4	2.9	40.2
58.9	11.9	40.9	6.6	43.6
261.6	135.7	169.3	175.0	184.4
	15.7		295.0	
2 54 52.32	1 59 3.14	3 3 33.86	3 5 59.00	3 8 36.88
55 14.84		56.46		

1863-Jan 12<sup>th</sup> - Ill West  
TWS

3 Eridani		0 Tauri		323 Cephei $\beta$		$\epsilon$ Eridani		Aln 0 Eridani	
48.5		5.2		3 20	51.4	6.2		19.0	
52.5		9.1		21	49.5	10.2		23.0	
55.2		11.8		22	29.0	12.9		25.6	
58.9		15.5		23	24.3	16.5		29.1	
2.2		18.7		24	15.1	20.0		32.6	
217.3		60.3			169.3	65.8		129.3	
277.3									
3 8	55.46	3 17	12.06	3 22	33.86	3 26	13.16	3 36	25.86

next page

$\pi$ Tauri	$\zeta$ Persei	$\gamma$ Eridani	$\theta$ Eridani	$\gamma$ Tauri
59.6	10.5	15.9	48.8	38.9
3.9	15.0	19.9	52.6	43.1
6.7	18.0	22.6	55.3	45.7
10.8	22.4	26.3	59.2	49.6
14.3	26.0	29.6	2.3	53.0
45.3	91.9	114.3	218.2	230.3
35.3			278.2	
3 39 7.06	3 45 18.38	3 51 22.86	4 4 55.64	4 11 46.06
29.71		45.41	5 18.20	

748

End

J.H.S.	0 56	-0.28	-22.88	-22.92	+0.04	
	2 0	-0.24	22.92	-22.88	-0.04	
	3 6	-0.30	22.83	22.86	+0.03	
	5 5	-0.30	22.82	-22.85	+0.03	
	3 4	-0.25	22.85	22.84	-0.01	2 18 -22.860
	4 28	-0.26	22.84	-22.77	-0.05	
	<u>2 40</u>		<u>-22.857</u>			$\pm .025$

- .041  
24.75<sup>uu</sup> + 22.865

.23  
.77  
1.5929  
.0088  
2.5817  
1.2

0.027  
0.0394

	3 39	-0.24	-22.89	+22.91	+0.02	
	5 2	-0.38	22.93	22.91	-0.02	
	4 5	-0.34	22.90	22.90	.00	
	2 1	-0.25	22.89	22.88	-0.01	
	<u>3 59</u>		<u>-22.902</u>			$\pm .006$
	<u>5 9</u>		<u>22.845</u>			
			+0.057			

Proc R 0.035  
Jolly 0.034  
0.035

1865 Jan 13<sup>th</sup> All Night  
AM

Ceti		$\gamma$ Ceti		41 Arietis		$\gamma$ Eridani		$\alpha$ Ceti						
	34.5		37.1		34.8		22.6		46.2					
	38.5		55.2		39.1		26.6		50.1					
	49.3		57.7		42.1		29.3		52.8					
	45.0		1.4		46.1		32.9		56.4					
	48.3		4.7		49.7		36.3		59.7					
	209.6		170.1		211.8		147.7		265.2					
			290.1		42.36									
1	32	41.82	2	35	52.02	2	41	42.36	2	49	29.52	2	54	53.04
			36	19.69									55	14.83

next page

	$\beta$ Persei	$\delta$ Antares	$\gamma$ Eridani	$\alpha$ Persei	$\epsilon$ Eridani
2	34.9	27.5	49.4	(11.7)	7.0
1	57.9	31.6	53.5	17.9	11.1
8	3.5	34.4	55.9	22.2	13.7
4	8.1	38.2	59.8	27.7	17.3
7	12.5	41.7	3.1	32.7	20.7
12	138.9	173.4	221.7	112.2	69.8
	18.9		281.7		
4	2 57 3.78	3 3 34.68	3 8 56.34	3 14 <del>54.77</del>	3 26 13.96
3		56.46			

865 Jan 13<sup>th</sup> Old West

AM

$\delta$ Persei		$\delta$ Eridani		$\eta$ Tauri		$\beta$ Persei		$\gamma$ Eridani	
	52.0		17.7		0.4		11.4		16.6
	55.7		23.8		4.6		15.9		21.8
	59.6		26.4		7.6		19.0		23.5
	50		30.2		11.6		23.4		27.3
	9.9		33.4		15.1		27.0		30.6
	180.2		133.5		39.3		96.7		118.8
	300.2								
3	$\frac{32}{33}$ 00.04	3	36 26.70	3	<del>39</del> 7.86 29.70	3	45 19.34	3	51 23.76 45.40

next page

1864 phase

	o'Endarii		$\gamma$ Tauri		$\delta$ Tauri		$\epsilon$ Tauri		$\epsilon$ Tauri						
16	—		37.7		42.0		51.9		17.0						
8	—		43.8		46.1		56.0		21.1						
5	56.4		46.6		48.9		58.9		24.0						
3	0.0		50.4		52.7		2.6		27.9						
6	3.2		53.7		56.3		6.0		31.3						
8			234.2		246.0		175.4		121.3						
							295.4								
76	4	4	56.59	4	11	46.82	4	14	49.20	4	16	59.08	4	20	24.26
40		5	18.19												46.17

56.48

56.62

56.67

1865 Jan 13<sup>th</sup> Ill West

AM

a Tauri			53 Eridani			M Eridani			9 Canis M			L Auriga		
		43.7			32.7			18.4			4.7			44.7
		47.7			37.0			22.3			14.3			49.4
		50.4			39.7			25.0	two sun	(20.8)				52.5
		54.3			43.4			28.6			29.6			56.8
		57.6			46.8			31.8			38.0			6.8
		253.7			199.6			126.1			107.4			204.2
														261.2
4	27	50.74	4	31	39.92	4	38	25.22	4	40	<del>21.48</del>	4	47	52.54
	28	12.58											48	14.69

End

	<i>α Aurigae</i>	<i>β Orionis</i>	
4.7	34.7	14.3	36.2
9.4	38.7	19.9	40.3
2.5	41.6	23.7	42.8
6.8	45.7	28.8	46.5
1.8	49.2	33.6	50.0
1.2	209.9	120.3	215.8
2			
54.	4 54 41.98	5 6 24.06	5 7 43.16
69		46.12	8 4.94

2 36	-0.30	-21.97	+22.14	+ .17
55	0.30	22.09	22.12	+ .03
3 4	0.25	22.01	22.12	+ .11
39	0.24	22.08	22.09	+ .01
52	0.38	22.02	22.18	+ .16
4 5	0.34	21.94	22.07	+ .13
21	0.25	22.16	22.06	- .10
28	0.26	22.10	22.05	- .05
48	0.22	22.07	22.04	- .03
5 7	0.21	22.27	22.02	- .25
8	-0.35	22.13	22.02	- .11
4 0		-22.076		
Re R		0.034		
Foley		0.058		
		0.046		

1885 Jan 16<sup>th</sup> All Mont

Am

Pigasi

B Ceti

S Piscium

S Mus Maj. 50

S Piscium

52.8

24.1

16.6

33.0

32.4

56.7

28.0

21.7

40.9

36.3

59.4

31.1

23.1

47.4

39.0

3.5

33.0

27.0

52.3

42.5

6.6

38.5

30.4

59.4

45.7

179.0

156.7

117.8

235.0

196.1

299.0

oh 5 59.80 0 36 31.34 0 41 23.56 0 47 47.00 0 55 39.22

6 17.68

48.94

57.01

next page

	<i>B. Andromedae</i>		Polaris		<i>q. Cassiopeae</i>		<i>q. Perseus</i>		* +10 43.0
2.4	45.5	1	5 5.2		52.2		57.9		46.7
6.3	50.4		7 40.6		2.2		56.2		50.7
9.0	53.9		9 31.9		9.2		59.0		53.5
15.5	58.0		12 0.1		18.9		2.6		57.1
19.7	20		14 12.2		27.6		6.0		59.9
21.1	209.8		90.0		110.1		175.7		267.9
	269.8				50.1		295.7		
22.0	1 1 53.96	1	9 42.00	1	16- 10.02	1	23 259.14	1	26 53.58
21.0							24 16.68		

1 4 57.1  
 5 0.4  
 1.6  
 3.3  
 4.9  
 6.6  
 8.4  
 9.8  
 12.5

1 7 58.2  
 39.3  
 40.6  
 41.7  
 43.2

1 9 29.3  
 30.5  
 31.6  
 33.5  
 34.8

1 11 56.2  
 57.1  
 58.0  
 12 0.6  
 1.6  
 3.8  
 4.0

1 14 11.2  
 12.0  
 13.4

1865 Jan 16<sup>th</sup> Ill West.

THS

Star for Cyprian  
11. PucumStar for Cyprian  
Per 218

x + 2° 49.3

v Pucum

x + 11° 53.2 for Cyprian

33.1

6.5

11.9

1.0

27.8

37.0

10.4

15.7

4.8

31.3

39.7

13.2

18.5

7.5

34.2

43.4

16.8

22.0

11.1

38.1

46.7

20.2

25.5

14.5

41.5

199.9

67.1

93.6

38.9

173.9

1 29 39.98

1 30 13.42

1 32 18.72

1 34 7.78

1 35 34.60

25.34

next page

	+ Ceti	* + 0° 5.7	* + 0 56.0	50 Cassiopeae	a Perseus
18	23.9	2.4	20.9	22.0	<u>Price</u> <u>Full</u>
3	27.9	6.4	25.0	34.5	44.1 40.4
2	30.7	9.0	27.8	42.9	47.0
1	34.5	12.5	31.2	54.7	50.6 47.0
6	38.1	16.0	34.9	5.0	53.9
9	155.1	46.3	139.8	159.1	
				219.1	
60	1 37 31.02	1 40 9.26	1 49 27.96	1 57 43.82	1 54

47.24  
 47.00  
 47.31  
 47.22  
 47.23  
 47.11 47.26

1865 Jan 16<sup>th</sup> All West.

THS

\* + 2° 39.1

a Anitus

\* + 1° 1.3

\* + 2° 5.2

67 Ceti

AM

36.7

10.3

20.8

53.3

57.3

40.6

14.5

24.9

57.3

55.3

43.3

17.4

27.6

0.0

58.3

46.9

21.4

30.9

3.5

1.8

50.2

24.9

34.4

6.9

5.1

217.7

88.5

138.6

121.0

172.0

1 55 43.54

1 59 17.70

2 2 27.72

2 4 0.20

2 9 58.40

35.36

10 15.96

mixed up observations  
of  $\beta$  Cep and  $\gamma$  Ceti

next page

$\alpha$ Ceti		$\epsilon$ Ceti		$\gamma$ Ceti		41 Arietis		$\eta$ Eridani	
	7.9		38.6		55.2		38.7		26.4
	12.1		42.7		59.1		42.9	Equal to above	30.6
	14.7		45.3		1.8		46.1		33.4
	18.7		48.9		5.3		50.1		37.0
	22.0		52.3		8.7		54.0		(40.1)
	75.4		227.7				231.8		167.5

  

2	11	15.08	2	32	45.54	2	36	2.02	2	41	46.36	2	49	<del>55.50</del>
							36	19.66						

6.67	2.03
3.36	1.94
0.27	2.07
2.92	2.02
6.84	<u>2.14</u>

1865 Jan 16<sup>th</sup> Ill. West

AM

<i>a Ceti</i>	<i>B Persi</i>	<i>S Arctus</i>	<i>a Eridani</i>	<i>3 Eridani</i>
<i>Equator obs</i>				
52.5	59.3	31.5	56.1	53.6
57.4	4.0	35.7	0.6	57.4
57.0	7.6	38.6	3.6	0.3
0.6	12.4		7.6	3.8
4.0	16.9	45.7	11.5	7.2
166.5	100.2		79.4	122.3
286.5	40.2		19.4	2.3
2 54 57.30	2 59 8.04	3 3 38.76	3 6 3.88	3 9 0.46
55 14.80		56.40		

0.0249

38.65 7.05  
 3.55  
 38.78 0.28  
 38.88 3.18  
 38.74 7.24

mult page

<i>a Persei</i>	<i>o? Tauri</i>	<i>ε Eridani</i>	<i>δ Persei</i>	<i>δ Eridani</i>
16.0	10.0	11.5	54.2	23.8
21.9	14.3	15.2	59.7	27.7
26.0	16.8	17.9	3.7	30.4
31.5	20.3	21.4	9.1	34.2
36.6	23.8	25.1	13.8	37.6
132.0	85.2	91.1	140.5	153.7
			20.5	
3 14 26.40	3 17 17.04	3 26 18.22	3 33 4.10	3 36 30.74

1865 Jan 16<sup>th</sup> Ill West

AM

 $\eta$  Tauri

?

 $\gamma$  Tauri $\delta$  Tauri $\epsilon$  Tauri

4.5

25.0

43.7

46.2

56.2

8.6

28.5

47.8

50.3

0.3

11.9

31.4

50.6

53.1

3.0

15.7

35.2

57.6

56.9

6.5

19.3

38.4

58.0

0.3

10.0

60.0

158.5

254.7

266.8

7.6.0

3 39 12.00  
29.66

4

3

31.70

4

11

50.94

4

14

53.36

4

16

3.20

next page

$\epsilon$ Tauri	$\alpha$ Tauri	$\zeta$ 3 Eridani	$\mu$ Eridani	$\iota$ Aurigae
21.2	47.9	37.1	22.9	48.8
25.3	51.9	41.3	26.8	53.7
28.1	54.6	44.0	29.4	57.1
32.0	58.3	47.7	33.0	1.2
35.6	1.9	51.2	36.5	4.9
142.2	264.6	221.3	148.6	165.7
	274.6			285.7
4 20 28.44	4 27 54.92	4 31 44.26	4 38 29.72	4 47 57.14
46.15	28 12.55			48 14.67

1865 Jan 16<sup>th</sup> All Night  
AM

$\epsilon$ Tauri	$\epsilon$ Leporis	$\alpha$ Aurigae	$\beta$ Orionis	$\gamma$ Orionis
39.3	22.1	18.6	40.5	41.2
43.5	26.3	24.5	44.7	45.0
46.1	28.7	28.0	47.3	47.3
50.2	33.0	33.1	50.9	51.3
53.7	36.6	37.8	54.1	54.5
232.8	146.9	142.0	237.5	239.3
4 5 <sup>4</sup> 46.56	4 5 <sup>7</sup> 29.38 46.54	5 6 28.40 16.09	5 7 47.50 8 4.93	5 10 47.86

next page

	$\beta$ Tauri	$\beta$ Leporis	$\delta$ Orionis	$\alpha$ Leporis	$\epsilon$ Orionis
2	22.5	4.9	44.3	24.0	59.4
0	27.0	9.2	47.9	28.0	3.2
3	29.9	11.9	50.8	30.7	5.8
3	34.3	15.8	54.4	34.8	9.5
-	37.8	19.2	57.7	38.4	13.0
3	151.5	61.0	255.1	155.9	90.9
					30.9
86	5 17 30.30	5 22 12.20	5 24 51.02	5 26 31.18	5 29 6.18
	47.92		25 8.62	48.51	23.80

1865 Jan 16<sup>th</sup> Ill West

AM

a Columbae			K. Alnoris			a Alnoris			a Anijae			Summorum		
		22.0			58.9			29.4			7.5			32.2
		26.9			2.9			33.5			12.2			26.4
		30.0			5.7			36.0			15.6			39.3
		34.4			9.2			39.9			20.0			43.5
		38.4			12.6			43.1			24.2			46.8
		151.7			89.3			181.9			79.5			188.2
					29.3									
4	34	30.34	5	41	5.86	5	47	36.38	5	50	15.90	5	55	37.64
								53.95						

next page

	<i>K. Columbae</i>	<i>M. Gummorum</i>	<i>S. Ind. Min. sp</i>	<i>V. Gummorum</i>	<i>Y. Gummorum</i>
2.2	21.4	25.0		34.3	32.3
6.4	26.2	29.1		38.6	36.4
9.3	29.5	32.0		41.1	39.1
3.3	33.8	36.2	6 15 58.5	45.4	42.8
1.8	38.0	39.4		48.3	46.2
1.2	148.9	161.7		207.9	196.8
64	6 11 29.78	6 14 32.34 49.96		6 20 41.58	6 29 39.36 57.04

1845 Jan 16<sup>th</sup> Ill West

AM

51 Cephei  $\delta^*$ 

a Canis Maj

3 Pinnorum

 $\gamma$  Canis Maj $\delta$  Canis Maj

37 36.1

49.5

43.5

16.8

31.4

53.4

47.8

20.9

36.0

56.2

50.5

23.7

38.6

59.9

54.5

27.5

42.9

3.4

58.0

30.9

46.6

272.4

254.3

119.8

195.5

282.4

6 38 56.48

6 55 50.86

6 57 23.96

7 2 39.10

39 13.99

41.24

This is mixed up  
with equatorial con-  
versions and cannot  
be well made out

JMS

124

34

20

End

$\lambda$ Gammaorum	4 hrs Min	$\alpha$ Gammaorum	$\alpha$ Cass. Min	$\beta$ Gammaorum
57.5	7 11 15.5	Prec. 35.3	51.7	40.1
1.7	15 0.7	40.1	55.7	44.3
4.4	17 31.6	42.9	58.2	47.4
8.4		47.8	2.0	51.7
11.7		51.2	5.2	55.5
83.7			172.8	239.0
23.7			292.8	
4.74	7 10	7 25 43.43	7 31 58.56	7 36 47.83
		26 July 1.14	32 16.28	37 15.52

$\frac{43.12}{43.21}$   $\frac{43.54}{43.84}$   
 $\frac{43.12}{43.17}$   $\frac{43.69}{43.69}$

mean of Am 4 37 25  
 7145 1 39 3

$\frac{43.34}{103.1}$

Am 103.1

7 11 13.4  
 14.5  
 16.2  
 18.0

7 14 57.3  
 58.2  
 59.0  
 0.6  
 1.9  
 3.3

89° 0' 42" 0 8.23676

17 27.5  
 28.5  
 29.8  
 30.9  
 33.1  
 34.6  
 36.6

77/231 197 1.9

0 6	-0.26	-18.14	+18.14	00	4 33 +18.070 (3)
32	0.40	18.00	18.11	+1.11	
56	0.28	18.07	18.09	+0.02	
2 10	0.34	17.90	18.02	+12	
8 36	0.30	17.94	18.00	+06	
55	0.30	17.80	17.98	+18	
3 4	0.25	17.89	17.97	+08	
39	0.24	17.90	18.00	+10	
4 21	0.25	17.96	18.00	+04	
28	0.26	17.89	17.90	+01	
7 58	0.22	17.75	17.89	+13	447 +17.845 (6)
5 0	0.43	17.59	17.87	+28	
6 8	0.21	17.90	17.86	-04	
8	0.35	17.78	17.86	+08	
18	0.23	17.85	17.85	+00	
25	0.31	17.91	17.84	-07	
27	0.39	17.72	17.84	+12	
29	0.35	17.93	17.84	+09	
48	0.28	17.85	17.82	-03	
6 15	0.24	17.66	17.80	-06	
30	0.26	17.94	17.79	-15	
39	0.39	17.90	17.78	-12	
58	0.36	17.07	17.76	+09	
7 26	0.22	17.93	17.73	-20	748 +17.953 (4)
32	0.39	18.01	17.73	-28	
37	0.13	17.95	17.72	-23	

4 40 -17.886

+0.058  
 +0.057  
 11.155

7145

124 -0.26 -17.80  
 134 -0.29 17.85  
 20 -0.24 17.90

139 -17.550 Am airlog 18.020

+0.053

1865 Jan 18<sup>th</sup> All West

AM

a Andromedae		γ Pegasi		δ Piscium		η Andromedae		ε Piscium	
20		55.1		19.1		53.0		34.8	
6.5		59.2		23.1		57.9		38.9	
9.6		1.9		25.8		1.2		41.5	
13.6		5.6		29.5		5.7		45.2	
17.4		9.1		32.5		10.1		48.5	
49.1		130.9		130.0		127.9		208.9	
		10.9				7.9			
0 1 9.82	0 6	2.08	0 41	26.00	0 49	1.58	0 53	41.78	
25.31		17.66						56.99	

over page

$\beta$ Andromedae	Polaris	$\theta$ Ceti	$\gamma$ Pictoris	THS	$\times + 2^{\circ} 56.3$
47.9	1 5 4.4	55.0	57.6	54.9	
52.9	7 46.4	59.1	58.4	56.6	
55.9	9 28.1	1.6	1.3	1.4	
0.4	11 57.9	5.3	5.0	4.9	
4.2	14 16.7	8.4	8.3	8.4	
201.3	153.5	129.1	127.6	128.2	
321.3		9.4	7.6	8.2	
1 1 64.26	1 9 42.70	1 17. 1.88	1 24 1.52	1 25- 1.64	
		17.13	16.65		

1 5 0.9  
1.8  
3.1  
4.1  
6.1  
7.1  
8.0

7 39.5  
40.3  
41.4  
43.5  
46.4  
47.3  
48.5  
49.8

9 23.3  
24.4  
25.0  
26.4  
27.5  
28.9  
29.8  
30.7  
31.9  
33.2

11 57.6  
58.4  
59.7  
58.9  
0.3  
1.7

14 11.4  
13.1  
14.2  
15.8  
17.4  
19.0  
20.5  
22.1

1865 Jan 18<sup>th</sup> All West

JAS

Clytia stars

\* + 1° 43.0

Π Piscium

Br 217 Ser 16 Jan

\* + 1° 50.7 Ser 16 Jan \* + 2° 49.3

49.1

35.5

8.8

0.9

14.4

53.0

39.4

12.7

4.7

18.3

55.7

42.2

15.6

7.3

21.4

59.3

45.9

19.4

10.9

23.9

2.5

49.2

22.4

14.3

27.6

219.6

212.2

78.9

38.1

105.8

279.6

1 26 55.92

1 29 42.44

1 30 15.78

1 31 7.62

1 32 21.16

next page

$\nu$ Picum	$\ast + 10$ 34.9	$\ast + 2$ 51.8	$\tau$ Ceti	$\ast + 0^{\circ} 51$
3.3	33.3	31.7	26.3	4.7
7.3	2.1	35.4	30.4	8.7
9.9	58.3	38.3	33.2	11.3
13.5	21	41.8	36.9	14.9
17.0	5.4	45.2	40.4	18.3
51.0		192.4	167.2	57.9
1 34 10.20 .25.32	1 34	1 36 38.48	1 37 33.44	1 40 11.58

565 Jan 18th Alf West -  
1945

+ 2° 39.7		* + 0 56.6		50 Cassiopeae		a Pegasus full * + 2° 39.1	
26.8		23.3		23.7		42.8	39.1
31.0		27.4		36.4		46.6	43.1
33.6		30.1		45.1		49.3	45.8
37.0		33.6		56.3		53.0	49.3
40.6		36.9		7.1		56.5	52.7
169.0		151.5		168.6		248.4	230.0
				228.6			
1 47 33.80	1	49 30.30	1	51 45.72	1	54 49.68	1 55 46.0

next page

<i>a Arctis</i>	* +0° 1.3	* + 2° 46.9	67 Ceti	0 Ceti
	23.3	22.5	53.9	10.8
16.9	(26.9)	26.0	57.9	14.7
19.9	29.7	28.8	0.6	17.3
23.9	33.4	32.4	4.4	21.0
27.4	36.8	35.7	7.7	24.2
	150.1	145.4	124.5	88.0
			4.5	
1 59 20.17	2 2 <del>34.02</del>	2 4 29.08	2 10 0.90	2 12 17.60
35.33			15.93	

20.17 7.23  
 20.26 3.64  
 20.19 0.79  
 20.06 3.16  
 7.42

1845 Jan 18<sup>th</sup> 9.11 AM

7448

* + 0° 18.4		* + 0° 55.1		3 <sup>2</sup> Ceti		* + 0° 8.1		* + 0° 52.1	
	31.9		5.3		38.3		2.8		58.9
	35.6		9.2		42.0		6.5		27
	38.5		11.7		44.7		9.3		5.3
	42.0		15.6		48.6		12.8		8.8
	45.3		18.9		51.8		16.0		12.1
	193.3		60.7		235.4		47.4		87.8
2 14	38.66	2 18	12.14	2 20	45.08	2 22	9.48	2 24	5.56
				21	11.18				27.8

next page

AM

* + 10 1.7	$\epsilon$ Ceti	$\gamma$ Ceti	41 Arctis	$\eta$ Endani
41.0	41.0	57.7	41.1	29.0
44.8	44.9	1.2	45.6	32.9
47.6	47.7	3.9	48.6	35.6
51.6	51.3	7.6	52.6	39.2
54.6	54.7	(11.0)	56.3	42.8
239.0	239.6	81.14	244.2	179.5
		21.4		
2 25 47.80	2 32 47.92	4.27	2 41 48.84	2 49 35.90
		<del>4.27</del>		
		19.64		

(4.23) 1.67  
 4.24 3.26  
 4.17 0.27  
 4.12 2.92  
 (4.15) 4.55 6.85

1865 Jan 18<sup>th</sup> 11 W

AM

e Arietes			B Persui			d Arietes			a Eridani			3 Eridani		
		8.7			1.2			33.8			58.3			55.6
		12.9			6.7			38.1			2.8			0.0
		15.8			10.0			41.9			6.0			2.5
		19.7			14.4			44.4			10.1			6.1
		23.3			19.1			47.9			14.0			9.3
		80.4			51.4			206.1			91.2			73.5
											31.2			13.5
2	51	16.08	2	59	10.28	3	3	41.22	3	6	6.24	3	9	2.70
								56.78						

next page

$\alpha$ Persei	$\alpha$ Tauri	$\epsilon$ Eridani	$\delta$ Persei	$\delta$ Eridani
184	124	13.5	56.4	26.2
24.3	16.3	17.4	2.3	30.2
28.5	19.0	20.2	6.3	32.8
33.9	22.8	23.8	11.5	36.6
39.1	26.0	27.3	16.5	39.8
144.2	96.5	102.2	93.0	165.6
			33.0	
3 14 28.84	3 17 19.30	3 26 20.44	3 33 6.60	3 36 33.12

1863 Jan 18<sup>th</sup> Ill West

Alm

1864pha

$\gamma$ Tauri	$\zeta$ Pictoris	$\gamma$ Eridani	62 Viri	Min B	$\alpha$ Eridani		
68	17.7	23.2	3	56	17.1	56.4	
11.3	22.4	27.2			45.0	0.4	
13.8	25.5	29.8	57	16.9		3.0	
18.0	29.6	33.8		40.0		6.6	
21.7	33.6	37.1	58	12.8		10.0	
71.6	128.8	151.1		131.8		76.4	
						16.4	
3 39	14.32	3 45	25.76	3 51	30.22	3 57	14.36
	29.64				45.34	4 5	3.28
							18.14

Next page

$\alpha$ Tauri	$\delta$ Eridani	$\mu$ Eridani	$\epsilon$ Aurigae	$\gamma$ Tauri
50.3	39.7	25.2	51.3	
54.0	43.7	29.0	53.9	
57.0	46.2	32.0		
0.7	50.0	35.2	35	
4.3	53.1	38.5	72	
166.3	232.7	159.9		
286.3				
4 27 57.26	4 31 46.54	4 38 31.98	4 47 59.40	
28 12.54			48 14.66	

Equatorial observations  
moved in

Circum bad

0.0762

A	5926	-7.94
B	5951	-4.00
C	5976	+0.32
D	5997	+3.47
E	6016	+8.16

1865 - Jan 18<sup>th</sup> Ill West  
AM

$\epsilon$ Leporis		$\alpha$ Aurigae		$\beta$ Urvoris		$\gamma$ Urvoris		$\beta$ Tauri	
24.4		21.1		42.8		43.1		24.9	
28.5		26.4		47.0		47.3		29.3	
31.4		30.2		49.7		49.8		32.2	
35.4		35.6		53.4		53.3		36.2	
39.0		39.8		56.7		57.0		40.0	
158.7		153.1		249.6		250.5		162.6	
4 59	31.74	5 6	30.62	5 7	49.92	5 10	50.10	5 17	32.52
	46.52		46.08	8	4.91				47.94

End

	<i>B Leporis</i>	<i>S Orionis</i>	<i>a Leporis</i>	<i>a Columbae</i>	<i>a Orionis</i>
9	7.4	46.7	26.4	24.7	31.7
3	11.4	57.5	30.6	29.7	33.8
2	14.3	53.3	33.5	<del>32.4</del>	38.4
2	18.3	57.0	37.1	36.7	42.0
0	21.8	0.2	40.9	40.8	45.2
6	73.2	207.7	168.5	164.3	193.1
		267.7			
2	5 22 14.64	5 24 53.54	5 26 33.70	5 34 32.86	5 47 38.62
1		25 8.61	48.50		53.94

Am

0	1	-0.23	-15.72	+15.70	-02	✓	0 <sup>44</sup> " +15.730 (2)
	6	-0.26	15.74	15.69	-05	✓	
	56	-0.28	15.49	15.65	+16		
1	17	-0.35	15.60	15.63	+03		0 35 -15.638 4
2	36	-0.30	15.67	15.56	-11		
3	4	-0.25	15.41	15.53	+12		
	39	-0.24	15.56	15.50	-06		
	52	-0.38	15.50	15.49	-01		
4	5	-0.34	15.20	15.47	+27		Rate - 0.033
	28	-0.26	15.56	15.45	-09	✓	
	48	-0.22	15.48	15.43	-05		
5	0	-0.43	15.21	15.42	+21		
	7	-0.21	15.67	15.42	-25	✓	
	8	-0.35	15.36	15.42	+08	✓	5 10 +15.560 5
	18	-0.23	15.67	15.41	-24	✓	
	25	-0.31	15.38	15.40	+02		
	27	-0.39	15.19	15.40	+21		
	48	-0.28	15.60	15.38	-22	✓	
3	40 (18)		-15.497		+107	107	4 33 -15.457 14
1	54 (5)						

Pro R 0.051  
 July 0.059  
 0.055

JMS

124	-0.26	15.39	15.42 + 03
34	-0.29	15.41	15.41 08
20	-0.24	15.40	15.38 - 02
10	-0.34	15.37	15.38 + 01
21	-0.28	15.38	15.36 - 02
154	-	15.390	<u>use</u> 67 33 = 0.15 103
M interpolated		- 15.578	?
		+ 0.188	3, 1

Rate 0.055

















$L-M$			ht
Jan 11	+0.129		1.6
12	+0.052		1.2
16	+0.170		1.9
18	+0.188		3.1











