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nasaphae.proj.:226S

K. 16

ZONES.

1854 May 23 3 Aug. 25.

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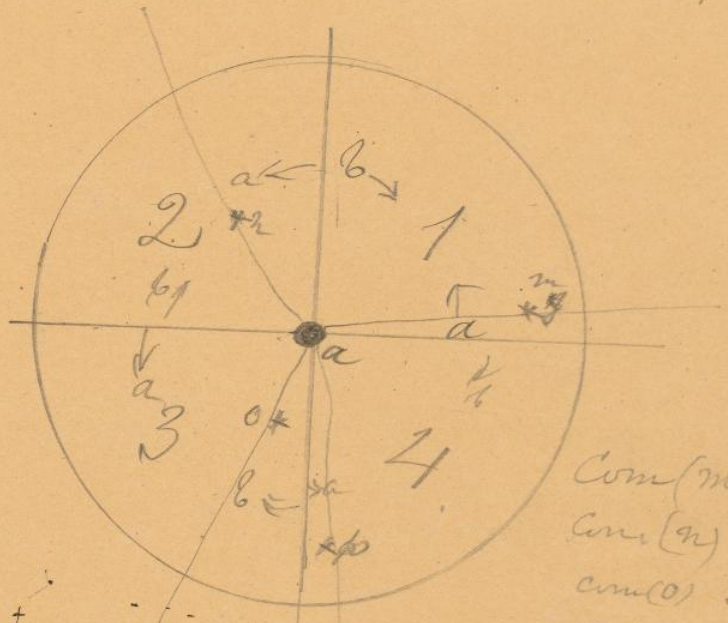
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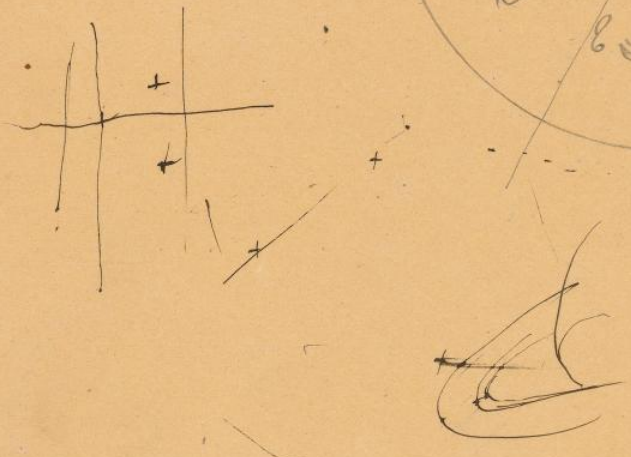
12

B

9 4
10
11 7
12 1 comm



Com (m) 1 a 8
Com (n) 2 a 35
com (o) 3 6 18
com (p) 4 8 10



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Zone 117

Provisional examination not in June 1859.

S.C. in decl. with mica scale		W.A.H. in R	
0	35	0	48
1	36	1	27
2	18	2	26
3	13	3	19
4	13	4	19.
5	27	5	13
6	15	6	16
7	18	7	16
8	29	8	26
9	29	9	46
10	233	0	25.6

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Zone 117 $13^h\,55^m$ — $16^h\,6^m$ 118 Zone

May 23.d 1859

At beg.
E C 14h 9m .00v
Bar. 30.151
att th 63.5
ext th 56°.7

At end
Bar 30.184
att th 61.5
ext th 51.

May 24

At beg.
E C 13h 53m 20
Bar 30.339
att th 67 1/3
ext th. 58. 3/4

At end
E C
Bar 30.327
att th 63.
ext th. 52
angle of position 180°.37

The recorder ought to be cashiered.

13h 55	22v.0	25.9
56	52.7	56.5
57	34.2	37.9
57	45.0	48.9
	D	
58	38.9	42.8
59	—	38.9
	D B	
14.00	49.2	52.9
1	27.1	31.0
	D B D	
2	19.0	23.0
2	31.3	35.2
3	20.4	24.4
3	56.9	60.8
	B D	
4	16.9	20.7
4	52.7	56.5
5	28.0	31.9
6	2.0	6.1
	B B	
8	22.8	26.5
8	52.7	56.5

does this star belong here?

13h 55m	21v.8	25v.8
56	—	56.9
57	34.0	37.9
57	44.9	48.9
58	38.9	42.9
58	—	47.1
59	34.9	39.0
	B B	
14h		
1m	26.9	30.9
	D B	
2	18.8	22.7
2	31.1	35.1
3	20.4	24.3
3	56.8	60.7
	B	
4	16.4	20.2
4	52.3	56.3
5	27.8	31.9
6	2.0	5.9
	B B B	
8	11.0	14.9
8	—	564

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1959phaec.proj.12203

A.D. 1859 117. 0°40'-50" 118 Zone

May 23

632	8	13h 55m 32.8	+0° 43' 37".8	685	9	14h 50m 45.2	+0° 46' 21".5
651	7	14h 13m 18.0	50' 03".0	686	8.9	50m 43.0	46' 26".4 / 13" 25.5
654	9	14h 16m 21.2	+0° 41' 24".1	690	...	14h 59m 03.8	+0° 44' 08".8
655	9	17m 23.2	40' 25".0	694	9	15h 3m 34.2	40' 16".4
659	9	20m 34.3	44' 36".8	698		8m 13.5	41' 1".2
664	8	14h 28m 47.5	+0° 50' 11".2	700	9	15h 10m 66.7	+0° 40' 34".9
669	9-10	37m 30.0	+0 45' 47".4	701	9	12m 14.2	43' 13".9
676	...	45m 18.5	42' 19".1	703	9	13m 13.0	47' 6".5
677	9	14h 45m 18.7	+0° 42' 38".9	707	8.9	15h 18m 50.2	+0° 47' 33".0
681	8.9	46m 58.5	41' 19".1	715	9	28m 15.0	47' 10".2
682	9	48m 00.0	40' 37".5	717	9	28m 48.6	45' 32".2

May 24

9	3.36	Cat. star.	Mg. Arg. B. 2	9	D. B. 3.39.		
13	1.00			12.13	1.00	1st wire lost 2 wire doubt.	
12	7.59			12	8.00		
12	10.00			12	10.00		
	D				B		
11	8.37		9.5	10.11	8.38		
12-13	7.12	At last		12	7.11	1st wire lost	
	7.39	1st wire lost		12	7.39		
12	D.B				B.D		
12	7.44					Seen but not observed	
12	3.19			11.12	3.20		
	D.B.D				D.B		
11.12	0.54			11.12	0.57		
11.12	2.38			11.12	2.39		
11	2.11			12.11	2.14		
11	3.08			12.11	3.09		
	B D				B		
12	8.40			12	8.41		
12	1.6	~~Star wire~~		12	1.41		
12	6.18			12-13	6.18		
12-13	1.42			12-13	1.44		
	B B			B	B B		
12-13	9.21	B. (3.21)	12-13	13	9.20		
13	3.22			13	3.26	1st wire lost (3.26)	

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Zone 117 $13^h 55^m$ — $16^h 6^m$ 118 Zone

D

$14^h 9^m$ 51.5 this is the first wire
59.0 this is the second wire

B

11 1.8 5.8
11 19.4 23.2
11 54.9 59.1

B

12 12.3 16.2
12 19.2 23.2
13 4.8 8.4 ?
13 17.6 21.4
13 35.6 39.6

B B

14 23.9 27.9

Dots for 1m.

16 21.1 25.9
16 58.0 61.9
17 21.5 25.3
17 23.1 37.0 ns

B

18 — 47.4
19 10.9 14.8
19 37.8 41.8
19 40.0 43.9

D

20 10.5 14.3
20 33.9 38.0
21 55.0 59.0
21 57.9 61.9 ns

B

22 38.8 42.6
22 48.0 52.0
23 37.1 40.9
25 6.0 9.9
25 14.3 18.2
25 57.1 61.1

B D

14^h 9^m 51.6 —
9 55.2 59.2

B

11 1.7 5.6
11 19.3 23.4
11 54.9 58.9

B

12 12.3 16.2
12 19.3 23.3
13 4.4 8.7
13 17.3 21.3
13 35.6 39.5

D D

14 23.8 27.9

B

16 20.9 24.9
16 57.9 61.8
17 21.3 25.2
17 23.2 27.1

D

18 43.0 47.1
19 10.9 14.8
19 37.3 41.4
19 39.9 43.8

B

20 10.1 —
20 33.9 37.8
21 54.9 59.0
21 57.9 61.8

B

22 — 42.2
22 48.0 52.0
23 36.9 40.9
23 49.7 53.8
25 5.6 9.4
25
25 56.9 60.9

3.06 - 13 may

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Zone 117 0°,40′–50′ 118 Zone

13	3,,25				B. D		
	D						
12	9,,50				12	9,,50	2 wires
13	6,,19				13	6,,19	
	B				B		
13	1,,09				13	1,,09	2 wires?
10 12	2,,28				13	2,,29	
12	9,,51	examine Dec.			12	9,,40 *	
	B				B		
	8,,16?				12	8,,17	
	036				12	0,,38	
18	2,,18				13	2,,18	
9	10,,01	Cat star.	7.0	7.8	10,,00	ns –	
12	4,,14			12	4,,16		
	B B				D		
12	4,,01			12	4,,04		
13	D for a minute				B for a minute		
10	1,,22	Cat star	9.0	9.10	1,,23		
12-13	0,,45			13	0,,44		
12	7,,09			12	7,,09		
10	1,,21	Cat star	8.7	9	0,,24	ns Dec certain	
	B				D		
13	1,,00	1st wire lost		13	1,,00		
11	7,,15		9.4	10-11	7,,16		
12	2,,57			12-13	2,,58		
11-12	0,,37	ns		12	0,,39	ns	
D	B			B			
13	1,,51		8.8	13	1,,51	ns 2 wire last	
10	4,,37	Comp. 8″ south S: prez	C.S.	10	4,,38		2.9.10-3″
11,12	3,,22	examine Dec.		11-12	3,,22 *		
11,3	5,,10		9.2	10-11	5,,11	ns	
W	B			B			
11	[illegible]			13	3,,18		
13-14	5,,46		9.3	12	2,,19	1st wire lost	
12	3,,29			13	5,,49		
12-13	[illegible]	ns Dec lost		12	3,,	ns Dec lost	
	B			B 13			
12-13	4,,20			13	3,,29		
					4,,20		
				B			

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Zone 117 $13^h\,55^m - 16^h\,6^m$ 118 Zone

$14^h\,27$	23.7	27.6	(a)	$14^h\,27$	51.5	—	(b) a
27	59.7	63.7		27	—	63.3	B
28	47.1	51.1		28	47.1	51.0	
	SD.				D.		
30	29.0	32.9		30	28.8	32.8	
30	35.2	39.2		30	35.5	—	
30	49.1	53.0		30	49.1	53.1	
	D				BBBD		
32	25.7	29.7		32	25.3	29.2	
32	48.0	52.0		32	48.0	52.0	
32	53.7	57.9		32	53.7	57.5	
	B				B		
33	40.3	44.2		33	40.2	44.1	
33	50.2	54.0		33	49.8	53.9	
34	14.1	18.0		34	14.0	17.9	which wire?
	BDB			34	22.8		
					DB		
35	—	14.1		35	10.0	14.0	2 wire
35	11.9	15.8		35	11.7	15.7	
35	27.3	31.3		35	27.2	31.1	
	B				D		
35	55.0	58.9		35	54.7	58.5	
36	11.2	15.3		36	11.1	15.2	
36	41.0	45.1		36	40.9	45.0	
	D				BD		
37	28.5	32.4					
37	29.1	33.2	{to be examined for determining magnitude}	37	29.0	32.8	
	BD				B		
39	14.2	18.0		39	47.1	—	
39	51.4	55.3		39	51.4	55.6	
40	59.0	63.0		40	59.0	—	
41	—	7.0		41	3.2	7.2	
41	18.3	22.3		41	18.3	22.2	
41	34.1	38.1		41	34.2	38.2	
41	44.0	48.1					
	BB				DB		
42	16.0	19.9		42	16.0	19.9	
42	21.5	25.1?		42	21.2	25.4	
42	47.6	51.6		42	47.5	51.7	
	B				B		

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Zones 117 0°, 40'–50' 118 Zone

	13	1..03	n.s.		13	1..23	Dec. east 2 wire lost
	12	8..08			12	8..10	Dec 2 scale 1 wire lost
8.9		10-11	Cat. star.	7.8	8	10..12	
		B D	Meteor passed through the field			D for 30s	
	12	10..00			12	9.23	Dec. east
	12	8..50			12	8..49	2 wire lost
	11	−0..07			12	−0..08	
		D				B D B. D	
	12	7..42		9.3	1	7..43	2 wire
	12	7..28		9.4	13	8..18	Dec east
	12	7..	n s Dec. lost		12	7..29	n s
		B			13	7..45	
						B	
	12	7.27			12	7..28	
		10..	Dec. lost			10..23	Dec?
	9	2..37		7.5	8	2.37	
		B. D B			12	2.27	
						D B	
	12-13	7..58	1st wire lost		12-13	7..56	
			n s Dec lost		12	8..48	n s
	11	6..52			12-11	6..53	
		B				D	
	12	4..19			13	4..19	
	10..11	1..51		9.3	10	1..52	
	12	5..51			12	5..51	
		D				B. D.	
	13	5..58					1st R lost
	11	5..58	n s 2 wire doubt	C. S? 9.5	10.11	5..59	This star is not 9th than 10.11
		B D				B	
	12	6..49			12-13	7..	n s 2 wire lost Dec
	12-13	6..36			12-13	6..29	
	12	0..46			12	0..46	2 wire lost
		1..50	1st wire lost		12	1..57	n s
	12	3..18			12-11	3..19	
	11	1..06			11	1..01	
	12	1..31			12	1..30	
		B B				D. B	
	12-13	2..26			12	2..26	n s
	12-13	4..11	n s		12	4..11	n s
	12	1..30			12	1..29	
		B				B	

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Zone 117 $13^h\,55^m - 16^h\,6^m$ 118 Zone

14h	43	59.6	63.5	14h	43	59.4	63.3
	44	33.8	37.9		44	33.7	37.6
	44	41.7	45.6		44	41.7	45.6
	44	53.0	53.9		44	52.9	56.9
	45	8.0	12.1		45	8.2	12.0
	45	18.6	22.7		45	18.4	22.5
	45	32.2	36.1		45	32.2	36.4
	45	33.1	37.2				
		B				BB	
	46	00.4	4.5		46	51.6	~~55.9~~
		D					
	46	57.9	55.8		46	51.6	55.9
	46	53.4	57.2 ns		46	53.4	57.2
	46	58.4	62.4 ns		46	58.4	62.4
	47	15.5	19.4 hasa signal		47	15.5	19.4
	47	22.4	26.3 ns		47	—	26.3
		D B				B	
	47	59.7	63.7		47	59.6	63.9
	48	11.8	15.7		48	11.6	15.7
	48	43.5	47.2		48	43.2	47.2
	49	21.9	25.8		49	21.6	25.7
		DBD				B	
	49	46.1	50.0		49	46.0	50.0
	49	49.7	53.6 ns				
	49	55.0	59.1		49	53.6	—
					49	55.2	59.0
		B				BD	
	50	46.3	50.2		50	46.1	50.1
	50	55.9	60.0		50	55.8	59.9
						BB	
	53	10.9	—				
	53	—	15.1		53	11.2	15.1
		B B				B	
	54	30.2	34.0		54	30.1	34.0
	54	45.9	~~49.4~~		54	45.9	—
	54	49.4	53.4		54	49.5	53.7
	55	15.3	19.3				
		B				D.	
	57	33.1	37.2		57	33.1	36.9
	57	40.9	—		57	40.6	—

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e Zone. 117 0° 40′ 118 Zone

11.12	3..45		Al. 9.3	11	3..47	
11	7..01		Hamm 9.4	11	6..04	Dec cent
11.12	4..26			12	4..27	
12	3..45			12	3..46	ns
12	3..13			12	3..12	
10	2..08	Cat. star?	9.0	9	2..11	1st wire?
11	3..10		9.5'	9..10	3..12	
12-13	2..43	ns				seen but not obs
	B				B B	
12-13	9..34			12.13		
	D					
12	7..20			12	7..24	
12	6..			12	6..19	
10	2..44	ns C.S?	1 21 ? 8.9	10	1..23 * ns	
10.11	10..08	n.s.		10	10..07	
12	2..42			12	2..42	
	7..13				B	
10	0..36	Cat. star.	9.1	9.10	0..38	
10	4..04		8.9	8	4..05	
12-13	5..58	1st wire doubt		12-13	5..59	
12	4..24			12	4..25	
	D..B8				D	
	4 35			12	4..38	
	0..00					
12	6..00			12	6..01	2 wire best
12	5..24			12	5..27	ns
	B				B.D	
9 11	6..	Cat Star.	9.4	9	6..25	
8.9 0	0..25	Cat Star	8.6	8-9	B..27	
13	7..33	lost				Seen but not obs
12	0..	2 wire best.		12-13	0..86	
1'	0..28	1 wire best				
	A				B	
12	9..59	ns		12	10..01	
12	6..31	2 wire best		12	6..31	2 wire best
12	7..37	ns 1st?		12	7..38	ns
12	3..59	Bright meteor passed N field				
	B			Dots for a minute. B Jet 1m 3 20		
12	0..20			12	0..21	2 wire best
12	7..28	2 wire best		12	7..29	ns

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Zone 117 $13^h 55^m - 16^h 6^m$ 118 Zone

14h		
58	27.9	31.9
58	30.9	34.9
58	48.0	51.9
58	56.0	60.0
59	37	78
	D	
59	23.1	27.0
15h 59	44.8	48.6
0	21.9	25.9
0	22.6	26.6
2	12.6	16.7
	BB	
2	35.0	38.9
3	00.0	4.0
3	29.2	—
3	33.9	38.0
	D	
4	09 4	13.4
4	26.0	30.0
4	37.0	41.1
4	41.9	46.0
5	8 3	12.3
5	16.1	20.1
	D	
5	29.9	33.9
5	43.8	47.9
	B	
6	00.4	4.3
7	13.6	—
7	17.2	21.0
7	24.9	which wire?
	D	
7	56.2	60.2
8	06.9	10.8
8	13.6	17.6
8	—	21.8
	B	
8	50.8	54.6

14h		
58	27.8	31.8
58	30.6	34.7
57	47.9	51.9
58	56.0	59.8
59	3.8	7.8
	B	
59	43.2	which wire?
15h		
0	21.9	25.7
0	22.7	26.4
2	12 4	16 4
	BB	
2	34 6	38.6
2	55 6	59.5 {why not obs. on the 23}
3	—	3 8
3	29 2	33.5
3	34.0	38.0
	D	
4	09.3	13.1
4	26.0	29.9
4	37.1	41.1
4	41.9	45.9
5	16.1	20.1
5	29.9	33.9
5	43 5	47.6
	B	
6	—	4.3
7	13.3	—
7	17.0	21.2
7	25.0	
	B	
7	56.1	60.0
8	07.0	10.8
8	13.4	17.6
8	—	21.8
	D	
8	50 8	54.6

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1859phae.proj..226S

Zone 117 0°40'–50' 118 Zone

11	1.15		g.s.	12.11	1.18		
12	10.00	n.s		12	10.01	n.s.	
12	4.11			13	4.14		
12	3.32			13	3.31		
10	4.10	Cat. Star	g.s.	9	4.12	n.s ~~1st wire lost~~	
	D				B		
12-13	2.09			Mag?	Seen		
12	9.31			12	-0.11		
11.12	5.45		g.s.	11	9.28	N lost	
12	6.01	n.s.		12	5.46		
11	0.30		g.s.	12	B8. 6.01	n.s	
	B.B			12-11	0.30		
11.12	0.22				B B		
12	3.20			12	0.22		
12	-0.01	n.s. 2d wire lost		12	8.49	1st wire lost	
9	0.15	n.s Cat star. g.g		12	3.20		
	D			12	-0.00		
12	0.50			9	0.17	n.s 1st wire?	
12	9.29				D		
12	5.10			12	0.51		
12	5.35	as		12-11	9.30		
12-13	5.48			12	5.11		
10	10.11			12-13	5.38		
	D				5.48	N lost	
11.12	2.32				10.13		
11.12	2.28			12	2.32	ns	
	B			12	2.29		
11.12	3.53				B		
12	6.35	2 wire lost		12	3.57	1st wire lost	
12	1.09			12	6.37	2d wire lost	
11	1.11	Examine A.R.		13		2 wire by Dec lost	
	D			12	1.16 *	n.s	
11	3.29				B		
12	2.01			11	3.30		
9	1.54	Cat star	g.g	12	2.00		
11	5.56	1st wire lost		8	1.55	n.s	
	B				5.59	1st wire lost	
11	9.05				B D		
				11	9.08		

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Rhone 117 $13^h\,55^m - 16^h\,6^m$ 118 Rhone

15	9	24.9	29.0	15	9	24.8	28.8
	9	57.8	61.7		9	57.6	61.6
		D B				B	
	10	43.9	47.8		10	43.9	47.8
	10	52.3	56.2		10	52.2	56.2
	11	—	0.1		11	—	0.0
	11	02.3	6.4		11	—	6.3
		B				B	
	11	31.9	35.9				
	11	38.4	42.4		11	—	42.4
	11	48.9	52.8				
		D				D	
	12	13.8	17.8		12	13.9	17.8
	13	3.6	7.7		13	3.7	7.6
	13	6.0	9.9		13	6.1	
	13	12.9	16.8		13	12.8	16.9
	13	14.9	19.0		13	14.9	18.7
		D B				B D	
	14	4.9	8.9		14	4.9	8.9
	14	50.9	54.9		14	51.0	54.8
		B B				B B	
	16	36.6	40.4				
	16	57.3	61.2		17	15.2	19.1
	17	15.2	19.1		17	30.4	34.2
		D				D	
	18	—	14.5		18	10.4	14.3
	18	22.1	25.9		18	22.0	26.1
	18	24.8	28.8		18	24.9	28.8
	18	49.6	53.7		18	49.6	53.7
	19	22.9	26.8		19	22.8	26.7
	19	28.9	32.7		19	28.9	32.9
		D				B D	
	20	31.2	35.3		20	31.3	35.3
	20	45.0	48.9		20	45.0	48.8
	21	34.9	38.8		21	34.9	38.9
	22	20.0	24.0		22	19.9	24.0
	22	28.9	32.8		22	28.7	32.7
		B				D	
	22	44.3	—				
	22	47.0	50.9		22	46.9	50.8

where do these stars belong

where do these stars belong

declines?

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Zone 117 0°,40'-50' 118 Zone

12-13	7..31			12	7..31	
9.10	6..22		9.4	9	6..23	
	D. B				B	
12	10..25			12	10..23	
12	8..46			11	8..48	
10.9	0..31	1st wire lost	Cat star 9.0	9.10	0..33	1st wire lost
11	8.—	See lost		12	8..35	1st wire lost
	B				B	
12	3..22				3..10 *	B hs
	4..08	ns		12	4..05	
12	0..36			12		Seen
	D				D	
9.X	3..14	Cat Star	9.3	9.10	3..16	
11	6..19	~~Four bright stars following~~	9.5	11.12	6..20	
11	3..07	~~Nine stars~~		11.12	2..09	2 wn
9.X	6..00	Cat Star	9.2	9	6..01	
11	2..48			11	2..49 *	See cent
	D. B.				B. D	
12	10..			12	10..12	
12-13	3..49			13	3..48	ns
	B. B.				B. B	
13	2..39				W	
12-13	4..00			13	4..13	
	D			13	8..21	
	9..21			13	7..18	
13	0..01			13	9..21	
	B				B	*
89 12	7..39	Cat Star *	9.0	9	7..39	
12-13	0..35			12-13	0..37	
13	2..28			13	2..21 *	
	D				B. D	
12	6..46			12	6..47	
12	3..00			12	3..00	
12	6..39			12	6..40	~~Examine whether star~~
12	0..37			12	0..39	
11	0..29			11	0..29	
	B				B. D	
12	5..00	Dwn acy			Seen	
12	6..07	? What does this stand for?		12	6..01	

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Zone 117 $13^h,55^m - 16^h.6^m$ 118 Zone

15^h	23	39.8	43.8		
	24	1.4	54		
	24	10.3	14.2		
		48.6	52.6	when does this belong	
	24	56.7	60.4	?	
	25	40.2	44.3		
		B			
	26	8.6	12.5		
	26	37.2	41.2		
	26	57.4	61.6		
		BB			
	28	9.5	13.5		
	28	15.3	19.2		
	28	48.8	52.9		
	29	27.7	31.8		
		DBD			
	30	14.0	18.0		
	30	48.8	52.9		
	30	55.1	59.1	has no sign	
	31	4.0	8.2	has a sign.	
	31	21.1	25.0		
		D.			
	31	47.0	50.9		
	31	49.1	52.9		
	31	—	56.0		
	(32	2.6	6.4)	what is this?	
	32	24.1	28.1		
		DB			
	33		6.8	which wire?	
	33	7.9	11.9		
	34	28.4	32.3		
		D			
	37	2.8	6.8		
	37	35.9	39.8		
	39	3.5	—		
	39	7.0	11.0		
	39	20.0	24.0		
		DB			

Confusion

15^h					
	24	1.7	5.5		
	24	10.3	14.4		
		B			
	24	48.8	52.7		
	24	56.6	60.2	?	
	25	40.1	44.1		
		BD			
	26	8.3	12.3		
	26	37.2	41.1		
	26	57.4	61.4		
		DB			
	28	—	13.3		
	28	15.0	19.2		
	28	48.8	52.7		
		BD			
	30	13.9	18.0		
	30	48.7	52.9		
	30	55.2	—		
	31	4.2	8.2		
	31	21.2	25.0		
		B			
	31	46.9	51.0		
	31	49.0	—		
	31	D.	56.0		
	32				
	32	24.1	28.0		
		B			
	33	2.7	6.4		
	33	7.9	12.0		
	34	28.1	32.1		
		Dots for 1m.			
	37	2.6	6.5		
	37	35.9	39.9		
	39	3.7	7.5		
	39	—	11.0		
	39		22.5		
		28 6.	32.2		

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Zone 117 0°, 40'-50' 118 Zone

13	9.11			12	Seen		
13	10.13			12	10.14		
12	0.08	Dec?		12	0.13	ns	
	Dec Cont				B		
				12-13	6.35		
12-13	4.37	1st wire Dec		13	4.38	ns?	
12-13	8.33			13	8.34		
	B				B D.		
12	8.05			12	8.08		
12	0.37			13	0.39		
11.12	5.12			11	5.14		
	B B				D. B		
12	6.49			12	6.48	1st wire lost	
9.10	7.15	Dec? Cat. Star	9.1	9	7.13		
11	4.31	Cat Star	9.0	9	4.32		
12-13	6.41				was this Star seen on the 24th		
	B B				B B		
11.12	6.37			11	6.38		
10-11	7.10	Cat. Star (7209. 15.30.49.2 8°47.05.1)	9.2	9	7.11		
11-12	4.15			12	4.15	ns	
11	3.19	ns	9.5	11	3.20	2 wire lost	
12	2.41			12	2.13		
	D				B		
11	3.19			12	3.20		
12	8.29			12	3.30	2 wire lost	
11-12	2.49	1st wire lost		12	2.51	1 wire lost	
12	8.22			12	8.21		
10	10	~~Not Cat~~					
	B. B				B		
12	1.55			12	1.53		
13				12	1.10	ns.	
12	5.53			12-13	5.58		
	D				Dots for a minute		
12	0.3—	Dec lost		12	0.37		
10	8.10	Cat Star (7223-8.9 15.37.35.9 8°48.06.5)	9.0	9	8.10	ns wire	
12	4.05	2 wire lost		11	B 0.15	1st wire lost	
11	0.04	ns	9.3	9	5.01		
12	7.43			11			
	D. B			12			

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Zone 117 $13^h\,55^m - 16^h\,6^m$ 118 Zone

15h		
39	57.0	61.1
40	26.3	30.1
(40	53.7	57.7)
41	4.4	8.4
41	15.0	19.1
41	31.4	35.5
42	11.1	15.1
42	17.3	21.3
42	22.3	which wire?
42	26.0	which wire?
	DB	
43	1.0	—
43	4.9	8.9
43	22.3	26.3
	B	
44	20.0	23.9
44	46.2	~~which wire~~ this is 2d wire
44	52.0	56.0
44	57.0	61.0
4		
45	8.7	12.8
	D	
45	22.9	26.9
45	29.1	33.1
	DB	
46	25.0	29.1
46	28.6	32.5 ns
47	15.7	19.6
47	32.0	36.0
	BD.	
48	40.9	44.9
	not obtained	
	B	
49	18.2	22.0
50	49.8	53.8
(51	26.9	30.8) What is this?
52	7.3	
52	11.2	15.2
	DB	

15h		
	B	
40	26.2	30.2
40	53.5	57.5
41	4.4	8.4
41	15 0	—
	B	
41	57.9	61.9
42	0.4	4.4
42	17.2	21.2
43	1.0	4.9
43	—	9.0
43	22.3	26.2
	B	
44	20.0	24.1
44	42.5	—
44	52.0	56.0
44	57.0	61.0
45	8.6	12.6
45	23.0	26.8
45	29.1	33.1
	B	
46	25.0	29.0
46	28.4	32.6
46	36.1	
47	15.6	19.7
47	31.9	35.9
	D B	
48	40.9	44.8
48	41.1	45.0
	B	
49	18.1	22.2
50	49.6	53.6 Exam. for comp.
52	7.2	11.2
52	—	15.2
	BB	

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Zone 117 $0^h.40'-50'$ 118 Zone

		Dec?				
10.11	1.28			11	1.29 B	
12	5.16			12	5.18	
12	Declination missing		9.5'	9.10	9.26	x
12	6.19				6.20	
12	7.23			12	7.30 B	2 wire lost
12	6.00 D	ns				
12	4.01			13	4.01	ns
12	10.07	*		10	0.23	
10	9.27	Dec lost	9.5'		B.D	
12-13		Dec lost				
1	D.B					
12	2.00	2 wire lost	Clarence	11	3.01	1st wire lost
12	4.04	n.s.	9.4	9.10	4.05	ns
11	7.07 B		9.5'	10	7.06 B	
11	9.41			10	9.41	
12	6.59			12|3	7.00	
11	8.28	1st wire lost		12	8.29	2 wire lost
11	1.01	ns	9.3	10	1.49	ns Dec lost
11	1.38	?		11	1.38	
11	1.25 D					
12	2 wire			11	2 wire	
12	6.17 D.B		9.5'	12	6.34 B	
11	1.28			9.10	1.30	
10.11	3.11	Cat Star $\left(\begin{matrix}7^h25-8.\\ 15^m46.28.4\\ 0^\circ43.10.2\end{matrix}\right)$	9.0	7.8	3.13	1st wire lost
11	6.48			11	5.30 D 6.49	
11.12	10.23 B.D.			11	10.28 D.B	on 2 scale Dec?
11.12	0.63			11	0.57	
	1.10 B	1st wire lost		12	1.12 B	n.s
12	0.41			12	0.41	
12	1.21	Comp. n p f	9.5'	12	1.22	Comp 3.6.15
11	1.39	2 wire lost ?		12-11	1.40	
12	2.39 D.B	ns		12	2.40 B.B	1st wire lost

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15h 52	56.1	60.1	
53	19.2	23.2	Exam. comp.
53	32.6 B	36.7	
54	11.1	15.0	
54	39.3	43.5	
54	55.0	59.0	
55	26.9	31.0	
55	35.3	39.5	
55	58.9	62.9	
56	7.1 BB	—	what are?
56	45.4	49.6	
57	5.8	9.8	
58	15.9 BB	19.9 BB	
59	1.0	5.0	
59	40.0	44.0	
59	49.3	53.3	
16h 0	11.8	15.7	
0	14.4	18.3	
0	29.9 BD	33.9	
1	4.7	8.7	
1	23.1	27.1	
1	29.4	33.3	
1	36.1 D	40.2	
2	11.0	15.0	
3	00.8	4.8	
3	21.1 B	25.0	
3	45.3	49.3	
3	52.9	56.9	
4	9.3	13.2	
4	12.5	—	
4	25.1	29.1	
4	49.5 DBD	53.2	
5	43.8	47.8	
6	6.0	10.0	

15h 52	56.0	60.0
53	19.0	23.0
53	32.8 DB	36.7
54	11.0	15.0
54	39.3	43.3
54	55.0 B	59.1
55	26.9 B	30.9
55	35.9	39.4
55	58.9	62.7
56	— BB	7.2
56	45.4	49.3
57	5.9	9.7
58	15.9 D	19.9
59	0.9	5.0
59	40.0	44.0
59	49.2	53.2
16h 0	11.7	15.7
0	14.5 B	18.3
0	29.9 B	33.9
1	4.6	8.6
1	23.1	27.2
1	—	33.3
1	35.9 DB	40.2
2	11.1	15.1
3	00.8	4.7
3	(21.4) BB	25.0
3	52.9	56.9
4	9.1	13.0
4	25.1 B	29.0
4	49.2 DBD	53.2
5	43.8	47.7
6	6.0	9.9

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Zone 117 0°,40'-50' 118 Zone

12-13	3..31		13	3..34	
12	9..47	n.s	12	9..47	Meteor passed through the field
8.9	6..38 B	Dist. Comp. Cat Star 8.5 (733-8.9-15.53.32.6 10°45'27")	8	5..30 D B	Dec cent.
12	1..00		12	1..03	
12	1..38		12	1..41	
11.12	1..17		11.12	1..19 B	
12	6..05		12	6..13	
12	8..15		12	3..20	
12	1..51	Dist	12	1..53	
12	6..47 B B		12	6..49 D B.	1st wire lost
12		Dec lost	12	9..46	
11	8..33	Cat Star (0°48'29".9 15h57m06.2) 9.3	8.9	8..35	
12	7..38 D B D B		12-13	7..40 D	
12	6..31		12	6..33	n.s
12	1..02		11	1..04	
11.12	2..12		11.12	2..14	
11	0..05	9.5	10	0..08	
12	10..30	n.s.	12	10..30	n.s
	8 dist.? 13		10	1..05 B	x
11	6..08		11	6..09	
11	10..29		11	10..28	
12	7..00		12		No dec 1st wire
	5..05 D			5..06 D. B	
11	6..02		11	6..03	
11	7..04		10	7..05	
12	4..27 B		12	4..30 B. B	
12	10..04			Seen	
12	6..28	n.s	12	6..28	
12	8..05		13	8..03	n.s
12	7..36	Dec lost		Seen	
12	5..16		12	5..18	
	10+	Dec lost	11	10..5? B	
	D. B		8 13	D	
12	10..24		12	10..23	
12	6..41		12	6..40	

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Correction of zones 117 & 118

Comparison of Magnitudes

C_1	C_2	A	Catalogue Nos &		C_1	C_2	A	
9.	9.	8.2	✓	0	9.10	9	9.4	
11	10.11	9.5			10.11	9.10	9.0	✓
9	7.8	7.0	✓		10	9.10	9.3	✓
10	9.10	9.0	✓		11	11	9.5	
10	9	8.7	✓		10	9	9.2	✓
11	10.11	9.4			(12)	9	9.0	✓
10	10	8.8	✓		10	9	9.1	✓
11	10.11	9.2			11	9	9.0	✓
11	12	9.3			10.11	9	9.2	✓
8.9	8	7.8	✓		11	11	9.5	
12		9.3			10	9	9.0	✓
12	12	9.4			11	9	9.3	
9	8	7.5				9.10	9.5	
10.11	10	9.3			10	10	9.5	
11.12	11	9.3			12	9.10	9.4	
11.	11.	9.4			11	10	9.5	
10	9	9.0	✓		11	10	9.3	
10	10	8.9	✓		12	12	9.5	
10	9.10	9.1	✓		10.11	7.8	9.0	✓
10	8	8.9	✓		12	12	9.5	
11	9	9.4	✓		9	8	8.5	✓
10	8.9	8.6	✓		11	8.9	9.3	✓
11	12.11	9.5			11	10	9.5	
10	9	9.5	✓					
11.12	11	9.5						
11	12.11	9.5						
9	9	8.9	✓					
9	8	8.9	✓					
9.								

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Correction of zones 117 & 118

~~B.H.~~

$b_1 - b_2$

~~-1.0~~	/	-1.
~~0.5~~		-1.
0.0	//// //// //	
0.5	//// //// /	51.5
1.0	//// //// ///	13.
1.5	///	4.5
2.0	////	8.0
~~2.5~~	//	5.0
3.0	//	6.0
		40.0

C − A

0.0	////	0.0	4.0	1.9	/	1.9	0.3	
0.1	//	0.2	1.6					
0.2				2.2	/	2.2	1.4	
0.3	/	0.3	0.5	2.7	/	2.7	2.9	
0.4	///	1.2	1.1	2.6	/	2.6	2.6	
0.5	///	1.5	0.8	2.3	//	4.6	3.4	
0.6	///	1.8	0.5	2.5	///	5.0	4.4	
0.7	///	2.1	0.3	−0.4	/	−0.4	2.0	
0.8	//	1.6	0.1	−0.2	/	−0.2	1.51	49 / 30.0
0.9	/	0.9						0.613
1.0	////	5.0				18.4 10		M. 0.783
1.1	/	1.1						
1.2	////	4.8	0.1	C − A		1.″016 ± 0.″074		
1.3	//	2.6	0.2	P. from Lunyo.		± 0.″527		
1.4								
1.5	////	6.0	1.0					
1.6	/	1.6	0.3					
1.7	/	1.7	0.5					
		40.	32.4					

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Correction of zone 117 & 118

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Correction of zones 117 & 118

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Zone 119 $13^h\,54^m$ — $16^h\,3^m$ 120 Zone

Mercury June 7 1859

☉ begin.	☉ C.	$14^h\,21^m$
	Bar	30.250
	att th	68
	ex th.	62
☉ end	☉ C	$16^h\,46^m$
	Bar	30.220
	att th	64
	ex th	56

position circle 182.55

Sidney Coolidge, Observer
Judge Tuttle Recorder

Mercury June 9th 1859

☉ beg.	☉ C	$15^h\,35^m$
	Bar	30.008
	att th	63
	ex th	53 1/2
☉ end	☉ C	17, 52 sure
	Bar.	30.000
	att th	64
	ex th	47

position circle 182.55

S.C. obs
C W T rec.

position circle adjusted before observing

13^h		
54^m	50.3	54.3
56	6.9 D	10.8
57	13.3	17.0
57	—	19.1
57	21.0 B	25.0
58	49.4	53.5
59	41.1	44.9
14^h 0	22.4 D B	26.4
1	2.7	6.7
1	4.2	8.2

13^h		
54	50.1	54.0
55	23.4	27.0
56	6.8 B	10.7
57	13.1	17.1
57	15.2	19.1
57	20.9 BD	24.9
58	49.2	53.0
59	41.0	45.0
14. 0	22.4 D B	26.2
1	2.6	6.5
1	4.0	8.0

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June 119 0°,50′ — 1.°0′ 120 June

631	—	13h.54m.50ˢ.7	+ 0° 55′.1″	664	8	14h.28m.47ˢ.5	+ 0°,50′,11″	
640	9	14 1m.3ˢ.2	52′.53″	695	9	15h. 5m. 7ˢ.3	59′.41	
645	—	2m.41ˢ.0	57′.45″					
646	9	3m.47ˢ.2	54′,49″	696	7.8	7m.9ˢ.3	+ 54′,34″	
648	9?	7m.38ˢ.3	54′,51″	697	7.8	7m.9ˢ.4	53′,54″	
651		13m.17ˢ.6	50′,04″	699	6	8m.38ˢ.5	53′,46″	
652	9	13m.26ˢ.4	52.30	705	7.8	15m.50ˢ.6	58′,20″	
663	9	28m.35ˢ.4	51.44	708	9	19m.10ˢ.1	58′.08″	
				722	7	34m.49ˢ.5	54′.45″	
				741		16h. 3m.44ˢ.3	55′,25″	

~~Mary~~ June 67 1859

Weather

Fine Clear Moonlight Night

~~Mary~~ June 9th 1859

Weather

Fine Clear Moonlight rather boisterous

Mrg. Mag.

This space was attempted guided, but the pen failed to work

June 7th

Fine clear moonlight

10	4.58	2 wire doubtful	9	4.59	9	4.59	Cat. Star 8.9
12-13	3.08			seen	12	3.09	M?
11	3.28		10-11	9.29	10-11	9.30	9.5
	B			B		B	
11	5.20		11-12	5.20	11	5.20	
11	3.39	ms	11	3.40	11	3.41	ms
11	4.31		11-12	4.32	11-12	4.33	
	B.D.			B		B.D.	
11	5.33		11	5.35	11	5.36	
12	10.50	ms	11	10.51 ms	11	10.52	
11-12	1.49		11	1.49	11	1.49	9.5
8-9	2.49	Dist. conf 18" fol	9	2.50	8	2.51	Double Cat. Star 8.5
12-13	2.45	This is the comparison	12-13	2.48	12	2.47	This is the comp.

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Vione 119 $14^h 2^m - 14^h 19^m$ 120

4^h 14^h

13

~~Lost in Clouds~~ m. 2 „ 50 3 54 2

2	50.3	54.2	3 m	7.0	11.0	2	50.0	54.0
3	7.0	11.0	3 „	46.6	50.5	3	6.9	10.9
3	46.6	50.5	4.	13.9	17.9	3	46.2	50.2
	13 13			BB		4	13.4	17.3
4	13.9	17.9	5 „	38.5	42.3		B	
5	~~49.4~~	~~53.3~~		49.4		5	38.2	41.9
	—	53.3				5	45.8	—
6.	21.0	24.8				5	48.9	53.0
6	23.6	27.8				6	20.4	24.5
6	30.1	34.1				6	234	273
6	—	55.1				6	30.0	33.9
						6	50.9	54.9
7	37.9	41.9				7	37.5	41.8
8	49.7	53.4				8	49.2	—
8	~~49.7~~	~~53.4~~	50.5	54.4		8	50.3	54.2
BB 9	53.9	57.9					BB	
10	19.8	23.8				9	16.0 ~~which wire I~~ ~~(why not to send~~ ~~on the 5th~~	
						9	53.6 ~~57.7~~ 2d wire	
						10	19.3	23.6
10	~~27.7~~	27.7				10	—	27.3
	D						B	
11	6.7	10.8				11	6.4	10.6
11	57.5	55.5				11	51.1	55.1
12	13.9	17.9				12	13.6	17.8
13	B B 2.7	6.6					BB	
13	17.0	21.0				13	2.3	6.3
13	25.9	29.8				13	16.7	20.6
	D for 1m.					13	25.6	29.6
							BD	
14	40.9	44.9				14	4—	447
14	47.8	51.7				14	47.4	51.4
	B						B	
15	37.1	41.0				15	36.9	40.7
17	3.8	7.8				17	3.8	7.5
17	17.7	21.6				17	17.4	21.4
	BD						Dots for 1m.	
19	8.0	11.9				19	7.8	11.87
19	20.6							

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June 7

	D. B.		B				
9.10	6..26		9.10 6..27	9.10	6..28	Cat. Star.	8.8
12	6..33		12 6..33	12	6..36	Dec cent	
10	4..51		10 4..54 cent	10	4..55	Cat Star.	9.0
11	7..22		11-10 7..24	11	7..24		
	D		B. B		B		
9	10..24	2 wire bs.	9 10..26	9	10..27		8.5
12	9..30	ns	12 9..31 ns 2 wr	12	9..31	2 wire bad	
11	9..43	Dec.!	12 9..43 1 wire bad	12	9..45		
			12 10..48	11	10.. —		
			12 9..10 ns	12	—		
11	6..00		10 6..02	10	6..02		9.3
	D B		11 7..13 1st wire bad	11	7..15		9.5
12	5..40		B				
		n.s. Dec bad					
	B						
11	4..48		10 4..49	10	4..49	Cat. Star.	9.0
11	5..47		10 1..25	10	1..27	2 wire bad	
12	1..20		12 5..48 ns	12	5..48	a	9.4
12	D. B		B. B		D. B	B (2 wire bad)	39.28 a
12	4..05		12 4..05	12	4..35		39.49 B
11	0..45	2 wire bad	12-11 0..47	12	4..05		21
11	0..01	ns	12-11 0..02 1st wire bad	11	0..47	1st wire bad	
	B		B		0..01		
12	4..43		12 4..43	12	B		
12-13	6..54		12-13 6..57	12	4..45		
12	1..12		12-? 1..11	11-12	6..57		
			B. D. B		6..13		
12	5..27		12 5..28	12	D. B		
7	−0..01		8 −0..03	7	5..29	Cat Star	7.0
11	2..29		11 2..30	10	−0..00	Cat Star.	9.2
	D. For a minute		D for a Min.		2..30		
					D. BB.		
12	3..40		12-11 3..40	12-11	2..41	Dec. cent	
11-12	1..20		12-11 1..20	12-11	1..20		
	B		B		B		
12	10..30		12 10..30	12	10..29		
12-13	5..00		12 4..58	11	4..58		9.3
10-11	5..18		11-12 4..11 cent	11-12	4..12		
	D. B		B. D		D For Min.		
11	4..40		12 4..5.00	12-13	5..00		
				10	5..18		9.1

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14 20	31.0	34.9
21	9.2	13.2
21	41.9	45.9
22	3.0	7.1
22	22.2	26.1
22	26.6	30.5
	DB	
23	27.8	31.7
23	57.1	61.0
24	4.8	8.7
	BB	
25	33.7	37.7
25	47.7	49.5
25	52.0	55.9
	B	
27	2.1	6.1
28	7.0	11.1
	15.2 (this must be first for wire)	
28	34.9	39.1
28	46.7	50.8
29	8.1	12.0
29	36.3	40.2
	B	
31	32.8	36.8
32	1.4	5.2
32	43.9	47.9
33	19.2	23.2
33	49.5	53.7
34	16.5	20.4
34	33.0	37.1
	B for 1m	
36	58.7	62.3
37	4.1	8.0
37	17.5	21.4
	D	
38	28.6	32.4
38	45.4	49.4
38	59.9	63.7

14 20.	30.9	34.8
21	9.0	13.0
	DB	
21	41.7	45.8
22	2.9	6.8
22	22.0	26.0
22	—	30.3
	B	
23	27.6	31.3
23	57.0	60.9
24	4.8	8.4
	DD	
25	—	37.2
25	45.3	49.3 (53.9?)
		55.7
	B	
27	2.0	6.0
28	7.0	—
28	—	18.9
28	34.9	38.9
28	46.6	50.5
29	7.8	11.8
29	36.1	40.1
	DBD	
31	32.7	36.6
32	1.0	5.0
32	DB 43.7	47.6
33	19.0	23.1
33	49.4	53.4
34	16.2	20.3
34	33.0	36.9
	B for nearly 1m	
36	58.3	62.4
37	4.0	7.9
37	17.2	21.0
37	26.0	30.1
37	35.2	—
	D	
38	28.3	32.3
38	45.5	49.4
38	59.9	63.8

see page 15

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719 $0^{\circ}_{\prime\prime}50' - 1^{\circ}_{\prime\prime}00'$ F 1120

				11	4..43		9.4
		10-11	4..41				
11-12	6..27	11	6..29	11	6..29		9.5
12-13	8..11	2 wire lost			D.03		
12	5..33	12	5..35 D	12	5..35		
11	6..18	11	6..18				
9.10	3..48	9-10	3..48	10	3..48		8.9
10	4..07	Double - close N.S.	10 4..08 ns	10	4..08	1st wire lost	9.5
	B.8		D B		B		
12-13	4..47	12-13	4..47	12-13	4..48		
	9..48	10	9..43 cert	10	9..44		
10	10..30	10	10..30	10-11	10..29		
	B		B B		D.D.		
12	2..47	11-12	2..48	11	2..49	1st wire lost	9.5
12-13	2..38	11	? seen		~~2..38~~	seen	
12	9..38	11-12	9..37	11	9..25	Dec. cert	
12-13	4..01	12	4..02	12	4..02		9.5
	D 8		B		B		
12	1..50	11-12	1..50 star of 4 mi	11	1..51		
12-13	1..00	1st wire lost 11-12	1..02	12	1..00	2 wire lost	
1	9..19	12	9..20 ns 2	11	9..20	1 " "	
9	1..38	9	1..40	9	1..39	Cat. Star	8.3
8	0..05	8	+0..09	9	0..10	Cat. Star	8.8
10	9..23	9-10	9..24 D. B.	10	9..25		9.0
12	3..31	12-13	3..31	12-13	3..31		
~~12~~	~~8~~ B.B		B		D.D.D		
10	3..09	12-13 12	2..37 7..09	12-13 12	2..39 7..08		
8	D B.D	10	3..10	10-11	3..12 D.B		9.3
11	8..51	11	8..52	11	8..52		9.5
11-12	0..40	11-12	0..40	12	0..40		
12	3..58	12	4..00	12	4..00		
9	9..49	9	9..52 wire blows	9	9..52	star appears elongated ~~N~~ ?	8.1
	B for a minute		B for a min		B for a Min		
11-12	3..41	11-12	3..44	11	3..44		
11	n.s.	12	6..18 ns	12-13	6..20	n.s.	
12	2..03	12	2..02 ns	12-13	2..04		
11	8..10	seen 8.13 R lost		11	8..14	n.s 2 wire lost	
		D		12	6..52 D		
12	8..07	n.s 12	8..11	12	8..12		
12	3..02	12	3..24	12	3..25		
11	4..57	11	5..58 cert	11	5..59		

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14^h

B

39 46.9 50.9
40 0.8 4.8
40 34.3 38.4

40 44 48?
D B

41 29.4 33.4
41 58.9 62.8
42 00.9 04.9
42 10.8 14.8
42 16.0 19.9
42 30.0 34.0
D

43 28.0 32.1

43 49.9 —
B
45 18.1 13.9
45 27.5 31.3
45 40.0 44.5
46 43.5 47.5
B D

46 19.0 23.1
46 26.8 30.6
D
46 51.7 55.7
46 53.2 55.3
47 15.0 19.1
B D B

47 49.8 53.7
48 45.1 49.1
49 2.7 6.6
49 51.2 55.1
D B

50 — 49.7
51 14.3 18.3
51 42.2 46.3
52 33.6 37.4

B B

14^h

D B

39 46.7 50.8
40 0.9 4.7
40 34.3 38.2

40 — 48.7
B B

41 29.2 33.0
41 58.6 —
42 00.8 rejected 2^d w.
42 10.5 14.5
42 15.6 19.4
42 30.0 33.9
B

43 28.0 32.0

42. 49.4 53.5
45 9.8. 13.7
45 27.1 31.0
45 43.0 —
45 43.0 47.6

46 18.8 22.8
46 26.7 30.5
51.9 55.8
47 15.0 18.0
B

47 49.6 53.6
48 45.0 48.9
49 2.8 —
49 51.0 55.0
D

50 45.6 49.4
51 14.1 18.2
51 42.1 46.0
52 33.3 37.3
52 59.4 63.4
B

are there 2 stars here close together, one having been observed in 119 & the other in 120

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13	3.12	ns	13	3.12	K last		Seen
+2	D. B			B.		D. B	
11	1.54		9-10	1.55		9.10 1.56	9.4
	9.27		9-10	5.18		8 5.17	9.1
12	7.		12	7.23		12 7.24	
12							
9-10	11.01	Dec.?	9.10	11.+	ns	8 11.12	ns B 1 train lost
	B. B. D			D B		B. B	
11	4.32	ns	12	4.31		12-13 4.31	ns
11.12	1.30		12	1.31		11 1.33	2 wire lost 9.5
10	1.0		11-12	1.52	ns	11 1.53	
12	5.54		10	9.13	x	10 9.13	9.5
12	6.55		11	5.58	ns	11 5.58	ns
	B		11	6.58		11 6.58	
				D		11 B	
12	5.38		12-11	6.39		11 5.39	
11.12							
12	5.30		12	5.30	2 wire bs	12-13 5.29	
			B			B. D. B. B	
12	7.07	1 wire Doubt	11	6.09	est	11 6.09	
12	7.-		12	6.40		11 6.40	
			12		2 wire	seen	
11-12	1.50		11	1.50		11 1.50	ns
	D						
12				B. D			
12	7.33		12	7.30	K last	12 7.37	Dec. ast Seen X.31
11	9.50		11	7.36		7.37	8.36 7.22 8.17
12	7.06		10	9.53	B. D	12 9.53	9.0 9.39 9.4
12	0.05	ns	12	7.08		7.06	ns
			12	5.18		seen	
9-	0.03		9.10	0.03		10 0.02	9.2
	B			B B. B		B	
10.11	3.49		11	3.49		10.11 3.49	9.5
11	8.07		11-12	8.09		11 8.09	
12	2.48		12	2.50		12 2.49	2 wire bst
13	3.19		12-13	3.20		12-13 3.21	?
	B. D			D. B.		D	
11	7.33	2 wire Doubt		7.3-1	wire bs	11 7.35	
10	3.51		10	3.53		10 3.53	9.5
10	1.11		10	1.14		10 1.14	9.5
11.12	2.13		11	2.15		11 2.15	
12	4.	bst	12-13		2 wire	12-13 4.26	Dec?
	B			B B		B	

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Zone 119 $13^h 57 - 16^h 3$ 120 Zone

14h			14h		
53m	56.0	59.9	53	56.0	59.9
54	6.3	10.3	~~54~~	~~26.9~~	~~30.8~~
54	27.0	30.9	54	26.9	30.8
54	29.8	33.8			
55	32.9	36.8	55	32.6	36.5
	B			B	
56	13.7	17.7	56	13.6	17.2
			56	29.9	33.8
				DB	
58	14.0	18.0	58	13.6	17.6
58	23.8	27.8	~~58~~	~~23~~	
58	25.2	29.2	58	25.0	29.0
58	—	34.6			
	DB			B	
59	12.5	16.6	59	—	16.6
	BD			DB	
59	42.0	46.0	59	41.8	45.8
	D. for 1m			BD	
15h 1m	13.6	17.3	15h		
15 1	26.4	30.6			
2	8.3	12.3	2	—	12.0
2	37.3	41.3			
	B				
4	5.0	8.9	4	4.6	7.8
4	24.0	27.9	4	23.8	27.9
4	29.0	33.0	4	28.9	32.9
4	47.4	51.4	4	47.4	51.3
5	6.4	10.4	5	6.2	10.0
5	8.8	12.9	5		
5	13.9	17.9	5	13.5	17.7
	BD			B	
6	12.9	16.9	6	12.8	16.8
7	9.0	13.0	7	8.9	12.8
			7	56.2	60.2
~~8~~	~~3X19~~	~~41.9~~	~~8~~	~~15~~	~~which is?~~
8.	37.9	41.9	8	37.9	41.8
	DB?				

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1889plrae.proj.:1203

Zone 119 0°.50'–1°.0' 120 Zone

12	4..42		12-13	4..44	12-13	4..45	
12	10..00		12	10..02 ns		seen	
10-11	9..45		11	9..47	10	9..47	
10-11	0..0	1st wire lost	12-12	–0..03 2d w.		seen	
9-10	10..30		9-10	10..32	10	10..32	g.3
	B.D			B		B	
11	9..41		11	9..4'	11-12	9..44	
12	2..17		12	seen	12	2..18	
12	9..36			seen B. B. B	12	seen B. B	
11	2..50		12	1..50 cert	11	1..49	
12	9..19	n.s	12	9..18		seen	
9.10	9..18		10	9..15 ns	10	9..16	g.5?
11	–0..04	1st wire lost	11	–0..05 1st wire D.B		seen	
12	10..09	1st wire lost		seen		B	
10-11	10..10		11	10..10	11	10..08	
	DB			B.D		D.B	
12	0..50		11-12	0..50	11	0..50	
	B For a Minute			D For a Min.		B. D	
12	5..18		12-13	5..20			
	3..13		12	3..16		seen	
		2 wire lost + Den					
10	11..01	n.s	10	11..00 ns	10	11..00	1st wire lost
	10..40	Nebulous star	n.s. lost	10..40		Nebulous star seen but too faint	give description of nebula h.1908
	D. B. D		17..59..59.2	18..0 28.7	B		
12	7..33		12	7..35 comp 30" dist.	12	7..36	Double
12	8..31		12	8..30	12	8..30	
12	6..10	ns	12	6..08 ns	12	6..10	ns
11	0..57		10	0..59 B	10-11	0..59	
11	9..60		10	9..43 cert	8	9..43	Cat Star. g.4
12	7..08	ns	12	7..08 ns		seen	
11-12	5..28	ns	11	5..31	11	5..33	+ A long star
	D.. B			B.D		B	
11	7..06		10-11	7..05	10	7..05	g.5
8	3..50		8	3..57	8	3..49	Cat Star 8.1
12	5.. —	not obs.			13-14	5..15	
12-13	9..29						
12	7..40			6m 3' 44"		7..4	
5	3..43	Is there a neb. fol. the Comet			6	3..42	ne Cat Star. 5.9
	B			B. D. B			

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Zone 119 13h.54 – 16h.3 120 Zone

15h

12	28.0	31.9
12	30.2	34.1
12	57.8	61.9
13	9.7	13.9 γ
13	14.8	18.8
	B	
13	46.1	50.1
14	4.6	8.6
14	5.6	9.4
14	16.0	19.9
14	45.1	49.1
	DB	
15	50.0	54.0
16	57.1	61.0
17	10.6	14.4
17	56.6	54.4
	D	
18	38.8	42.7
18	54.2	58.1
18	56.6	60.5
19	9.2	13.2
	BD	
20	3.9	7.9
20	5.2	9.3
20	34.4	38.3
	B	
21	23.2	27.2
21	~~34.0~~	~~34.0~~
22	12.2	16.2
22	—	13.0
22	39.1	42.9
	B	
23	22.2	26.1
23	41.1	45.2

15h

9	27.2	31.2
10	20.6	24.4
10	43.6	47.4
11	38.7	42.8
	B	
12	00.3	04.2
12	27.8	31.8
12	30.0	33.9
12	57.8	61.8
13	(the R agrees with one star and the decl. with another)	
	14.7	18.6
13	46.0	50.0
14	4.7	8.5
14	44.7	48.8
	B	
15	49.9	54.0
16	57.0	60.9
17	50.2	54.0
	DBD	
18	38.4	42.4
18	54.1	58.0
18	56.2	60.4
19	9.0	13.0
	B	
20	03.8	07.9
20	05.1	09.1
20	34.3	38.1
	BDB	
21	23.0	27.1
21	29.9	33.9
22	12.2	16.0
22		
22	38.8	42.9
	D	
23	22.0	25.9

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119 0°.50'–1°.00' 120

12-13	4h.02					12-13	4h.04		
12	3h.43					12	3h.44		
11-12	0h.19					11	0h.20		
12-13	6h.23					12	6h.27		
	B.D						B		
12	3h.53					12	3h.56		
11.12	5h.13		11.12	5h.14		11.12	5h.14		
11	7h.00	ms	11	8h.03 cert		11	8h.03		
12		2 min bet	11	0h.41		12	0h.40		
12		2 min bet	12.13						
11.12	4h.05	1st min bet	11	4h.03		11	4h.06		
	B		11	5h.05					
			B						
11	4h.39		11	4h.39		11	4h.39	B	
11	10h.19	ms	12-11	0h.09		11	0h.09		
12	7h.07		11-12	10h.20					
12	8h.54		12	8h.58		12	8h.58		
	D.B.D			D.B.D			B		
7.8	8h.12		8	8h.13		8	8h.13	cat. str.	7.5
12	2h.50		12	2h.50			Seen		
11	9h.50		11	9h.53		9	9h.53		
	B			D			D.B.D		
11	9h.18		11.12	9h.20		11.12	9h.20		
12	9h.[illegible]		12	9h.52 cert		12	9h.53		
12	8h.41		12	8h.43		12	8h.43		
11	8h.09		10	8h.10		10	8h.10	cat star	9.2
	D.B.			B.D:			B		
11.12	4h.31		12	4h.32		11.12	4h.33		
11.12	6h.48	m.s	12-13	6h.45 ms		12	5h.43		
12	8h.50		12	8h.50		12	8h.50		
	B			B			B D.B		
12	8h.52	2 min bet	12	8h.—					9.5
11	5h.09		11	5h.10	2 min bet		5h.09		
12		No dec. 1 min obs	11	10h.40			10h.38		
11	5h.00	2 min bet	12	5h.00	1 min bet	12	5h.05	Abt bet	
11	5h.33	Dec.?	12	4h.33 cert		12	4h.40		
11	5h.19		12	5h.20		12	5h.19		
	B			B			D		
11	6h.04		11	6h.05		11	6h.05		
8	8h.19	2 min bet	12-13	8h.20			Seen		

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119 — 13h 54m – 16h.3 — 120

119			120		
14h 24m	1.2	5.1	15h 24	01.0	05.0
24	16.9	20.6	24	16.3	20.4
24	44.8	48.8	24	44.4	48.4
	BD			BD	
25	34.5	38.4	25	34.1	38.1
25	—	48.0 → why not obs. in 120?	25	45.2	—
				B	
26	15.6	19.6	26	15.3	19.3
26	45.1	49.1	26	45.0	49.0
26	51.4	55.7	26	51.3	55.4
27	25.9	29.9	27	25.8	29.7
	BD			D	
27	52.8	56.9	27	52.7	56.9
28	8.6	which wire?	28		
28	28.3	32.3	28	28.1	32.1
	BDB			BDB	
29	30.4	34.3	29	30.1	34.0
30	1.1	5.2	30	1.0	5.0
30	28.2	32.1	30	28.0	32.0
	D			B	
30	52.8	56.6	30	52.4	56.8
31	7.0	11.1	31	7.0	10.9 (the mean of these two probably very good regardless of printing)
	B			D	
31	39.1	42.9	31	43.0	47.1
31	59.1	63.1	31	58.9	62.9
	B			BDB	
32	25.6	29.6	32	25.3	29.3
				D	
	DB				
33	39.5	43.3	33	39.1	43.1
33	—	54.1			
34	49.5	53.4	34	49.3	53.1
35	24.1	28.0	35	24.0	27.8
	B				
36	00.2	3.9		was the star seen on 4 in 120.? yes	
36	18.9	22.9	36	19.0	22.8
	D BD			D	
	Bf. 1m				
38	4.7	8.8	38	4.6	8.4
38	32.4	36.3	38	32.3	36.0
38	52.0	55.8	38	51.4	55.9

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		11	0..10	11	6..10	
12	7..00	11-12	7..01	11.12	7..01	
11-12	4..14	11-12	4..15	11	4..15	
12-13	9 Not observed					
	B		B.D.		B D	
12	6..30	12	6..30	12	6..30	Seen 1..41 This goes between 6.30 + 6.00
12	6..01	12	6.. seen		6..01	Same last
	D.B.	12	1..41 Same last		B	
12	3..15	12	3..15	12	3..15	
12	1..53	12	1..53	12	1..54	
12-13	Seen? last	12-13	2..39		2.. —	sig.?
12	7..42	11-12	7..45	11	7..44	
	B		B		D	
12	0..22	12	0..34	12	0..33	
		12	4..09	12	seen	
12	1..05	12	1..04	12	1..05	
	D.B.D		B D.B.		B D B	
		12	10..30	12	10..30	
12	7..20	12	7..21	11-12	7..22	
11.12	2..58	11	2..59	11	2..59	
			D		B	
		12	2..08 ms.		2..04	
	D	12	B 1..05 ms		1..04	
12	6..40				seen	
13	0..43	1st seen last	seen	13	0..43	
10	10..12	~~ms~~	10..04 Seen doubt	10	10..04	
	B		B		B D B D	
12	1..00		12 1..00 ms	12	1..01	
12-13	1..41		seen		D B	
	D.B.D.B		D.B.			
11.12	9..58	11	10..00		10..02	
7.8	4..40	12	4..11 cent Sun b		seen	
12	2..40	7.8	4..42	8	4..44	Cat Stars. 7.5
	B	12	2..40	12	2..42	
			B			
12-13	6..58	1				57 24.3 7..13. 1.8.7
11	7..40			11	7..41	
	D.B.D				D	
	B					
11	4..57			11	4..58	9.5
12	10..05			12	10..07	
12	3..00			12	2..59	

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14h			15h		
	D D				
40	11.1	15.0			
40	32.9	37.0	40	10.9	14.9
			40	32.6	36.9
40	47.2 D	51.2	40	47.0 B	50.9
41	45.3	~~48.3~~	41	45.0	49.0
41	49.3	53.4	41	—	53.1
42	10.9	14.9	42	10 9	14.6
42	47.9	52.0	42	47 6	51.9
43	7.6 DB	11.7	43	7.1 DB	11.5
44	7.8	11.7	44	—	11.3
44	17.4	21.3	44	17.2	21.2
46	37.8 DB	41.8	46	37.7 B DB	41.7
47	30.9	34.9	47	30.8	34.8
47	41.4	45.3	47	41.1	45.2
47	54.8 BDB	58.8	47	54 9 D	58.8
48	26.8	—	48	26.4	30.3
48	—	57.9	48	53.5	57.4
49	4.5	8.3 4.5 6.6 8.3 11.1 12.3			
49			49.	4.2	8.2
				6.2	10.0
				7.8	12.0
	D				
50.	5.9	9.9 (Why not observed in zone 120?)			
51	9.6	13.4	51.	9.8 19.3	13.71 23.5
51	—	16.9			
51	20.0	24.0			
	D				
51	49.1	53.0 (Comp. 50.2 rej 2d ~~one~~)	51	49.0	53.0
51	~~54.0~~	58.03	51	54.1 BD	58.0
52	32.2	36.2	52	32.1	36.1
53	1.5	5.5	53	1.3 B	5.4

Were two obs. in zone 119

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	D 4		15			
	D.B			B.D		
12	10..20		12	10..20		
12	6..09		12	6..08		
12	7..45?		12	7..47		
	D	Three stars in a triangle		B		
12	8..35	2d wire lost	12	8..35		
12-13	8..26		12-13	8..28	1st wire lost. Dec?	
11	0..03		11	0..03		
12	7..33		12	7..34		
12	6..00		12	6..01		
	D.B			D.B		
~~Trapezium like Orion~~						
12-13	5..50		12-13	5..49	1st wire lost	
12	5..55		12	5..55		(9.5)
12-11	4..37		12-13	4..37		
	D.B			B.D B		
12	5..40		11	5..40		
11	10..30	ms		10..—		
11	1..28		11	1..29		
	B.D			D.		
		2d wire lost	11	9..11		9.5
10	9..09	1st wire lost		9..09	5..28	9.5
12	5..05		11 / 10 / 10.11 / ~~11~~	8..23 / 5..23 / ~~4..34~~	8..28 / ~~4..34~~	~~9.5~~
11.12	7..34				Measure length for obser.	9.5
12	2..54					
11	3..33		11	4.34?		9.3
	D					
11	2..38					9.5
11	10..25		11	10..24		(9.5)
13	7..09	1st wire lost		9..00		
9	8..00					8.7
	D					
11	8..14	Comp 13 mag. 11" dist	10	8..13	Comp 88" 8.5	9.5
	10..07	1st in? sig. after 1st wire	6	10..07	m.	7.5
				B.D		
11	5..08			not seen		
11.12	4..08		11	4..09		
11	4..45		11	4..45		
				B		

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9

119 $3^h 54^m - 16^h 3^m$ 120

15			15h		
		9.4			
	54	8.9 13.4		54	9.2 13.2
	54	17.0 20.9		54	16.8 20.8
✓	54	19.1 23.0		54	19.0 22.9
					BD
	54	59.2 63.1		54	59.0 63.0
	55	17.2 21.2		55	17.0 21.0
	55	41.8 45.7		55	41.4 45.4
		BD B DBD			BDBDD
				56	30.5 37.2 (why not observed in 119 Seen on June 19)
	58	40.6 44.6		58	40.3 44.2
	59	32.6 36.5		59	32.3 36.4
16h	0	14.2 18.1	16h	0	14.1 18.1
	0	47.0 50.9		0	46.8 50.8
		D			
	1	— 24.5 (26.9) which was this in 2 hours 19 gamma		1	20.3 24.2
					why not observed in 120 Seen on June 19
		DB			
	2	38.1 42.0		2	37.8 41.8
	2	~~44.0 48.0~~		3	16.1 20.1 } why not observed in 119
				3	21.6 25.4 } Seen on 19
	3	44.0 48.0		3	43.8 47.9

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13	6..10		12	6..10	
11.10	6..05	ns	10	6..05	ns 9.5
9	1..50	ns	9	1..50	ns 9.5
	B D			B D	
10.11	5..13		10	5..12	9.5
12	6..10		12	5..10	
12	9..43	ns	12	9..43	
	B D	B D		B.D, B	
	Stars less field		12	9..30	Double, comp. 30" nor.
	Clouding up – Cirrus				
11	8..27		10.11	8..27	
12	4..17		12	4..19	
12	0..24		12	0..28	Dec. cent 9.5
12	7..01		11	7..01	
~~12-10~~	~~8..21~~			8..	~~Comp. 17" S.f.~~
	D		9	8..08	Comp 17" S.f. 14th mag 8.8
9	8..07	Comp.? 1st wire Cent		B	
18	0..22	ns [This follows 9th mag by 2.9			
	D B				
11	9..04		11	9..03	
~~Clear~~	Cloudy		11	0..54	
			11	4..20	
10.	5..28		10	5..28	1st wire? Cat Star 9.4

The first columns of decl. correspond to observations not recorded on spring governor from pen not marking. They are wider than the others

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Correction of zones 119 & 120

before Observation

ξ C 15h 1.30 June 15th
Bar. 29.814
att the 71
et the 70

ξ C
Bar
att the
et the

position circle

	D	S	D	S
15h 25m	34.0	38.0	red. to 25m	34.7 38.7
	43.3	47.4		44.0 48.1
	45.5	—		46.1
	B			
25m	41.7	45.8	red. to 25m	34.7 38.8
	8529	5		45.9
	8	55.0		43.8 48.0

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Correction of zones 119 α 120

zone 15h

⇒ 15h 49m α to be observed

Bright Moonlight

11	4..34	decl appr.
12	5..45	n s
12	8..	n.s 1st wire lost
	B.D.	
12-13	seen	
11	5..12	
11	10..42	n s
	B	
12	5..03	♀ wire lost
12	4..40	n s
11.12	5..29	
11	6..06	
	Seen	
	D.B.D.B	
12	6..30	
12	1..41	decl. doubtful.
12	6..00	♀ wire lost n s
	B	
	6..30	
	1..41	♀ wire lost n s
	6..00	
	~~B.D.B~~	
	BDDB	
	D	
11	7..49	
12	0..39	
12	4..13	dec.?
12	1..10	

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Gone

June

at Reg. 6 6
Bar
att Th
ext Th.

at Red. 2 6
Bar
att Th.
ext Th.

position circle

Obs. S. C.
Rec. Judge Tuttle

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~~A.D~~ D.B.D.B

10 9..10

12 5..34

11 7..36

12 2..56

12 3..34

D.B

9..10 n.s

7..36

3..34 n.s

~~3..34~~ n

B

5..34

2..56

h

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Comparison of Magnitudes. Preceding Joves.

b (Mean)	A.	b (Mean)	A.
9.0	8.9	9.7	9.3
10.7	9.5	10.0	9.5
11.2	9.5	9.0	9.4
8.2	8.5	10.2	9.5
9.5	8.8	6.0	5.1
10.0	9.0	5.0	5.9
9.0	8.5	11.0	9.1
10.0	9.3	8.0	7.5
11.0	9.5	10.0	9.2
10.0	9.0	7.7	7.5
12.0	9.4	11.0	9.5
7.5	7.0	12.0	9.9
10.5	9.2	11.0	9.5
11.5	9.3	10.0	9.5
9.8	9.1	11.5	9.5
10.7	9.4	11.0	9.3
11.0	9.5	11.0	9.5
9.7	8.9	11.0	9.5
10.0	9.5	9.0	8.7
11.2	9.5	10.5	9.5
12.0	9.5	6.0	7.5
9.0	8.3	10.9	9.5
8.5	7.8	9.0	9.5
9.7	9.0	10.2	9.5
10.2	9.3	12.0	9.5
11.0	9.5	9.0	8.8
9.0	8.1		
9.5	9.4		
8.7	9.1		
11.5	9.5		
10.0	9.5		
9.5	9.2		
10.7	9.5		
10.0	9.5		
10.0	9.5		

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Magnitudes.

0.0					-0.1	/	-0.1	/	1.1	
0.1	//	0.2	2	1.4	0.2					
0.2	//	0.4	2	1.0	0.3	/	-0.3	1	1.5	
0.3	//	0.6	2	0.8	1.4	//	-0.8	2	6.0	
0.4	/	0.4	1	0.3	0.9	/	-0.9	1	3.4	
0.5	/// ////	4.5	9	1.7	1.5	/	-1.5	1	5.9	
0.6					0.5	/	-0.5	1	2.0	
0.7	/// ///	5.6	8	0.4					19.9	
0.8	//	1.6	2	0.0			54.1	58		0.793
0.9	//	1.8	2	0.0						0.89
1.0	///	3.0	3	0.0	B_y 58 comps.					
1.1										
1.2	//	2.4	2	0.2	$C-A + 0.^{m}93 \pm 0.^{m}08$					
1.3	///	3.9	3	0.4						
1.4					R_y 6 comps. $\pm 0.^{m}60$					
1.5	/// //	10.5	7	2.3						
1.6										
1.7	///	5.1	3	1.8						
1.8										
1.9	/	1.9	1	0.9						
2.0	//	4.0	2	2.3						
2.1										
2.2	/	2.2	1	1.6						
2.3										
2.4										
2.5	///	7.5	3	7.4						
2.6	/	2.6	1	2.8						
				25.3						

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Zone 12 01 Declination 0°40' - 0°50'

June 18th.

at commen. EC 15h 28m.0
Bar
att th. 68
ex th. 59.1

at end EC 18°.00m
Bar 29.968
att th 66
ex th. 55

telescope west of pier
position circle 187°.19'

July 20

at commen. EC 17 19 10
Bar 29.766
att th
ex th

recorder had his commencement
[illegible] to day, and cannot
be expected to be in the best
train.

at end. EC 18 59 00
Bar 29.[illegible]
att th
ex th 63

telescope
position circle 91.20

Magnitudes between obs. of NR
Estimated by WHS 1862 August 25th

15h	57m	5.8	9.7	15h	57m	4.7	5.0
	58	15.9	19.9		58	14.9	15.1
		B				B.D.	
	59	1.0	4.9		59	0.1	4.2
	59	39.9	43.9			39.2	43.2
	59	49.3	53.3			48.7	52.7
16	0	11.7	15.6	16	0	11.1	14.9
	0	14.3	18.5			13.7	17.6
	0	29.9	33.8			29.2	33.3
		DB				B.	
	1	4.8	8.7		1	3.8	8.0
	1	23.3	27.2			22.5	26.6
	1	36.3	40.4			35.	
	2	11.0	15.1		I	10.3	14.4
		D				B. B	
	3	0.8	4.9		3	0.0	4.1
	3	21.4	25.2			20.7	24.6
	3	45.4	49.2			44.3	48.4

These stars were obs. in zone 117.

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1869phae.proj.. 226S

Rhone 121

Saturday June 18
Clear & calm

9	8.30		9.3	10	8.30		
12	7.40			12-13	7.36		
	B				B.D		
12	6.38			12	6.28	cert	
11.12.	0.59			11	0.58		
12	2.19			12	2.08	cert	M S
10	0.02			12	0.02		
	10.28	MO	9.5	11	10.27	M S	
10	1.00			12	1.00		
	D. B				B		
11	6.04			11-12	6.04		
11	10.27			~~10~~ 11	10.24		
12	5.03						
10.11	5.59			11	5.59		
	D				B. B.		
10	7.00			10.11	7.02		
12	4.27			13 ~~13~~	4.23		
12	10.01			13	10.00		

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1859MNAE.proj..226S

5h	5	44.0	48.0		5	43.1	46.9
	6	6.3	10.3		6	[illegible]	9.4
		B D B				B D B	
9 ×	8	20.0	24.0		8	19.3	23.2
	9	3.6	7.4		9	2.9	6.9
9 ×	9	4.2	8.0			3.3	7.2
		B				B.	
	9	39.7	43.4			38.7	42.6
	10	8.8	12.5		10	7.9	11.9
	10	16.9	20.9			16.1	20.1
		D B				B D.	
	11	17.2	21.2		11	16.5	20.3
	12	6.2	—		12	5.5	[illegible]
	12	10.1	14.0			9.2	13.3
	12	—	53.2			52.3	58.4
	13	4.9	8.9		13	5.0	8.1
	13	13.0	17.0			12.3	16.4
		B D				B.	
	13	41.0	44.9			40.2	44.1
	14	3.4	7.3		14	3	
	14	33.2	37.3			32.4	36.6
	14	53.6	57.5			52.6	56.7
11 × 8	15	2.0	6.0		15	1.1	5.1
		D				B.	
	15	19.2	23.0				
	15	21.9	25.7				
		D B D				D	
	16	10.7	14.5		16	9.6	13.7
11	16	12.0	15.9			11.1	15.0
	16	24.0	28.0			23.1	26.0
		B				B. B	
	16	50.2	54.2			49.4	53.7
	17	7.0	11.0		17	6.3	10.2
		B				D.	
	17	37.6	41.5			36.8	40.9
9	18	7.7	11.3?		18	6.9	10.7
		D				B.	
		23.6	27.8				
		D for 1 m.				D.	
	20	1.9	6.0		19	40.4	44.5
					20	[illegible]	[illegible]

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1859phae.proj..226S

12	10..21			12	10..20	
12	6..38			12	6..37	
	BD.B				BDB	
9	6..28		9.2	9	6..28	
9.10	1..53		9.5	10	1..53	
8-9	4..18	n.s.	9.3	9	4..17	ns
	B				B	
12	5..30			12	5..29	
12	5..30			12	5..29	
7	5..51		9.2	9	5..52	
	D				BD	
9-10	4..43		9.2	9-10	4..44	
11-12	3..40	2d wire lost & Many slow passing & unobserved		11.12	3..41	2d wire lost
12	6..26	n.s.		11	6..27	ns
12	7..39	2d wire lost		12	7..39	
11	6..26		9.4	10	6..26	
12	0..37			12	0..37	
	B.				B	
12	6..48			12	6..47	
12	0..40			12		sun
10	6..49			10-11	6..49	
12	8..56			12	8..56	
6-7	10..17		8.4	7.8	10..07	
	D				B	
12	9..19				Sun	
12	1..00	ns 1st?			sun	
	D.B.D				D	
10	7..29		9.2	9	7..28	
10-11	9..43	ns	9.5	11	9..43	ns
11-12	6..50		9.2	11	6..50	
	B				BB	
12	5..30			12	5..29	
11	6..39			11	6..39	
	B				D	
13	2..52			13	2..51	
13	2..32			13	2..32	
	D				B	
13	0..10					
	D For a Minute				D	
12-13	3..16				2..14	east

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1859mae.proj.226S

Zone 121

16h	~~20m 1.9 6.0~~			16	20	19.5 23.5
	20	20.2 24.2				28.0 32.1
	20	28.9 32.9				28.0 32.1
?	21	3.8 7.4			21	25.9 29.9
?	21	26.7 30.4				33.3 37.5
	24	34.1 38.2				B. B. B.
		BD				
	21.	50.4 54.6			2	
	22	29.2 33.2			22	28.5 32.5
		B				D.
	23	8.6 12.5			23	8.1 11.9
	23	46.4 50.3				45.7 49.8
	24	7.9 11.8			24	7.2 11.1
		D				B.
	24	— 50.8			24	46.0 50.0
	24	53.0 57.0				52.1 56.1
		D				D B.
	25	20.5 24.3			25	19.7 23.7
	25	22.2 26.2				21.7 25.6
		B for 1m.				B. D B
	27	16.7 20.6			27	19.9
	27	46.3 50.5				45.9 50.0
	28	16.7 20.8			28	15.8 19.8
	28	35.2 39.3				34.7 38.7
		BD				D. B.
	29	10.8 15.0			29	10.2 14.4
	29	36.9 40.8				36.0 39.8
	30	28.0 32.0			30	27.1 31.2
	30	44.1 48.0				43.4 47.4
	30	45.8 49.7				44.9 49.0
	31	0.0 4.1			31	3.2
?	31	13.4 17.7				B.
	31.	37.4 41.4				36.6 40.6
	31.	45.7 49.7				44.9 48.9
		D B				B. B.
	32	46.1 50.2			32	45.6 49.5
	32	47.1 51.2				46.3 50.2
	32	57.6 61.7				
	33	10.6 14.5			33	13.7
		D B				D B.
	33	38.3 42.3			33	37.5 41.5

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Lone 121

9	7..56		9.0	9	7..57	
11	9..00		9.4	11	9..00	
13	4..30			13	4..31	
12	6..02			12-13	6..02	
12	6..00			12	6..00	n.s. last dot is observation
	B. D.				B B B	
13	3..30	ns			seen	
13	1..38	ns		12-13	1..35	
	B				D	
13	0..33			12-13	0..33	
13	4..20			13	4..20	
13	5..20			13	5..20	
	D				B	
13	10..38	? 1st wire lost		13	10..38	
12	4..35		9.5	11-12	4..35	ns
	D				D. B	
12	3..00			12	3..00	
12	2..56	ns		11	1..57	ns cert
	B				B D B	
13	2..59			13	2..59	1st wire lost ns
13	0..20			13	0..20	
13	1..20	ns		13	1..19	
13	7..15	See!		12-13	7..13	
	B. D				D. B	
13	2..45			12-13	2..46	
12	9..40			12	9..41	
12-13	5..00			12-13	5..00	
11-12	1..55			12	0..55	cert
	0..14		9.4	11	8..17	ns
	10..46		9.4	10..11	10..46	
	D. B				B	
11	5..34			12	5..34	
11	2..41			12	2..42	
	D, B-				B B	
12	3..18			13	4..14	cert
12	3..01			13	4..02	cert
12	2..50					
12	5..09			12	5..09	
	D. B				D, B	
13	4..10			13	4..12	

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Drone 121

h		
16		
33	46.9	50.8
34	1.6	5.5
34	10.0	14.1
34	12.8	17.0
	B	
34	45.1	49.1
35	11.7	15.9
35	29.3	33.3
35	52.2	56.2
	D	
36	14.8	18.7
	D c 2 m	
37	—	34.0
37	37.0	41.0
	B	
38	31.4	35.5
38	34.7	38.8
38	—	41.9
39	1.0	5.1
	D B	
39	43.3	47.2
39	55.5	59.2
40	10.8	14.6
40	11.3	15.3
	B	
40	58.7	62.8
~~41~~	~~15.2~~	~~19.2~~
41	15.2	19.2
	D B.	
41	56.9	61.0
42	18.6	23.3
42	30.6	34.8
42	51.9	55.7
	B	
43	9.7	13.3
44	13.6	17.6
44	25.0	29.0

122

h		
16 33	46.0	50.1
34	0.7	4.9
	9.2	13.2
	44.1	48.2
35	10.8 B	15.1
	28.6	32.5
	51.3	55.4
	B B.	
36		
	23.9	
37	36.0	40.
	36.0	40.1
	D.	
38	31.1	34.9
	34.2	38.2
	3	41.4
39	0.5	4.6
~~39~~	42.8	46.9
	54.8	58.8
40	10.7	14.7
40.	58.2	62.3
41	14.9	18.9
41	56.3	60.4
42	19.2	23.3
	30.2	34.3
	51.2	55.4
43		
44	13.0	
	24.6	28.6

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Trouve 121 122

12	3..14			12	3..13	
11	0..17		9.5	11	0..17	
9	6..57		8.9	8.9	6..57	ns
12	5 =	ns dw lost		11		
12	5..34 B					
11	3..34		9.5	11 B	3..35	
12	0..25		D	13	0..26	
8.9	7..53		8.9	9	7..54	
11	10..03 D			12	10..02 B B	
13	4..0v D. For a Minute				D B. D	
11	10..30	1st wire lost		12	10..29	
11	1..26	~~1st lost~~		12	1..27 D	
~~11~~	B					
11	1..53			11.12	1..53	
11	8..59	ns		12	8..58	ns
11	3..38	1st wire lost ns		13	3..39	ns 1st wire lost
11	6..29 D. B			13	6..30 B	
12	4..38		9.5	12	4..40	
11	1..52		9.3	10	1..53	
11.12	4..37			12	4..32	Double Dist. 10" comp n./p
11-12	4..31 B	ns Number of small slits			D. B	
12	8..59			12	8..58	
12-13	lost					
12	10..27 D. B			12	10..27 B	
13	8..28			12-X	8..27	
13	0..59			13	0..59	
12	— 0..07			12	— 0..05	
13	8..12 B			12-13	8..12 D. B	
13	3..51 D..					
12-13	4..19			13	4..20	2 wire lost
12	4..0v				4..01	

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Zone 121 122

16h 44	26.2	30.0	16 46	25.6	29.5
	28.2	32.1			31.7
	JB				
+44	53.1	57.1		52.6	56.6
45	6.3	10.4	45	6.0	10.1
	B				
45	41.7	—	45	40.9	4 ?
45	—	45.3			45.0 ?
	D				
46	25.0	28.8	46	24.2	28.2
46	37.1	41.2		36.6	40.7
46	53.0	56.9		52.5	56.5
	BJB				
47	51.7	55.8	47	51.4	55.4
			49	16.8	20.6
49	50.9	55.0	49	50.1	54.2
+50	10.8	14.8	50	10.2	14.2
+50	49.8	53.8		49.4	
*50	58.2	62.3		57.8	61.6
51	6.4	10.3	51	5.9	9.9
51	18.9	22.9		18.4	22.2
51	28.2	32.2		27.8	31.7
	B				
51	51.5	55.4		51.1	55.0
51	58.2	62.3		57.8	61.8
	B				
52	19.0	23.0	52	18.7	22.7
	JB				
52	58.7	62.8		58.3	62.3
+53	21.0	24.9	53	20.5	24.4
+53	36.0	40.0		35.4	39.6
	BJB				
54	0.7	4.8	54	0.3	4.2
54	2.9	6.9		2.5	6.4
54	20.0	24.0		19.6	23.7
	D				
54	34.2	38.2	54	33.7	37.8
54	43.1	47.1		42.5	46.4

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Zone 121

10	3.18	ns	8.9	10	3.18		
11	7.08	ns		11	7.08	1st wire lost ns	
	✱ B				B		
12	0.57			12	0.57		
12	0.00			12	0.00		
	B.				✱		
12	1.37	2 wire lost		12	1.39	1st wire lost	
12-13	5.38	1st wire lost		11	5.28	2 wire lost est.	
	D				B		
13	lost						
12.13	7.50	ns		12	7.51		
11-12	8.07		9.4	12	8.07		
12	6.19			12	6.19		
	B.D.B				B.D		
13	10.32		0	13	10.32		
12	5.40	R lost		12-~~13~~ B	5.42		
	Instrument touched					Divide the Zone	
11.12	7.38?			12	7.38		
11.12	8.24			11-12	~~8.38~~		
				12	8.25		
12	4.42			12	4.42	ns 2 wire lost	
12	3.36			12	3.37	ns	
12	2.12			12	2.14		
12-13	1.20			13	0.22	ar	
12	1.22			12			
	B						
					4 3 6		
12-13	4.37			12	6.35		
12	6.34			12	B		
	B						
12-13	1.58			12	1.58	ns	
	D B				B B		
12-13	2.00			12	2.01		
13	1.85			13	1.36		
13	4.08			12	4.09		
	B D B				D.B		
13	5.11			13	5.12		
10-11	3.09	ns	9.0	9.10	3.02	ns	
12-13	5.39		9.5	12-13	5.42		
	D				B		
12	2.03			12	2.02		
11-12	8.14	ns			8.15	ns	

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Zone 121 122

15h

54	52.1	56.2	
	D for nearly 1m.		
55	41.8	49.7	
56	0.8	4.8	
56	58.7	62.6	
57	—	6.3	
	B & B		
57	10.1	14.1	
58	8.7	12.7	
	D		
58	56.0	60.0	
59	26.1	29.9	
59	37.2	41.3	
59	49.0	53.0	
	D B		

16

54	51.6	55.5
55	46.8	48.8
56	0.1	4.2
	58.2	62.1
57		5.9
	49.6	53.7
58	7.9	12.0
	16.0	19.9 ? ?
	55.5	59.5
59	25.6	29.2
59	[illegible]	40.5
	48.6	52.7

17h

0m	19.0	23.1	
0	27.2	31.2	
0	44.6	48.3	
	D B D		
1	20.0	23.9	
1	39.4	43.4	
2	1.3	5.1	
2	32.0	36.1	9.13
2	37.7	41.9	
	B		
3	4.7	8.7	
3	37.3	41.1	11.
	B & B D		
4	34.1	38.1	11.7
5	26.5	30.3	10 13
5	43.8	47.8	
5	12.8	16.9	
6	7.2	11.0	
	10.0	14.0	
	B		
6	50.5	54.2	10.11
	B		
7	37.2	41.2	10.11
7	43.5	47.6	10 13

17 0	16.5	22.5
	26.6	30.7
	[illegible]	
1	19.3	23.3
	38.9	43.0
2	0.5	4.7
	31.5	35.4
	37.1	41.1
3	4.1	8.1
	36.7	40.7
4	33.5	37.4
5	25.8	29.8
	43.2	47.2
	52.1	56.3
6	6.5	10.4
	49.7	53.7
7	36.4	40.3
	42.9	46.9

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Zone 121 1122

10..11	6u10		9.3	10	6..11	ns	
	Dots For a Minute				B.D.B.		
12-13	10..24	ns		12-13	10..24		
11.12	3..33			12	3..33		
10	9..20		9.5	11	9..21		
12	3..38	1st wire lost		12	3..40	ns	1st wire lost
	B D.B	Moonlight interferes			BD		
9.10	7..46		9.1	9	7..47		
11	3..57			11.12	3..56		
	D				B B		
11	4..29	A lost		12 11-12	6..21 4..29		
13	7..39			~~12~~	7..39	lost	
6?	10..46		8.B	8	10..47		
11	10..59		9.5	11	10..59	ns	1' wire lost
11	10..31.			11	10..31		
	B.B				B		
11	3..04			11	2..04	cert	
13	2..59			13	1..58	cert	
13	9..00	ns		13			
	D.B D	Number of small stars					
12-13	8..52			12	8..53		
10.11	9..37		9.5	10	9..38		
12	9..51			12	9..52		
7	3..53		8.5	~~9~~ 8	3..55	Orange color, yellow	
10.11	0..41			11	0..41	n	
	B				B		
6	−0..17		7.0	7	−0..15		
12	8..23			12	8..24		
	B D.B				B D.B D		
12	6..21			12-13	6..22		
11-12	1..07		9.5	10-11	1..07		
13	3..30			12	3..30		
13	5			12-13	5..13		
~~9~~ 11	10..39	? withdrawn Catalogue	8.5	9	10..40		
	B				B		
10.13	4..04			11-12	4..05		
	B				B B		
	7			12	7..53		
12	6..38		9.5	10-11	6..40	ns	

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Zone 121 122

17h				17			
	8m	3.9	7.8		8	3.1	7.1
		B	B				
	10	1.8	5.9	10	10	1.3	5.2
	10	13.3	17.1	9.10		12.7	16.7
	10	34.3	—			37.6	37.7
	10	36.0	39.9				
	10	45.0	49.0	10		44.1	48.3
		B	B				
	11	5.9	9.9	10.7	11	5.2	9.1
	11	27.9	31.9			27.1	31.1
	11	44.7	48.9	9.13		44.0	48.0
		B					
	12	00.3	4.4		11	59.7	63.8
	12	13.4	17.2	10.13	12	12.7	16.7
		B	B				
	12	51.8	55.7	10.	12	51.2	55.1
	13	52.2	56.1	6.8	13	51.2	55.3
		B					
	14	13.4	17.3	9.7.	14	12.6	16.7
	14	56.5	60.7			56.0	60.0
	15	7.9	11.9	10.11.7.	15	7.2	11.3
	16	3.2	7.2		16	2.6	6.8
		B					
	16	20.0	24.0	10.11		19.3	23.2
	16	41.2	45.0			40.1	43.2
	16	43.0	47.2	11.12		42.6	46.6
	17	1.0	5.0	f 11.13	17	0.3	4.2
		g					
	18	—	47.8	11.13	18	43.0	
	18	48.3	52.3	9		47.4	51.4
	18	59.8	63.8		19		3.2
	19	8.2	12.1			7.4	11.4
	19	17.5	21.5	9.7.		16.8	20.6
		B					
	20	1.0	5.0	11			
	20	23.1	27.0	10.11			
		B	B				
	21	5.6	9.7				
		g					
	21	34.7	38.5	11	21	33.9	37.9

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Zone — 121

13	6.38				12	6.39	
	BD.B					BD	
12	7.40				11	7.41	
12-11	9.38		9.5		10	9.40	
13	3.05	2nd 2 min lost			13	3.08	
	3.19					3. seen	
12	8.50				12	8.50	
12	5.12				12	5.12	
12	9.28				12	9.29	
9	3.57		9.0		9	3.54	
	B					B	
12-11	8.35				11-12	8.36	
12	9.20				11	9.21	
	DB.B					B.D	
11	2.18				12	2.18	
12	8.59	Comp. 13 mag. Duplex	(9.4)		12	8.54	Comp 13 mag. 23" n.p.
	D.B.					B.D	
11-12	10.09		9.3		10	10.09	
12-13	2.59				12-13	7.55	cert
12	3.30				12	3.30	
13	0.22				12	0.23	
	B					B	
12	2.01				12	2.02	
12	9.40				12	9.37	
12	6.05	ns			11	6.04	ns
12	5.56				11	5.53	
	D					B	
12	2.35	1st min lost			13	2.36	2 min lost
10	5.15	ns	9.1		9W	5.20	
12	1.26					1.	ns 1st min lost
11	6.05				D 11	6.05	
11-12	7.34		9.5		10	7.30	
	B					B	
12-13	5.49						
12	9.43						
	B.D.B						
12	10.40						
	D						
12	0.30				12	0.31	

Jump guard

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40' to 50'

Zone 121 122

1859		Schperlm					
	23	2.0	6.9		17 23	1.3	—
	23	—	9.1	107.		4.4	8.4
	23	30.7	34.9			30.5	34.0
	23	31.7	35.5	10.11B		30.8	34.7
	23	32.6	36.4				
		D					
	24	14.1	18.0	9.07	24	13.3	17.3
	24	44.6	48.7	10.		43.6	48.0
	25	17.8	21.7		25	17.0	21.0
	25	47.4	—				
	26	16.0	20.0	107	26	15.2	19.3
		BB					
	27	8.0	12.0	11B	27	7.1	11.2

40' to 50'

Thursday July 28

Zone 122 Clear and calm

El. 17h 24m 0s Ex. 2.6B. Observer G.P. Bond

18 26 20 — 6# Angle of Rs. 91.28

17h	24m	13.6	17.6
	24	44.1	48.1
		B.	
	25	17.3	21.2
		46.9	51.1
	26	15.4	19.5
	27	7.3	11.3
		50.2	54.3
	2	52.0	55.9
		B.D.	
	28	52.8	57.0
	29	40.7	44.9
		51.6	55.6
		53.2	57.1
	30	22.0	26.0

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1859phae.proj..226S

13..48 Hrs 40' to 50'

Zone 124 122

	Dots for a Minute			B 03	
12	1..00			1..00	2 wire lost
12	5..29	1st wire lost		5..30	ns
12	5..39				
12	4..50	ns	9.0	11 4..31	cert
12	5..58	ns		12 3..51	ns cert
	D	Bright Moonlight		B	
11	8..11			11 8..12	
11.12	3..34		9.5	12 3..36	
12-13	5..44			13 5..47	
12	-0..11	ns 2 wire lost			
12	6..19			12 6..21	
	B 13			B	
12	5..30			13 5..32	
				11 8..10	
			9.5	11 3..32	
				B	
				13 5..43	
				13 -0..11	
				12 6..17	
				12-13 5..29	
				12-13 4..58	
				12 1..32	ns.
				B D	Many stars of 13th + lower mag
				13 7..55	
				10-11 5..57	
				12 6..36	ns
				12 6..26	ns
			9.3	9-10 10..31	

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1859phae.proj..226S

Zone 121 40' to 50' 12–

17	30	28.9	32.7
	30	51.4	55.4
	32	11.9	15.9
		46.7	50.6
	33	14.3	18.4
		25.5	29.5
		28.2	32.3
	35	5.2	10.2
		21.1	25.0
	35	41.0	45.1
	36		59.7
	37		18.0
	37	25.9	29.9

Next Page

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1959phae.proj..226S

Zone 121 .. .. 40' to 50' 122

9.5	~~10 12~~	1..38	ns
	~~12~~	D	
9.1	9	3..08	
8.7	9-10	2..31	
8.7	9-10	10..22	
		D.B.D	
9.5	10-11	2..02	
9.5	11 ~~12~~	1..12	
	11 12	2..20	ns
	12	−0..02	
	11-12	2..17	
		D2 B	
9.0	9	2..59	
	12	9..21	
	12	9..05	
	12	4..54	
		B.D.D	
	11	5..3.8	2 was lost
	11.12	9..47	
	10	3..46	ns cest
	11	4..26	ns

12	5..39	
12	9..47	
12	4..39	
11	3..~~39~~	} sam M
11	4..29	}
	D	
11	4..12	
11	0..57	
11.12	3..59	M

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1859Mae.proj..226S

Some magnitudes between the mds. of AR were estimated by J.H.S

Zone 121 1127

1	37	53.9	55.1			
	38	49.0	53.1			
	39	1.0	5 0			
	39	33.9	37.9		33.2	37.2
	39	~~33.9~~	~~37.9~~ 55.1	39		59.0
	39	51.7 B	59.8			
	40	56.3	60.3	40	55.8	59.8
	41	10.2	14.3	41	9.9	13.9
	41	24.7 B	28.7		24.2	28.1
	41	52.9	57.0		52.3	56.4
	42	4.2	8.3	42	3.7	7.7
	42	35.3 B	39.3		34.7	38.9
	42	50.0	53.9		49.3	53.3
	43	45.4	48.3	43	44.9	48.8
	44	8.5	12.6	44	(08.6)	12.1
	44	19.9	24.0		~~19.4~~	~~23.7~~
	44	20.4	24.6		19.4	23.7
	44	31.6	35.6			
	44	44.0 B	48.0		43.4	47.4
	46	32.3	36.3	46	31.6	35.6
	46	46.7	50.9			
	46	51.0 B	59.0		54.5	58.5
9	47	22.0	26.3	47	21.5	25.3
	47	22.7 B	25.8		22.0	25.8
	48	11.0	14.9	48	10.2	14.2
	48	18.1	22.1		17.5	21.5
	48	30.1	33.9			
	48	56.0	60.1		55.6	59.4
	49	8.3 B	12.1	49	7.6	11.6

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1859phae.proj..226S

12	5..39				5 38	
12	9..47				9 47	
12	4..39					
11	3..38	seen 12			3 46	
11	4.29				4 16	
	D					
11	4..12		9.5	11	4..12	
11	0..57		9.9	12	0..57	1st wire lost
11.12	3..57	ns		11	3..57	ns
	B				D D	
12-13	5..30			12-13	5..28	
12	8..31		9.5	12	8..29	
9	6..14		9.1	9-10	6..14	
	D. B				B	
12	1..14			11	1..12	
10	8..10		9.5	10	8..09	
12	1..49			11-12	1..47	
H	B				B B	
13	8..27	ns		12-13	8..23	
11	1..50			11	1..48	
11	4..21			12	4..19	1st wire defect
12	3..37					
	10..01		9.0	9-10	-0..01	cent.
12	5..12	ns				
12	3..25			12	3..22	
	B B				B	
13	0..44			12	0..45	
9.10	0.. —		8.9	9	3..59	
6	4..03		8.5	11		
	B					
12	2..22		9.4	11-12	2..21	
12	4..08	ns 1st wire?		11	4..04	ns
	D				B	
9	1..47		8.2	9	1..44	
12	0..03			12	0..01	
13	3..29				3.. seen	
12	5..59	2 wire lost		12	5..46	cent
4 10	1..34	ns	9.3	6	1..44	
	B. B				D B. D	

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1859MNAE.proj.226S

Zone 121

51	27.0	31.0			51	26.5	30.4
51	52.9	56.7			51	52.5	56.5
51	53.3	57.2			51	53.0	56.8
~~52~~	~~9.3~~	~~13.2~~ D					
52	9.3	13.2			52	8.6	12.7
52	26.0	—					
52	33.1	37.3					
	DB						
53	16.0	20.2		~~10.7~~	53	1	
53	41.0	42.9			53	48.3	
53	57.0	60.9			53	56.4	60.4
54	2.5	6.8			54	2.0	6.0
54	33.9	37.9			54	33.3	37.5
54	39.1	43.1				38.9	43.0
54	44.9	49.0		10 F.		44.3	48.4
	B						
55	30.1	34.1			55	29.6	33.6
55	33.3	37.3				32.7	37.0
55	48.1	52.0		11. B.		47.3	51.3
	D						
56	6.3	10.2		Q. 10	56	5.7	9.7
56	16.7	20.9				16.0	20.0
56	29.7	33.6				29.0	33.0
	BD						
56	~~49.1~~	~~53.6~~	53.3	1a		48.6	52.7
56	~~57.3~~	57.3		10 F.			
	BD						
57	33.9	38.0		Q.	57	33.3	37.3
57	45.3	49.1		10 B.		44.7	48.7
	B						
58	24.9	28.6		10	58	24.0	28.1
58	32.2	36.2		10 F.		(32.0)	35.8
58	58.2	~~62.0~~	no M.		59	3.3	7.4
59	4.0	8.0					
	DB				59	39.7	43.8
59	40.5	44.2			17	~~59~~ ~~39.7~~	~~43.8~~
0	1.1	5.1			18 0	0.5	4.5
	B					B. B. D	
0	22.1	26.2			0	21.7	25.8
0	25.0	28.9				24.5	28.4

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1859phae.proj...226S

Zone 121 122

11	9.16		11-12	9.14	
12	3.35		11	3.33	~~ns~~
12	1.13	ns	12	1.12	ns
	D			~~D~~	
12	9.49		12	9.46	
				B B D	
12	-0.17	? 2 wire lost			
12-13	1.20				
	D	star lost in Dec. Dec. ca. 3!0			
12	4.44		11-12	4.42	2 wire lost
11	2.27		12	2.16	cent
12-13	4.25	ns	12	4.23	ns
	B D. B			B	
11-12	8.06		11	7.03	cent
12	1.16		12	1.14	ns
12-13	4.48		12-13	4.45	ns
	B			D. B	
12	4.30		12	4.27	
12	1.57	ns	12	0.55	ns cent
12	8.04		12-13	8.01	
	B. D			D	
11	4.53		12	4.51	
11	4.48	ns	12	4.42	cent
11	0.22		12	0.20	
	B. D			B	
11-12	7.38	1st wire lost	12	7.36	
12	3.51				
	B. D				
9.10	10.28	9.0	10	10.25	
11	7.39		11-12	7.37	
	B			B	
	9.57		11	9.53	Double 5" dist. S.f
12	8.55	ns	11	8.28	reject 1st wire cent.
12	6.40	~~2 wire~~	12-13	6.47	
	D B	Instrument touched		B B	
12	3.41	~~lost~~	12	3.41	
11	8.02		11	8.03	
	B			B B D	
12	2.09		12	2.08	
12	1.19		12	1.18	ns

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Zone 121. 122

18h		B 9 13 D		18		
	1m	14.3	18.3			
	1	21.6	~~21.9~~ rej.		21.1	25.9
	1	26.1	30.7		26.0	30.2
		B				
	1	49.4	53.6		49.0	53.0
	2	16.9	20.9	2	16.3	20.4
	2	—	21.0			
	2	31.1	31.1		30.6	34.7
	2	40.4	44.1		40.0	44.0
		D				
	3	11 8	—	3	11.1	15.2
	3	16.0	19.9			19.3
		B				
	3	48.0	52.0	3	47.6	51.5
	3	48.3	52.3		47.9	51.9
		D B B				
	4	32.4	36.5	4	31.9	35.9
	5	48.7	52.1	5	48.2	52.1
	7	16.0	19.9	7	15.3	19.4
	7.	21 4	25 1		20.0	25.0
		B				
Harry	8	~~11.7~~	~~19.8~~	8	5.7	9.7
	8	~~21.6~~	—		15.3	19.2
	8	~~47.2~~	—		21.2	25.1
		B				
	10	1.1	9.1	10	4.5	8.7
	10	57 2	61.3		56.9	60.7
	11	29.5	33.6	11	29.0	32.9
	11	30.2	34.3			33.8
		D B				
	12	14 9	18.9	12	14.4	18.3
	12	16.0	20.0		15.5	19.4
					54.1	58.3

Companion of Two Stars.

17	48.2	5
		52.3
18	32.2	

365

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Zone 121 40' to 50' 122

B.D. BD

12.13	1..10				11	-1..12	~~fatbase~~
12	-0..11	2 wire?			10	1..58	ns
10..11	2..03	ns	8.5				
	B					B	
12	0..48				12	0..48	
11.12	9..09	Comp. prec. 9"	9.		12	7..08	cert
12	9..50	1 wire lost ns					
10	8..11		9.0		10	8..07	
12	8..21				12	8..19	
	D					D B D	
12	1..21	ns 2 wire lost			12	1..18	~~1.~~ ~~1.0.~~
9.10	8..26		9.0		10	8..26	1st wire lost cert
	B				1		
12	40		(9.4		11	9..38	~~ns~~
12	07	ns	dupl.)		11	9..04	ns
	B.D.BD					B B.B B	
10.11	7..09		9.0		10-11	7..07	
12	3..59				12	2..57	cert
12	3..12				12-13	3..21	
12	2..40	2			12-13	2..37	ns
	B					B	
12-13	3..30				13	3-31	
11	1..56	2 wire lost			11-12	1..53	
12	0..35	2 " " "			12	0..34	ns
	B					B	
12	2..47				12	2..46	
10	8..24		9.3		9-10	8..22	
10	2..13		8.6		8-9	2..13	
11	10.	2 wire lost			11	10..40	
	D.B.					B	
11	0..31		9.5		10..11	0..21	
8	7..30	ns	7.7		8	7..20	ns red
			9.4		10	5..00	
					9	7..23	2 wire lost
					5-6	1..49	1st wire lost
					9	7..16	2 wire lost

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Comparison of 9th & 5/6 mag. repeated.

18 19 8.0

12.2

19 ~~55.0~~ 53.3

56.6 ~~56.6~~

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9	7h.24	2 wires lost
5-6	1.52	1st wire lost
9	7h	1st wire lost
5-6	1	2d wire lost

α Ursae 121.(1st part) 122

		−	+	
−1.4	1	1.4		C − A + 0m.76 40 comparisons.
−1.2	1	1.2		
−0.6	1	0.6		
−0.5	2	1.0		
−0.3	1	0.3		In the second part.
−0.2	1	0.2		
−0.1	1	0.1		B − A = + 0s.87 ± 0s.08 28 comps
0.0	2			
0.2	3		0.6	Fine lamp. ± 0s.46
0.3	3		0.9	
0.5	1		0.5	
0.7	2		1.4	
0.9	1		0.9	
1.0	1		1.0	
1.1	2		2.2	
1.2	3		3.6	
1.4	2		2.8	
1.5	5		7.5	
1.6	2		3.2	
1.7	1		1.7	
2.0	1		2.0	
2.2	2		4.4	
2.5	1		2.5	
	40	+	30.4	

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Zone 123. R. A. 16h Dec. 0° 50′ – 1° 0′

Catalogue Stars. Connect with 119 - 120.

May.	15 54 19	0 51 50	from Previous Zone
	16 3 33	+0° 55′ 25″	
9	5 50	1 0 43	
9	6 27	1 0 59	
9	6 35?	0 51 33	
	13 54	0 58 4	
8.9	14 38	0 54 31	
8	15 1	0 50 6	
6	21 23 3038	59 4	
9	25 32 3417	56 27	
9	25 52 3437	55 47	
9	26 14 3459	51 36	? no Cat
7	58 6 6517	53 3	?
7	58 6 6517	54 53	?
9	58 23 7 8	51 17	
9	59 25 8 10	50 49	
9 17	6 7 1452	0 50 33	
9	15 45 2430	1 0 40	
8	15 52 2437	0 58 40	
7	19 21 2886	58 50	
8.9	32 46 4131	50 19	
	58 14 6 59	53 22	
18	7 18 11 3	51 17	
7	9 55 1840	57 38	
	15 12 2357	59 22	
7	29 59	+0 50	

3844

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Zone ~~16h 30m Star Mag. 2.5m~~ Feras of Polaris ~~9° 30' S.P.D.~~

C

May. 15 54 19
~~16 3 53~~ 16 3 53.
9 5 50
9 6 37
9 6 35.7

13 54
8.9 14 38
8 15 1

6 21 23 30 8
9 25 32 34 17
9 25 52 34 37

9 26 14 34 59
~~34 47~~ 13.
~~7 58 6~~ 6 51
~~7 58 6~~ 6 51

9 58 23 7 8
9 59 25 8 1
9 17 6 7 14 3

9 15 45 2
8 15 52 24.
7 19 21 28 6

8.9 32 46 41 31
58 1
18 2 18
~~8~~
~~7 9 55~~
15 12
~~7~~ 29 59
38 44

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1959phae.proj..226S

/2

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Zone 13. 1859 Aug. 25? 25d

9.7.13.

Magnitudes between the cols. of NP. estimated by DWS. 1862 Aug 25.

16h 0m	13.7	17.8	
	46.4	50.5	
1	20.0	24.0	
	22.6	26.5	
2	37.6	41.6	
3	16.0	19.9	
	21.2	25.2	
	43.6	47.6	
4	~~20.6~~	~~24.7~~	
4	20.6	24.7	
	26.1	30.1	
	31.0	35.0	
5	8.3	12.4	
	23.3	27.4	
	50.4	54.5	
6	26.4	30.3	
7	4.2	8.1	
	31.4	35.6	
	58.8	62.8	
8	49.8	53.9	
9	42.4	46.4	
11	18.1	22.1	
	25.6	29.6	
12	1.7	5.8	
13	53.8	57.8	
14	38.3	42.3	
15	1.1	5.1	
15	52.7	56.8	
17	11.5	15.4	
17	49.1	53.1	

Zone 24.

Aug. 24th Angle f. Trs. 91° 28'

G.P.B.

16h 0m	13.5	17.4	
	(~~46~~)	50.2	
1	19.7	23.7	
	22.2	26.3	
2	37.3	41.4	
3	15.6	19.7	
	21.2	24.9	
	43.3	47.2	
4	20.4	24.3	
	25.8	29.9	
	30.9	34.8	
5	8.1	12.2	
	23.2	27.2	
	50.1	54.1	
6	26.3	30.2	
	Run not operable		
9	42.1	46.1	
11	17.8	21.9	
	25.2	29.1	
12	1.2	5.3	
13	53.4	57.4	0.07 has been added to ♯
14	38.0	42.0	
15	0.7	4.8	
	52.5	56.5	
17	11.2	15.1	
17	48.8	52.7	

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1859phae.proj..226S

El. 18 6 0 Sph. Im. 65°5 Baromm. 29.888 + 70°
21. 20 35 0 64 29.920 68

123

12	0 22			12	0 21		
11/12	6 57			11/12	6 56		
	B.				B.		
9.10	8 4	Compar. 17" s.f. ~~13~~ 14th		9/10	8 3		8.8
12	0 19	ns.		12	0 18	ns.	
12	8 59			12	8 57		
12	0 50			12	0 48		
12/13	4 15	ns.		12/13	4 14	ns.	
10/11	5 24			10	5 23		9.4
	(B.D)?				D.		
12	3 14			12	3 13		
12	4 32	ns.		12	4 31	ns	
11/12	5 02	ns.		11/12	5 2	ns	
9/10	6 49			9/10	6 47		9.3
12	6 20			12	6 18		
	D.D.						
9/10	10 42			9/10	10 41		9.0
9	10 56			9	10 53		9.1
9	1 28			9	1 28		8.9
11	1 4			11/12	1 4		
	D.B.D.B.				B.B		
12-13	3..17			12/13	3 16		
12	6..44			12/13	6 47		
9	6..08			9	8 7		9.1
	B B				B D.B		
9	1..52	yellowish red		8/9	1 51		9.0
11-12	10..50	ns		11/12	10 50		
12-13	1..36			13	1 35		
	D B D				D.		
8	8..01	Yellow	Cat. Star	8	7 59	Add 0.07 to 1st time	(8.3)
8/9	4..21	Yellow		8.9	4 20		(8.8)
8	0..02	Little brighter than preceding		8	0 1		(8.4)
	13.D				B		
12	5..35			12	5 32		
10.11	2..15			10/11	2 13		
~~12~~	~~7.D~~				B.B.		
12	7..42			12	7 41		

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17	17	56.8	60.8		16	17	56.6	60.4	
	16	28.9	32.9			16	28.4	32.5	13
		54.9	58.6				54.5	53.4	
		56.0	60.0				55.7	59.7	
	19	20.0	23.9			19	19.6	23.8	
		33.3	37.3				33.0	36.9	
	20	28.1				20		31.7	
		36.3	40.1				35.6	39.0	
		38.1	41.9				37.6	41.6	
	21	22.7	26.4			21	22.2	26.1	
	22	43.6	47.5			22	43.3	47.2	
		51.2	55.3				50.6	54.8	
	25	31.9	35.8	Gff.		25	31.5	35.6	
		51.9	56.0	9			51.6	55.7	
	26	13.6	17.7	Gff		26	13.3	17.2	
	27	18.5	22.6	11 B		27	18.3	22.3	
		49.0	53.1	11.12 F			48.6	52.9	
	28	25.3	29.1	11.12 F		28	24.7	28.8	
	29	42.2	46.1	10 B		29	41.8	45.7	
		59.4	63.5	9			59.1	63.0	
	30	45.3	~~49.~~	10		30	44.9	48.9	
	Granique			trouble with pen		2	54.4	58.5	
	31		3.2	9			59.1	62.9	
			43.5	~~10.11 F~~		31	39.1	43.0	
	32	15.7	19.7	9.10 B		32	15.4	19.4	
		33.7	37.7	9.10			33.4	37.4	
		55.3	59.3	10.11			55.0	58.8	
	34	23.0	27.0	10.11		34	22.5	26.5	
	35	32.6	36.4	10		35	32.0	36.1	
		34.0	38.1	9.10			33.6	37.7	
		51.6	55.6				51.1	55.1	
	36	17.8	21.8			36	17.2	21.1	
	36	43.1	47.2	10		36	42.8	46.8	

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12	7..46		12	7 44		
12	6..36		12	6 35		
12	10..19		12	10 17		
12	3..46	ns	12	3 45		
12-13	5..00	Many small	13	4 56		
12	3..59		12	3 57		
	B			B.D.B.D		
11.12	9..27	2 wire lost	12	9 26	1st wire lost	
12 ~~13~~	9..36		12	9 35	~~2nd wire lost~~	9.5
13	8..42	ns	11	8 41	ns.	9.5
6	9..01	Yellow	6	8 59		6.0
	B B B			Dots		
11-12	10..19	↑ "	11-12	10 8	Double comp. s.p. dis 17". 4	
11 ~~12~~	8..13	~~Comp. s.p. disk. 15~~	11	8 12		9.5
~~12~~ 9	6..26		9	6 24		9.3
~~12~~ 9	5..46		9/10	5 45		9.3
~~12-13~~	D.B.D	~~Double Comp~~		B		
9-10	1..32		9	1 31	ns. 1st [illegible]	9.3
12	8..42		12	8 41		
12-13	7..33		12/13	7 30	Double	
12-13	7..06		13	7 4		
	B B			D.D.B.B. ~~D.(?)~~		
10	10..28		10	10 28		
10	10..08		10	10 7		
11-12	4..49	2 wire lost	11/12	4 49		
10 11	6..16	2 wire lost	12	6 13	2d w. ~~lost~~	
11	0..42		10/11	0 41	ns.	9.4
11	11..07		11	11 6		
	B D. B			B.D.		
10-11	9..07		10.11	9 4		
10.11	6..38		10	6 37		
12	7..17		12	7 16		
	D. B D B D B			D. for 1m.		
12	4..30		12/13	4 30		
11	3..06		11	3 6		9.5
11-12	4..00	ns	11	3 58	ns	9.5
11	−0..01		11	−0 2		
11-12	11..02		11/12	11 5		
	B B			B.		
11-12	4..41		11/12	4 39		

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37	33.0	37.0	10.11 13	16	37	32.5	36.6
	36.2	40.2				35.8	39.9
(?	42.0)	46.3				41.8	45.9
38	52.2	56.1			38	51.9	55.9
	52.9	56.6				52.7	56.5
39	49.4	53.6	9.03		39	49.3	53.1
	54.9	58.8				54.3	58.4
40	25.4	29.5	11F		40	25.0	28.9
41	14.6	18.7	10		41	14.2	18.2
42	13.4	17.3	9		42	13.0	17.0
42	59.8	63.8	11		4	59.5	63.5
44	7.1	11.2			44	6.8	10.9
	34.3	38.3				33.9	37.9
45	14.3	18.3	10 13		45	13.8	17.9
	34.7	—	9.10 7			34.4	—
	43.2	47.1				42.8	46.8
	47.9	51.9				48.0	51.4
46	22.6	26.5	10		46	22.1	26.2
47	51.2	55.1			47	50.8	54.9
	52.8	56.7	9.10 13			52.5	56.5
48	11.9	15.9			48	11.6	15.6
	27.1	31.1	10 7			26.9	30.9
	47.7	51.9	10 7			47.4	51.5
	59.6	63.6				59.1	63.1
49	17.6	21.6	9.10		49	17.2	21.1
	43.2	47.2	10 7			42.9	47.0
50		54.0	11 7 ~~11 7~~		50	49.7	53.5
	58.3	62.3	10.11			58.0	61.9
52	22.4	(?) ✓	10		52	22.1	26.1
	27.1	31.2				26.8	30.7
	38.0	42.0				37.7	41.8
53	1.1	5.2	9 7		53	0.8	4.9
	38.9	42.9				38.6	42.4

17.6 21.7

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12	0.56		12	0 56	cert.
11-12	0.05	ns	12	0 23	ns.
10.11	4.32	ns	10	4 31	9.5
	D B D B			D. B. D.	
12	6.03		12	6 2	
12	2.15	ns	12/13	2 14	ns.
9	8.30		9	8 28	9.1
12-13	9.12		13	9 12	ns. Dn ?
	B			D.	
12-13	5.10		13	5 11	
12	0.21		12	0 21	
9-10	8.37	Reddish	9	8 35	9.1
12	10.33		12/13	10 31	
long D				B.	
12	6.34		12	6 33	Many small stars below 13.
12-13	8.35		13	8 33	
11	2.42		11	2 40	
12	9.21		11/12	9 21	2 D. 2 st.
12	10.33		12	10 33	
12	9.08	ns	12	9 41	ns.
	D. B			B. B. D.	
11	4.38		11	4 38	9.5
10-11	5.55		10	5 44	cert.
11	9.45	ns	11	9 45	ns.
10	10.34		10	10 32	
12	3.47		12	3 47	
12	1.07		12	1 7	
10-11	7.49		10/11	7 48	
	B			D.	
9.10	4.46		9/10	4 47	9.2
10-11	4.27		10/11	4 27	red.
12-13	5.12	Two comps s.p. dist 13"	12/13	5 11	
11	4.58	Twin last	11	4 58	
	B B. D			D.	
10-11	3.03		10/11	3 3	
11	1.34	ns	10/11	1 34	ns.
11	1.37		10/11	1 37	
	B			(B. D)	
9-10	1.40		9/10	1 39	9.1
12	10.34	Another of same mag. Appreciable	10	10 38	B. D for ns. 10 36 — pre

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16	54	7.4	10.5	16	54	7.2	11.4
		10.3	14.3			10.1	14.1
		43.0	47.2			42.8	46.5
	55	1.6			55	1.3	5.8
		5.6	9.6			5.7	9.1
		37.2	41.2			36.8	41.0
			58.6			54.4	58.4
	56	13.6	( ) Examine		56	13.5	17.5
		22.3	26.3			22.0	25.8
	57	14.4	18.5		57	14.1	18.1
		55.9	59.9			55.6	59.5
	58	6.0	10.0		58	5.6	9.7
		22.7	26.7			22.4	26.4
	59	25.2	29.2		59	24.9	28.9
		36.6	40.7			36.2	40.1
		48.4	52.4			48.0	52.2
17	0	13.8	17.8	17	0	13.6	17.7
		54.9	difficulty with pen			54.7	58.5
	1	↓			1	45.8	
		↓				(49.3)	53.4
	2	4.5	8.3		2	4.1	8.1
		7.5				7.2	11.1
		↓				56.0	59.9
		↓			3	9.7	13.8
		↓			4	48	8.8
		↓					12.7
		↓				17.4	21.3
		↓				29.7	33.8
	5	25.2			5	24.9	29.0
17	6	6.0			6	6.0	9.9
		↓				8.9	12.9
		35.8				35.4	39.4
		↓				42.8	46.7

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11-12	10..51		12	10 55	cah.
11-12	10..50	ns	12	10 53	ns.
	~~D~~.B			B.	
12	9..45		12	9 45	
12	9..10	2 wire lost	12	9 11	
10-11	10..26	ns	10	10 28	ns.
12	10..58		11	10 59	
11	5..00	1st wire lost	10/11	5 0	9.5
11	6..27		11	6 26	
10-11	10..14		10/11	10 13	
	B ~~B~~.D			B.D.D.	
11	10..25		10/11	10 25	
10-11	8..05		10	8 ~~5~~	
7	4..46		7	4 46	yellow 6.3
~~10~~	B			B.	
9	1..14		9	1 14	9.1
9	0..42		8/9	0 44	8.3
11	0..57		10/11	0 55	9.5
~~9~~-12	0..26		11/12	0 27	
	B.D			D.	
9-10	8..65	ns	9/10	8 56	9.3
12-13	1..24		12/13	1 22	
11	7..35		11	~~7~~ 36	2d wire lost
12	7..57	ns	12	7 54	
11-12	10..15		12	10 ~~14~~	
11	10..14	ns	11	10 13	
	~~D~~ B.D			B.	
12	10..52		11/12	10 52	
12	10..09		12	10 9	
	D D.B			B.	
12	7..02	2 wire lost	12	7 2	
10	2..40	ns	10	2 40 ns	1st w. lost 9.5
12	3..13		12	3 12 ns	
11-12	3..36		11/12	3 35	
	~~D~~			B.B.D	
12	8..47		12	8 47	
9	0..35		9	0 ~~34~~	8.5
10	1..06		10	1 4	reddish
12	3..14		12	3 12	
10-11	2..57		10/11	2 57 ns	9.5

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8	19.8	(23.8)
9	0.0	4.2
	12.5	16.5
	42.7	46.8
10	4.8	8.6
11	10.2	14.2
	36.0	39.9
12	26.1	30.0
13	16.0	22.1
	25.2	29.3
14	12.7	16.6
15	44.9	48.9
	51.7	55.6
18	59.4	63.4
19	8.8	~~8.8~~
	21.2	25.2
	43.0	47.2
~~20~~		
20	50.5	54.6
20	50.1	54.2
	19.4	23.5
	51.8	
22	4.1	8.1
	11.2	15.3
23	6.2	(10.0)
	17.8	21.8
	58.4	62.5
24	36.2	40.2
	49.0	53.1
25	22.2	26.4
	45.6	49.5
26	24.9	28.4

17	7	30.2	34.1
	8	19.6	23.5
		8 41.1	45.2
	8	59.8	63.7
	9	12.1	16.1
	9	42.4	46.4
	10	4.5	8.4
	~~10~~		
	11	10.0	13.9
		35.6	39.6
	12	25.7	29.7
	13	17.7	21.7
		24.9	28.9
	14	12.2	16.2
	15	44.6	48.5
		51.3	55.2
	18	58.9	62.7
	19	8.1	12.2
		20.7	24.8
		42.6	46.6
	20	11.0	15.0
		40.7	44.6
		50.1	54.2
	21	19.0	22.9
		51.2	
	22	3.6	7.6
		10.7	14.7
	23	5.7	9.6
		17.2	21.3
		58.0	62.8
	24	35.7	39.7
		48.6	52.6
	25	21.9	25.8
		45.1	49.2
	26	24.3	28.3

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	B B B		D. D. B.		
12	10.45		11/12 10 46	12 8' 47" not between	
12-13	0.42		12/13 0 42		
12-13	3.39		12/13 3 38		
12	3.12		12 3 12		
10	9.45		10 9 46		9.5
10	10.00		9/10 9 59		
	B		D.		
12-13	9.27.		12/13 9 29		
12	3.58		12 3 57		
12	6.30		12 6 31		
	D D		B		
12-13	5.39	Two comp. a 20" s.p & 10.5	12/13 5 39		
12	6.52		12 6 55		
9-10	0.06		9/10 0 6		9.3
9	10.43		9 10 43	s	9.3
8	8.42	ns	8 8 44	ns.	7.3
	B		B. D. B.		
12-13	8.01	Yellow	12/13 8 1		56 60.3
12-13	9.04	D wine last.	12/13 9 2		lo.
7	6.58		7 6 56		7.2
12	10.13		12 10 12		
	D			star 8 48 not let.	
12	8.49	Comp. 14 mag 10" s.f	11/12 8 48		
10-11	3.46		10/11 3 46		9.4
12-13	2.45		12 2 46		
11-12	7.48	2 wine last	12 7 49	2° w. 2 or	
12	2.36		11/12 2 36		
12	2.05	ns	12 2 4		
	B. D. B		D. B. D		
12	6.44		12 6 44		
12	7.17		12/13 7 16		
10-11	5.09	Coarse cluster s. prec.	11 5 9		9.5
11	5.20		10/11 5 20		9.5
10	3.57	Comp. 13 mag 4" prec.	10 3 55	Comp. 13/4 Pretty Double star D" 9.2	
	B		B		
12	5.30		11/12 5 30		
11-12	2.20		11/12 (2 20)		
12	5.59		12 5 59		
	B B		B		

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1857	26	46.4		17	26	47.9	51.9
		54.2				53.6	57.7
	27	6.9	11.0		27	6.3	10.2
		26.2	30.1			25.7	29.7
		27.9	31.7			27.5	31.7
	28	40.3	44.4		28	39.9	43.9
	29	9.2	13.2		29	8.7	12.6
		41.4	45.4			40.8	45.0
		57.4	61.5			56.9	61.0
	30	21.8	25.8		30	21.3	25.3
	31	9.9	13.7		31	9.3	13.4
	31	37.2	41.2			36.7	40.7
		38.6	42.7			38.1	42.1
	32	36.4	38.8		32	34.5	38.3
		39.3	43.3			42.8	
		46.5	50.5			45.8	50.1
	33	9.0	13.0		33	8.5	12.6
		11.9	15.8			[illegible]	13.3
		[illegible]					
		51.2	55.3			50.8	54.9
		51.9	56.1			51.7	55.7
	34	17.6	21.5		34	16.9	20.9
	35		57.1		35	52.6	56.7
	36	12.6	16.6		36	12.1	16.2
		50.0	54.0			49.4	53.4
	37	52.4	56.4		37	51.9	56.0
	38	6.8	10.8		38	6.2	10.2
	39	18.3			39	27.8	
	39	40.0	44.0		39	39.6	43.6
		43.3	47.2			42.8	46.8
	40	8.2	12.2		40	7.8	11.8
		10.0	13.9			9.5	13.5
		48.5	52.5			48.0	52.1
	41	23.7	27.8		42	23.4	27.3
		31.5	35.4			31.0	35.0

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1959phae.proj.-226S

12	10.18	2 wire lost	11/12	10 17		
12	7.35	2 wire lost	12	7 35	ns.	
12	5.09		(12)	5 9		
11-12	6.57		(11/12)	6 58		
12-13	8.27	ns	(12/13)	8 28	ns.	
	B.B.B	Large number of 12-13 mag. possibly		B.D.		
12	8.42		12	8 42		
12-13	7.13	long sig	12	7 14		
12	7.01		12	7 0		
12	9.19		12	9 19		
9.10	8.31		10	~~8 32~~		9.3
9.10	6.29		10 9/10	6 28	Double	9.2
	B			B.		
10	2.39		10	2 39		9.5 ~~9.5~~
10.11	9.40	ns	10/11	9 39		
11	3.46		10/11	3 44		9.3
11	7.52	ns	11	7 52	1st wire?	
8-9	0.21		9.	0 22	may certainly not 8/9	8.7
11.12	10.09		11/12	10 9		
12	5.04	ns	12	5 5	2d wire lost ns	
	B.B.D			B.		
12	8.39		12	8 41		
12	7.04		12	7 4	ns.	
10	7.33		9/10	7 32		9.2
12	9.03		12	9 3		
11-12	8.52	Comp. 8" s. f. 14 mag.	11	8 52		
	B.D.B.			D. D.		
12-13	3.05		12/13	3 5		
11	11.00		10/11	10 59		9.5
9-10	3.11		9/10	3 11		8.8
12	0.37	2 wire lost	11/12	0 37	2d wire lost	
12	4.37		12	4 37		
12	6.20	ns Stass numerous	11/12	6 19	ns	
	B			~~B~~		
12	2.57		12	2 57		
12	3.52	ns	12	3 53 B	ns.	
11-12	8.09		11/12	8 8		
	B.B.B			B.D.B		
8	7.19		7/8	7 16	red star	7.1
11-12	5.43		12	5 03	certain	

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17	43	13.5	17.6	17	43	13.1	17.1
	46	1.2	5.2		46	0.7	4.7
		15.3	19.5			14.8	18.9
		28.6	32.6			28.0	32.0
		41.7	45.8			41.3	45.4
	47	20.8	24.7		47	20.1	24.3
	48	~~4.7~~	(12.7)		47	58.2	62.2
		(	)		48	14.5	18.4
	L	38.0	42.0			37.4	41.5
					49	19.7	23.7
	49	49.2	53.3		L	48.8	52.7
	50	20.0	24.1		50	19.4	23.6
	51	3.9	7.9		51	3.5	
		15.1	19.0			14.5	18.5
	51	23.3	27.3			22.9	26.9
	52	46.0	50.0		52	45.5	49.5
	53	1.5(	)		53	1.0	5.1
		7.2	11.3			6.8	10.9
		46.7	50.7			46.1	50.3
	54	8.7	12.7		54	8.3	12.3
		57.1	61.2		54	56.8	60.8
		~~58.5~~	62.5			58.0	62.0
	55	37.1	41.0		55	36.6	40.7
		57.4	61.4			56.9	61.0
	56	45.4	49.6		56	45.1	49.0
		51.7	55.7			51.1	55.2
	57	33.3	37.3		57	32.9	36.9
	58	( )		Difficulty with Pen.	58	14.2	18.1
		2	42.6		S	38.1	42.0
					59	10.1	13.9
18	0	57.0	60.9	18	0	56.5	60.5

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	B D		B. B. B. B.			
11-12	2-23		11/12	2 23		9.5
12.	10..34		12	10 32		
12	5..05		12	5 3	Varia Work	
12-13	4..04		12/13	~~4~~ 5	~~comp 15" sp.~~	
12	3..58		12	3 58		
	D D D		~~B.D.~~		obst B.	
12	0..15		12	0 15		
12	6..54		12	6 54		
10	4..41		10	4 42	R. +8 15+	9,5
9	10..26		9	10 26	Cat?	9.4
	B B D			B.		
11-12	1..58		11	1 58		9.5
12	10..59	13 mag. Stars manuvar	12/13	10 58		
12	11..05		12	11 3	maggi & field	
11.12	4..46		11/12	4 47	2° wire lost	
10	5..22		10	5 22		9.2
11	6..15		11/12	6 14	n. sq.	not much above 12th.
	D. B D			~~D.~~		
11-12	4..48		11	4 49		9.5
12	10..41		11/12	10 41		
11	6..55		11/12	6 55	n. f.	
11.12	9..26		11	9 26		
11-12	5..49		11/12	5 49		
	B. D. B			B.		
	B	~~Comp 10's~~				
12-13	2..33		12	2 33		
10	2..45		9/10	2 44	ns	56 0 R 9.0
10	7..37		10/11	7 38		9.4
10-11	7..30		10/11	7 30		
	B. D.			D.		
12	3..10		12	3 10		
11	3..46	ns	10/11	3 46	ns.	56 51 R 9.5
9-10	0..26		9	0 26		9.0
9	4..27		9.10	4 27	barely 9th	9.3
10	5..24		9.10	5 24		9.5
	B. D. B.		B.	B. D.		
12	11..02		12	11 4		
10.11	2..36	Comp 13 mag 13" s.p.	10/11	2 36	18" s.p.	

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1	1	32.2	36.2	18	1	32.0	35.9
	1	45.3	49.4			44.9	49.0
	2	18.2	22.3		2	17.9	21.9
	7	( )	26.9		7	22.7	26.8
	7	46.2	50.2			45.8	49.8
	9	36.1	40.1		9		39.6
		55.3	59.2			54.8	58.7
	10	41.0	45.2		10	40.7	44.7
	11	39.7	43.6		11	39.2	43.3
		59.4	63.3			59.0	63.1
	12	60.5	64.3			59.9	64.3
		13.5	17.4		12	(13.0)	17.1
	13	41.8	45.9		13	41.5	45.5
		57.8	61.7			57.1	61.2
	14	32.2	36.2		14	31.8	35.9
		55.0	59.0			54.8	58.7
	15	11.7	15.7		15	11.4	15.4
	18	23.5	(28.)		18	23.0	27.0
		57.3	61.3			31.6	
	19	7.4	11.5			56.8	60.8
		35.1	39.3		19	7.0	11.0
		58.1	62.1			34.8	38.8
		59.1	63.2			57.8	61.8
						58.9	62.8
	20	17.7	21.9		20	17.4	21.5

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11	3..17		11	3 18	
11	8..30		10/11	8 32	9.4
9..10	1..22		9/10	1 22	9.3
	B..B.B				
12	7..18		12	7 18	(9.5?)
12-13	5..55		12/13	5 54	
12	8..39		12	8 40	9.5
7	7..45		7	7 46	6.8
	B		B		
12	8..54		11/12	8 54	9.5
12	8..07		12	8 6	9
12	4..09		12	8 11	
12	6..52	ns	12	6 54 ns.	
12	8..08		11/12	8 1	
	B B B		B B.		
12-13	3..39		12	3 39	
12-13	6..52		12/13	6 52	
11-12	8..10		11/12	8 9	9.5
11	8..20		10/11	8 21	
9	9..32		9	9 32	8.8
	B..B		B B.		
11-12	6..27		11-12	6 27	
11-12	8..15		11	8 16 ns	22 2d w. late
11-12	6..26		11	6 26	
10-11	8..11		10	8 12	9.4
12	2..30		12	2 30	~~9.5~~
11	3..08		11/11	3 8	} 9.5
11-12	4..08	ns	10/11	4 9 ns	
	B		B.		
10-11	9..27		10/11	9 27	9.4
			Stanley field.		

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Magnitudes
Bonn. Argelander

B - A.

−0.4	1	1.2
−0.3	4	3.8
−0.2	1	0.8
−0.1	7	4.2
0.0	3	0.5
0.2	10	2.2
0.4	4	0.3
0.5	9	0.2
0.6	1	0.0
0.7	5	0.0
0.8	4	0.1
0.9	1	0.1
1.1	2	0.4
1.2	5	1.1
1.3	2	0.8
1.5	3	2.1
1.7	5	5.3
2.0	2	3.5
2.2	1	2.3
2.5	1	3.3
	1	
47.4	71	32.2
		46
		.4

B - A = + 0.″67 ± 0.″05
Pr. Eme 1 comp. ± 0.″45

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PSC

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Zone 117.118
13h 35m–16h 8m
0° 40′ 50″.

Zone 119.120
13h 52m–16h 25m
0° 50′.1.0

−0.		0.
−0.1	7	4
0.0	3	0
0.2	10	2
0.4	4	0
0.5	9	0
0.6	1	0
0.7	5	0
0.8	4	0
0.0	1	0.
1.1	2	0
1.2	5	1
1.3	2	0
1.5	3	2
1.7	5	2
2.0	2	1
2.2	1	1
2.5	1	1
	1	
47.4	71	0
		4
		0

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Table for reducing Prof Bond's magnitudes to Argelander

B.	B'-	B(A)	
11	+0.0	10.0	
10.11	0.3	9.7	
10	0.7	9.3	
9.10	0.3	9.0	
9.0	0.2	8.8	

B. 12 can be made A (10.8)

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