1908phae.proj.22968

Vol. III.

Positions of Nebulae.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8410 No. 26 — September 8, 1908.

					1900 fm.	21 12	23.7	−60 43.3
a =	−60 7462	21 9	21.0	−60	22.1	+128.7 =	21 11 29.7	−27.5 = −60 49.3
b =	−61 6547	21 14	49.0	−61	12.4	−206.1 =	21 11 23.9	+22.8 = −60 49.6
c =	−59 7694	21 14	22.0	−59	49.7		21 11 26.7	−60 49.6
							+1.7 −1.7	−0.3 +0.2

$\frac{\text{co} - 59.8}{2}$

a − b = − 27.0

. 252

− 6.8

	x	y	x	y
a	19.1	114.5	24.1	119.9
b	100.0	15.0	105.0	20.5
η	50.2	60.1	55.2	65.6

x		x		y		y	
η − a	+ 31.1	η − b	− 49.8	η − a	− 54.4	η − b	+ 45.1
	+ 31.1		− 49.8		− 54.3		+ 45.1
	+ 31.1		− 49.8		− 54.35		+ 45.1
	+ 31.41		− 50.30		− 54.89		+ 45.55
	÷ . 244		÷ . 244		− 27.45		+ 22.78
	+ 128.7		− 206.1				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

2

See page 86, Bk. 10, for meas. of this neb. A new set of stars were selected & thus the final values is practically the same in both the meas., but in Bk. 10 the res. are more coordinate in the latter than in the former meas. The stars in this comp. were poorly selected — the results on page 86 — Bk 10 are recorded.

See Bk. 10 pg 86 also, for new meas this neb.

A 8410 No. 27 September 9, 1908.

					1900 prs.	20 51	23.3 − 61 3.1
a = −60	7442	20 47	16.5	−60 52.1	+ 122.7 =	20 49	−61
b = −61	6521	20 51	57.5	−61 17.5	− 153.5 =	20 49	−61
c = −62	6189	20 47	57.7	−62 5.2		20 49	−61

× .234

+ 9.6

c − a = + 41.2

− 1.6 + 1.6

+0.1 −0.1

$\frac{c_{00} - 62.1}{2}$

	x	y	x	y
a	40.0	150.0	45.0	155.0
b	106.2	97.6	112.1	103.8
η	70.0	115.2	74.1	121.6

error was the last made in orienting — moving also from a.

	x	x	y	y
	η−a + 29.4	η−b − 36.8	η−a − 34.0	η−b + 18.4
	+ 29.4	− 36.8	− 34.0	+ 18.4
	+ 29.69	− 37.17	− 34.34	+ 18.58
	÷ .242	÷ .242	− 17.17	+ 9.29
	+ 122.7	− 153.5		

	x	x	y	y
	η−a, + 30.0	η−b, − 37.2	η−a, − 33.4	η−b, + 17.8
	+ 30.1	− 37.2	− 33.4	+ 17.8
	+ 30.05	− 37.2	− 33.4	+ 17.8
	+ 30.35	− 37.57	− 33.73	+ 17.98
	÷ .242	÷ .242	− 16.86	+ 8.99
	+ 125.4	− 155.4		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8410 No. 28 September 9, 1908.

1900 fm. 20 51 0.4 -61 15.5

a	-61 6516	20 44 48.5	-61	20.8	+252.7	= 20 47 58.7	-0.9	= -61	21.7
b	-61 6521	20 51 57.5	-61	17.5	-179.3	= 20 48 58.0	-3.2	= -61	20.7
c	-60 7436	20 44 47.3	-60	40.7		20 48 59.4		-61	21.2
		x							
		@ - a = -1.2				-0.7 +0.6		+0.5 -0.5	

cos -60.7 / 2

.245

-0.3

	x	y	x	y
a	40.0	20.0	45.0	25.5
b	142.6	24.5	147.7	30.1
η	100.0	18.2	105.1	23.7

	x	x	y	y
η-a	+60.0	η-b -42.6	η-a -1.8	η-b -6.3
	+60.1	-42.6	-1.8	-6.4
	+60.05	-42.6	-1.8	-6.35
	+60.65	-43.03	-1.82	-6.41
	÷ .240	÷ .240	-0.91	-3.21
	+252.7	-179.3		

Note - ~~a & b are not used placed for measurements in computation, but are the best measurements of all data. results better than expected~~

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

4

Lic Bk. 10 pag 87
For mean of this neb.
Results are not accordant the in
mean. on this pg.

A 8410 No. 29 September 9, 1908.

									1908 prs.	20	50	31.9	−61	10.0
a	−61	6576	20	44	48.5	−61	20.8	+223.8	=	20	48	37.3	+4.8	−61	16.0
b	−61	6522	20	52	41.0	−61	3.5	−25.4	=	20	48	29.6	−11.6	−61	15.0
c	−60	4436	20	44	47.3	−60	40.7			20	48	29.5		−61	15.6
				x					Mean prs.	20	48	29.9		−61	15.6
				c − a =	−1.2					+0.5	−0.5			+0.5	−0.5
					.265					+02	−08			+04	−06
					−0.3										

cos −60.7 / 2

	x	y	x	y
a	45.0	20.0	50.0	25.0
b	159.1	52.5	164.1	57.6
η	98.4	29.5	103.4	34.6

	x	x	y	y
η − a	+53.4	η − b −60.7	η − a +9.5	η − b −23.0
	+53.4	−60.7	+9.6	−23.0
	+53.4	−60.7	+9.55	−23.0
	+53.93	−61.31	+9.65	−23.23
	÷ .241	÷ .241	+4.83	−11.62
	+223.8	−254.4		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

Note – Nos – 30, 31 and 32 are crossed out.

A 8410 No. 33 September 9, 1908.

					1900 fno. 21	20	20.6	−61	18.2
a = −61 6547	21 14 49.0	−61	12.4	+215.9	= 21 18	24.9	−12.8	= −61	35.1
b = −61 6560	21 22 13.0	−61	41.0	−228.8	= 21 18	24.4	+17.8	= −61	23.8
c = −61 6549	21 14 56.0	−61	43.1		21 18	24.6		−61	24.6
	x								
	c − a = + 7.0				− 1.9	+ 1.9		+ 0.5	− 0.5
cos −61.7 / 2	.237								
	+ 1.7								

	x	y	x	y
a	60.0	90.0	65.0	95.5
b	165.2	30.8	170.3	36.4
η	111.1	64.7	116.1	70.1

	x	x	y	y
η − a	+ 51.1	η − b − 54.1	η − a − 25.3	η − b + 33.9
	+ 51.1	− 54.2	− 25.4	+ 33.7
	+ 51.1	− 54.15	− 25.35	+ 33.8
	+ 51.61	− 54.69	− 25.60	+ 34.14
	÷ .239	÷ .239	− 12.80	+ 17.07
	+ 215.9	− 228.8		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8410 No. 34 September 9, 1908.

						1900 fpo.	21	19	54.9	-61 15.1
a =	-61 6547	21	14	49.0	-61	12.4	+ 190.2	= 21	17 58.1	- 9.6 = -61 22.0
b =	-61 6560	21	22	13.0	-61	41.0	- 354.8	= 21	17 58.8	+ 70.1 = -61 21.1
c =	-61 6549	21	14	56.0	-61	43.1			21 17 58.9	-61 21.5
				x						
		c - a =		+ 7.0					- 1.8 + 1.8	+ 0.5 - 0.5

$\frac{\text{Cos} -61.7}{2}$

.237

+ 1.7

	x	y	x	y
a	60.0	90.0	65.0	95.5
b	165.2	30.8	170.3	36.4
η	104.9	70.8	110.0	76.7
	x	x	y	y
	η - a + 44.9	η - b - 60.3	η - a - 19.2	η - b + 40.0
	+ 45.0	- 60.3	- 19.3	+ 39.8
	+ 44.95	- 60.3	- 19.25	+ 39.9
	+ 45.40	- 60.90	- 19.44	+ 40.30
	÷ .239	÷ .239	- 9.72	+ 20.15
	+ 190.0	- 354.8		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

For new meas. see Bif. 10, pg 201.
Note- No. 35 is crossed out = rejected.

A 8410 No. 36. September 9, 1908.

					1900 prs.	20 49	38.4	−61 49.0
a =	−66 6514	20 44	21.2	−61 27.4	+ 194.8	= 20 47	34.9	−27.4 = −61 54.8
b =	−62 6191	20 52	39.2	−61 21.8	− 294.0	= 20 47	35.2	+27.6 = −61 54.8
						20 47	35.0	−61 54.5

Mean prs. 20 47 35.4 −61 54.6

		−2.0 + 2.1	0.0 0.0
		−14 + 27	−01 −01

x

	54.4
	.2
	108.8

Orienting by dif in Dec of a − B + x 2.

	x	y	x	y
a	45.8	118.8	54.8	124.8
b	160.0	10.0	165.0	15.0
η	91.3	64.6	96.3	69.6

x	x	y	y
η − a + 45.5	η − b − 68.7	η − a − 54.2	η − b + 54.6
+ 45.5	− 98.7	− 54.2	+ 54.6
+ 45.5	− 68.7	− 54.2	+ 54.6
+ 45.96	− 69.39	− 54.74	+ 55.15
÷ 236	÷ .236	− 27.37	+ 27.58
+ 194.8	− 294.0		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

8

Note - No 38 is crossed out - rejected.
For nos. #39 & 40 - see Bk. 4, pages 211 & 213 respectively. —

A 8410 No. 37 September 9, 1908.

				1900 fm.	21	16	36.3	− 62	14.1
a =	− 62	6227	21 14 9.7	− 62	5.4	+ 28.8	= 21	14	38.5	− 15.8	= − 62	20.4
b =	− 62	6228	21 14 51.5	− 62	4.0	− 14.8	= 21	14	36.7	+ 21.8	= − 62	20.4
c =	− 61	6549	21 14 56.0	− 61	43.1			21	14	37.4	− 62	20.4
			×									
			c − b = + 4.5						+ 0.4	− 0.4	0.0	0.0

cos −61.7 / 2

.237

+ 1.1

	x	y	x	y
a	80.6	78.1	85.1	81.1
b	90.0	5.0	95.0	8.0
η	86.6	48.1	91.6	51.1

	x		x		y		y	
η − a	+ 6.5	η − b	− 3.4	η − a	− 30.0	η − b	+ 43.1	
	+ 6.5		− 3.4		− 30.0		+ 43.1	
	+ 6.57		− 3.43		− 30.30		+ 43.53	
	÷ .232		÷ .232		− 15.15		+ 21.77	
	+ 28.3		− 14.8					

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8H10 No. 18 September 9, 1908.

						1900 fno.	21	16	3.5	−60	3.3
a =	−60 7470	21	14	3.5	−60	36.9	+ 5.7	= 21	14	9.1	+ 27.1	= −60	9.5
b =	−59 7694	21	14	22.0	−59	49.7	−14.2	= 21	14	7.8	− 39.9	= −60	9.5
c =	−59 7693	21	13	46.0	−59	44.0			21	14	8.5		−60	9.6
				x									
		c − a =		− 17.5					+ 0.6	− 0.6		+ 0.2	− 0.1

$\frac{\text{Co} - 59.7}{2}$

.252

− 4.4

	x	y	x	y
a	80.0	10.0	85.0	15.0
b	84.9	103.8	89.9	108.7
η	81.4	64.2	86.4	69.2

	x	x	y	y
η − a	+ 1.4	η − b − 3.5	η − a + 54.2	η − b − 39.6
	+ 1.4	− 3.5	+ 54.2	− 39.5
	+ 1.4	− 3.5	+ 54.2	− 39.55
	+ 1.41	− 3.54	+ 54.74	− 39.95
	÷ .249	÷ .249	+ 27.37	− 19.98
	+ 5.7	− 14.2		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

10 Note – Nos. 1, 2, 3, 4, 5 & 6 are crossed out. not being accepted.

A 8383 No. 7 September 14, 1908.

							(1900)	18	46	52.1	−57 51.2
a =	−57	9247	18	44	50.8	−57	43.6	−7.8	= 18	44	43.8 −9.8 = −57 52.8
b =	−58	7528	18	45	1.3	−58	3.6	−14.4	= 18	44	46.8 +10.8 = −57 52.4
c =	−57	9251	18	45	14.8	−57	15.4		18	44	44.8 −57 52.8
				x							
			c − b =		+13.5				0.0	0.0	0.0 +0.4
					·271						
					+3.7						

	x	y	x	y
a	87.2	54.8	92.2	60.4
b	90.0	15.0	95.0	20.5
η	85.1	36.4	90.2	42.0

	x	x.	y	y
η − a	− 2.1	η − b − 4.9	η − a − 18.4	η − b + 21.4
	− 2.0	− 4.8	− 18.4	+ 21.5
	− 2.05	− 4.85	− 18.4	+ 21.45
	− 2.07	− 4.90	− 18.58	+ 21.66
	÷ .266	÷ .266	− 9.29	+ 10.83
	− 7.8	−18.4		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

Note - Nos. 8, 9 & 10 are crossed out.

A8383 No. 11, September 14, 1908.

								(1900)	19	5	50.0	- 58	25.6
a =	-58	7591	19	2	3.5	-58	27.9	+98.4	= 19	3	41.9	- 0.4	= -58	28.3
b =	-58	7600	19	6	55.0	-58	24.9	-195.8	= 19	3	39.2	- 2.6	= -58	27.5
c =	-59	7469	19	7	31.5	-59	5.4		19	3	40.6		-58	27.9

x

c - b = + 26.5

- 0.1 + 0.2 + 0.4 - 0.4

$\frac{\text{Cos} - 59.1}{2}$

$\frac{257}{+6.8}$

	x	y	x	y
a	28.7	85.5	33.7	91.0
b	105.0	89.9	110.0	95.4
η	54.2	84.7	59.2	90.2

x	x	y	y
η - a + 25.5	η - b - 50.8	η - a - 0.8	η - b - 5.2
+ 25.5	- 50.8	- 0.8	- 5.2
+ 25.5	- 50.8	- 0.8	- 5.2
+ 25.76	- 51.31	- 0.8	- 5.25
÷ .262	÷ .262	- 0.4	- 2.63
+ 98.4	- 195.8		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

12

Note - Nos. 12, 13, 14 are crossed out.

A 8383 No. 15 September 14, 1908.

								(1900)	18	56	26.4	-59	6.2
a	-59	7432	18	53	18.3	-59	26.4	+58.4	= 18	54	16.1 + 18.4	= -59	8.2
b	-58	7571	18	54	39.4	-58	50.9	-14.4	= 18	54	15.1 - 17.4	= -59	8.8
c	-58	7568	18	53	59.4	-58	24.5				18	54	15.8		-59	8.2
					x								
			c-a = -22.1								+0.5	-0.4	+0.0	-0.1
					.260								
					-5.7								

c.o. - 58.7 / 2

	x	y	x	y
a	80.0	15.0	85.0	20.5
b	101.1	85.9	106.1	91.4
η	94.8	51.4	99.9	57.0

	x	x	y	y
η-a	+14.8	η-b - 6.3	η-a +36.4	η-b - 34.5
	+14.9	- 6.2	+36.5	- 34.4
	+14.85	- 6.2	+36.45	- 34.45
	+15.00	- 6.26	+36.81	-34.79
	÷ .257	÷ .257	+18.41	-17.395
	+58.4	-24.4		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

Note – Nos. 16, 17, 18, 19 & 20 are crossed out.

A 8383 No. 21 Sept. 14, 1908.

						1900 fun.	19 8 51.1	−59	36.2
a =	−59 7463	19 2 53.5	−59	40.9	+227.4	= 19 6 40.8	+2.5	= −59	38.4
b =	−59 7471	19 8 50.0	−59	35.4	−130.8	= 19 6 39.7	−3.5	= −59	38.9
c =	−60 7282	19 8 50.5	−60	14.5		19 6 40.1		−59	38.8

$\frac{\cos -60.2}{2}$

x

c − b = +0.5

.119

+0.1

−40.0 +0.9 −0.2 +0.3

	x	y	x	y
a	25.3	83.2	30.3	87.7
b	115.0	95.0	120.0	109.5
η	82.2	88.1	87.3	92.6

x		x		y		y	
η − a	+56.9	η − b	−32.8	η − a	+4.9	η − b	−6.9
	+57.0		−32.7		+4.9		−6.9
	+56.95		−32.75		+4.9		−6.9
	+57.42		−33.08		+4.95		−6.97
	÷.253		÷.253		+2.48		−3.49
	+227.4		−130.8				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

Note – Nos. 22, 23 are crossed out.

A 8383 No. 24. Sept. 14, 1908.

							1900 fun.	19	13	10.6	−59 57.4
a =	−60	7282	19	8	50.5	−60 14.5	+ 7.0	= 19	10	57.5	+ 14.5 = −59 60 0.0
b =	−59	7476	19	12	59.0	−59 47.5	− 19.2	= 19	10	39.8	− 12.8 = −60 0.2
c =	−60	7287	19	12	39.0	−60 30.0			19	10	58.6		−60 0.2
					x						
			c − b =		− 20.0				− 1.1	+ 1.2	− 0.1	+ 0.1
cos	−60.5				· 246						
	2				− 4.9						

	x	y	x	y
a	58.5	61.3	63.4	65.8
b	120.0	115.6	125.0	120.3
η	90.2	90.3	95.2	95.0

x		x		y		y	
η − a	+ 31.7	η − b	− 29.8	η − a	+ 29.0	η − b	− 25.3
	+ 31.8		− 29.8		+ 29.1		− 25.3
	+ 31.75		− 29.8		+ 29.05		− 25.3
	+ 32.07		− 30.00		+ 29.34		− 25.55
	÷ .250		÷ .250		+ 14.67		− 12.78
	+ 128.3		+ 120.4				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

Note - No. 25 is crossed out.

A 8383 No. 26. Sept. 14, 1908.

							1900 prec.	19	27	3.2	−60 0.4
a = −59 7489	19	22	15.0	−59	53.8	+158.0	= 19 m	52.0	−10.0	= −60	3.8
b = −60 7304	19	28	6.5	−60	12.5	−195.1	= 19 m	53.4	+9.5	= −60	3.1
c = −60 7297	19	21	13.5	−60	31.5			19 m	52.4	−60	3.4
				x							
				c − a = − 61.5				−1.0	+1.0		+0.3 −0.3
Cos −60.5 / 2				.246							
				−15.1							

	x	y	x	y
a	80.0	100.0	85.0	105.5
b	167.4	61.4	172.4	66.9
n	119.1	80.2	132.1	85.7

x		x		y		y	
n − a	+39.1	n − b	−48.3	n − a	−19.8	n − b	+18.8
	+39.1		−48.3		−19.8		+18.8
	+39.49		−48.78		−19.99		+18.99
	÷ .250		÷ .250		−10.0		+9.49.5
	+158.0		−195.1				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

Note - No. 27 is crossed out.

A 8383 No. 28 Sept. 14, 1908.

							1900 pos.	19	13	13.0	−60	13.6
a	−60	7282	19	8	50.5	−60	14.5	+ 129.4	= 19	11	59.9	− 2.3 = −60	16.8
b	−60	7286	19	12	30.5	−60	18.0	− 89.2	= 19	11	2.2	+ 2.3 = −60	15.7
c	−60	7284	19	9	33.5	−60	59.9		19	11	1.7	−60	16.2

x

c − a = + 23.0 — − 1.1 + 1.2 — + 0.6 − 0.5

$\frac{c_{00} - 60.0}{2}$

.242

+ 5.6

	x	y	x	y
a	50.0	109.9	55.0	105.5
b	104.0	100.8	109.0	106.4
n	82.1	105.4	87.1	110.9

	x	x	y	y
n − a	+ 32.1	n − b − 21.9	n − a − 4.5	n − b + 4.6
	+ 32.1	− 21.9	− 4.6	+ 4.5
	+ 32.1	− 21.9	− 4.55	+ 4.55
	+ 32.42	− 22.12	− 4.59	+ 4.50
	÷ .248	÷ 248	− 2.3	+ 2.3
	+ 130.7	− 89.2		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

Note - Nos - 29930 are crossed out.

A 8383 No. 31 Sept. 14, 1908.

						1900 jyr.	19	14	33.8	-60	39.7
a =	-60 7285	19	11	1.0	-60	56.1	+79.8 =	19	12	20.8 +14.1 =	-60 42.0
b =	-60 7287	19	12	39.0	-60	30.0	-17.7 =	19	12	21.3 -17.6 =	-60 42.4
c =	-59 7476	19	12	59.0	-59	47.5		19	12	20.80	-60 42.3
					x						
					e - b =	+20.0				-0.8 +0.7	-0.2 +0.2

$\frac{\cos -59.8}{2}$

.252

+5.0

	x	y	x	y
a	31.3	17.2	36.4	22.1
b	55.0	69.9	60.0	750
n	50.7	45.0	55.7	50,0

x	x	y	y
n-a + 19.4	n-b - 4.3	n-a +27.8	n-b - 24.9
+ 19.3	- 4.3	+27.9	- 25.0
+ 19.35	- 4.3	+ 27.85	- 24.95
+ 19.54	- 4.34	+ 28.13	- 25.20
÷ .245	÷ .245	+ 14.07	- 12.60
+ 79.8	- 17.7		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8383 No. 32 Sept. 14, 1908.

						1900 fac.	19	14	22.0	−60	40.0		
a =	−60	7285	19	11	1.0	−60	56.1	+6	7.3 a =	19	12	8.3 9.4 +	13.7 = −60 42.4
b =	−60	7287	19	12	39.0	−60	30.0	−29.5	=	19	12	9.5 −	12.8 = −60 42.8
c =	−59	7476	19	12	59.0	−59	47.5			19	12	9.0	−60 42.6
												−0.7	+0.8 −0.2 +0.2

$\frac{c_{00} - 59.8}{2}$

x

c − b = +20.0

.252

+5.0

	x	y	x	y
a	31.3	17.2	36.4	22.1
b	55.0	69.9	60.0	75.0
η	47.8	44.4	52.9	49.4

	x	x	y	y
η − a	+ 16.5	η − b − 7.2	η − a + 27.2	η − b − 25.5
	+ 16.5	− 7.1	+ 27.3	− 25.6
	+ 16.5	− 7.15	+ 27.25	− 25.55
	+ 16.67	− 7.22	+ 27.52	− 25.86
	÷ .245	÷ .245	+ 13.76	− 12.91
	+ 68.0	− 29.5		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

Note - Nos. 33, 34, 35 and 36 are crossed out.

A 8383 No. 37. Sept. 14, 1908.

						(1900)	19 3 59.6	-60 33.0	
a =	-61 6346	19 0 7.5	-61	1.9	+ 100.2	=	19 1 47.7 + 26.8	= -60 35.8	
b =	-60 7277	19 3 7.5	-60	8.1	- 83.7	=	19 1 43.8 - 27.1	= -60 35.0	
c =	-60 7269	18 59 34.5	-60	14.4			19 1 45.8	-60 35.2	
		x							
		c - a = -33.0					+1.1 - 1.0	+0.1 - 0.2	

$\frac{c_{00} - 60.2}{2}$

.24

- 8.1

	x	y	x	y
a	60.0	20.6	65.0	25.5
b	104.6	127.7	109.6	132.6
η	84.3	73.9	89.3	78.7

x	x	y	y
η - a + 24.3	η - b - 20.3	η - a + 53.3	η - b - 53.8
+ 24.3	- 20.3	+ 53.2	- 53.8
+ 24.3	- 20.3	+ 53.25	- 53.8
+ 24.54	- 20.50	+ 53.78/80	- 54.34
÷ .245	÷ .245	+ 26.89	- 27.17
+ 100.2	- 83.7		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

N.B. Stars a & b. were not well placed – hence large dif. in R.A.
see pg. 21 for better results – new stars taken –

A 8383 No. 38 Sept. 14. 1908.

a = −60 7251	18 54 20.8	−60	53.7	+ 89.4 90.3 =	18 55 50.1	+20.1 =	−60 33.6
b = −60 7258	18 56 36.7	−60	19.9	− 34.9	18 56 1.8	−14.5 =	−60 34.3
c = −59 74 38	18 55 49.4	−59	44.1		18 55 56.3		−60 33.9

c − a = + 11.5 38.3 × .252 (12.9) + 12.9 + 18.7

− 5.8 + 5.8 − 0.4 + 0.3

c₀₀ − 59.8 / 2

	x	y	x	y
a	25.0	19.9	30.0	24.5
b	55.5	88.8	60.4	93.4
n	46.9	60.1	51.9	64.8

	x	x	y	y
n − a	+ 21.9	− 8.6	+ 40.2	− 28.7
n − b	+ 21.9	− 8.5	+ 40.3	− 28.6
	+ 21.9	− 8.55	+ 40.25	− 28.65
	+ 22.12	− 8.64	+ 40.65	− 28.94
	÷ .245	÷ .245	+ 20.33	− 14.47
	+ 90.3	− 35.3		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8383 No. 38 September 15, 1908.

										(1900)	18	58	12.2	-60	32.0				
a =	-60	7253	18	54	52.7	-60	17.4	+ 6 5.6 .8	=	18	55	58.9 8.3	-16.8 6	=	-60	34.2 0			
b =	-60	7260	18	56	47.2	-60	48.5	- 49.5 0	=	18	55	58.7 8.2	+14.5 4	=	-60	34.1 8			
c =	-60	7259	18	56	36.7	-60	5.5			18	55	58.9 2.8			-60	34.1 0			

α

$c - b = -10.5$ +0.1 0.0 0.0 +0.1

$\frac{\cos - 60.1}{2}$

.249

-2.6

	x	y	x	y
a	76.8	82.0	81.8	87.6
b	105.0	20.0	110.0	25.6
η	92.9	48.8	98.0 8	54.4

x		x		y		y	
$\eta - a$	+ 16.1	$\eta - b$	- 12.1	$\eta - a$	-33.2	$\eta - b$	+ 28.8
	+ 16.2		- 12.0		-33.2		+ 28.8
	+ 16.15		- 12.05		-33.2		+ 28.8
	+ 16.31		- 12.17		-33.53		+ 29.09
	÷ .246		÷ .246		- 16.77		+ 14.55 4 ✓
	+ 66.3		- 49.5				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8383 No. 39 Sept. 15, 1908.

(1900) 18 54 12.6 -60 33.7

a. -60 7218	18 49 2.7	-60 22.0	+178.5 =	18 54 59.4 - 13.6	-60 38.4
b. -60 7251	18 54 20.8	-60 53.7	-144.5 =	18 51 57.7 + 18.1	-60 35.6
c. -60 7253	18 54 52.7	-60 17.4		18 51 58.8	-60 35.6
	x			+0.8 -0.9	-0.1 +0.2
	c - b = +31.9				
	.248				
	+7.9				

	x	y	x	y
a	41.7	77.6	46.6	82.1
b	120.0	15.0	125.0	19.5
η	85.0	50.8	89.9	55.2

	x	x	y	y
η - a	+43.3	η - b -35.0	η - a -26.8	η - b +35.8
	+43.3	-35.1	-26.9	+35.7
	+43.3	-35.05	-26.85	+35.75
	+43.73	-35.40	-27.12	+36.11
	÷ .245	÷ .245	-13.56	+18.06
	+178.5	-144.5		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8383 No. 40 Sept. 15, 1908.

						(1900)	18	38	47.1	−60	27.3
a = −60 7161	18	26	8.8	−60	30.1	+23.7	= 18	36	32.5	+1.5	= −60 28.6
b = −60 7171	18	37	40.9	−60	23.6	−69.7	= 18	36	31.9	−5.0	= −60 28.6
c = −59 7371	18	38	21.3	−59	33.2			18	36	32.4	−60 28.6
			x								
	c − b = + 40.4							+0.2	−0.2		0.0 0.0
Cos −59.5 / 2	.254										
	+10.3										

	x	y	x	y
a	32.2	27.6	42.1	32.3
b	55.0	40.5	65.0	45.1
η	37.9	30.6	48.0	35.1
	x	x	y	y
	η − a + 5.7	η − b − 17.1	η − a + 3.0	η − b − 9.9
	+ 5.9	− 17.0	+ 2.9	− 10.0
	+ 5.8	− 17.05	+ 2.95	− 9.95
	+ 5.86	− 17.22	+ 2.98	− 10.05
	÷ .247	÷ .247	+ 1.49	− 5.03
	+ 23.7	− 69.7		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

Note - Nos. 41, 42 are crossed out.

A 8383 No. 43 September 15, 1908.

						1900 for.	19	11	8.8	−61	0.0		
a =	−61	6364	19	8	14.0	−61	4.3	+ 39.7 × 3.7 =	19	8	54.X	+ 1.8 =	−61 2.5	a
b =	−60	7284	19	9	23.5	−60	59.9	− 29.7 × 8 =	19	8	53.5	− 2.6 =	−61 2.5	b
c =	−60	7282	19	8	50.5	−60	14.5		19	8	53.8		−61 2.5	c
					×									
			c − b =		−33.0				−0.1		+0.0		0.0 0.0	

cos −60.2 / 2

.249

− 8.2

	x	y	x	y
a	88.2	11.4	93.2	16.8
b	105.0	20.1	110.0	25.5
n	97.8	14.9	102.8	20.3
	×	×	y	y
n − a	+ 9.6	n − b − 7.2	n − a + 3.5	n − b − 5.2
	+ 9.6	− 7.2	+ 3.5	− 5.2
	+ 9.6	− 7.2	+ 3.5	− 5.2
	+ 9.70	− 7.27	+ 3.54	− 5.25
	÷ .242	÷ .242	+ 1.77	− 2.63
	+ 40.1	− 30.0		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8383 No. 44 Sept. 16, 1908.

						1900 prs.	19	9	23.0	−61	2.0
a = −60 7281	19	6	22.5	−60	59.7	+45.3	= 19	7	7.8	−4.6	= −61	4.3
b = −61 6362	19	7	57.0	−61	12.0	−49.0	= 19	7	8.8	+7.8	= −61	4.4
c = −60 7282	19	8	50.5	−60	14.5				8.0			
							19	7	8.3		−61	4.3
										−0.6	+0.5	−0.1	+0.0

$\frac{c_{00} - 60.2}{2}$

c − b = + 53.5

.249

+ 13.3

	x	y	x	y
a	82.4	29.9	87.4	32.6
b	105.0	5.6	110.0	10.1
n	93.2	20.9	98.3	25.4

	x	x	y	y
n − a	+ 10.8	n − b	− 11.8	n − a	− 9.0	n − b	+ 15.3
	+ 10.9		− 11.7		− 9.2		+ 15.3
	+ 10.85		− 11.75		− 9.1		+ 15.3
	+ 10.96		− 11.87		− 9.19		+ 15.45
	÷ .242		÷ .242		− 4.595		+ 7.73
	+ 45.3		− 49.0				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

Note - Nos. 45 & 46 are crossed out

A 8383 No. 47 Sept. 16, 1908.

					(1900)	18 54 42.3	-61 16.1
a = -61 6303	18 51 37.1	-61 26.2	+50.4	=	18 52 28.0	+8.1	= -61 18.1
b = -61 6313	18 53 1.6	-61 9.8	-36.5	=	18 52 24.1	-8.3	= -61 18.0
c = -60 7237	18 51 39.0	-60 57.0			18 52 26.4		-61 18.1
	x						
	c - a = +1.9				+1.2 -1.2		+0.1 -0.0

$\frac{\cos -60.4}{2}$ .247 +0.5

	x	y	x	y
a	85.0	5.1	90.0	8.4
b	105.4	37.8	110.4	41.1
η	97.1	21.3	102.1	24.8

x		x		y		y	
η-a	+12.1	η-b	-8.3	η-a	+16.2	η-b	-16.5
	+12.1		-8.3		+16.3		-16.3
	+12.1		-8.3		+16.25		-16.45
	+12.22		-8.38		+16.41		-16.61
	÷.240		÷.240		+8.21		-8.31
	+50.9		-34.9				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

Note – No. 48 is crossed out, rejected.

A 8383 No. 49 Sept. 16, 1908.

					1900 for.			
a	−61 6388	19 20 36.0	−61 15.1	+ 225.7	19 24 19.4	− 15.5	−61 30.4	
b	−61 6389	19 27 21.7	−61 43.6	− 182.4	19 24 21.2	+ 14.9	−61 29.7	
c	−60 7297	19 21 13.5	−60 31.5		19 24 20.3		−61 30.0	
					− 0.9	+ 0.9	+ 0.4	− 0.3

$\frac{\text{Cos} - 60.5}{2}$

c − a = + 37.5

.246

+ 9.2

	x	y	x	y
a	25.0	80.0	10.0	75.5
b	121.6	18.1	106.5	17.0
n	78.5	39.3	63.3	44.8

	x		x		y		y	
n − a	+ 53.5	n − b	− 43.1	n − a	− 30.7	n − b	+ 27.7	
	+ 53.3		− 43.2		− 30.7		+ 27.8	
	+ 53.4		− 43.15		− 30.7		+ 27.75	
	+ 53.93		− 43.58		− 31.01		+ 28.03	
	÷ .239		÷ .239		− 15.51		+ 14.02	
	+ 225.7		− 182.4					

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8383 No. 50 Sept. 16, 1908.

1900 fm. 19 25 44.8 −61 21.4

a	−61	6381	19 20 36.0	−61	15.1	+17 3.0	=	19 23 29.0	−9.7	−61	24.8
b	−61	6389	19 27 21.7	−61	43.6	−23 1.0	=	19 23 30.7	+19.5	−61	23.8 4.1
c	−60	7297	19 21 13.5	−60	31.5			19 23 29.8		−61	24.4

x

c − a = + 37.5

.246

+ 9.2

c∞ −60.5 / 2

−0.8 +0.9 +0.4 −0.3

	x	y	x	y
a	25.0	70.0	10.0	75.5
b	121.6	16.6	106.5	17.0
m	65.4	50.6	51.3	56.2

x	x	y	y
m − a + 40.4	m − b − 56.2	m − a − 19.4	m − b + 39.0
+ 41.3	− 55.2	− 19.3	+ 39.2
+ 41.35	− 55.2	− 19.35	+ 39.1
+ 41.76	− 55.75	− 19.54	+ 39.49
÷ .239	÷ .239	− 9.77	+ 19.745
+ 174.7	− 233.3		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

For new meas. see BI 10, pg 202

A 8383 No. 51 Sept. 16, 1908.

1900 po. 19 20 0.3 −61 30.9

a = −61 6377 19 17 16.5 −61 13.5 + 25.2 = 19 17 41.7 −20.2 = −61 33.7
b = −61 6378 19 18 19.0 −61 49.3 − 29.9 = 19 17 48.9 + 15.3 = −61 34.0
c = −60 7295 19 17 7.5 −60 31.0 19 17 45.4 / 45.3 −61 33.8 / 33.7

α

c − a = − 9.0 −3.7 +3.7 −0.1 +0.2

cos 60.5 / 2 .246 −36 +38 00 +03

−2.2

	α	y	α	y
a	25.0	79.9	30.0	85.6
b	38.1	7.8	43.2	13.5
n	31.0	39.5	36.0	45.1

x	x	y	y
n−a +6.0	n−b −7.1	n−a −40.4	n−b +31.7
+6.0	−7.2	−40.5	+31.6
+6.0	−7.15	−40.45	+31.65
+6.06	−7.22	−40.85	+31.97
÷ .239	÷ .239	−20.43	+15.49
+25.4	−30.2		

1908phae.proj.2296B

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

Note – Nos. 52, 53, 54, & 55 are crossed out.

A 8383 No. 56 Sept. 16, 1908.

(1900) 18 59 26.6 − 62 3.5

a =	−62 6030	18 55 17.7	−62 15.7	+ 112.2	= 18 57 8.8 + 9.9	− 62 5.8
b =	−61 6340	18 58 47.5	−61 54.7	− 100.1	= 18 57 8.4 − 0.7	= − 62 5.5
c =	−61 6325	18 55 27.2	−61 38.5		18 57 8.6	− 62 5.6
		x				
		c − a = + 9.5			+0.2 −0.2	+0.2 −0.2
		.238				
		+ 2.3				

$\frac{\text{coo} - 61.6}{2}$

	x	y	x	y
a	40.0	15.0	45.0	20.5
b	89.2	56.2	94.2	61.7
n	66.0	34.9	71.0	40.3
	x	x	y	y
	n − a + 26.0	n − b − 23.2	n − a + 19.9	n − b − 21.3
	+ 26.0	− 23.2	+ 19.8	− 21.4
	+ 26.0	− 23.2	+ 19.85	− 21.35
	+ 26.26	− 23.43	+ 20.05	− 21.56
	÷ .234	÷ .234	+ 10.03	− 15.78
	+ 112.2	− 100.1		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

Note - Nos. 57, 58, 59, 60, ~~61~~ are crossed out.
" 63, 64, 65, 66, 67, 68 ~~& 69~~ are crossed out.
For new meas. see Ref. 10, pg. 203.

A 8383 No. 62 Sept. 16, 1908.

Object very close to edge of plate -

						1900 prec.	19	19	6.4	-62	17.2
a	-62	6081	19	14	20.1	-62	25.1	+ 151.9 =	19	16	53.0 + 4.2 =	-62	20.9
b	-62	6090	19	23	55.8	-62	6.8	- 425.9 =	19	16	49.9 - 12.5 =	-62	19.3
c	-61	6372	19	13	48.5	-61	23.3		19	16	51.0	-62	20.1
								Mean prec.	19	16	49.4	-62	20.0
											+ 1.0 - 1.1		+ 0.8 - 0.8
											+26 +05		+09 -07

x

c - a = - 41.6

c - b = - 61.4 / 2

.239

7.6

- 15.X

	x	y	x	y
a	30.0	3.4	35.0	4.9
b	162.5	45.0	167.5	46.6
η	65.0	14.1	70.0	15.6

	x	x	y	y
m - a	+ 35.0	m - b - 97.5	m - a + 10.7	m - b - 30.9
	+ 35.0	- 97.5	+ 10.7	- 31.0
	+ 35.0	- 97.5	+ 10.7	- 30.95
	+ 35.35	- 98.48	+ 10.81	- 31.26
	÷ .233	÷ .233	+ 5.40	- 15.63
	+ 151.7	- 422.7		

error in orientation

	x	y	x	y
a	30.0	3.5	35.0	5.6
b	164.6	36.9	169.7	38.6
η	65.4	11.9	70.4	13.6

	x	x	y	y
m - a	+ 35.4	m - b - 99.2	m - a + 8.4	m - b - 25.0
	+ 35.4	- 99.3	+ 8.6	- 25.0
	+ 35.4	- 99.25	+ 8.5	- 25.00
	+ 35.95	- 100.24	+ 8.58	- 25.25
	÷ .233	÷ .233	+ 4.29	- 12.62
	+ 153.0	- 430.2		

meeting in dec. in a + b.

	x	y
	28.4	15.0
	162.5	51.6
	63.6	24.4

S.1, B

m - a + 35.2 m - b - 98.9

÷ 4.232

+ 151.7 - 426.3

R.a

a. 19h 16m 51.8

b. 19 16 49.5

Dec.

m - a + 9.4 4.7

m - b - 27.2 13.6

a -62° 20'.4

b -62 20.4

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 1 Sept. 17, 1908.

1900 fno. 23 39 40.5 −43 28.0

a = −43 9779	23 37 10.6	−43 56.5	+69.5 + 20.2 =	23 38 20.8 + 20.4 =	−43 36.3
b = −43 9784	23 39 31.0	−43 13.8	−69.8 =	23 38 21.9 − 22.8 =	−43 36.6
c = −43 9785	23 39 48.8	−43 56.9		23 38 21.0	−43 36.4
	×				
	c − b = +17.8			−0.9 +0.9	−0.1 0.0
c∞ −43.9 / 2	.360				
	+6.4				

	x	y	x	y
a	69.9	24.6	74.8	29.9
b	120.0	110.1	125.0	115.5
η	95.0	65.0	100.0	70.9

x	x	y	y
η−a + 25.1	η−b − 25.0	η−a + 40.4	η−b − 45.1
+ 25.2	− 25.0	+ 40.4	− 45.2
+ 25.15	− 25.0	+ 40.4	− 45.15
+ 25.40	− 25.25	+ 40.80	− 45.60
÷ .362	÷ .362	+ 20.40	− 22.80
+ 70.2	− 69.8		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 2 Sept. 17, 1908.

					1900 fno. 23 55 54.3	− 43 53.1
a = − 43 9808	23 52 56.1	− 43 44.1	+ 99.2	= 23 54 35.3	− 17.5	= − 44 1.6
b = − 44 10398	23 56 46.7	− 44 26.6	− 129.7	= 23 54 33.0	+ 25.3	= − 44 1.4
c = − 44 10393	23 53 47.7	− 44 18.0		23 54 35.8		− 44 1.5
	α					
	c − a = + 51.6			− 1.5 + 1.5		+ 0.1 − 0.1

$\frac{\text{Cos} - 44.3}{2}$

.358

+ 18.5

	α	δ	x	y
a	50.0	99.9	55.0	105.4
b	132.2	14.3	137.2	19.7
n	86.1	64.9	91.1	70.2

	x	x	y	y
n − a	+ 36.1	n − b − 46.1	n − a − 35.0	n − b + 50.6
	+ 36.1	− 46.1	− 35.2	+ 50.5
	+ 36.1	− 46.1	− 35.1	+ 50.55
	+ 36.46	− 46.56	− 35.45	+ 50.06
	÷ .359	÷ .359	− 17.73	+ 25.53
	+ 100.2	− 129.7		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 3 Sept. 17, 1908.

1900 fm. 23 48 53.5 -43 51.8

a = -44 10377	23 46 38.3	-44 6.6	+57.2 =	23 47 35.5	+6.4 =	-44 0.8
b = -43 9801	23 49 12.2	-43 49.7	-98.1 =	23 47 34.1	-10.6 =	-44 0.8
c = -44 10379	23 47 57.5	-44 37.9		23 47 38		-44 0.8
	x					
	c-a = +73.2			-0.1	+0.1	+0.1 0.0

Coo - 44.6 / 2

.356

+26.1

	x	y	x	y
a	70.0	75.0	75.0	80.5
b	125.3	108.8	130.5	114.3
n	90.4	87.8	95.4	98.2

	x	x	y	y
n-a	+ 20.4	- 34.9	+ 12.8	- 21.0
n-b	+ 20.4	- 35.0	+ 12.7	- 21.1
	+ 20.4	- 34.95	+ 12.75	- 21.05
	+ 20.60	- 35.30	+ 12.88	- 21.26
	÷ .360	÷ .360	+ 6.44	- 10.63
	+ 57.2	- 98.1		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 4 Sept. 17, 1908.

1900 fro. 23 58 42.7 −44 10.5

a = −43 9810	23	57	54.7 (32.6)	−43	44.0 (53.1)	−7.8 (5)	= 23 57 25.0 (1)	− 26.0 (5.7) = −44 19.8 (8.8)
b = −44 10400	23	57	54.7	−44	41.0	−29.8 (5)	= 23 57 24.8 (5.2)	+ 22.8 (0) = −44 18.8 (9.0)
c = −45 10511	23	57	45.0	−45	1.1		23 57 25.0 (2)	−44 18.9 (18.8)
			x					
	c − a = +12.4						−0.1 0.0	−0.1 +0.1

$\frac{c_{00} - 45.0}{2}$ .354 +4.4

	x	y	x	y
a	70.0	165.1	75.0	170.5
b	77.8	69.5	82.9	74.9
n	67.3	113.5	72.3	119.0

	x	x	y	y
n − a	−2.7	n − b −10.5	n − a −51.6	n − b +44.0
	−2.7	−10.6	−51.5	+44.1
	−2.7	−10.55	−51.55	+44.05
	−2.73	−10.65 (6)	−52.07	+44.49
	÷ .358	÷ .358	−26.035	+22.245
	−7.6	−29.8		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 85 15 No. 5 Sept. 17, 1908.

1900 fm . 23 51 3.9 - 43 58.9

a = -44	10381	23	48	46.5	-44	14.0	+	59.5	=	23	49	45.8	+	6.9	=	-44	7.X		
b = -44	10386	23	50	34.3	-44	1.9	-	38.7	=	23	49	45.6	-	5.6	=	-44	7.5		
c = -44	10383	23	49	55.2	-44	53.4				23	49	45.8				-44	7.7		
			x																
		c - b = ∓		29.1								-0.3		+0.3			-0.1		+0.2

$\frac{c_{00} - 44.9}{2}$

.354

- 10.3

	x	y	x	y
a	75.1	90.2	80.1	95.7
b	110.0	115.0	115.0	120.5
η	96.3	103.9	101.2	109.4

	x		x		y		y	
n-a	+ 21.2	n-b	- 13.7	n-a	+ 13.7	n-b	- 11.1	
	+ 21.1		- 13.8		+ 13.7		- 11.1	
	+ 21.15		- 13.75		+ 13.7		- 11.1	
	+ 21.36		- 13.89		+ 13.84		- 11.11	
	÷ .359		÷ .359		+ 6.92		- 5.61	
	+ 59.5		∓ 38.7					

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8515 No. 6 Sept. 17, 1908.

								1900 fno.	23	57	4.1	− 44	32.0	
a =	− 44	10393	23	53	47.7	− 44	18.0	+ 120.7	= 23	55	48.4	− 22.2	= − 44	40.2
b =	− 45	10511	23	57	54.0	− 45	1.1	− 179.3	= 23	55	47.7	+ 20.5	= − 44	40.8
c =	− 44	10398	23	56	46.7	− 44	26.6		23	55	46.6		− 44	40.4
					x									
			c − b =		− 58.3				+0.6		− 0.7		− 0.4	+ 0.4

cos − 44.5 / 2

.357

− 20.8

	x	y	x	y
a	45.1	99.4	50.0	104.9
b	130.0	15.0	135.0	20.5
η	87.6	55.5	92.6	61.0

	x	x	y	y
η − a	+ 42.5		− 43.9	
η − b		− 42.4		+ 40.5
	+ 42.6	− 42.4	− 43.9	+ 40.5
	+ 42.55	− 42.4	− 43.9	+ 40.5
	+ 42.97	− 42.82	− 44.34	+ 40.91
	÷ .356	÷ .356	− 22.17	+ 20.46
	+ 120.7	− 120.3		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 7 Sept. 17, 1908.

1900 fno. 23 56 19.2 − 44 28.4

a = −44 10391	23	53	14.7	−44	48.2	+108.5	=	23	55	21.2	+11.5	=	−44	36.9
b = −44 10398	23	56	46.7	−44	26.6	−106.5	=	23	55	1.3	−10.0	=	−44	36.7
c = −44 10395	23	53	54.7	−44	3.4			23	55	1.8			−44	36.8
			x											
	c − a = + 40.0							+0.4		−0.4			+0.2	−0.2

$\frac{c_{00} - 44.8}{2}$ (x)

.360

+14.4

	x	y	x	y
a	55.0	25.0	60.0	30.5
b	130.8	67.2	135.8	72.8
7	93.3	48.3	98.2	57.9

	x	x	y	y
n − a	+38.3	n − b −37.5	n − a +22.3	n − b −19.9
	+38.2	−37.6	+22.4	−19.9
	+38.25	−37.55	+22.35	−19.9
	+38.63	−37.93	+22.57	−20.10
	÷ .356	÷ .356	+11.29	−10.05
	+108.5	−106.5		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 8 Sept. 17, 1908.

						1900 fno.	23	56	5.3	− 44	34.0
a = − 44 10391	23	53	14.7	− 44	48.2	+ 9.0	= 23	54	48.2	+ 5.6	= − 44 42.6
b = − 44 10397	23	56	9.7	− 44	38.6	− 8.7	= 23	54	47.8	− 3.7	= − 44 42.3
c = − 44 10395	23	53	54.7	− 44	3.4			23	54	47.8	− 44 42.4
				×					0.0	0.0	+ 0.2 − 0.1
	$c - a$ = + 40.0										
Cos − 44.0 / 2	. 360										
	+ 14.4										

	x	y	x	y
a	60.0	20.0	65.0	25.5
b	122.1	38.7	127.1	44.2
η	93.0	31.3	98.1	36.9

	x	x	y	y
$n-a$	+ 33.0	$n-b$ − 29.1	$n-a$ + 11.3	$n-b$ − 7.4
	+ 33.1	− 29.0	+ 11.4	− 7.3
	+ 33.05	− 29.05	+ 11.35	− 7.35
	+ 33.38	− 29.34	+ 11.46	− 7.42
	÷ .355	÷ .355	+ 5.73	− 3.71
	+ 94.0	− 82.7		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 9, Sept. 17, 1908.

				1900 fm.	23 50	53.0	−44 29.6
a =	−44 10379	23 47 51.5	−44 37.9	+103.5	= 23 49 35.0	−0.3	= −44 38.2
b =	−44 10389	23 47 56.2	−44 37.6	−143.1	= 23 49 33.1	−0.2	= −44 37.8
c =	−44 10380	23 48 21.5	−44 3.9		23 49 34.0		−44 38.0
		x					
		c − a = + 30.0			−0.8 +0.7		+0.2 −0.2

$\frac{\cos -44.1}{2}$ .359

+ 10.8

	x	y	x	y
a	45.0	35.0	50.0	40.5
b	181.6	34.9	136.6	40.4
η	81.5	34.5	86.5	40.0

	x	x	y	y
η − a	+ 36.5	η − b − 50.1	η − a − 0.5	η − b − 0.4
	+ 36.5	− 50.1	− 0.5	− 0.4
	+ 36.5	− 50.1	− 0.5	− 0.4
	+ 36.87	− 50.60	− 0.5	− 0.4
	÷ .356	÷ .356	− 0.3	− 0.2
	+ 103.5	− 142.1		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1998phae.proj.2296B

A 8 5 7 15 No. 10 Sept. 17, 1908.

								1900 pro.	23	49	52.1	−	44	34.8
a = −44 10379	23	47	51.5	−44	37.9	+42.5	=	23	48	3.6 3.2	−5.8	=	−44	43.7
b = −44 10383	23	49	55.2	−44	53.4	−81.8	=	23	48	4.2 33.4	+10.6	=	−44	42.8
c = −44 10380	23	48	21.5	−44	3.9			23	48	33.9			−44	43.3
			x											
	c − a = + 30.0							− 0.3		+ 0.3			+ 0.5	− 0.4

$\frac{\text{Cos} - 44.1}{2}$

.359

+ 10.8

	x	y	x	y
a	70.0	49.5	75.0	55.0
b	113.7	18.8	118.7	44.2
n	85.0	37.9	89.9	43.3

x	x	y	y
n − a + 15.0	n − b − 28.7	n − a − 11.6	n − b + 21.1
+ 14.9	− 28.8	− 11.7	+ 21.1
+ 14.95	− 28.75	− 11.65	+ 21.1
+ 15.10	− 29.04	− 11.77	+ 21.31
÷ .355	÷ .355	− 5.89	+ 10.66
+ 42.5	− 81.8		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 11. Sept. 18, 1908.

							1900 pos.			
a = −45	10481	23	45	17.8	−45	12.0	23	47	39.4	−44 42.6
b = −44	10379	23	47	51.5	−44	37.9	23	46	19.7	−44 56.6
c = −45	10487	23	47	15.3	−45	14.4	23	46	20.4	−44 56.9

+62.5 = 1.6 + 21.8 = 0 − 44 56.X 1.0 a

−91.3 = 0.4 + 1.1 − 13.X = 0 − 44 56.X 0.9 b

c

c − 45.2 / 2

c − b = −36.2

.352

−12.7

−0.7 +0.7 0.0 −0.1

	x	y	x	y
a	61.1	27.0	66.1	32.4
b	115.0	95.0	120.0	100.5
n	83.0	69.0	88.0	74.5

	x		x		y		y	
n−a	+21.9	n−b	−32.0	n−a	+42.0	n−b	−26.0	
	+21.9		−32.0		+42.1		−26.0	
	+21.9		−32.0		+42.05		−26.0	
	+22.12		−32.32		+42.47		−26.26	
	÷ .354		÷ .354		+21.24		−13.13	
	+62.5		−91.3					

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 12 Sept. 18, 1908.

					1900 pos.	23 40 59.2	-44 42.3
a = -45 10469	23 39 8.0	-45	20.6	+31.8	=	23 39 39.8	+30.2 = -44 50.7
b = -44 10370	23 40 7.6	-44	8.7	-45.2	=	23 39 39.4	-42.4 = -44 50.3
c = -45 10472	23 39 55.0	-45	5.7			23 39 39.4	-44 50.5
	x					-0.4	+0.4 0.0 0.0

c − b = − 29.6

$\frac{c_{00} - 45.1}{2}$

· 353

− 10.4

	x	y	x	y
a	28.1	26.3	33.1	31.8
b	55.0	170.0	60.0	175.5
η	39.1	86.0	44.1	91.6
	x	x	y	y
η − a	+ 11.0	η − b − 15.9	η − a + 29.7	η − b − 84.0
	+ 11.0	− 15.9	+ 59.8	− 83.9
	+ 11.0	− 15.9	+ 59.75	− 83.95
	+ 11.11	− 16.06	+ 60.35	− 84.79
	÷ .355	÷ .355	+ 30.138	− 42.395
	+ 31.3	− 45.2		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 13 Sept. 18, 1908.

					1900 prec.				
a = −44 10365	23 38 22.6	−44 50.6	+57.2	=	23 39 19.8	− 7.2	=	−44 57.8	a
b = −45 10472	23 39 55.0	−45 5.7	−35.5	=	23 39 19.5	+ 7.8	=	−44 58.0	b
c = −44 10370	23 40 14.6	−44 8.7			23 39 19.7			−44 57.9	c
	x								
	c − b = + 29.6				−0.4	+0.3		−0.1	+0.2

$\frac{c_{00} - 44.1}{2}$

.359

+10.6

	x	y	x	y
a	67.5	39.7	72.5	44.2
b	100.0	10.0	105.0	14.5
m	87.6	25.4	92.5	30.0

	x		x		y		y	
m−a	+ 20.1	m−b	− 12.4	m−a	− 14.3	m−b	+ 15.4	
	+ 20.0		− 12.5		− 14.2		+ 15.5	
	+ 20.05		− 12.45		− 14.25		+ 15.45	
	+ 20.25		− 12.57		− 14.39		+ 15.60	
	÷ .354		÷ .354		− 7.195		+ 7.80	
	+ 57.2		− 35.5					

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 14 Sept. 18, 1908.

			√1900 pro. 0 2 5.6	−44 55.5
a = −44 3	0 0 34.4	−44 40.9	+14.2 = 0 0 48.6 − 23.0 =	−45 3.9
b = −45 3	0 1 6.2	−45 20.3	−17.3 = 0 0 48.9 + 16.4 =	−45 3.7
c = −45 4	0 1 16.2	−45 48.7	0 0 48.8	−45 3.9
	α			
	c − a = + 41.8		−0.2 +0.1	0.0 0.0

cos − 45.8 / 2

.349

+14.6

	x	y	x	y
a	30.0	145.0	35.0	150.5
b	41.1	66.3	46.2	71.8
n	35.0	99.1	40.0	104.7

x	x	y	y
n−a + 5.0	n−b − 6.1	n−a − 45.9	n−b + 32.8
+ 5.0	− 6.2	− 45.8	+ 32.9
+ 5.0	− 6.15	− 45.85	+ 32.85
+ 5.05	− 6.21	− 46.31	+ 33.18
÷ .354	÷ .354	− 23.16	+ 16.59
+ 14.3	− 17.5		

✓

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 15 Sept. 18, 1908.

						1900 fno.	23	48	27.6	-45	8.9			
a = -45 10485	23	46	54.3	-45	20.7	+ 14.8	= 23	47	8.9	+ 3.5	= -45	17.2		a
b = -45 10487	23	47	15.3	-45	14.4	- 6.9	= 23	47	8.4	- 3.0	= -45	17.4		b
c = -44 10377	23	46	38.3	-44	6.6			23	47	8.6		-45	17.3	c
			x											
			c - a = -16.0						+0.3	-0.2		-0.1	+0.1	

$\frac{c_{00} - 44.1}{2}$

.359

-5.7

	x	y	x	y
a	60.0	20.0	65.0	25.4
b	67.6	32.7	72.6	38.2
n	65.2	26.9	70.1	32.3

x		x		y		y	
n-a	+5.2	n-b	-2.4	n-a	+6.9	n-b	-5.8
	+5.1		-2.5		+6.9		-5.9
	+5.15		-2.45		+6.9		-5.85
	+5.20		-2.47		+6.97		-5.91
	÷.352		÷.352		+3.49		-2.96
	+14.8		-7.0				
	✓		✓				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8517 No. 16 Sept. 18, 1908.

					1900 fm.	23	40	51.9	− 45	12.1
a = − 45 10465	23	37	40.5	− 45	8.8	+ 112.2	= 23	39	32.7	− 11.8 = − 45	20.5
b = − 45 10475	23	40	28.0	− 45	29.0	− 56.0	= 23	39	32.8	+ 8.6 = − 45	20.4
c = − 44 10371	23	41	4.1	− 44	17.0			23	39	32.7	− 45	20.5
			x									
	c − b = + 36.1							− 0.5	+0.5		0.0	0.0

cos − 44.3 / 2

.358

+ 12.9

	x	y	w	y
a	11.4	70.5	16.4	76.0
b	70.0	30.0	75.0	35.5
η	50.5	47.1	55.5	52.6

x	x	y	y
η − a + 39.1	η − b − 19.5	η − a − 23.4	η − b + 17.1
+ 39.1	− 19.5	− 23.4	+ 17.1
+ 39.1	− 19.5	− 23.4	+ 17.1
+ 39.49	− 19.70	− 23.63	+ 17.27
÷ .352	÷ .352	− 11.82	+ 8.64
+ 112.2	− 56.0		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

Note – Plates are rather far apart in Dec. but near edges of plate – hence contortion in 1st computation by orienting with Dec – 2nd computation comes out very closely in both R.A. & Dec.

A 8517 No. 17 Sept. 18, 1908.

1900 prs. 23 35 3.7 – 45 4.0

a = – 45 10457	23	33	28.5	– 45	44.0	+ 18.4 =	23	33	46.9	+ 32.0 = – 45 12.0
b = – 44 10379	23	34	11.6	– 44	31.1	– 33.7 =	23	33	37.9	– 38.6 = – 45 12.7
c = – 45 10458	23	34	42.0	– 45	27.7	1st	23	33	42.4	– 45 12.4
						2nd →	23	33	43.2	– 45 12.5
						accepted means corrected	23	33	43.2	– 45 12.3

Orienting by Dif in Dec. of a – B × 2.

a Dec. – b = 69.9 × 2 = 139.8

2nd comp. c vs – 45.5 / 2

c – b = + 3.9 0.0 + 0.1 – 0.1 + 0.1

.350

+ 1.4

	x	y	x	y
a	50.0	10.0	55.0	15.0
b	68.2	149.8	73.2	154.8
n	56.5	73.5	61.4	78.4

x		x		y		y	
n – a	+ 6.5	n – b	– 11.7	n – a	+ 63.5	n – b	– 76.3
	+ 6.4		– 11.8		+ 63.4		– 76.4
	+ 6.45		– 11.75		+ 63.45		– 76.35
	+ 6.51		– 11.86		+ 64.08		– 77.11
	÷ .353		÷ .353		+ 32.04		– 38.56
	+ 18.4		+ 33.7				

	x	y	x	y
a	54.8	14.8	49.8	25.4
b	70.0	155.0	65.0	165.5
n	60.0	78.4	55.0	89.0

x		x		y		y	
n – a	+ 5.2	n – b	– 10.0	n – a	+ 63.6	n – b	– 76.6
	+ 5.2		– 10.0		+ 63.6		– 76.5
	+ 5.2		– 10.0		+ 63.6		– 76.55
	+ 5.25		– 10.10		+ 64.24		– 77.32
	÷ 353		÷ 353		+ 32.12		– 38.66
	+ 14.9		– 28.6				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 18 Sept. 18, 1908.

								1900 fm.	23	49	33.8	−	45	31.0
a =	−45	10488	23	47	20.3	−45	49.1	+ 55.6	= 23	48	15.3	+ 9.5	= −45	39.6
b =	−45	10495	23	47	26.	−45	30.6	− 71.1	= 23	48	15.2	− 8.7	= −45	39.8
c =	−45	10489	23	47	30.3	−45	4.5			23	48	15.6		−45	39.4

c − a = + 10.0 | −0.3 +0.3 | +0.2 −0.2

Coo −45.1 / 2

.353

+3.5

	x	y	x	y
a	60.0	20.0	65.0	25.0
b	103.9	56.3	108.9	61.3
η	79.3	39.1	84.2	44.1

	x	x	y	y
η − a	+ 19.3	η − b − 24.6	η − a + 19.1	η − b − 17.2
	+ 19.2	− 24.7	+ 19.1	− 17.2
	+ 19.25	− 24.65	+ 19.1	− 17.2
	+ 19.44	− 24.90	+ 19.29	− 17.37
	÷ .350	÷ .350	+ 9.645	− 8.69
	+ 55.6	− 70.1		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 19 Sept. 18, 1908.

				1900 fnd.	23 40 5.0	−45 28.6	
a = −45 10462	23 37 19.0	−45 46.7	+8	=	23 38 45.4	−45 37.2	a
b = −45 10473	23 39 56.5	−45 31.3	−7	=	23 38 48.8	−45 36.8	b
c = −45 10465	23 37 40.5	−45 8.8			23 38 45.6	−45 37.0	c
	x						
	c − a = +21.5				−0.5 +0.4	+0.2 −0.3	

$\frac{c_{00} - 45.1}{2}$

.353

+7.6

	x	y	x	y
a	60.0	20.0	65.0	25.5
b	114.8	49.8	119.8	55.3
η	90.0	39.0	95.0	44.5

	x	x	y	y
	n−a +30.0	n−b −24.8	n−a +19.0	n−b −10.8
	+30.0	−24.8	+19.0	−10.8
	+30.30	−25.05	+19.19	−10.91
	÷.350	÷.350	+9.595	−5.46
	+89.1	−71.6		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 20 Sept. 18, 1908.

					1900 prs.	23	37	16.9	-45	27.4
a = -45 10458	23 37 15.5	-45 27.7	+10	1.0	=	23 35 55.5	−	8.9	= -45	35.6
b = -45 10462	23 37 19.0	-45 46.7	−	83.5	=	23 35 55.4	+	10.8	= -45	35.9
c = -45 10465	23 37 40.5	-45 8.8				23 35 56.5			-45	35.8
	x									
	c − b = +21.5					+0.1	−0.1		−0.2	+0.2
$\frac{\text{coo} -45.1}{2}$	353									
	+7.6									

	x	y	x	y
a	65.7	52.2	70.7	68.6
b	130.0	15.0	135.0	25.5
η	101.0	36.4	106.1	46.8

	x	x	y	y
η − a	+35.3	η − b − 29.0	η − a	−15.8 η − b +21.4
	+35.4	−28.9	−15.8	+21.3
	+35.35	−28.95	−15.8	+21.35
	+35.70	−29.24	−15.96	+21.56
	÷.350	÷.350	−7.98	+10.78
	+102.0	−83.5		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 21 Sept. 18, 1908.

1900 fm. 23 56 55.3 −45 54.9

a =	−46	10615	23	55	9.9	−46	2.4	+28.5	= 23	55	38.4	−0.9	= −46 3.3
b =	−46	10618	23	56	41.0	−46	3.9	−6.4	= 23	55	37.6	+0.6	= −46 3.3
c =	−47	10075	23	56	4.6	−47	7.0			23	55	37.8	−46 3.3
					x								
					c − b = −36.4						+0.3	−0.2	0.0 0.0

$\frac{\cos -47.1}{2}$

.340

−12.4x

	x	y	x	y
a	43.2	137.9	33.2	143.4
b	75.0	135.0	65.0	140.5
n	53.0	136.1	43.0	142.8

	x	x	y	y
n−a	+9.8		−1.8	
n−b		−22.0		+1.1
	+9.8	−22.0	−1.6	+1.3
	+9.8	−22.0	−1.7	+1.2
	+9.80	−22.22	−1.72	+1.21
	÷.347	÷.347	−0.86	+0.61
	+28.5	−64.0		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

see pg. 67 for No. 22.

A 8517 No. 22 a Sept. 18, 1908.

						1900 fm.	23	59	45.9	−46	2.6
a = −45 10510	23	57	32.9	−45	59.1	+57.4	= 23	58	29.7	−12.0	= −46 11.1
b = −46 10623	23	58	50.5	−46	28.8	−22.2	= 23	58	28.5	+18.0	= −46 10.8
c = −45 10515	23	58	12.2	−45	0.0			23	58	29.1	−46.11.0

x

c − b = −38.3

cos −45.0 / 2

.354

−13.6.

	x	y	x	y
a	62.8	64.8	67.7	68.3
b	90.0	5.0	95.0	8.5
η	82.4	40.8	87.4	44.3

x	x	y	y
η−a + 19.6	η−b − 7.6	η−a − 24.0	η−b + 35.8
+ 19.7	− 7.6	− 24.0	+ 35.8
+ 19.65	− 7.6	− 24.0	+ 35.8
+ 19.85	− 7.68	− 24.24	+ 36.16
÷ .346	÷ .346	− 12.12	+ 18.08
+ 57.4	− 22.2		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 23 Sept. 21, 1908.

						1900 fm.	23	59	45.6	−46	2.6
a = −45 10510	23	57	32.9	−45	59.1	+56.9	= 23	58	29.8	−12.0	= −46	11.1
b = −46 10623	23	58	50.5	−46	28.8	−22.2	= 23	58	28.5	+18.7	= −46	10.9
c = −45 10515	23	58	12.2	−45	0.0			23	58	28.8		−46	11.0
			x								
	c − b = −38.3							+0.4	−0.3		+0.1	−0.1

c₀ − 45.0 / 2

.354

−13.6

	x	y	x	y
a	32.9	64.7	37.9	70.2
b	60.0	4.9 5.8	65.0	10.5
η	53.4 58.5	40.7 36.4	57.4	46.2

x	x	y	y
n − a + 19.5	n − b − 7.6	n − a − 24.0	n − b + 36.8
+ 19.5	− 7.6	− 24.0	+ 35.7
+ 19.5	− 7.6	− 24.0	+ 35.75
+ 19.70	− 7.68	− 24.24	+ 36.11
÷ .346	÷ .346	− 12.12	+ 18.06
+ 56.9	− 22.2		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae_proj_2296B

A 8517 No. 23a Sept. 21/19, 1908.

							1900 jun.	23	59	34.3	−46	2.4
a	−45	10510	23	57	32.9	−45	59.1	+45.0	= 23	58	18.9	−11.8	= −46	10.9
b	−46	10623	23	58	50.5	−46	38.8	−33.7	= 23	58	16.8	+18.4	= −46	10.5
c	−45	10515	23	58	12.2	−45	0.0			23	58	17.6		−46	10.8
					x									
			c − b =		−38.3						+0.4	−0.4		+0.1	−0.1

Cos −45.0 / 2

.354

−13.6

	x	y	x	y
a	32.9	64.7	37.9	70.2
b	60.0	49	65.0	10.5
η	46.9 (8.5)	31.1 (468)	53.4	46.8

	x	x	y	y
η − a	+ 15.6	η − b − 11.5	η − a − 23.6	η − b + 36.2
	+ 15.5	− 11.6	− 23.4	+ 36.3
	+ 15.55	− 11.55	− 23.5	+ 36.25
	+ 15.71	− 11.67	− 23.74	+ 36.61
	÷ .346	÷ 346	− 11.87	+ 18.31
	+ 45.4	− 33.7		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 24 Sept. 21, 1908.

						1900 fno.	23	59	29.1	−46	2.1
a	−45	10510	23	57	32.9	−45	59.1	+ 39.8	2.7	= −46	1.6
b	−46	10623	23	58	50.5	−46	28.8	− 39.9	8.6	= −46	10.4
c	−45	10515	23	58	12.2	−45	0.0			−46	10.5
					x						
			c − b = − 38.3					+0.4 −0.4		+0.1 −0.1	
			.351								
			− 13.6								

$\frac{C_{00} - 45.0}{2}$

	x	y	x	y
a	32.9	64.7	37.9	70.2
b	60.0	4.9	65.0	10.5
n	46.7	48.8	51.6	47.2

	x	x	y	y
n−a	+ 13.8	− 13.3	− 22.9	+ 36.9
n−b	+ 13.7	− 13.4	− 23.0	+ 36.7
	+ 13.75	− 13.35	− 22.95	+ 36.8
	+ 13.89	− 13.48	− 23.18	+ 37.17
	÷ .346	÷ .346	− 11.59	+ 18.58
	+ 40.2	+ 39.0		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 8715 No. 25 Sept. 21, 1908.

						1900 fm.	23	59	33.4	−46	11.1
a.	−45	10510	23	57	32.9	−45	59.1	+44.5	= 23	58 17.0	−20.5 = −46 19.6
b.	−46	10623	23	58	50.5	−46	28.8	−34.6	= 23	58 15.3	+9.5 = −46 19.4
C.	−45	10515	23	58	12.2	−45	0.0			23 58 16.6	−46 19.5
				x							
			c − b =		−38.3				+0.4	−0.3	+0.1 −0.1

$\frac{\text{Cos} -45.0}{\Sigma}$ .354

−13.6

	x	y	x	y
a	22.9	65.7	27.9	68.2
b	50.0	6.0	55.0	8.5
n	38.2	24.9	43.1	27.x^2

x	x	y	y
n−a + 15.3	n−b − 11.8	n−a − 40.8	n−b + 18.9
+ 15.2	− 11.9	− 41.0	+ 18.7
+ 15.25	− 11.85	− 40.9	+ 18.8
+ 15.40	− 11.97	− 41.31	+ 18.99
÷ .346	÷ 346	− 20.66	+ 9.495
+ 44.5	− 34.6		
✓	✓		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

see pg. 59 for better results.

A 8 5/15 1 No. 26 Sept. 21, 1908.

a = -46	7	0	3	4.0	-46	26.1	+12.1	=	2 0	3	16.1 1	-2 6.9	-46	53.0
b = -47	9	0	3	15.2	-47	2.0	+1.2	=	2 0	3	16.4	+1 0.9	-46	51.1
c = -47	8	0	2	59.7	-47	20.1			0	3	16.3 2		-46	52.1 0

x

c - a = -4.3 −0.1 +0.2 +1.0 −0.9

$\frac{c_{00} - 47.3}{2}$

.339

−1.5

	x	y	x	y
a	95.0	113.1	100.0	120.0
b	98.7	37.5	103.7	44.4
n	99.1	59.2	104.1	66.1

x	x	y	y
n-a +4.1	n-b +0.4	n-a −53.9	n-b +21.7
+4.1	+0.4	−53.9	+21.7
+4.1	+0.4	−53.9	+21.7
+4.14	+0.4	−54.44	+21.92
÷ .3240	÷ .3240	−27.22	+10.96
+17.2 3	+1.2		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8 7/1 15 No. 26 Sept. 21, 1908

1900 pos. 0 4 32.7 − 46 44.8

a = −46 2	0	0	46.0	−46	51.4 + 15.4 =	0	3	17.8 − 2.0 =	−46	53.4
b = −46 9	0	5	55.5	−46	55.9 − 109.3 =	0	3	15.1 + 2.8 =	−46	53.1
c = −47 6	0	2	28.2	−47	45.2	0	3	16.7	−46	53.2

c − a = + 102.2 −0.1 +0.0 +0.2 −0.1

cos − 47.8 / 2

.336

+ 34.3

	x	y	x	y
a	50.0	114.5	55.0	120.0
b	138.7	105.0	143.8	110.6
n	101.4	110.6	106.3	116.1

x	x	y	y
n−a + 51.4	n−b − 37.3	n−a − 3.9	n−b + 5.6
+ 51.3	− 37.5	− 3.9	+ 5.5
+ 51.35	− 37.4	− 3.9	+ 5.55
+ 51.86	− 37.77	− 3.94	+ 5.61
÷ .342	÷ .342	− 1.97	+ 2.81
+ 151.6	− 110.4		
✓	✓		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 27 Sept. 21, 1908.

							1900 fno.	23	58	52.0	−46	45.2
a = −47	10075	23	56	4.6	−47	7.0	+9	23	57	35.5	−46	53.5
b = −46	10623	23	58	50.5	−46	28.8	−7	23	57	35.9	−46	53.8
c = −46	10618	23	56	41.0	−46	3.9		23	57	35.1	−46	53.7
			×									
		c − a = +36.4						+0.4	−0.3		0.0	0.0
$\frac{c_{00} - 46.1}{2}$		· 347										
		+12.6										

	x	y	x	y
a	20.0	25.0	25.0	30.4
b	77.0	101.0	82.0	106.6
η	51.0	51.6	56.1	97.1
	x	x	y	y
n−a	+31.0 n−b	−26.0 n−a	+26.6 n−b	−49.4
	+31.1	−25.9	+26.7	−49.5
	+31.05	−25.95	+26.65	−49.45
	+31.36	−26.21	+26.92	−49.94
	÷ .342	÷ .342	+13.46	−24.97
	+91.7	+76.6		
	✓	✓		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8517 No. 28 Sept. 21, 1908.

					1900 pos.	23	52	24.5	−	46	42.8
a = −47 10058	23	48	40.7	− 47	11.9	+ 145.0	= 23	51	4.3	+ 20.7	= −46	51.2
b. −46 10611	23	53	35.0	−46	27.4	− 148.7	= 23	51	7.8	− 24.6	= −46	51.2
c.							23	51	6.0		−46	51.2

orienting by Dif in Dec. of a-b x 2

Dec. a − b 44.5 × 2 = 89.0

	− 1.7	+ 1.8	0.0 . 0.0

	x	y	x	y
a	24.9	20.0	29.9	25.0
b	124.3	109.0	129.4	114.0
η	74.0	61.5	79.0	64.4

	x		x		y		y	
η − a	+ 49.1	η − b	− 50.3	η − a	+ 41.5	η − b	− 47.5	
	+ 49.1		− 50.4		+ 41.4		− 47.6	
	+ 49.1		− 50.35		+ 41.45		− 47.55	
	+ 49.59		− 50.85		+ 41.86		− 48.03	
	÷ .342		÷ .342		+ 20.93		− 24.02	
	+ 145.0		− 148.7					

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 87 15 No. 29 Sept. 21, 1908.

1900 fno. 0 5 22.0 − 47 2.8

a = −47	8	0 2 59.7	−47	20.1	+67.1	= 0 4 6.8	+ 9.0	= −47	11.2
b = −46	9	0 5 5.5	−46	55.9	−49.9	= 0 4 5.6	− 15.7	= −47	11.5
c = −46	7	0 3 4.0	−46	26.1		0 4 6.0		−47	11.2

x

c − a = + 4.3

.345

+ 1.5

+0.1 −0.2 0.0 −0.1

$\frac{c_{00} - 46.4}{2}$

	x	y	x	y
a	80.0	10.0	85.0	15.5
b	122.9	58.3	127.9	63.7
η	102.6	27.8	107.6	33.3

	x	x	y	y
η − a	+ 22.6	η − b − 20.5	η − a + 17.8	η − b − 30.5
	+ 22.6	− 20.3	+ 17.8	− 30.4
	+ 22.6	− 20.3	+ 17.8	− 30.45
	+ 22.63	− 20.50	+ 17.98	− 30.75
	÷ .340	÷ .340	+ 8.99	− 15.38
	+ 67.1	+ 60.3		
	✓	✓		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 87 15 No. 30 Sept. 21, 1908.

			1900 pr. 0 5 16.8	−46 58.4
a = −47 8	0 2 59.7	−47 20.1	+ 61.9 = 0 4 1.8	+ 13.2 = −47 6.9
b = −46 9	0 5 5.5	−46 55.9	− 64.5 = 0 4 0.6	− 10.9 = −47 6.8
c = −46 7	0 3 4.0	−46 26.1	0 4 0.8	−47 6.8
	x			
	c − a = + 4.3		+ 0.2 − 0.2	+ 0.1 − 0.0
cos −46.4 / 2	.345			
	+ 1.5			

	x	y	x	y
a	80.0	10.0	85.0	15.5
b	122.9	58.3	127.9	63.7
η	100.8	36.4	105.9	41.9

	x		x		y		y
η − a	+ 20.8	η − b	− 22.1	η − a	+ 26.4	η − b	− 21.9
	+ 20.9		− 22.0		+ 26.4		− 21.8
	+ 20.85		− 22.05		+ 26.4		− 21.85
	+ 21.06		− 22.27		+ 26.66		− 22.07
	÷ .340		÷ .340		+ 13.33		− 11.04
	+ 61.9		− 65.5				
	✓		✓				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8517 No. 31 Dept. 21, 1908

						1900 fwo.	0	5	43.8	−47	37.8
a =	−47	6	0	2	28.2	−47	45.2	+19.0	= 0 4 7.2	−1.0	= −47 46.2
b =	−47	13	0	5	19.2	−47	46.7	−1.6	= 0 4 27.6	+0.6	= −47 46.1
c =	−47	9	0	3	15.2	−47	46.2		0 4 27.4		−47 48.2

c − a = + 47.0

.340

+ 16.0

Coo − 47.1 / 2

− 0.2 + 0.2

0.0 − 0.1

	x	y	x	y
a	80.0	20.0	85.0	25.5
b	132.3	16.9	142.4	22.4
η	120.0	18.0	125.0	23.4

	x		x		y		y	
η − a	+ 40.0	η − b	− 17.3	η − a	− 2.0	η − b	+ 8.9	1.1
	+ 40.0		− 17.4		− 2.1		+ 9.0	1.1
	+ 40.0		− 17.35		− 2.05		+ 8.95	1.1
	+ 40.40		− 17.52		− 2.07		+ 9.04	1.14
	÷ .336		÷ .336		− 1.04		+ 4.52	0.56
	+ 120.2		− 52.1					

✓ ✓

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8517 No. 32 Sept. 21, 1908.

								1900 fno.	23	50	57.5	−48	10.5		
a =	−48	10974	23	47	8.0	−48	17.1	+ 152.6	= 23	49	39.1	− 1.8	= −48	18.9	
b =	−48	10987	23	51	11.3	−48	22.6	− 83.2	= 23	49	38.9	+ 3.7	= −48	18.9	
c =	−47	10064	23	49	50.7	−47	15.9		23	49	39.0		−48	18.9	
					x										
			c − b =		− 70.6				+0.1	−0.1			0.0	0.0	

cos − 47.3 = .339

− 23.9

	x	y	x	y
a	12.3	15.9	17.2	20.2
b	90.0	5.0	95.0	10.3
n	62.6	12.3	67.5	17.4

	x	x	y	y
n − a	+50.3	n − b − 27.4	n − a − 3.6	n − b + 7.3
	+50.3	− 27.5	− 3.8	+ 7.4
	+50.3	− 27.45	− 3.6	+ 7.35
	+50.80	− 27.72	− 3.64	+ 7.42
	÷ .333	÷ .333	− 1.82	+ 3.71
	+ 152.6	− 83.2		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8517 No. 33 Sept. 27, 1908.

									1900	pos.	23	32 59.4	21.2	-48	3.4	
a = -48	10918	23	29 30	31.4 +9	-48	9.4 9.5	+88.9	=	23	30	59.4	-2.2	= -48	11.6 9.7	a	
b = -48	10927	23	33	10.4	-48	16.8	-132.3	=	23	30	59.4	+4.8	= -48	21.6	b	
c = -47	10023	23	32	44.9	-47	19.7			23	30	59.4		-48	11.8	c	
			x													
		c − b =	−26.5						0.0	0.0			−0.2	+0.2		
			.339													
			−9.0													

$\frac{c_{00} - 47.3}{2}$

	x	y	x	y
a	47.1	19.2	52.1	24.1
b	120.0	5.0	125.0	10.0
η	76.4	14.7	81.4	19.7

error in identification of a

x		x		y		y	
η − a	+29.3	η − b	−43.6	η − a	−4.5	η − b	+9.7
	+29.3		−43.6		−4.4		+9.7
	+29.3		−43.6		−4.45		+9.7
	+29.59		−44.04		−4.49		+9.80
	÷ .333		÷ .333		−2.245		+4.90
	+88.9		−132.3				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8715 No. 22 Sept. 22, 1908.

								1900 fno.	23	40	29.9	−45	49.7.	
a =	−45	10467	23	38	9.0	−45	56.4	+61.9	= 23	39	10.3	−1.7	= −45	58.1
b =	−45	10587	23	40	59.5	−46	1.5	−110.7	= 23	39	8.9	+3.4	= −45	58.1
c =	−44	10365	23	38	22.0	−44	50.6		23	39	10.18		−45	58.1
					x									
			c − a =		+ 13.0						+0.2	−0.2	0.0	0.0

$\frac{\text{Cos} - 44.8}{2}$

.355

+ 4.6

	x	y	x	y
a	25.0	40.0	30.0	45.5
b	84.3	29.9	89.3	35.4
η	46.2	36.7	51.3	42.2

	x	x	y	y
η − a	+ 21.2	− 38.1	− 3.3	+ 6.8
η − b	+ 21.3	− 38.0	− 3.3	+ 6.8
	+ 21.25	− 38.05	− 3.3	+ 6.8
	+ 21.46	− 38.43	− 3.33	+ 6.87
	× ÷ .347	÷ .347	− 1.67	+ 3.44
	+ 61.9	− 110.7		

John C. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 851H No. 1. Sept. 23, 1908.

1900 prec. 21 55 30.3 -42 54.8

a =	-43	9565	21	55	49.0	-43	2.9	+69.2	=	21	53	57.1	-43	1.9
b =	-43	9572	21	55	2.7	-43	7.4	-66.7	=	21	53	57.1	-43	2.1
c =	-43	9574	21	55	23.2	-43	49.9			21	53	57.1	-43	2.0
				x										
			c − b =		+20.5					+0.4		−0.4	−0.1	+0.2

$\frac{c_{00} - 43.8}{2}$

.361

+7.4

	x	y	x	y
a	55.9	108.7	60.9	103.9
b	105.0	100.1	110.0	105.5
η	80.9	110.5	85.9	115.9

	x	x	y	y
	η − a	η − b	η − a	η − b
	+25.0	−24.1	+2.0	+10.4
	+25.0	−24.1	+1.9	+10.4
	+25.25	−24.34	+1.92	+10.50
	÷.365	÷.365	+0.96	+5.25
	+69.2	−66.7		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 851H No. 2 Sept. 23, 1908.

									1900 jus.	21	55	23.2	−42	56.1		
a =	−43	9565	21	52	49.0	−43	2.9	+6	1.7	= 21	53	55	0.7	−0.3	= −43	3.2
b =	−43	9572	21	55	2.7	−43	7.4	−7	8.6	= 21	53	49	8	+4.0	= −43	3.4
c =	−43	9574	21	55	23.2	−43	49.9			21	53	50.2			−43	3.3
										+0.5		−0.4			−0.1	+0.1

$\frac{\cos -43.8}{2}$

c − b = + 20.5

.361

+ 7.4

	x	y	x	y
a	55.9	108.7	60.9	113.9
b	105.0	100.1	110.0	105.5
η	78.4	108.1	83.4	113.4

	x	x	y	y
	η − a	η − b	η − a	η − b
	+ 22.5	− 26.6	− 0.6	+ 8.0
	+ 22.5	− 26.6	− 0.5	+ 7.9
	+ 22.5	− 26.6	− 0.55	+ 7.95
	+ 22.73	− 26.87	− 0.56	+ 8.03
	÷ .365	÷ .365	− 0.28	+ 4.02
	+ 62.3	− 73.6		

John C. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 851 L No. 3 Sept. 23, 1908.

						1900 Jno.	22	7	53.6	-43	5.2	
a =	-43	9581	22	5	40.4	-43	31.1	+41.8 =	22	6	22.1 + 18.7 =	-43 12.4
b =	-42	9401	22	6	46.5	-42	56.1	-24.7 =	22	6	21.8 - 16.7 =	-43 12.8
c =	-42	9399	22	5	47.1	-42	50.5		22	6	21.8	-43 12.6
					x							
			c - a =		+ 6.7				0.0		0.0	0.0

$\frac{c_{00} - 42.8}{2}$

·367

+ 2.5

	x	y	x	y
a	50.0	25.0	55.0	30.5
b	74.1	95.1	79.1	100.5
η	65.1	61.9	70.1	66.5

x		x		y		y	
η - a	+ 15.1	η - b	- 9.0	η - a	+ 36.9	η - b	- 33.2
	+ 15.1		- 9.0		+ 36.0		- 33.0
	+ 15.1		- 9.0		+ 36.95		- 33.1
	+ 15.25		- 9.09		+ 37.32		- 33.43
	÷ .365		÷ .365		+ 18.66		- 16.72
	+ 41.8		- 24.9				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8514 No. 4 Sept. 23, 1908.

					1900 prec.	22 4 30.3	− 43	44.6
a = −43	10181	22 2 40.9	− 44	2.6	+ 16.5	= 22 2 57.4	+ 10.5	= − 43 52.1
b = −43	9588	22 3 41.9	− 43	41.6	− 44.2	= 22 2 58.1	− 10.2	= − 43 51.8
c = −44	10183	22 3 46.1	− 44	23.3		22 2 57.8		− 43 52.0
						− 0.4	+ 0.3	+ 0.1 − 0.2

a − b = + 4.2

.357

+ 1.5

Cor − 44.4 / 2

	x	y	x	y
a	83.3	63.5	88.3	69.0
b	105.0	105.0	110.0	110.5
η	89.2	84.6	94.3	90.0

	x	x	y	y
η − a	+ 5.9	η − b − 15.8	η − a + 21.1	η − b − 20.4
	+ 6.0	− 15.7	+ 21.0	− 20.5
	+ 5.95	− 15.75	+ 21.05	− 20.45
	+ 6.01	− 15.91	+ 21.26	− 20.65
	÷ .360	÷ .360	+ 10.63	− 10.33
	+ 16.7	− 44.2		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8514 No. 5 Sept. 23, 1908.

						1900 fno.	22 1	42.9	−43	45.9
a	= −44	10173	21 59	20.6	−44 16.2	+ 49.6 X	= 22 0	10.1 + 2.9 Y	= −43 53.3	a
b	= −43	9585	22 0	59.2	−43 38.9	− 49.6 X	= 22 0	9.1 − 1.3 Y	= −43 53.3	b
c	= −43	9582	22 58	43.2	−43 34.9		22 0	9.9	−43 53.2	c
			x							
			c − a =	−37.4			+0.3	−0.3	+0.1	0.0

c−a − 43.6 / 2

.362

−13.5

	x	y	x	y
a	85.0	20.0	90.0	25.5
b	120.7	94.2	125.7	99.6
η	102.8	65.7	107.9	71.1

	x	x	y	y
η − a	+ 17.8	− 17.9	+ 45.7	
η − b	+ 17.9	− 17.8	+ 45.6	− 28.5
	+ 17.85	− 17.85	+ 45.65	− 28.5
	+ 18.03	− 18.03	+ 46.81	− 28.79
	÷ .360	÷ .360	+ 23.06	− 14.395
	+ 50.1	− 50.1		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8514 No. 6 Sept. 23, 1908.

							1900 fm.	21	54	24.3	−	43	37.3	
a =	− 43	9563	21	52	18.9	− 43	33.0	+ 32.4	=	21	52	51.3	− 11.4	= − 43	44.4	3
b =	− 43	9567	21	53	13.3	− 43	59.3	− 22.6	=	21	52	50.7	+ 15.4	= − 43	44.4	4
c =	− 43	9565	21	52	49.0	− 43	2.9			21	52	50.8		− 43	44.4	
					x											
			c − a =		+ 30.1					+ 0.1		0.0		− 0.1	0.0	

$\frac{c_{00} - 43.0}{2}$ .366

+ 11.0

	x	y	x	y
a	80.0	60.0	85.0	63.4
b	99.6	7.7	104.7	11.0
η	91.5	37.5	96.6	40.9

	x		x		y		y	
η − a	+ 11.5	η − b	− 8.1	η − a	− 22.5	η − b	+ 29.8	
	+ 11.6		− 8.1		− 22.5		+ 29.9	
	+ 11.55		− 8.1		− 22.5		+ 29.85	
	+ 11.67		− 8.18		− 22.73		+ 30.15	
	÷ .361		÷ .361		− 11.37		+ 15.08	
	+ 32.3		− 22.7					

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8514 No. 7. Sept. 23, 1908.

				1900 prs.	21 53 27.0	− 43 47.1	
a =	− 44 10148	21 51 34.5	− 44 6.4	+ 18.8	= 21 51 52.8	+ 12.8 = − 43 54.3	a =
b =	− 43 9563	21 52 18.9	− 43 33.0	− 26.2	= 21 51 52.7	− 21.8 = − 43 54.3	b =
c =	− 43 9561	21 51 39.4	− 43 34.3		21 51 52.8	− 43 54.3	c =
		x					
		c − a = + 4.9			−0.1 +0.2	+0.1 −0.1	

cos − 43.4 / 2

.363

+ 1.8

	x	y	x	y
a	65.0	20.0	70.0	25.5
b	81.0	86.3	86.0	91.9
η	71.6	44.2	76.6	49.7

	x	x	y	y
	η − a + 6.6	η − b − 9.4	η − a + 24.2	η − b − 42.1
	+ 6.6	− 9.4	+ 24.2	− 42.2
	+ 6.6	− 9.4	+ 24.2	− 42.15
	+ 6.67	− 9.49	+ 24.44	− 42.57
	÷ .362	÷ .362	+ 12.22	− 21.29
	+ 18.4	− 26.2		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8514 No. 8 Sept. 23, 1908.

							1900 Jan.	21	49	52.6		− 43	46.3		
a = − 44	10129	21	46	49.5	− 44	13.7	+ 89.5	= 21	48	18.0	+ 20.4	= − 43	53.9		
b = − 43	9554	21	49	28.4	− 43	37.2	− 71.0	= 21	48	18.4	− 16.4	= − 43	53.6		
c = − 43	9548	21	46	49.4	− 43	11.1		21	48	18.2		− 43	53.8		
			x												
		c − a =	− 0.1					0.0	0.0			+ 0.1	0.0		

Cos − 43.2 / 2

.365

− 0.4

	x	y	x	y
a	25.0	35.0	30.0	40.5
b	82.2	107.8	87.2	113.4
η	56.9	75.4	61.9	81.0

x		x		y		y	
η − a	+ 31.9	η − b	− 25.3	η − a	+ 40.4	η − b	− 32.4
	+ 31.9		− 25.3		+ 40.5		− 32.4
	+ 31.9		− 25.3		+ 40.45		− 32.4
	+ 32.22		− 25.55		+ 40.85		− 32.72
	÷ .360		÷ .360		+ 20.43		− 16.36
	+ 89.5		− 71.0				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8514 No. 9 Sept. 23, 1908.

			1900 pos. 21 49 33.6	−43 41.6
a = −44 10123	21 46 15.0	−44 2.1	+105.5 = 21 47 59.4 + 13.4	= −43 48.8
b = −43 9554	21 49 28.4	−43 37.2	−89.9 = 21 47 58.4 −11.4	= −43 48.6
c = −43 9548	21 46 49.4	−43 11.1	21 47 59.4	−43 48.7
	x			
	c − a = +34.4		0.0 0.0	+0.1 −0.1
cos −43.2	.365			
	+12.6			

	x	y	x	y
a	25.0	64.9	30.0	70.4
b	94.9	114.2	99.8	119.7
η	62.7	91.4	67.7	97.1

	x	x	y	y
	η−a +37.7	η−b −32.2	η−a +26.5	η−b −22.8
	+37.7	−32.1	+26.7	−22.6
	+37.7	−32.15	+26.6	−22.7
	+38.08	−32.47	+26.87	−22.93
	÷ .361	÷ .361	+13.44	−11.47
	+105.5	−89.9		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8514 No. 10 Sept. 23, 1908.

									1900 fm.	21	49	13.2		−43	43.4
a	= −44	10123	21	46	15.0	−44	2.1	+	84.9	=	21	47	39.9	+ 11.5	= −43	50.5
b	= −43	9554	21	49	38.4	−43	37.2	−	109.4	=	21	47	38.9	− 13.8	= −43	50.5
c	= −43	9548	21	46	49.4	−43	11.1				21	47	38.9		−43	50.5
				x													
			c − a =	+ 34.4							+ 0.1	0.0			+ 0.1	− 0.1	

$\frac{c_{00} - 43.2}{2}$

36.5

+ 12.6

	x	y	x	y
a	25.0	64.9	30.0	70.4
b	94.9	114.2	99.8	119.7
η	55.3	87.9	60.4	93.5

x		x		y		y	
η − a	+ 30.3	η − b	− 39.6	η − a	+ 23.0	η − b	− 26.3
	+ 30.4		− 39.4		+ 23.1		− 26.2
	+ 30.35		− 39.5		+ 23.055		− 26.25
	+ 30.65		− 39.90		+ 23.28		− 26.51
	÷ .361		÷ .361		+ 11.64		− 13.26
	+ 84.9		− 110.5				
	✓		✓				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

Note - No. 11 is rejected.

A 8514 No. 12 Sept. 23, 1908.

						1900 yrs.	21	41	24.8	- 43	35.1	
a =	- 43	9520	21	38	33.7	- 43	30.6	+ 75.3	= 21	39	48.0	- 11.8 = - 43 42.4 a
b =	- 43	9526	21	41	26.7	- 43	50.3	- 76.4	= 21	39	50.9	+ 0.9 = - 43 41.5 b
c =	- 44	10093	21	38	15.7	- 44	25.9			21	39	50.0 59.9 - 43 47.0 38.4 c

$\frac{c_{00} - 44.4}{2}$

$c - a = -18.0$

.357

-6.4

- 1.8 + 1.9 . + 0.4 - 0.5

error in the b' identification of

	x	y	x	y
a	55.0	95.0	60.0	100.5
b	114.4	40.1	114.4	45.7
η	82.0	71.5	87.0	77.1
	x	x	y	y
η-a	+ 27.0	η-b - 27.4	η-a - 23.5	η-b + 31.4
	+ 27.0	- 27.4	- 23.4	+ 31.4
	+ 27.0	- 27.4	- 23.45	+ 31.4
	+ 27.27	- 27.67	- 23.68	+ 31.71
	÷ .362	÷ .362	- 11.84	+ 15.86
	+ 75.3	- 76.4		

	x	y	x	y
a	55.0	89.9	60.0	95.5
b	116.3	48.7	121.4	54.4
η	82.0	66.4	87.0	72.0
	x	x	y	y
η-a	+ 27.0	η-b - 34.3	η-a - 23.5	η-b + 17.7
	+ 27.0	- 34.4	- 23.5	+ 17.6
	+ 27.0	- 34.35	- 23.5	+ 17.65
	+ 27.27	- 34.69	- 23.74	+ 17.83
	÷ .362	÷ .362	- 11.87	+ 8.92
	+ 75.3	- 95.8		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8514 No. 13 Sept. 23, 1908.

					1900 fm.	21	37	43.9	−43	40.0
a = −43 9508	21	35	40.7	−43	47.9	+ 27.6	= 21	36	8.3 + 1.2	= −43	46.7
b = −43 9512	21	37	14.2	−43	40.7	− 66.7	= 21	36	1.5 − 6.2	= −43	46.8
c = −42 9325	21	37	0.4	−42	51.4			21	36 8.1	−43	46.8
			x								
			c − b = − 13.8				− 0.1	+ 0.2		− 0.1	0.0

$\frac{c_{00} - 42.8}{2}$ .367 − 5.1

	x	y	x	y
a	41.2	65.5	46.2	70.9
b	75.0	80.1	80.0	85.5
η	51.1	67.9	56.1	73.3
	x	x	y	y
	η − a + 9.9	η − b − 23.9	η − a + 2.4	η − b − 12.2
	+ 9.9	− 23.9	+ 2.4	− 12.2
	+ 9.9	− 23.9	+ 2.4	− 12.2
	+ 9.90	− 24.14	+ 2.42	− 12.32
	÷ .362	÷ .362	+ 1.21	− 6.16
	+ 27.6	− 66.7		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8454/5 No. 1455 Sept. 23, 1908.

										1900 prec.	21	54	20.6	−	43	52.3			
a =	− 44	10151	21	52	3.7	− 44	4.4	+ 43.2	=	21	52	46.8	+ 5.2	=	− 43	59.2		a	
b =	− 43	9567	21	53	13.3	− 43	59.3	− 26.8	=	21	52	46.5	+ 0.1	=	− 43	59.4		b	
c =	− 43	9561	21	51	39.4	− 43	24.1			21	52	46.7			− 43	59.3		c	
					x														
			c − a =		− 24.3							− 0.1	+ 0.2		− 0.1	0.0			

$\frac{\text{Cos} - 43.4}{2}$

· 363

− 8.8

	x	y	x	y
a	75.0	25.0	80.0	30.5
b	99.9	35.1	105.0	40.6
η	90.4	35.2	95.4	40.7

	x	x	y	y
η − a	+ 15.4	η − b − 9.5	η − a + 10.2	η − b + 0.1
	+ 15.4	− 9.6	+ 10.2	+ 0.1
	+ 15.4	− 9.55	+ 10.2	+ 0.1
	+ 15.55	− 9.65	+ 10.30	+ 0.1
	÷ .360	÷ .360	+ 5.15	+ 0.1
	+ 43.2	+ 26.8		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8415 No. 14 Sept. 23, 1908.

							1900 fws.	21	58	33.3	− 44 0.4
a =	− 44	10162	21	56	11.4	− 44	6.1 + 48.2 =	21	56	59.6	−1.6 = −44 7.7
b =	− 44	10164	21	57	40.1	− 44	7.8 − 40.2 =	21	56	59.9	+0.3 = −44 7.5
c =	− 43	9578	21	56	37.2	− 43	19.6	21	56	59.8	− 44 7.6

x

c − a = + 25.8

−02 +01 +01 −01

c00 − 43.3 / 2

.364

+ 9.4

	x	y	x	y
a	80.0	15.0	85.0	22.6
b	111.4	11.3	116.5	17.9
η	97.2	11.9	102.1	18.4

x		x		y		y	
η−a	+ 17.2	η−b	− 14.2	η−a	− 3.1	η−b	+ 0.6
	+ 17.1		− 14.4		− 3.2		+ 0.5
	+ 17.15		− 14.3		− 3.15		+ 0.55
	+ 17.32		− 14.44		− 3.18		+ 0.55
	÷ .359		÷ .359		− 1.59		+ 0.28
	+ 48.2		− 40.2				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8415 No. 16 Sept. 23, 1908.

				1900 fm.	22 0 15.2	-44 19.5
a = -44 10169	21 58 19.6	-44 34.2	+23.8	= 21 58 43.4	+7.2	= -44 26.7
b = -44 10172	21 59 18.6	-44 20.4	-38.3	= 21 58 40.7	-6.2	= -44 26.6
c = -43 9582	21 58 43.2	-43 34.9		21 58 42.8		-44 26.8
	x					
	c − a = +23.6			+1.2 −1.3		+0.2 −0.2

$\frac{c_{00} - 43.6}{2}$

.362

+12.2

	x	y	x	y
a	20.0	20.0	30.0	25.5
b	42.0	46.9	51.9	52.5
η	38.4	34.4	38.4	39.9
	x	x	y	y
	η − a +8.4	η − b −13.6	η − a +14.4	η − b −12.5
	+8.4	−13.5	+14.4	−12.6
	+8.4	−13.55	+14.4	−12.55
	+8.48	−13.69	+14.54	−12.68
	÷.357	÷.357	+7.27	−6.34
	+23.8	−38.3		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1900phae.proj.2296B

A 8415 No. 17 Sept. 24, 1908.

										1900 prs.	21	53	5.0	−	44	20.7		
a = −44	10144	21	50	20.0	− 44	23.1	+ 71.4			=	21	51	31.3	−	4.6	= −44	27.7		
b = −44	10155	21	53	18.2	− 44	36.9	− 108.7			=	21	51	30.4	+	9.0	= −44	27.9		
c = −43	9567	21	53	13.3	− 43	59.3					21	51	30.5			− 44	27.8		
				x															
				c − b = −4.9									+0.1	−0.1			−0.1	+0.1	
Cos −44.0 / 2				.360															
				− 1.8															

	x	y	x	y
a	46.3	37.7	51.3	42.8
b	110.0	1.3	115.0	15.5
η	71.5	28.4	76.5	33.6

	x	x	y	y
η − a	+ 25.2	η − b − 38.5	η − a − 9.3	η − b + 18.1
	+ 25.2	− 38.5	− 9.2	+ 18.1
	+ 25.45	− 38.89	− 9.34	+ 18.28
	÷ .357	÷ .357	− 4.67	+ 9.14
	+ 71.3	− 108.9		
	✓	✓		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8514 No. 18 Sept. 24, 1908.

						1900 fro:	21	49	17.4	− 44	20.3	
a = −44	10126	21	46	30.5	−44	44.8	+73.8 =	21	47	44.3	+17.8 =	−44	27.3	a
b = −44	10139	21	49	14.0	−44	5.8	−83.2 =	21	47	40.8	−22.9 =	−44	27.8	b
c = −44	10138	21	49	4.5	−44	54.3		21	47	42.6		−44	27.5	c
			x											
		c − b =		− 9.5				+ 1.9		−1.0		−0.1	+0.2	

$\frac{c_{00} - 44.9}{2}$

.354

− 3.4

	x	y	x	y
a	54.5	25.7	59.5	31.8
b	110.0	104.4	115.0	110.5
η	80.6	60.8	85.6	66.9

	x	x	y	y
η − a	+26.1	η − b − 29.4	η − a +35.1	η − b − 43.6
	+26.1	−29.4	+35.1	−43.6
	+26.1	−29.4	+35.1	−43.6
	+26.36	−29.69	+35.45	−44.04
	÷ .357	÷ .357	+17.73	−22.02
	+73.8	−83.2		
	✓	✓		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1900phae.proj.22968

A 8514 No. 19. Sept. 24, 1908.

												1900 prn.	21	56	48.4	−	44	38.8	
a =	−44	10157	21	53	39.2	−44	52.2	+95.7	=	21	55	14.9	+6.2	=	−44	45.9			
b =	−44	10161	21	55	57.4	−44	39.1	−43.5	=	21	55	13.9	−6.8	=	−44	46.6			
c =	−43	9574	21	55	23.2	−43	49.9			21	55	14.4			−44	46.0			
				x									−0.2	+0.2			0.0	−0.1	

$\frac{c_{00} - 43.8}{2}$

c − b = − 34.2

.361

− 12.3

	x	y	x.	y
a	11.0	23.8	16.1	29.3
b	60.0	50.0	65.0	55.5
η	44.7	36.3	49.7	41.9

	x	x	y	y
η − a	+ 33.7		+ 12.5	
η − b		− 15.8		− 13.7
	+ 33.6	− 15.3	+ 12.6	− 13.6
	+ 33.65	− 15.3	+ 12.55	− 13.65
	+ 33.99	− 15.45	+ 12.68	− 13.79
	÷ .355	÷ .355	+ 6.34	− 6.895
	+ 95.7	− 43.5		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8514 No. 30 Sept. 24, 1908.

						1900 pos.	21	51	22.8	−	44	39.7			
a	= −44	10138	21	49	4.5	−44	54.3	+43.6	= 21	49	48.1	+7.4	= −44	46.9	a
b	= −44	10145	21	50	45.5	−44	39.3	−57.7	= 21	49	47.8	−7.3	= −44	46.4	b
c	= −44	10139	21	49	14.0	−44	5.8			21	49	48.0	−	44	46.8	c
					x										
			c − a = + 9.5						−0.3		+0.4		+0.2	−0.3	

$\frac{\text{cos} - 44.1}{2}$

.359

+3.4

	x	y	x	y
a	20.0	10.0	25.0	15.4
b	55.6	39.1	60.7	44.7
η	35.3	24.7	40.4	30.1

	dx		dx		dy		dy	
η − a	+15.3	η − b	−20.3	η − a	+14.7	η − b	−14.4	
	+15.4		−20.3		+14.7		−14.6	
	+15.35		−20.3		+14.7		−14.5	
	+15.50		−20.50		+14.85		−14.65	
	÷.355		÷.355		+7.43		−7.33	
	+43.6		−57.7					
	✓		✓					

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8414 No. 21(?) Sept. 28, 1908.

						1900 jun.	21	54	26.9	− 44	58.1
a =	− 45	10251	21	52	15.2	− 45	14.9	+ 36.9	= 21	52	51.7 + 9.8 = − 45	5.2
b =	− 44	10157	21	53	39.2	− 44	52.2	+ 46.8	= 21	57	53.1 − 13.0 = − 45	5.2
c =	− 44	10151	21	52	3.7	− 44	4.4		21	52	52.4	− 45	5.2
					x								
			c − a =		− 11.5				− 0.7		+ 0.7		0.0 0.0

$\frac{C_{00} - 44.1}{2}$

.359

− 4.1

	x	y	x	y
a	15.0	14.4	20.0	20.4
b	44.3	59.6	49.8	65.6
η	28.0	33.1	32.9	39.8

	x	x	y	y
η − a	+ 13.0	η − b − 16.3	η − a + 19.3	η − b − 25.9
	+ 12.9	− 16.4	+ 19.4	− 25.8
	+ 12.95	− 16.35	+ 19.35	− 25.85
	+ 13.08	− 16.51	+ 19.54	− 26.11
	÷ .354	÷ .354	+ 9.77	− 13.06
	+ 36.9 ✓	− 46.6 ✓		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8514 No. 22 Sept. 28, 1908.

				1900 prs.	21 50 30.3		- 45 18.4	
a = - 45 10239	21 48 55.2	- 45 15.2	+ 50.1	=	21 48 55.1	- 10.5	= - 45 25.7	a
b — 45 10243	21 49 53.2	- 45 38.7	- 58.1	=	21 48 55.1	+ 13.4	= - 45 25.3	b
c — 44 10444	21 50 20.0	- 44 23.1			21 48 55.8		- 45 25.5	c
	x							
	ς - b = + 26.8				- 0.4 + 0.4		+ 0.1 - 0.1	

c00 − 44.4 / 2

.357

+ 9.6

	x	y	x	y
a	12.4	62.6	17.3	68.7
b	50.0	15.4	55.0	21.4
η	29.8	41.9	34.8	47.9

	x	x	y	y
η - a	+ 17.4	η - b - 20.2	η - a - 20.7	η - b + 26.5
	+ 17.5	- 20.2	- 20.8	+ 26.4
	+ 17.45	- 20.2	- 20.75	+ 26.45
	+ 17.62	- 20.40	- 20.96	+ 26.71
	÷ .351	÷ .351	- 10.48	+ 13.36
	+ 50.2	- 58.1		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8514 No. 23. Sept. 28, 1908.

									1900 Sys.	21	50	16.1	− 45	28.3					
a	− 45	10239	21	48	5.2	− 45	15.2	+ 38.7 X	=	21	48	41.3 0.9	− 20.4 2	= − 45	35.6 4				
b	− 46	10320	21	49	20.9	− 46	0.5	− 44.7 0.7 X	=	21	48	39.8 40.2	+ 25.3 1	= − 45	35.4 4				
c	− 45	10238	21	47	54.7	− 45	50.2					21	48	40.6				− 45	35.4
					x														
					c − a = − 10.5							+ 0.3	− 0.4					0.0	0.0

$\frac{c_{00} - 45.8}{2}$

.349

− 3.7

	x	y	x	y
a	80.0	185.0	85.0	110.5
b	106.8	x14.6	111.7	20.1
η	92.5	64.6	97.5	70.0
	x	x	y	y
	η − a + 12.5	η − b − 14.3	η − a − 40.4	η − b + 50.0
	+ 12.5	− 14.2	− 40.5	+ 50.1
	+ 12.5	− 14.25	− 40.45	+ 50.05
	+ 12.63	− 14.39	− 40.85	+ 50.55
	÷ 350	÷ 350	− 30.43	+ 25.28
	+ 36.1	− 41.1		
	✓	✓		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8511 No. 24 Sept. 28, 1908.

Object is very faint and near edge of plate.

1900 prs. 21 36 2.2 − 45 14.6

a =	−45	10183	21 34	28.1	−45	1.0	−2.6	= 21 34 25.5 − 20.7	= −45 21.4
b =	−45	10184	21 34	42.4	−45	37.1	−17.8	= 21 34 25.4 + 15.7	= −45 21.4
c =	−44	10076	21 35	18.4	−44	32.4		21 34 ~~39.9~~ 25.4	−45 21.4 21.5

c − b = +36.0 +0.1 −0.1 +0.1 0.0 00 −01

$\frac{C_{00} - 44.5}{2}$

.357

+12.9

	x	y	x	y
a	24.9	87.8	~~29.8~~ 35.0	~~9 x 3~~ 29.8
b	30.0	15.5	35.0	20.0
η	24.0	46.9	28.9	51.4

x		x		y		y	
η − a	−0.9	η − b	−6.0	η − a	−40.9	η − b	+31.4
	−0.9		−6.1		−40.9		+31.4
	−0.9		−6.05		−40.9		+31.4
	−0.91		−6.11		−41.31		+31.71
	÷ .352		÷ .352		−20.66		+15.86
	−2.6		+17.3				

In checking the above comp. I find the error was made in adding instead of subtracting the reduction of star a − 2.6 − R.C.W. 1/14/10.

For remeas. of this net see B1.6 pg. 58.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8514 No. 34a Sept. 28. 1908.

							1900	hrs.	21	486.9	42.4	−45	52.7
a =	−46	10225	21	44	51.7	−45	54.8	+136.7	= 21	47	8.4	−5.2	= −45	59.9
b =	−46	10320	21	49	20.9	−46	0.5	−136.5	= 21	47	4.4	+0.7	= −45	59.8
c =	−45	10239	21	48	5.2	−45	15.2			21	47.	6.4	−45	59.98

x

c − b = −75.7

.352

−26.6

Coo − 45.2 / 2

+0.5 −0.6 +0.1 −0.0

	x	y	x	y
a	41.2	32.2	46.1	37.2
b	135.0	20.5	140.0	25.5
η	88.1	21.9	93.1	26.9

x	x	y	y
η − a	+ 46.9	η − b	− 46.9	η − a	− 10.3	η − b	+ 1.4
	+ 47.0		− 46.9		− 10.3		+ 1.4
	+ 46.95		− 46.9		− 10.3		+ 1.4
	+ 47.42		− 47.37		− 10.40		+ 1.41
	÷ .347		÷ .347		− 5.2		+ 0.71
	+ 136.7		− 136.5				

✓ ✓

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8514 No. 25 Sept. 29. 1908.

1900 fm. 22 9 38.6 −46 20.5

a = −45 10272	22 6 8.5	−45 57.8	+ 117.4	22 8 5.9	− 30.5	= −46 28.8
b = −46 10381	22 10 22.8	−46 54.6	− 137.3	22 8 5.5	+ 27.8	= −46 27.5
c = −47 9837	22 6 16.2	−47 5.3		22 8 5.7		−46 27.9
	x					
	c − a = + 7.7			− 1.1 + 1.1		+0.1 −0.1

cos −47.1 / 2

· 340

+ 2.6

	x	y	x	y
a	35.0	150.0	40.0	155.5
b	122.0	36.1	127.0	41.5
η	75.1	89.7	80.1	95.1

	x	x	y	y
η − a	+ 40.1 η − b	− 46.9 η − a	− 60.3 η − b	+ 53.6
	+ 40.1	− 46.9	− 60.4	+ 53.6
	+ 40.1	− 46.9	− 60.35	+ 53.6
	+ 40.50	− 47.37	− 60.95	+ 54.14
	÷ .345	÷ .345	− 30.48	+ 27.07
	+ 117.4	− 137.3		
	✓	✓		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8514 No. 26 Sept. 29, 1908.

1900 pos. 22 9 28.3 − 46 20.7

a = −45 10272	22 6 8.5	−45 57.8	+106.2 = 22 7 54.7 − 30.7 = −46 28.5	
b = −46 10381	22 10 22.8	−46 54.6	−148.4 = 22 7 54.7 + 26.9 = −46 27.7	
c = −47 9837	22 6 16.2	−47 5.3	22 7 54.7	−46 28.1

c − a = + 7.7 −1.1 +1.1 +0.1 −0.1

cos −47.1 / 2 .340

+ 2.6

	x	y	x	y
a	35.0	150.0	40.0	155.5
b	122.0	36.1	127.0	41.5
η	71.3	89.3	76.3	94.7

x	x	y	y
η−a + 36.3	η−b − 50.7	η−a − 60.7	η−b + 53.2
+ 36.3	− 50.7	− 60.8	+ 53.2
+ 36.3	− 50.7	− 60.75	+ 53.2
+ 36.66	− 51.21	− 61.36	+ 53.73
÷ .345	÷ 345	− 30.68	+ 26.87
+ 106.3	− 148.4		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8514 No. 27 Sept. 29, 1908.

					1900 prs.	22 7 53.0	-46 18.3		
a = -45 10272	22 6 8.5	-45 57.8	+10.6	=	22 6 19.1	-28.2	= -46 25.2		a
b = -47 9837	22 6 16.2	-47 5.3	+3.1	=	22 6 19.3	+40.4	= -46 25.3		b
c = -45 10271	22 5 26.0	-45 55.2			22 6 19.2		-46 25.8		c
	x								
	c - a = -50.2				-0.2	+0.3	0.0	0.0	
Cor -45.9 / 2	.348								
	-17.5								

	x	y	x	y
a	37.4	150.0	42.5	155.6
b	40.0	15.0	45.0	20.5
η	41.0	94.2	46.1	99.9

	x	x	y	y
η-a	+3.6	η-b +1.0	η-a -55.8	η-b +79.2
	+3.6	+1.1	-55.7	+79.4
	+3.6	+1.05	-55.75	+79.3
	+3.6	+1.06	-56.31	+80.09
	÷ .344	÷ .344	-28.16	+40.045
	+10.6	+3.1		
	✓	✓		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 851L No. 28 Sept. 28, 1908.

								1900 jus.	22	7	30.1	− 46	23.2	
a =	− 45	10272	22	6	8.5	− 45	57.8	− 12.4	= 22	6	56.2	− 35.1	= − 46	30.7
b =	− 47	9837	22	6	16.2	− 45	5.3	− 19.9	= 22	5	56.3	+ 35.1	= − 46	30.7
c =	− 45	10271	22	5	26.0	− 45	55.2			22	5	56.2		− 46	30.6
					x									
			c − b =		− 50.2					− 0.2		+ 0.2		0.0	0.0

$\frac{\cos -45.9}{2}$ · 348 = − 17.5

	x	y	x	y
a	37.4	150.0	42.5	155.6
b	40.0	15.0	45.0	20.5
η	33.2	84.5	38.2	90.1

	x	x	y	y
η − a	− 4.2	η − b − 6.8	η − a − 65.5	η − b + 69.5
	− 4.3	− 6.8	− 65.5	+ 69.6
	− 4.25	− 6.8	− 65.5	+ 69.55
	− 4.29	− 6.87	− 66.16	+ 70.25
	÷ .344	÷ .344	− 33.08	+ 35.13
	− 12.4	− 19.9		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A851d No. 29 Sept. 29, 1908

								1900 prec.	22	7	9.4	-46	30.6
a	-45	10272	22	6	8.5	-45	57.8	-32.4	22	5	35.6	-40.3	-46 38.1
b	-47	9834	22	4	58.2	-47	7.9	+36.9	22	5	35.1	+29.9	-46 38.0
c	-47	9837	22	6	16.2	-47	5.3		22	5	35.6		-46 38.0

a			x								a
b											b
c											c

$\frac{c_{00} - 47.1}{2}$

c − a = +7.7

.340

+2.6

+0.5 −0.5 +0.1 0.0

	x	y	x	y
a	70.0	150.0	75.0	155.5
b	45.1	9.6	51.2	15.2
η	58.8	69.4	63.9	74.9

x		x		y		y	
η−a	−11.2	η−b	+12.7	η−a	−80.6	η−b	+59.8
	−11.1		+12.7		−80.6		+59.7
	−11.15		+12.7		−80.6		+59.75
	−11.26		+12.83		−81.41		+60.35
	÷.344		÷.344		−40.71		+30.18
	−32.7		+37.3				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8514 No. ~~24~~ 80 Sept. 29, 1908.

						1900 fm.	22	4	43.6	− 46	34.2
a =	− 46	10361	22	1	51.8	− 46	15.9	+ 7[8.5]3. =	22	3	1[0.3]X. X − 25.[6]9 =	− 46	41.[5]8
b =	− 47	9834	22	4	58.2	− 47	7.9	− 1[09.6]0. 7 =	22	3	[8.6]X. 5 + 26.[3]6 =	− 46	41.[6]3
c =	− 46	10366	22	3	46.8	− 46	4.5		22	3	9.[4]3	− 46	41.6
					x								
					c − b = − 71.4						+0.9 −0.8		−0.1 0.0

$\frac{c_{00} - 46.1}{2}$

·347

− 24.8

	x	y	x	y
a	35.4	118.8	40.5	124.4
b	100.0	14.9	105.0	20.5
η	62.4	62.5	67.4	73.1
	x	x	y	y
η − a	+ 27.0	η − b − 37.6	η − a − 51.3	η − b + 52.6
	+ 26.9	− 37.6	− 51.3	+ 52.6
	+ 26.95	− 37.6	− 51.3	+ 52.6
	+ 27.22	− 37.98	− 51.81	+ 53.13
	÷ .343	÷ .343	− 25.91	+ 26.57
	+ 79.3	− 110.7		
	✓	✓		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

98

A 8514 No. 31 Sept. 29, 1908.

1900 fm. 22 0 32.9 −46 40.1

a =	−46	10348	21 55 41.4	−46	43.7	+ 198.6	= 21 59 (8) 58.0	− 3.3	= −46	47.0
b =	−46	10363	22 2 54.5 (44.8)	−46	51.5	− 228.3 (60)	= 21 59 (8) 56.5 (88)	+ 3.8	= −46	47.7
c =	−46	10361	22 1 51.8	−46	15.9		21 58 58.8 (43)		−46	47.4

x

c − b = − 59.7 (3.0)

.345

18.7

− 20.6

cos −46.3 / 2

				− 0.4	+ 0.4			− 0.4	+ 0.3	

	x	y	x	y
a	10.4	36.0 (8.8)	15.5	44.7
b	155.0	24.8	160.0	30.4
η	77.7	32.3	82.7	38.0

	x	x	y	y
η − a	+ 67.3	η − b − 87.3 (7)	η − a − 6.5	η − b + 7.5
	+ 67.2	− 77.3	− 6.7	+ 7.6
	+ 67.25	− 77.3	− 6.6	+ 7.55
	+ 67.92	− 78.07	− 6.67	+ 7.63
	÷ .342	÷ .342	− 3.34	+ 3.82
	+ 198.6	− 228.3		
	✓	✓		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8514 No. 32 Sept. 29, 1908.

						1900 fm.	21	44	43.1	− 46	44.6
a =	− 46	10299	21	42	9.4	− 46	42.0	+ 57.3	= 21	43 6.7	− 9.5 = − 46	51.5
b =	− 46	10308	21	44	49.4	− 46	58.9	− 10.9	= 21	43 5.4	+ 7.2 = − 46	51.6
c =	− 45	10295	21	44	51.7	− 45	54.8			21 43 6.6		− 46 51.6
				x								
			c − b =		+ 2.3				− 0.2	+ 0.2	− 0.2	+ 0.1

Cos − 45.9 / 2

.348

+0.8 x

	x	y	x	y
a	10.4	53.8	15.4	25.0
b	65.0	20.5	70.0	25.0
η	29.8	35.0	34.8	39.5
	x	x	y	y
η − a	+ 19.4	η − b − 35.2	η − a − 18.8	η − b + 14.5
	+ 19.4	− 35.2	− 18.8	+ 14.5
	+ 19.49	− 35.55	− 18.99	+ 14.65
	÷ .342	÷ .342	− 9.495	+ 7.33
	+ 57.3	− 104.0		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

100

A 8514 No. 33 (?) Sept. 29/30, 1908

						1900 prec.	21	44	5.0	-46	46.8
a =	-46	10295	21	41	5.4	-46	45.5	+83.0	= 21	42	38.4 − 8.4	= -46	53.8
b =	-47	9773	21	43	53.2	-47	8.3	85.6	= 21	42	29.6 + 14.6	= -46	53.7
c =	-45	10301	21	42	43.9	-46	21.2			21	42	28.0		-46	53.8

$c - b = -69.3$

$\frac{c - b}{2} = -23.9$

$\frac{-46.3}{2}$ .345

	x	y	x	y
a	12.9	76.1	17.9	80.7
b	70.0	30.5	75.0	35.0
η	41.0	59.5	46.0	64.0

x	x	y	y
$\eta - a$ +28.1	$\eta - b$ −29.0	$\eta - a$ −16.6	$\eta - b$ +29.0
+28.1	−29.0	−16.7	+29.0
+28.1	−29.0	−16.65	+29.0
+28.38	−29.29	−16.82	+29.29
÷.342	÷.342	−8.41	+14.645
+83.0	−85.6		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8514 No. 34 Sept. 29 1908.

							1900 fro.	21	43	59.7	−47 3.8
a =	−47 9766	21 41 42.2	−47	11.3	+ 40.2	=	21	42	22.4	+ 0.6	= −47 1.9
b =	−47 9773	21 43 53.2	−47	8.3	− 91.8	=	21	42	21.4	− 2.4	= −47 10.7
c =	−46 10297	21 41 49.9	−46	34.2			21	42	21.9		−47 10.7
		x									

			−0.2	+0.1	0.0 0.0

$\frac{c_{00} - 46.6}{2}$ $\quad c - a = +7.7$

.344

+2.6

	x	y	x	y
a	20.0	20.0	25.0	25.5
b	64.4	25.8	69.5	31.3
η	33.6	21.1	38.5	26.6

	x	x	y	y
η-a	+13.6	η-b −30.8	η-a +1.1	η-b −4.7
	+13.5	−31.0	+1.1	−4.7
	+13.55	−30.9	+1.1	−4.7
	+13.68	−31.21	+1.11	−4.75
	÷ .340	÷ .340	+0.56	−2.38
	+40.2	−91.8		
	✓	✓		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 851 H No. 35 Sept. 29, 1908.

								1900 pro.	21	39	48.4	-46	58.5	
a =	-47	9752	21	37	34.0	-47	13.8	+36.8 =	21	38	10.8	+8.7 =	-46	58.5
b =	-46	10288	21	38	48.2	-46	57.9	-37.7 =	21	38	10.5	+7.6 =	-47	5.5
c =	-46	10282	21	37	36.4	-46	12.2		21	38	10.7		-47	5.3
				x										
			c − a =	-7.6					-0.2	+0.3		-0.1	+0.1	

$\frac{c_{00} - 46.2}{2}$

.346

-2.6

	x	y	x	y
a	60.0	20.0	65.0	25.5
b	85.1	52.3	90.1	57.7
η	72.4	37.2	77.4	42.7

	x	x	y	y
η − a	+12.4	η − b −12.7	η − a +17.2	η − b −15.1
	+12.4	−12.7	+17.2	−15.0
	+12.4	−12.7	+17.2	−15.05
	+12.52	−12.83	+17.37	−15.20
	÷.340	÷.340	+8.69	−7.60
	+36.8	−37.7		
	✓	✓		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1900phae.proj.2296B

Note - no. 36 is rejected

A 851 L No. 37/36 Sept. 30, 1908.

								1900 fm.	22	6	14.3	−47	42.9
a =	−48	10719	22	3	10.4	−48	3.1	+90.5 (89.6)	= 22	4	40.9	+13.9 (2.9)	= −47	50.2
b =	−47	9839	22	6	38.2	−47	19.1	−119.9 (8.7)	= 22	4	38.3	−21.1 (0.9)	= −47	50.2
c =	−46	10363	22	2	44.8	−46	51.5				39.6		−47	50.2

x

@ − a = − 25.6

342

− 8.8

+0.2 −0.3 +0.1 −0.1

@ − a / 2

	x	y	x	y
a	20.0	5.0	25.0	10.4
b	90.0	72.5	95.0	77.8
η	50.1	30.7	55.1	36.1

x	x	y	y
η − a + 30.1	η − b − 39.9	η − a + 25.7	η − b − 41.8
+ 30.1	− 39.9	+ 25.7	− 41.8
+ 30.1	− 39.9	+ 25.7	− 41.8
+ 30.40	− 40.30	+ 25.96	− 42.22
÷ .336	÷ .336	+ 12.98	− 21.11
+ 90.5	− 119.9		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8514 No. 38 Sept. 30, 1908

						1900 fm.	22	3	8.2	−47 35.3
a = −47 9830	22	0	20.0	−47	33.7	+73.2	= 22	1	33.2	−8.9 = −47 42.6
b = −48 10719	22	3	10.4	−48	3.1	−98.0	= 22	1	32.4	+20.6 = −47 42.5
c = −46 10363	22	2	44.8	−46	51.5			22	1 32.8	−47 42.6

x

c − b = −35.6

−0.5 +0.4 −0.1 +0.1

Cos −46.8

.342

−8.8

	x	y	x	y
a	23.1	63.8	28.0	68.3
b	80.0	5.5	85.0	10.0
η	47.4	46.2	52.4	50.7

	x	x	y	y
η − a	+ 24.3		− 17.6	
η − b		− 32.6		+ 40.7
	+ 24.4	− 32.6	− 17.6	+ 40.7
	+ 24.35	− 32.6	− 17.6	+ 40.7
	+ 24.59	− 32.93	− 17.78	+ 41.11
	÷ .336	÷ .336	− 8.89	+ 20.56
	+ 73.2	− 98.0		
	✓	✓		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 851L No. 39 Sept. 30, 1908.

								1907 Jun.	22	2	59.2	−47	39.1
a =	−47	9830	22	0	20.0	−47	33.7	+63.6 x	= 22	1	24.8 x	−12.7 y	= −47	46.4
b =	−48	10719	22	3	10.4	−48	3.1	−98.3 x	= 22	1	23.4	+16.5 y	= −47	46.4
c =	−46	10363	22	2	44.8	−46	51.5			22	1 23.8		−47	46.4

x

c − b = −25.6

c₀ = −46.8 / 2

342

−8.8

−0.4 +0.5 −0.1 +0.2

	x	y	x	y
a	23.1	63.8	28.0	68.3
b	80.0	5.5	85.0	10.0
η	44.4	38.6	49.4	43.2

	x	x	y	y
η − a	+ 21.3 η − b	− 35.6 η − a	− 25.2 η − b	+ 33.1
	+ 21.4	− 35.6	− 25.1	+ 33.2
	+ 21.35	− 35.6	− 25.15	+ 33.15
	+ 21.56	− 35.96	− 25.40	+ 33.48
	÷ .336	÷ .336	− 12.70	+ 16.74
	+ 64.2 x	− 98.3 (107.0)		
	✓	✓		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 1 October 2, 1908.

1900 pos. 10 56 58.8 +2 18.5

a = +2	2377	10 54 21.9	+2 56.1	+ 18.6	= 10 54 40.5	− 23.4 = +2 32.7
b = +2	2379	10 55 19.2	+2 1.9	− 39.6	= 10 54 39.8	+ 31.2 = +2 33.7
c = +2	2376	10 53 54.3	+2 5.0		10 54 40.0	+2 33.0

+0.1 −0.2 0.0 0.0

c − a = − 27.6

c₀₀ + 2.1 / 2

500

− 13.8

	x	y	x	y
a	40.0	145.4	45.0	160.6
b	68.8	37.1	73.8	52.3
η	49.7	91.3	54.2	114.2

	x	x	y	y
η − a	+ 9.2	η − b − 19.6	η − a −46.3	η − b + 62.0
	+ 9.2	− 19.6	− 46.4	+ 61.9
	+ 9.2	− 19.6	− 46.35	+ 61.95
	+ 9.29	− 19.80	− 46.81	+ 62.57
	÷ .500	÷ .500	− 23.41	+ 31.29
	+ 18.6	− 39.6		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 2 October 2, 1908.

							1900 pos.	10	54	52.7	+ 2	19.0		
a = + 2	2374	10	51	31.0	+ 2	58.7	+ 63.8	= 10	52	34.8	− 25.1	= + 2	33.8	
b = + 2	2376	10	53	54.3	+ 2	5.0	− 81.1	= 10	52	33.2	+ 28.2	= + 2	33.2	
c = + 2	2375	10	53	8.2	+ 2	49.1			10	52	34.0		+ 2	33.4

x

c − b = − 46.1

$\frac{c_{00}+2.8}{2}$

499

− 23.0

+0.1 −0.1 +0.4 −0.5

	x	y	x	y
a	13.3	122.2	18.2	130.7
b	95.0	16.5	90.0	25.1
η	44.9	72.4	49.8	81.0

x		x		y		y	
η − a	+ 31.6	η − b	− 40.1	η − a	− 49.8	η − b	+ 55.9
	+ 31.6		− 40.2		− 49.7		+ 55.9
	+ 31.6		− 40.15		− 49.75		+ 55.9
	+ 31.92		− 40.55		− 50.25		+ 56.46
	÷ .500		÷ .500		− 25.13		+ 28.23
	+ 63.8		− 81.1				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

For new meas. this net. see Book 10 page 185—

A 8326 No. 3 October 2, 1908.

				1900 pos.	10 54 11.0	+2 8.2		
a	+2 2372	10 49 58.2	+2	34.3 + 115.7	= 10 51 53.9	− 10.6	= +2 23.7	a
b	+2 2376	10 53 54.3	+2	5.0 − 122.3	= 10 51 52.9	+ 17.1	= +2 22.1	b
c	+2 2375	10 53 8.2	+2	49.1	10 51 53.0		+2 22.9	c
		x		mean pos.	10 51 53.0		+2 22.6	
		c − b = −46.1			−0.3 +0.2		+1.0 −0.9	
		.499			(+0.7 +1.2)		(+1.2 −0.7)	
		−23.0						

c∞ +2.8 / 2

	x	y	x	y
a	32.2	75.4	37.1	80.0
b	150.0	20.5	155.0	35.1
η	89.5	54.5	94.4	59.0

	x	x	y	y
η − a	+57.3	− 60.5	− 20.9	+ 34.0
η − b	+57.3	− 60.6	− 21.0	+ 33.9
	+57.3	− 60.55	− 20.95	+ 33.95
	+57.87	− 60.16	− 21.16	+ 34.29
	÷ .500	÷ .500	− 10.58	+ 17.15
	+115.7	− 122.3		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 4 October 2, 1908.

						1900 pos.	10	54	1.0		+ 2	21.7		
a = + 2 2872	10	49	58.2	+ 2	34.3	+ 10 43	= 10	51	42.5	+ 1.9	= + 2	36.2		
b = + 2 2375	10	53	8.2	+ 2	49.1	− 88.7	= 10	51	59.5	− 13.2	= + 2	35.9		
c = + 1 2506	10	52	20.0	+ 2	51.1		10	51	42.0		+ 2	36.1		
			x											
	c − b = − 48.2								−0.5	+0.4		+0.1	−0.1	
			.500											
cos +1.8 / x	− 24.1													

	x	y	x	y
a	39.7	90.7	44.6	95.8
b	135.0	120.6	140.0	125.7
η	92.2	94.4	97.1	99.6

x	x	y	y
η − a + 52.5	η − b − 42.8	η − a + 3.7	η − b − 26.2
+ 52.5	− 42.9	+ 3.8	− 26.1
+ 52.5	− 42.85	+ 3.75	− 26.15
+ 52.03	− 43.28	+ 3.79	− 26.41
÷ .499	÷ .499	+ 1.895	− 13.21
+ 104 3	− 88.7		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8326 No. 5 October 2, 1908.

					1900 pos.	10 53 57.0	+2 26.0		
a	+2 2372	10 49 58.2	+2	34.3	+10′.3	= 10 51 38.5	+6.2	= +2 40.5	a
b	+2 2375	10 53 8.2	+2	49.1	−9′.7	= 10 51 38.5	−8.9	= +2 40.2	b
c	+1 2506	10 52 20.0	+1	51.1		10 51 38.5		+2 40.4	c

x

c − b = −48.2

+0.5 −0.6 · 0.0 −0.1

Coo +1.8 / 2

500

−24.1

	x	y	x	y
a	39.7	90.7	44.6	95.8
b	135.0	120.6	140.0	135.7
η	89.7	103.0	94.7	108.1

	x	x	y	y
η − a	+50.0	η − b −45.3	η − a +12.3	η − b −17.6
	+50.1	−45.3	+12.3	−17.6
	+50.05	−45.3	+12.3	−17.6
	+50.55	−45.75	+12.42	−17.78
	÷ .499	÷ .499	+ 6.21	− 8.89
	+101.3	− 91.7		
	✓	✓		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1900phae.proj.2296B

For new meas. this neb. see Bk. 10. page 186.

A 8326 No. 6 October 3, 1908.

						1900 pos.	10	53	41.9	+ 2	11.3
a =	+ 2	23	72	10	49	58.2	+ 2	34.3	+ 86.4	= 10 51 23.6	− 7.6 = + 2 26.7
b =	+ 2	23	76	10	53	54.3	+ 2	5.0	− 151.8	= 10 51 23.5	+ 70.2 = + 2 25.2
c =	+ 2	23	75	10	57	8.2	+ 2	49.1		10 51 23.6	+ 2 26.0
										mean pos. 10 51 23.9	+ 2 25.7
											−0.1 +0.2 +0.9 −0.9
											(+0.8 + 1.1) (+1.1 −0.7)

cos +2.8 / 2

c − b = ∓ 46.1

.499

− 23.0

	x	y	x	y
a	27.1	85.2	32.1	90.6
b	145.0	30.1	150.0	35.6
η	69.9	70.1	74.8	75.6

x	x	y	y
η − a + 42.8	η − b − 75.1	η − a − 15.1	η − b + 40.0
+ 42.7	− 75.2	− 15.0	+ 40.0
+ 42.75	− 75.15	− 15.05	+ 40.0
+ 43.18	− 75.90	− 15.20	+ 40.40
÷ .500	÷ .500	− 7.60	+ 20.20
+ 86.4	− 151.8		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 7 October 3, 1908.

						1900 pos.	10	53	7.2	+2	9.5		
a = +2	2371	10	49	20.5	+2	18.3	+88.5	= 10	49	49.9	+6.5	= +2	24.5
b = +2	2373	10	51	20.6	+2	30.3	−32.5	= 10	49	48.4	−7.0	= +2	23.3
c = +2	2374	10	51	31.0	+2	58.7		10	49	48.8		+2	23.9
				α									
		c − b = + 10.4						−0.1	+0.2		+0.6	−0.6	

cos + 3.0 / 2

499

+ 5.2

	x	y	x	y
a	30.1	38.6	35.1	33.1
b	90.0	65.5	95.0	59.6
η	73.9	51.0	78.9	45.6
	x	x	y	y
	η − a + 43.8	η − b − 16.1	η − a + 12.4	η − b − 14.0
	+ 43.8	− 16.1	+ 12.5	− 14.0
	+ 43.8	− 16.1	+ 12.45	− 14.0
	+ 44.24	− 16.26	+ 12.57	− 14.14
	÷ .500	÷ .500	+ 6.29	− 7.07
	+ 88.5	− 32.5		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 8, October 3, 1908.

1900 pos.									10	53	3.0	+2	8.9						
a =	+2	2371	10	49	20.5	+2	18.3	+84.1 (3.3)	=	10	50	44.6 (3.8)	+5.6 (5)	=	+2	23.9 (8)			
b =	+2	2373	10	51	20.6	+2	30.3	−36.9 (5)	=	10	50	43.7 (4.1)	−7.8 (7)	=	+2	22.5 (6)			
c =	+2	2374	10	51	31.0	+2	58.7			10	50	48.7 (4.6)			+2	23.2			
					×														
			c − b = +10.4									−0.2	+0.1			+0.6	−0.6		
C00 +3.0 / 2					.499														
					+5.2														

	x	y	x	y
a	30.1	38.6	35.1	33.1
b	90.0	65.8	95.0	59.6
η	71.8	49.7	76.7	44.2

x		x		y		y	
η − a	+41.7	η − b	−18.2	η − a	+11.1	η − b	−15.3
	+41.6		−18.3		+11.1		−15.4
	+41.65		−18.25		+11.1		−15.35
	+42.07		−18.43		+11.21		−15.50
	÷.500		÷.500		+5.61		−7.75
	+84.1		−36.9				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

See mean of star +2 2371 BY. 10. pg: 192

A8326 No. 9 October 3, 1908

1900 pos. 10 52 52.4 +2 9.9

a = +2	2371	10	49	18.0 ~~18.5~~	+2	16.6 ~~18.3~~	+74.8	=	10	50	32.0 ~~33.5~~	+7.4	= +2 3.9 ~~25.7~~
b = +2	2373	10	51	20.6	+2	30.3	+46.4	=	10	50	34.2	-5.9	= +2 24.4
c = +2	2374	10	51	31.0	+2	58.7			10	50	~~34.8~~ 33.4		+2 ~~25.8~~ 24.2

x

c - b = +10.4

c₀₀ + 3.0 / 2

.499

+5.2

	x	y	x	y
a	30.1	38.6	35.1	33.1
b	90.0	65.0	95.0	59.6
η	67.1	53.2	72.0	47.9

x	x	y	y
η - a + 37.0	η - b - 22.9	η - a + 14.6	η - b - 11.8
+ 37.1	- 23.0	+ 14.8	- 11.7
+ 37.05	- 22.95	+ 14.7	- 11.75
+ 37.42	- 23.18	+ 14.85	- 11.87
÷ .500	÷ .500	+ 7.43	- 5.94
+ 74.8	+ 46.4		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

see mean of star a +2 2371 Bk. 10 pg 192. ✓

A 8326 No. 10 October 3, 1908.

								1900 pos.	10	52	43.9	+2	15.3		
a = +2	2371	10	49	20.5	+2	18.3	+64.5	= 10	50	25.0	+10.0	= +2	28.5		
b = +2	2373	10	51	20.6	+2	30.3	−56.5	− 10	50	14.1	− 3.4	= +2	26.9		
c. +2	2374	10	51	31.0	+2	58.7			10	50	24.6		+2	27.6	
														26.7	
				c − b =		+ 10.4				− 0.8	+ 0.8		− 0.2	+ 0.2	
													27.6	26.9	

Cor +3.0 / 2

.499

+ 5.2

	x	y	x	y
a	30.1	38.6	35.1	33.1
b	90.0	65.0	95.0	59.6
η	62.1	58.3	67.0	52.9
	x	x	y	y
	η − a + 32.0	η − b − 27.9	η − a + 19.7	η − b − 6.7
	+ 31.9	− 28.0	+ 19.8	− 6.7
	+ 31.95	− 27.95	+ 19.75	− 6.7
	+ 32.27	− 28.23	+ 19.95	− 6.77
	÷ .500	÷ .500	+ 9.98	− 3.39
	+ 64.5	− 56.5		

✓ ✓

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8376 No. 11, October 3, 1908

Object is quite faint.

1900 pos 10 48 8.6 +2° 24'.4

a = +2 2363	10 43 52.1	+2	46.7	+	118.5	=	10	45	50.6	−	7.8	=	+2	38.8
b = +2 2369	10 47 44.9	+2	25.7	−	116.4	=	10	45	48.5	+	12.6	=	+2	38.3
c = +2 2362	10 43 44.0	+2	8.9				10	45	49.6				+2	38.6

x

c − a = ∓ 8.1

−0.2 +0.1 +0.4 −0.4

Cos +2.1 / 2

.500

∓ 4.1

	x	y	x	y
a	45.0	110.1	50.0	115.5
b	161.2	69.6	166.3	70.1
η	103.6	94.6	108.7	100.1

x	x (y)	y	y
η − a + 58.6	η − b − 57.6	η − a − 15.5	η − b + 25.0
+ 58.7	− 57.6	− 15.4	+ 25.0
+ 58.65	− 57.6	− 15.45	+ 25.0
+ 59.74	− 57.18	− 15.60	+ 25.25
÷ .500	÷ .500	− 7.80	+ 12.63
+ 118.5	− 116.4		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8376 No. 12 October 3, 1908.

				1900 pos			
					10 47 43.6	+2 24.6	
a	+2 2363	10 43 52.1	+2	46.7	+93.3	= 10 45 25.4	−7.7 = +2 39.0
b	+2 2369	10 47 44.9	+2	25.7	−141.5	= 10 45 23.4	+12.8 = +2 38.5
c	+2 2362	10 43 44.0	+2	8.9		10 45 24.4	+2 38.8
		x					
		c − a = ∓ 8.1				−0.1 +0.2	+0.3 −0.4

$\frac{\cos +2.1}{2}$

.500

∓ 4.1

	x	y	x	y
a	45.0	110.1	50.0	115.5
b	161.2	69.6	166.3	78.1
η	91.2	94.9	96.2	100.4
	x	x	y	y
	η − a +46.2	η − b −70.0	η − a −15.2	η − b +25.3
	+46.2	−70.1	−15.1	+25.3
	+46.2	−70.05	−15.15	+25.3
	+46.66	−70.75	−15.30	+25.55
	÷ .500	÷ .500	−7.65	+17.78
	+93.3	−141.5		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8336 No. 13 October 3, 1908.

1900 pos. 10 47 38.4 +2 24.0

a = +2	2363	10	43	52.1	+2	46.7	+88.1	= 10	45	30.8 − 8.1 = +2 38.6
b = +2	2369	10	47	44.9	+2	25.7	−146.8	= 10	45	18.1 + 12.1 = +2 37.8
c = +2	2362	10	43	44.0	+2	8.9			10	45 19.4 +2 38.2

x

c − a = ∓ 8.1

−0.1 +0.3 +0.4 −0.4

Corr +2.1 / 2

.500

∓ 4.1

	x	y	x	y
a	45.0	110.1	50.0	115.5
b	161.2	69.6	166.3	78.1
η	88.6	93.8	93.6	99.4

	x	x	y	y
η − a	+ 43.6	η − b − 72.6	η − b − 16.3	η − b + 24.2
	+ 43.6	− 72.7	− 16.1	+ 24.3
	+ 43.6	− 72.65	− 16.2	+ 24.25
	+ 44.04	− 73.38	− 16.36	+ 24.49
	÷ .500	÷ .500	− 8.18	+ 12.245
	+ 88.1	− 146.8		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

For new meas. see Book 10 - pg. 187.

A 8326 No. 14 October 3, 1908.

					(1900 pos.)			
a = +2.2356	10 38 33.7	+2 52.3	+10.7	=	10 38 44.4	−16.7	=	+2 35.6
b = +1.2480	10 39 26.3	+1 43.8	−40.9	=	10 38 45.8	+50.8	=	+2 34.6
c. +2.2357	10 38 51.3	+2 53.8			10 38 44.9			+2 35.0
	x				(mean pos)	10 38 45.7		+2 34.5
	c − b = −35.0					−0.7 +0.8		+0.8 −0.9
	.499					(−1.4 +0.1)		(+1.3 −0.4)
	−17.5							

	x	y	x	y
a	24.5	150.0	29.4	156.5
b	50.0	45.6	55.0	31.9
m	29.8	117.0	34.7	173.4

x	x	y	y
m − a + 5.3	m − b − 20.2	m − a − 33.0	m − b + 141.4
+ 5.3	− 20.3	− 33.1	+101.5
+ 5.3	− 20.25	− 33.05	+101.45
+ 5.35	− 20.45	− 33.38	+101.551
÷ .500	÷ .500	− 16.69	+50.776
+17.0	− 40.9		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8376 No. 15 October 3d, 1908.

1900 pos. 10 54 0.4 +1 54.8

a = +2 2371 10 49 20.5 +2 18.3 +143.4 = 10 51 43.9 −7.4 = +2 10.5

b = +2 2376 10 53 54.3 +2 5.0 −132.7 = 10 51 48.8 +4.1 = +2 9.1

c = +2 2375 10 53 8.2 +2 49.1 10 51 48.8 +2. 10.0

$\frac{c-a}{x} = \frac{+2.8}{x}$

$\frac{b-a}{x} = +46.1$

.499

−23.0

	x	y	x	y
a	18.3	43.0	18.3	48.4
b	150.0	20.2	155.0	25.6
n	84.3	28.3	89.3	33.7

x	x	y	y
n−a +71.0	n−b −65.7	n−a −14.7	n−b +8.1
+71.0	−65.7	−14.7	+8.1
+71.0	−65.7	−14.7	+8.1
+71.71	−66.36	−14.85	+8.18
÷.500	÷.500	−7.43	+4.09
+143.4	+132.7		

See Bk. 10, page 192 for meas. of comparison star a (+2° 2371).
Have corrected the above pos. and the results are accordant as also in case of nos. 16, 18, 19, 26 where star +2 2371 was used.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8326 No. 16 October 3[8,57], 1908.

1900 pos. 10 53 48.2 +1 54.9

a	= +2	2371	10 49	20.5 (18.0)	+2	18.3 (16.6)	+13.0 (12.7)	=	10 51	33.3 (27.7)	−4.2	= +2	14.1 (2.4)
b	= +2	2376	10 53	54.3	+2	5.0	−45.7 (3.7)	=	10 51	29.6 (30.6)	+7.2 (3.2)	= +2	12.3 (2.2)
c	= +2	2375	10 53	8.2	+2	49.1			10 51	30.4 (29.2)		+2	8.2 (12.3)

		−1.5	+1.4
		−0.3	+0.3
			+0.1 −0.1
			+0.9 −1.0

c − b = − 46.1

(c0 + 2.8)/2

.499

− 23.0

	x	y	x	y
a	13.3	43.0	18.3	48.4
b	150.0	20.2	155.0	25.6
η	78.2	34.6	83.1	40.0

	x	x	y	y
η − a	+64.9	− 71.8	− 8.4	+ 14.4
	+64.8	−71.9	− 8.4	+ 14.4
	+64.85	− 71.85	− 8.4	+ 14.4
	+65.50	− 72.57	− 8.48	+ 14.54
	÷ .500	÷ .500	− 4.24	+ 7.27
	+131.0	− 145.1		

See note on opposite page – for star +2 2371.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 17 October 5, 1908.

1900 pos. 10 53 17.7 +1 55.4

a =	+2	2372	10	49	58.2	+2	34.3	+60.1 =	10	50 58.3 − 24.2 =	+2	10.1
b =	+1	2506	10	52	20.0	+1	51.1	−8.1 =	10	50 59.9 + 18.5 =	+2	9.6
c =	+1	2503	10	49	25.3	+1	49.2		10	50 58.6	+2	9.7

x

c − a = −32.9

cos +1.8 / 2

·500

−16.5

−1.0 +1.0 +0.5 −0.4

	x	y	x	y
a	55.0	104.7	60.0	110.1
b	124.8	20.1	130.0	75.4
η	84.8	56.8	89.7	62.0
	x	x	y	y
	η − a + 29.8	η − b − 40.0	η − a − 47.9	η − b + 36.7
	+ 29.7	− 40.3	− 48.1	+ 36.6
	+ 29.75	− 40.15	− 48.0	+ 36.65
	+ 30.05	− 40.55	− 48.48	+ 37.02
	÷ .500	÷ .500	− 24.24	+ 18.51
	+ 60.1	− 81.1		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8326 No. 18 October 5, 1908.

1900 pos. 10 51 11.8 +2° 3′.7

a = +2 2369	10	47	44.9	+2	25.7	+68.5	=	10	48	58.4	−8.4	=	+2	17.3
b = +2 2371	10	49	20.5	+2	18.3	−25.9	=	10	48	54.6	+1.5	=	+2	19.8
c = +1 2501	10	48	14.6	+1	29.7			10	48	56.0			+2	18.6

×

Cos +1.5 / 2

c − a = + 29.7

.500

+14.9

+0.1 −0.2 +0.2 −0.1

mean pos. 10 48 55.8 +2 18.0

(−0.1 −0.4) (−0.6 −0.9)

	x	y	x	y
a	10.0	139.6	15.0	145.6
b	56.7	120.1	61.7	126.1
η	43.9	123.1	48.9	129.0

	x	x	y	y
η − a	+33.9	η − b −12.8	η − a −16.5	η − b +3.0
	+33.9	−12.8	−16.6	+2.9
	+33.9	−12.8	−16.55	+2.95
	+34.24	−12.93	−16.72	+2.98
	÷ .500	÷ .500	−8.36	+1.49
	+68.5	−25.9		

The stars 2369 & 2371 (2371 a cat star) are best for Nos. 18 & 19. The other stars taken and used are 1½ distant star neb. stars on W edge of pl. are diff. offsets & great care Repeat obs. measure retain the 1900 dets by above stars.

See note on star +2° 3371, Bk. 10 page 172

See Bk. 6. pg. 49 for remeas. of above object. Two new stars were also measured — & the mean results of meas. in practically same as in above meas.

Results as per above meas. 10 48 54.0 +2° 18.6

" " " meas. Bk. 6 - pg. 49 10 48 53.2 +2 18.8

10 48 53.6 +2° 18.7

See Bk. 6. pg. 31 for new meas. of this neb. stars +2 2369 & +2 2501 were used & one new star was selected — Results obtained by this meas. differs in R.A. by 1.6 & 0.4 in Dec. from the above meas.

I measured star +2 2369 for position and the meas. on pg. 32, Bk. 6 differs by 1.7 in Dec — and 7.3 in R.A from the pos. as given in B.M. Cat.

Pos. at time in Cat. 10 47 44.9 +2° 25.7

" " det. by meas. 10 47 46.2 +2 27.4

If pos. as det. by mean is taken then the results above would

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.12296B

see pg. 33 Bk. 6 for meas of this neb.

A 8326 No. 19 October 5, 1908.

										1900 fro.	- 10	50	48.9	+ 2	4.2			
a =	+ 2	2369	10	47	44.9	+ 2	25.7	+ 45.7	=	10	48	30.8	- 8.0	=	+ 2	17.8		
b =	+ 2	2371	10	49	20.5	+ 2	18.3	- 48.8	=	10	48	31.7	+ 1.8	=	+ 2	20.1		
c =	+ 2	2501	10	48	14.6	+ 1	29.7			10	48	31.2			+ 2	18.8		
					x							29.8				18.0		
												+ 0.2	- 0.1			- 0.3	+ 0.4	

$\frac{\cos +1.5}{2}$

$c - a = +29.7$

$.500$

$+14.9$

(mean) 10 48 29.9 + 2° 18.5

(+0.1 −0.2) (−0.8 ± 0.9)

	x	y	x	y
a	15.0	145.6	20.0	150.3
b	61.7	126.0	66.7	130.9
η	37.5	124.6	42.6	134.4

	x	x	y	y
η - a	+ 22.5 η - b	- 24.2 η - a	- 21.0 η - b	+ 3.6
	+ 22.6	- 24.1	- 15.9	+ 3.5
	+ 22.55	- 24.15	- 15.95	+ 3.55
	+ 22.78	- 24.39	- 16.11	+ 3.59
	÷ .500	÷ .500	- 8.06	+ 1.795
	+ 45.6	- 48.8		

See page 123

Note - ~~Stars A, B and C are the two stars available for measuring this pair, a scale being a little contested. Final large adopted.~~

see note on Star b +2° 2371 Bk. 10 - page 192.

See Bk. 6 - pg. 33 for new meas. of this neb. new stars were selected but results obtained are discarded. - For re-meas. of the above comp. see Bk. 6 pg. 50 - Same set of stars together with two new stars were measured - results practically same as in above meas.

Results	for above meas.	10 48 31.2 + 2° 18.8
"	" pg. 33 Bk 6	10 48 30.1 + 2 18.8
"	" " 50 " 6	10 48 30.2 + 2 19.0

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

Note - No. 20 is rejected.

A 8326 No. 21 October 5, 1908.

						1900 pos.	10	54	52.8	+1	38.6
a =	+1.2506	10	52	20.0	+1	51.1	+ 13.0	=	10	52	33.0 + 2.1 = +1 53.2
b =	+1.2376	10	53	54.3	+2	5.0	− 79.5	=	10	53	34.8 − 17.5 = +1 57.3
c =	+1.2375	10	53	8.2	+2	49.1			10	53	17.3 +1 57.8
				x							
		c − b =		− 46.1					− 1.3		+ 1.4 +0.2 −0.1
cos +2.8 / 2				.499							
				− 23.0							

	x	y	x	y
a	19.2	51.9	24.2	57.2
b	65.0	80.1	70.0	85.4
η	25.6	56.0	30.7	61.4

	x	x	y	y
η − a	+ 6.4	η − b − 39.4	η − a + 4.1	η − b − 24.1
	+ 6.5	− 39.3	+ 4.2	− 24.0
	+ 6.45	− 39.35	+ 4.15	− 24.05
	+ 6.51	− 39.74	+ 4.19	− 24.29
	÷ .500	÷ .500	+ 2.095	− 12.145
	+ 13.0	− 79.5		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

For new meas. see Bk. 10, page 190.

A 8326 No. 22 October 5, 1908.

				1900 pos.	10 54 8.6	+1 40.8		
a	= +1 2503	10 49 25.3	+1	50.1 2.9	= 10 51 48.8 8.2	+ 5.0 4.9	= +1 53.2	
b	= +2 2376	10 53 54.3	+2	5.0	− 124.2 3.0	= 10 51 58.4 1.3	− 8.4 8.8	= +1 49.6 56.2
c	= +2 2372	10 49 58.2	+2	34.3		10 51 49.8 8		+1 55.2
		x			mean pos.	10 51 49.6	+1 55.2	
		c − a = +32.9				− 1.6 +1.5	1.1 − 0.8 +1.0	
						(−1.4 +1.7)		

$\frac{\cos +2.6}{2}$

.500

+16.5

	x	y	x	y
a	10.0	10.5	15.0	16.1
b	143.0	38.0 82.4	147.9	48.6
η	81.5	20.5	86.4	25.9

x		x		y		y	
η − a	+ 71.5	η − b	− 61.5	η − a	+ 9.8	η − b	− 12.8 7 7
	+ 71.4		− 61.5		+ 9.8		− 12.7
	+ 71.45		− 61.5		+ 9.8		− 12.75 7 7
	+ 72.16		− 62.12		+ 9.90		− 12.78 7 88
	÷ .500		÷ .500		+ 4.95		− 8.89 8 94
	+ 144.3		− 124.2				

+1 +1 +1 +1 +1

55.0 55.2 55.7 55.5 55.6

−6 +6 +1 0

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

Note – For No. 24 see Bk. 5, page 74.
For new meas. see Bk 10, page 191.

A 8326 No. 23 October 5, 1908.

					1900 pos.	10 53 56.5	+1 42.5	
a = +1 2503	10 49 25.3	+1	49.2 (50.1)	+132.1 (0.8)	=	10 51 37.4 (6.1)	+6.7 (6)	= +1 55.9 (6.8)
b = +2 2376	10 53 54.3	+2	5.0	−136.5 (5.1)	=	10 51 37.8 (9.2)	−7.1 (1)	= +1 57.8 (9)
c = +2 2372	10 49 58.2	+2	34.3			10 51 37.6		+1 56.9 (8)
					mean pos.	10 51 37.5		+1 56.9
						−1.5 +1.6		−1.0 +1.1
						(−1.4 +1.7)		(−1.1 +1.0)

$\frac{\cos + 2.6}{2}$

C − a = +32.9
·500
+16.5

	x	y	x	y		
a	10.0	10.5	15.0	16.1	+1	56.7 −5
		(38.0)		(53)		57.9 +7
b	143.0	32.9	147.9	48.6		57.2 0
						57.2 0
						10
η	75.5 (4)	23.7 (8)	80.4	29.3	+1	57.2

x	x	y (3)	y
η − a + 65.4	η − b − 67.6	η − a + 13.2	η − b − (14.2) 9.2 − (14.3) 9.3
+ 65.4	− 67.5	+ 13.2	− 14.25
+ 65.4	− 67.55	+ 13.25	− 14.25
+ 66.05	− 68.23	+ 13.38	− 14.39
÷ .500	÷ .500	+ 6.69	− 7.195
+ 132.1	− 136.5		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8326 No. 25, Oct. 6, 1908

			1900 pos.	10 52 37.7	+1 46.8		
a = +1 2503	10 49 25.13	+1	49.2	+52.2 = 10 50 17.5	+11.6 =	+2 0.8	a =
b = +2 3373	10 51 20.6	+2	30.3	−60.8 = 10 50 19.8	−28.8 =	+2 1.5	b =
c = +1 2504	10 49 32.0	+1	4.8	10 50 18.6		+2 1.0	c =
	N						
	c − a = +6.7			−1.7 +1.7		−0.4 +0.4	
	.500						
	+3.4						

$\frac{c_{00} + 1.1}{2}$

	x	y	x	y
a	15.0	99.4	20.0	103.1
b	70.9	179.9	76.0	183.6
η	40.8	122.3	45.9	126.0
	x	x	y	y
	η − a +25.8	η − b −30.1	η − a +22.9	η − b −57.6
	+25.9	−30.1	+22.9	−57.6
	+25.85	−30.1	+22.9	−57.6
	+26.11	−30.40	+23.13	−58.18
	÷ .500	÷ .500	+11.57	−29.09
	+52.2	−60.8		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8376 No. 26 Oct. 6, 1908.

						1900 pos.	10	50	39.2	+1	32.3			
a =	+1	2500	10	47	37.7	+1	15.0	+43.2	= 10	48	20.9	+32.3	= +1	47.8
b =	+2	2371	10	49	20.5	+2	14.3	−58.6	= 10	48	21.9	−30.5	= +1	47.4
c =	+2	2369	10	47	44.9	+2	25.7		10	48	21.4		+1	47.4

c − a = +7.2

Cos +2.4 / 2

·500

+3.6

	x	y	x	y
a	20.0	15.4	25.0	20.5
b	70.4	139.4	75.4	144.4
η	41.4	79.1	46.4	84.0

x		x		y		y	
η − a	+21.4	η − b	−29.0	η − a	+63.7	η − b	−60.3
	+21.4		−29.0		+63.5		−60.4
	+21.4		−29.0		+63.6		−60.35
	+21.61		−29.09		+64.24		−60.95
	÷ .500		÷ .500		+32.12		−30.48
	+43.2		−58.6				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 27 Oct. 6, 1908.

				1900 pos.	10 48 10.6	+1° 34′ 4		
a =	+2 3362	10 43 44.0	+2	8.9	+128.2	= 10 45 52.2	−20.5	= +1 48.8
b =	+1 3501	10 48 14.6	+1	29.7	−143.8	= 10 45 52.8	+18.8	= +1 48.5
c =	+2 3369	10 47 44.9	+2	25.7		10 45 51.5		+1 48.6
						−0.7	+0.6	+0.2 −0.3

c − b = −29.7

Cos +2.4 / 2

.500

−14.8

	x	y	x	y
a	10.3	83.7	15.4	87.6
b	145.0	6.3	150.0	10.1
η	73.8	43.6	78.8	47.4

x		x		y		y	
η − a	+63.5	η − b	−71.2	η − a	−40.1	η − b	+37.3
	+63.4		−71.2		−40.2		+37.3
	+63.45		−71.2		−40.15		+37.3
	+64.08		−71.91		−40.55		+37.67
	÷ .500		÷ .500		−20.28		+18.84
	+128.2		−143.8				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8356 No. 28 Oct. 6, 1908.

(1900 pos)

a =	+ 1	2495	10	44	47.0	+ 1	47.2	−	10	45	44.0	+ 1°	49.2
b =	+ 2	3359	10	41	21.7	+ 2	9.7	+	10	43	25.8	−	14.2
c =	+ 1	2485	10	42	10.6	+ 1	6.6						
									10	43	25.8	+ 1	55.4

c − b = + 48.9

Cor +1.1 / 2

.500

+ 24.4

+0.5 −0.4 −0.2 +0.1

	x	y	x	y
b/a	15.0	145.0	20.0	150.5
a/b	117.2	100.7	122.2	106.1
η	76.4	116.7	81.5	122.0

	x	x	y	y
η − b/a	+ 61.4	η − a/b − 40.8	η − b/a − 28.3	η − a/b + 16.0
	+ 61.5	− 40.7	− 28.4	+ 16.0
	+ 61.45	− 40.75	− 28.4	+ 15.95
	+ 62.06	− 41.16	− 28.68	+ 16.16
	÷ .500	÷ .500	− 14.34	+ 8.06
	+ 124.1	− 82.3		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 29 Oct. 6, 1908.

		(1900 pos.)		10 44 40.0		+1° 43' 8	
a = +1 348 d	10 40 15.6	+1	43.4	+125.8	= 10 42 21.1	+15.5	= +1 58.5
b = +2 336 2	10 43 44.0	+2	8.9	−82.8	= 10 42 21.0	−11.5	= +1 57.4
c = +1 349.1	10 43 45.1	+1	27.6		10 42 21.8		+1 58.0
	x						
	c − b = +0.9				−0.9 +1.0		+0.5 −0.5

cos +1.4 / r

·500

+0.6

	x	y	x	y
a	36.7	47.3	41.7	52.2
b	140.0	100.3	145.0	105.1
η	99.0	77.6	104.0	82.4
	x	x	y	y
η − a	+62.3	η − b −41.0	η − a +30.3	η − b −22.7
	+62.3	−41.0	+30.2	−22.7
	+62.3	−41.0	+30.25	−22.7
	+62.92	−41.41	+30.55	−22.93
	÷.500	÷.500	+15.28	−11.47
	+125.8	−82.8		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8336 No. 30 Oct. 6, 1908.

1900 pvo 10 57 13.3 + 1 21.3

a = +1 2510	10	54	37.7	+1	33.2	+16.3	= 10	54	54.0	+ 2.6	- +1	35.8
b = +1 2511	10	54	57.1	+1	37.7	- 8.3	= 10	54	48.8	- 1.9	= +1	35.8
c = +0 2726	10	55	8.0	+0	42.0			10	54	54.7		+1	35.8

x

c - b = + 10.9

$\frac{c_{vo} + 0.7}{2}$

.500

+ 5.4

	x	y	x	y
a	16.0	126.1	41.1	113.7
b	20.0	135.0	45.0	122.6
η	24.1	131.2	49.1	128.8

error in orientation

	x	x	y	y
η - a	+ 8.1		+ 5.1	
η - b		+ 4.1		- 3.8
	+ 8.0	+ 4.1	+ 5.1	- 3.8
	+ 8.05	+ 4.1	+ 5.1	- 3.8
	+ 8.13	+ 4.14	+ 5.15	- 3.84
	÷ .500	÷ .500	+ 2.58	- 1.92
	+ 16.3	+ 8.3		

	x	y	x	y
a	10.6	126.6	28.6	152.2
b	20.0	134.9	35.0	160.6
η	18.9	131.2	34.0	156.9

	x	x	y	y
η - a	+ 8.3		+ 4.6	
η - b		- 1.1		- 3.7
	+ 8.4	- 1.0	+ 4.7	- 3.7
	+ 8.35	- 1.05	+ 4.65	- 3.7
	+ 8.43	- 1.06	+ 4.70	- 3.74
	÷ .500	÷ .500	+ 2.35	- 1.87
	+ 16.9	- 2.1		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 31, Oct. 6, 1908

						(1900 pos)	10	43	10.4	+1	22.2		
a = +1	2479	10	39	24.4	+1	24.4	+88.7	= 10	40	53.2	+1.4	= +1	35.8
b = +1	2486	10	42	16.9	+1	42.8	−86.4	= 10	40	50.5	−5.8	= +1	37.8
c = +0	2703	10	39	30.2	+0	51.4		10	40	52.8		+1	36.4
			x										
		c − a = + 5.8						+0.3	−0.4		−0.6	+0.6	
cor. + 0.8		.500											
		+ 2.9											

	x	y	x	y
a	25.0	125.4	30.0	140.2
b	111.6	139.9	116.6	154.7
η	68.8	128.5	73.9	143.0

	x		x		y		y	
η − a	+ 43.8	η − b	− 42.8	η − a	+ 2.9	η − b	− 11.6	
	+ 43.9		− 42.7		+ 2.8		− 11.7	
	+ 43.85		− 42.75		+ 2.85		− 11.65	
	+ 44.29		− 43.18		+ 2.88		− 11.77	
	÷ .500		÷ .500		+ 1.44		− 5.88	
	+ 88.6		− 86.4					

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8326 No. 32, Oct. 6, 1908.

						(1900 pos)	10	42	45.8		+ 1° 20' 7	
a = +1	2479	10	39	24.4	+1	34.4	+63.7	= 10	40	28.2	− 0.2	= +1 34.2
b = +1	2486	10	42	16.9	+1	43.8	−111.2	= 10	40	25.7	− 7.5	= +1 35.3
c = +0	2703	10	39	30.2	+0	51.4			10	40	26.9	+1 34.8

x

c − a = + 5.8

c = + 0.8

2

·500

+ 2.9

	x	y	x	y
a	25.0	125.4	30.0	140.2
b	111.6	139.9	116.6	154.7
η	56.6	125.0	61.5	139.9

x	x	y	y
η − a + 31.6	η − b − 55.0	η − a − 0.4	η − b − 14.9
+ 31.5	− 55.1	− 0.3	− 14.8
+ 31.55	− 55.05	− 0.35	− 14.85
+ 31.86	− 55.60	− 0.35	− 14.00
÷ .500	÷ .500	− 0.18	− 7.50
+ 63.7	− 111.2		

+0.3 −0.4 −0.6 +0.6

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 33 - Oct. 7, 1908

						1900 pos.	10	51	33.0	+1	5.1	
a = +1	2501	10	48	14.6	+1	29.7 + 50.4 (49.6)	= 10	49	4.7 (4.2)	− 10.4 (3)	= +1	19.3 (4)
b = +1	2505	10	52 (51)	16.7	+1	3.9 − 74.8 (1)	= 10	49	3.8 (4.6) + 15.8 (6)		= +1	19.7 (5)
c = +0	2718	10	49	44.1	+0	27.8		10	49	4.3 (4.2)	+1	19.5 (4)
			x									
		c − b = − 32.6						−0.2	+0.2		−0.0	+0.2 (1)
Cos a +0.4 / 2		− 500										
		− 16.3										

	x	y	x	y
a	8.1	142.0	13.1	149.1
b	70.0	90.1	75.0	97.3
η	32.9	121.3	37.9	128.5
	x	x	y	y
	η − a + 24.8	η − b − 37.1	η − a − 20.7	η − b + 31.2
	+ 24.8	− 37.1	− 20.6	+ 31.2
	+ 24.8	− 37.1	− 20.65	+ 31.2
	+ 25.05	− 37.47	− 20.85 (6)	+ 31.51
	÷ .500	÷ .500	− 10.43	+ 15.76
	+ 50.1 (5)	− 74.9		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

note - No. 34 is rejected.
see also, pg. 147 for meas. this net.

A 8326 No. ~~34~~ 43. Oct. 7, 1908.

							1900 pos.	10	51	21.6	+0	36.5	
a.	+1	2502	10	48	44.0	+1	12.0	+29.4	= 10	49	13.4	−21.6	= +0 50.4
b.	+0	2718	10	49	44.1	+0	27.8	−31.4	= 10	49	17.7	+13.4	= +0 51.2
c.	+1	2503	10	49	25.3	+1	49.2		10	49	13.0		+0 50.8
				x				mean pos.	10	49	13.1		+0 50.8
			c−b =	−18.8					+0.1	0.0			−0.2 +0.2
									(0.0 − 0.1)				

$\frac{\cos +1.8}{2}$

.500

−9.4

	x	y	x	y
a	29.9 ×5.2	187.0 188.4	34.9	111.4
b	60.0	13.1	65.0	27.5
η	44.5	59.4	49.4	68.8

x		x		y		y	
η−a	+14.6	η−b	−15.5	η−a	−42.6	η−b	+46.3
	+14.5		−15.6		−42.6		+46.3
	+14.55		−15.55		−42.6		+46.3
	+14.69		−15.70		−43.03		+46.76
	÷ .500		÷ .500		−21.57		+43.38
	+29.4		−31.4				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 35 Oct. 7, 1908.

						(1900 pos)	10	44	51.8	+0°	53′.2	
a =	+1	2485	10	42	10.6	+1 6.6 + 22.7	= 10	42	33.9	+1.1	= +1	7.7
b =	+1	2488	10	42	47.6	+1 7.1 − 14.5	= 10	42	33.2	−0.1	= +1	7.0
c =	+1	2486	10	42	16.9	+1 42.8	10	42	33.2		+1	7.4
					x							
			c − a =		+6.3		−0.1		0.0		+0.3	−0.4

Cos +1.7 / 2

·500

+3.2

	x	y	x	y
		36.6		
a	95.0	43.4	105.0	43.5
b	103.4	37.9	123.5	45.8
η	106.3	37.8	116.2	45.7

	x	x	y	y
η − a	+11.3	η − b ~~∓~~ ~~7.1~~	η − a +2.2	η − b −0.1
	+11.2	∓ 7.3	+2.2	−0.1
	+11.25	− 7.2	+2.2	−0.1
	+11.36	− 7.27	+2.22	−0.1
	÷ 500	÷ .500	+1.11	−0.1
	+22.7	−14.5		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8326 No. 36 Oct. 7, 1908.

1900 pos. 10 44 57.3 +0° 51' 2

a = +1	2485	10	42	10.6	+1	6.6	+22.2	= 10	42	37.8	−0.8	= +1 5.8
b = +1	2488	10	42	47.6	+1	7.1	−15.0	= 10	42	32.6	−2.0	= +1 5.1
c = +1	2486	10	42	16.9	+1	42.8			10	42	32.7	+1 5.4

x

c − a = +6.3

−0.1 +0.1 +0.4 −0.3

Cos +1.7 / 2

.500

+3.2

	x	y	x	y
a	95.0	33.6	105.0	43.5
b	103.4	37.9	123.5	45.8
η	106.0	34.0	116.0	41.9

	x	x	y	y
η − a	+11.0	η − b −7.4	η − a −1.6	η − b −3.9
	+11.0	−7.5	−1.6	−3.9
	+11.0	−7.45	−1.6	−3.9
	+11.11	−7.52	−1.62	−3.94
	÷.500	÷.500	−0.81	−1.97
	+22.2	−15.0		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 37 Oct. 7, 1908

(1900 pos.) 10 44 47.8 +0 51.7

a = +0	2703	10 39 30.2	+0	51.4	+138.1	= 10 41 48.3	+14.8	= +1	6.2	a
b = +1	2490	10 43 43.2	+1	32.5	−115.6	= 10 41 47.8	−27.0	= +1	5.5	b
c = +1	2480	10 39 26.3	+1	43.8		10 41 48.0		+1	5.7	c
		x								
		c − a = −3.9				−0.9 +1.0		+0.1 −0.1		

$\frac{\text{cos} + 1.7}{2}$ .500 − 2.0

	x	y	x	y
a	30.0	9.9	35.0	16.4
b	155.6	98.8	160.6	99.4
η	98.3	39.3	103.4	45.8

	x		x		y		y	
η − a	+68.3	η − b	−57.3	η − a	+29.4	η − b	−58.5	
	+68.4		−57.2		+29.4		−53.6	
	+68.35		−57.25		+29.4		−53.55	
	+69.03		−57.82		+29.69		−54.09	
	÷ .500		÷ .500		+14.84		−27.04	
	+138.1		−115.6					

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 38 Oct. 7, 1908.

						1900 pos.		10	44	0.8		+ 0°	54'	7	
a =	+ 0	2703	10	39	30.2	+ 0	51.4	+ 132.4	=	10	41	42.6	+ 17.9	= + 1	9.3
b =	+ 1	2490	10	43	43.2	+ 1	43.2	− 121.3	=	10	41	49	− 4.0	= + 1	8.7
c =	+ 1	2480	10	39	26.3	+ 1	43.8			10	41	42.3		+ 1	8.9

c − a = −3.9

$\frac{\cos + 1.7}{2}$ · 500 = − 2.0

	x	y	x	y
a	30.0	9.9	35.0	16.4
b	155.6	97.8	160.6	99.4
η	95.5	45.3	100.6	51.8

	x	x	y	y
η − a	+ 65.5	η − b − 60.1	η − a + 35.4	η − b − 47.5
	+ 65.6	− 60.0	+ 35.4	− 47.6
	+ 65.55	− 60.05	+ 35.4	− 46.55
	+ 66.21	− 60.65	+ 35.75	− 48.03
	÷ .500	÷ .500	+ 17.88	− 24.02
	+ 132.4	− 121.3		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

~~Selected four stars for A & B. see pg 143~~

(This computation stolen)

A 8326 No. 39 Oct. 7/6, 1908.

						(1900 pos)	10	39	53.4	+0	57.9		
a =	+1	2473 a	10	36	15.6	+1	48.9	+ 76.4 (5.6)	= 10	37	32.0 (1.2)	− 37.5	= +1 11.4 a
b =	+0	2699	10	38	41.0 (2.7)	+0	45.7 (520)	− 63.9 (3)	= 10	37	37.7	+ 20.4 (2)	= +1 17.2 b
c =	+a	2477	10	38	2.7	+1	45.7		10	37	34.6 (4)		+1 11.8 c
				x					mean pos −	10	37	34.8	+1 12.0
				c − b = −38.3							− 3.2	+ 3.3	− 0.4 + 0.4
											(− 3.6	+ 2.9)	(− 0.6 + 0.2)

Cos +1.7 / 2

.500

− 19.2

	x	y	x	y
a	20.6	160.5	35.5	166.0
b	90.0	45.1	95.0	50.5
η	58.4	85.4	63.3	90.9

x		x		y		y	
η − a	+ 37.8	η − b	− 31.6	η − a	− 75.1	η − b	+ 40.3
	+ 37.8		− 31.7		− 75.1		+ 40.4
	+ 37.8		− 31.65		− 75.1		+ 40.35
	+ 38.18		− 31.97		− 75.85		+ 40.75
	÷ .500		÷ .500		− 37.93		+ 20.38
	+ 76.4		− 63.9				

Note – neb. no. 39 is near edge of plate and the stars are rather far away from object. In computation on next page the dif. in Dec of a & b is great while in above computation the dif. in R.A. of a - b is great & dif. in Dec much less than in 2nd Comp.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8326 No. 39 Oct 8, 1908.

						(1900) pos.	10	39	53.4	+0°	57.9
a = +1 2471	10	34	55.4	+1	37.0	+161.4	= 10	37	36.8	−26.8	= +1 10.2
b = +0 2703	10	39	30.7	+0	51.4	−116.4	= 10	37	33.8	+27.6	= +1 14.0
c = +0 2479	10	39	24.4	+1	34.4		10	37	34.3		+1 12.1
		x				mean pos.	10	37	34.8		+1 12.0
		c − b = −5.8					+0.1	−0.1			−1.7 +1.6
cos +1.6 / 2		.500					(+0.4	+0.2)			(−1.5 +1.8)
		−2.9									

	x	y	x	y
a	17.5	108.4	22.5	103.5
b	155.0	10.6	160.0	15.5
η	97.4	55.4	102.4	60.4

x	x	y	y
η−a +79.9	η−b −57.6	η−a −53.0	η−b +44.8
+79.9	−57.6	−53.1	+44.9
+79.9	−57.6	−53.05	+44.85
+80.70	−58.18	−53.58	+45.30
÷.500	÷.500	−26.79	+22.65
+161.4	−116.4		

see sheet for corrected pos.

10 37 36.3
+0° 11.6

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 40 Oct. 8, 1908.

1900 pos 11 0 41.7 +0 30.6

a = +1	2518	10	57.8	26.1	+1	14.1	− 3.2	=	10	58	23.4	− 29.6	=	+0	44.8	a
b = +0	2739	10	58	44.3	+0	6.7	− 21.5	=	10	58	22.8	+39.8.6	=	+0	45.3	b
c = +1	2517	10	57.8	24.3	+1	23.4					23.1			+0	45.1	c

x

c − b = − 20.0

+0.3 −0.3 −0.2 +0.3

$\frac{\text{Coo} + 1.4}{2}$

.500

−10.0

	x	y	x	y
a	40.6	155.8	45.6	161.3
b	50.0	20.0	55.0	25.5
η	39.3	97.3	44.2	102.7

x		x		y		y	
η − a	− 1.3	η − b	− 10.7	η − a	− 58.5	η − b	+ 77.3
	− 1.4		− 10.8		− 58.6		+ 77.2
	− 1.35		− 10.75		− 58.55		+ 77.25
	− 1.36		− 10.86		− 59.14		+ 78.02
	÷ .500		÷ .500		− 29.57		+ 39.01
	− 2.7		− 21.7				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

For new mean. see BJS 10, pg. 197.

A 8326 No. 41. Oct. 8, 1908.

							1900 pos.	10	57	26.5	+0	44.0		
a =	+1 2507	10	53	12.3	+1	9.0	+117.1	= 10	55	9.4	−11.4	− +0	57.6	
b =	+0 2729	10	56	17.5	+0	48.2	−64.6	= 10	55	7.9	+11.3	= +0	59.5	
c =	+0 2778	10	55	51.0	+0	1.8		10	55	8.7		+0	58.6	
				x			mean pos	10	55	7.9	+0	58.5		
								−0.2	+0.1		−0.9	+0.8		
				c − b = − 21.5				(+0.3	+0.6)		(−0.8	+0.9)		

Cor +0.0 / 2

.500

− 10.8

	x	y	x	y
a	25.0	154.8	15.1	143.2
b	115.0	109.9	105.0	98.4
η	83.0	132.2	73.0	170.7

	x	x	y	y
η − a	+58.0	η − b − 32.0	η − a − 22.6	η − b + 22.3
	+58.9	− 32.0	− 22.5	+ 22.3
	+57.95	− 32.0	− 22.55	+ 22.3
	+58.53	− 32.32	− 22.77	+ 22.32
	÷ .500	÷ 500	− 11.38	+ 11.26
	+117.1	− 64.6		

John C. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 42 Oct. 8, 1908.

						1900 pos.	10 55 28.0		+0 31′.2	
a =	+0	2722	10 51 26.4	+0	38.2	+10′.7	= 10 53 8.1	+ 7.″0	= +0 45.″3	a
b =	+0	2727	10 55 28.3	+0	53.0	−139.9	= 10 53 10.7	− 7.″2	= +0 45.″8	b
c =	+1	2511	10 54 57.1	+1	37.7		10 53 9.″4		+0 45.6	c

x

c − b = −31.2

$\frac{\cos + 1.6}{2}$

·500

−15.6

−0.3 + 1.3

−0.4 + 0.3

	x	y	x	y
a	25.4	5.7	30.3	8.1
b	145.0	34.1	150.0	36.5
η	76.3	19.8	81.1	22.1

x		x		y		y	
η − a	+ 50.9	η − b	− 68.7	η − a	+ 14.1	η − b	− 14.3
	+ 50.8		− 68.9		+ 14.0		− 14.4
	+ 50.85		− 68.8		+ 14.05		− 14.35
	+ 51.36		− 69.49		+ 14.19		− 14.49
	÷ .500		÷ .500		+ 7.095		− 7.24
	+ 1″02.7		− 138.″0				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

Duplicate – see pg. 137 for meas. ~~this nebulae~~

A 8326 No. 43 Oct. 8th, 1908

						1900 pos.	10	51	31.7	+0	36.5		
a =	+1	2502	10	48	44.0	+1	12.0	+29.4	= 10	49	13.4	−21.6	= +0 50.6
b =	+0	2718	10	49	44.1	+0	27.8	−31.2	= 10	49	12.9	+13.4	= +0 51.2
c =	+1	2503	10	49	25.3	+1	49.2		10	49	13.2		+0 50.8
				x					mean pos.	10	49	13.1	+0 50.8
				c − b = −18.8						−0.1	+0.0	−0.2	+0.2
										(0.0	+0.1)		

$\frac{\cos +1.8}{2}$

.500

−9.4

	x	y	x	y
a	20.0	103.9	25.0	109.8
b	50.0	15.0	55.0	21.0
η	34.6	61.3	39.5	67.2

	x	x	y	y
η − a	+14.6	η − b −15.4	η − a −42.6	η − b +46.3
	+14.5	−15.5	−42.6	+46.2
	+14.55	−15.45	−42.6	+46.25
	+14.69	−15.60	−43.03	+46.71
	÷.500	÷.500	−21.56	+23.36
	+29.4	−31.2		

John C. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 44 Oct. 8, 1908.

						1900 pos.	10 50 50.0	+ 0 31.7	
a	+ 0 27 15	10 48 12.3	+ 0	53.6	+ 19.8	= 10 48 31.1	− 7.8	= + 0 45.8	a
b	+ 0 27 18	10 49 44.1	+ 0	27.8	− 73.0	= 10 48 31.8	+ 18.1	= + 0 46.0	b
c	+ 1 75 00	10 48 14.6	+ 1	29.7		10 48 31.4		+ 0 46.0	c
			×						
		c − a = + 2.3				− 0.3	+ 0.4	− 0.1	0.0

$\frac{\cos + 1.5}{2}$

.500

+ 1.2

	x	y	x	y
a	40.0	75.5	50.0	91.0
b	85.6	23.7	95.5	39.5
η	49.4	60.1	59.4	75.7

x		x		y		y	
η − a	+ 9.4	η − b	− 36.2	η − a	− 15.4	η − b	+ 36.4
	+ 9.4		− 36.1		− 15.3		+ 36.3
	+ 9.4		− 36.15		− 15.35		+ 36.35
	+ 9.49		− 36.51		− 15.50		+ 36.71
	÷ .500		÷ .500		− 7.75		+ 18.36
	+ 18.98		− 73.0				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.-22968

A 8326 No. 45 Oct. 8, 1908.

				(1900 pos)		10	47	42.0	+0°	34.'3	
a =	+0.2710	10	45	10.9	+0	34.7	+12.^{6}7 =	10	45	23.^{5}6	+14.^{2}3 = +0 49.$^{8.9}$8
b =	+0.2712	10	45	27.5	+0	55.3	−4.2 =	10	45	23.3	−7.^{2}3 = +0 48.^{1}8
c =	−0.2379	10	45	5.9	−0	10.7		10	45	23.^{4}5	+0 48.5

x

c − a = − 5.0

$\frac{c_{00} - 0.2}{2}$

.500

− 2.5

+0.^{1}x −0.1 +0.4 −0.4

	x	y	x	y
a	40.0	99.9	45.0	106.7
b	48.4	142.5	53.4	149.4
η	46.3	128.1	51.3	135.0

x		x		y		y	
η − a	+ 6.3	η − b	− 2.1	η − a	+ 28.2	η − b	− 14.4
	+ 6.3		− 2.1		+ 28.3		− 14.4
	+ 6.36		− 2.12		+ 28.53		− 14.54
	÷ .500		÷ 500		+ 14.27		− 7.27
	+ 1$^{2.7}$X.^{7}2		− 4.2				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 46 Oct. 8, 1908.

					(1900 pos)	10 47 40.6	+0 43.0		
a = +1	x488	10 42 47.6	+1	7.1	+155.8	10 45 28.4	−9.8	+0 57.3	a
b = +0	2715	10 48 12.3	+0	53.6	−171.7	10 45 29.6	−3.5	+0 57.1	b
c = +1	x501	10 48 14.6	+1	29.7		10 45 22.0		+0 57.2	c
		x							
		c − b = +2.3				−0.2 +0.3		+0.2 −0.1	

cos +1.5 / 2

.500

+1.2

	x	y	x	y
a	2.9	57.0	7.8	64.3
b	165.0	30.6	170.0	38.0
η	80.0	37.5	85.0	45.0

	x	x	y	y
η − a	+77.1		−19.5	
η − b		−85.0		+6.9
	+77.2	−85.0	−19.3	+7.0
	+77.15	−85.0	−19.4	+6.95
	+77.92	−85.85	−19.59	+8.02
	÷.500	÷.500	−9.795	+3.51
	+155.8	−171.7		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 4 Oct. 8, 1908.

					1900 pos.	10 46 25.2	+0° 47'.2			
a = +1 2488	10 42 47.6	+1	7.1	+ 78.7	=	10 44 [5.5]	− 6.0	=	+1	1.0
b = +0 2712	10 45 27.5	+0	55.3	− 80.6	=	10 44 [7.7]	+ 6.3	=	+1	1.6
c = +1 2487	10 42 41.8	+1	46.0			10 44 6.6			+1	1.4
	x									
	c − a = −5.8					−1.1	+1.1		−0.3	+0.2
c00 + 1.8 / 2	.500									
	−2.9									

	x	y	x	y
a	50.0	31.5	55.0	38.0
b	128.8	6.8	133.9	13.5
η	88.9	19.5	94.0	26.0

	x	x	y	y
η − a	+ 38.9	η − b − 39.9	η − a − 17.0	η − b + 12.7
	+ 39.0	− 39.9	− 17.0	+ 12.5
	+ 38.95	− 39.9	− 17.0	+ 12.6
	+ 39.34	− 40.30	− 17.12	+ 12.73
	÷ .500	÷ .500	− 6.06	+ 6.37
	+ 78.7	− 80.6		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 48 Oct. 8, 1908.

(1900 pos) 10 45 14.6 +0° 45' 4

a = +1 2486 10 42 16.9 +1 428 + 39.7 = 10 42 56.2 − 42.8 = +1 0.4 a

b = +0 2706 10 44 4.3 +0 16.5 − 68.6 = 10 42 55.7 + 42.3 = +0 59.2 b

c = +1 2491 10 43 45.1 +1 27.6 10 42 55.7 +0 59.6 c

x

c − b = −19.2

$\frac{c_{00} + 1.4}{2}$

.500

− 9.6

	x	y	x	y
a	41.7	178.4	46.7	182.6
b	95.0	7.2	100.0	11.5
η	61.1	93.8	66.0	97.9

	x	x	y	y
η − a	+ 19.4	η − b − 33.9	η − a − 84.6	η − b + 86.6
	+ 19.3	− 34.0	− 84.7	+ 86.4
	+ 19.35	− 33.95	− 84.65	+ 86.5
	+ 19.54	− 34.29	− 85.50	+ 87.36
	÷ .500	÷ .500	− 42.75	+ 42.68
	+ 39.1	− 68.6		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8376 No. 49 Oct. 8, 1908.

1900 pos. 10 44 17.5 +0° 46′.0

a = +1.2482	10	40	4.5	+1	23.1	+ 111.1	=	10	41	55.6	− 23.9	=	+0	59.2
b = +0.2708	10	44	36.8	+0	23.9	− 152.8	=	10	42	4.0	+ 37.6	=	+1	1.5
c = +0.2688	10	39	30.2	+0	35.4			10	41	59.8			+1	0.4
							mean	10	41	58.9			+1	0.2

(−4.4 +6.6) (−0.8 +0.9)
−5.5 +5.4 (−0.8 +0.9)

Cos +0.8 / 2

@ − = −

.500

−

−

	x	y	x	y
a	30.0	124.7	35.0	127.2
b	160.7	7.8	165.6	5.8
η	85.0	78.5	90.0	88.1

	x	x	y	y
η−a	+55.0	η−b −75.7	η−a −48.2	η−b +75.7
	+55.0	−75.6	−47.4	+75.5
	+55.0	−75.65	−47.3	+74.5
	+55.55	−76.41	−47.77	+75.24
	÷ .500	÷ .500	−23.89	+87.62
	+111.1	−152.8		

checking the
I get
a 30.1 125.4 3.4
b 160.6 27.9
η 85.0
which about agree well
To agree well
8.1 11
7.3 11

These comb. st. a & b are 1½ deg. distant, in evidence of the common scale

See B.J. 6 pg. 51 for re-meas. of this pair. Two new stars were also measured the the mean result is practically same as Def. but differs in R.A. to above result by 0.1

Result as per above meas. 10 41 59.8 +1° 0.4
" " " B.J. 6 page 51 10 41 58.7 +1° 0.3
10 41 59.2 +1° 0.4

10 41 59.8	+1	0.4
10 41 58.7	+1	0.3
10 41 59.3	+1	0.0
10 41 58.9	+1	0.2

A new set of stars were measd. see B.J. 6. pg 34 and the results obtained are accordant — the new stars being better placed than the above set — Pos. as ded by meas. B.J. 6 pg 34 — 10 41 58.2 +1° 0.0

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

N 8326 No. 50 Oct. 8, 1908.

		(1900 pos)	10 43 13.0	+0 30'.6				
a	+0 2701	10 39 20.5	+0	17.0	+9.9	= 10 40 55.4	+28.8	= +0 45.8
b	+1 2485	10 42 10.6	+1	6.6	−7.8	= 10 40 53.6	−21.8	= +0 44.8
c	+0 2479	10 39 30.2	+0	34 51.4		10 40 54.5		+0 44.9

cos +0.9 (1.6)

c − a = +9.9 (3.9)

.500 (2.0)

+4.8

	x	y	x	y
a	25.0	22.5	30.0	28.1
b	110.1	121.1	115.1	126.7
η	72.0	77.9	77.0	83.4

	x	x	y	y
η − a	+47.0	η − b −38.1	η − a +55.4	η − b −43.2
	+47.0	−38.1	+55.3	−43.13
	+47.0	−38.1	+55.35	−43.25
	+47.47	−38.48	+55.90	−43.68
	÷.500	÷.500	+27.95	−21.84
	+94.9	−76.96		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8326 No. 51, Oct. 9, 1908.

						(1900 pos)	10	40	57.6 / 39.8	+ 0°	42'.7			
a = + 0	26 99	10	38	41.0	+ 0	52.6	+ 67.6	= 10	40	37.8	+ 5.6	= + 0	59.0	
b = + 1	n85	10	42	10.6	+ 1	6.6	− 90.6	= 10	40	40.0	− 9.8	= + 0	56.8	
c = + 1	n80	10	39	26.3	+ 1	43.8		10	40	38.9		+ 0	56.9	
				x										
		c − a = − 3.9						− 1.9	+ 1.9			0.0	0.0	
cos +1.7 / 2				· 500										
				− 2.0										

	x	y	x	y
a	30.0	70.5	35.0	79.0
b	108.3	101.1	109.6	109.6
η	63.5	81.6	68.4	90.1

	x	x	y	y
η − a	+ 33.5 η − b	− 44.8	η − a + 11.1	η − b − 19.5
	+ 33.4	− 44.9	+ 11.1	− 19.3
	+ 33.45	− 44.85	+ 11.1	− 19.5
	+ 33.78	− 46.30	+ 11.21	− 19.69
	÷ .500	÷ .500	+ 5.61	− 9.85
	+ 67.6	− 90.6		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 52 Oct. 9, 1908.

				(1900 pos)		10 39 57.2		+0° 37.9		
a = +1	2474	10 36 21.9	+1	3.0	+74.2	= 10 37 38.4	X −10.5	= +0 52.4		a
b = +0	2698	10 38 36.5	+0	40.5	−58.4	= 10 37 38.1	X +11.0	= +0 51.6		b
c = +1	2473	10 36 15.6	+1	48.9		10 37 38.6		+0 52.0		c
		0.8								

X

c − a = −9.3

.500

4.6

−12.0

Cos + 1.8 / 2

−0.2 +0.1 +0.5 −0.5

	x	y	x	y
a	20.0	84.6	35.0	89.1
b	85.7	41.6	100.6	46.1
η	66.8	63.7	71.7	68.0

x	x	y	y
η−a +36.8	η−b −28.9	η−a −20.9	η−b +22.1
+36.7	−28.9	−21.1	+21.9
+36.75	−28.9	−21.0	+22.0
+37.12	−29.19	−21.21	+22.22
÷.500	÷.500	−10.61	+11.11
+74.2	−58.4		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

Star +0 2731 is out in Dec. 2'

A 8326 No. 53 Oct. 9, 1908.

						1900 pos.	10 58 42.4	+0 20.5	
a =	+0 2729	10 56 12.5	+0	48.2	+12.9	= 10 56 25.4	− 12.6	= +0 35.6	
b =	+0 2731	10 56 40.8	+0	18.7	− 19.3	= 10 56 21.4	+ 18.3	= +0 37.7	
c =	−0 2401	10 56 56.3	∓0	30.0		10 56 23.4		+0 33.9	
								35.3	
						mean pos.	10 56 23.8	+0 35.0	
								+0.4 −0.4	
								+1.9 −1.8	
							(+2.5 − 2.1)	(+0.7 −0.1)	

$\frac{\cos -0.5}{2}$

c − b = + 15.9

.500

+ 7.8

	x	y	x	y
a	54.0	161.9	59.1	169.5
b	70.0	100.5	75.0	108.0
n	60.4	132.0	65.5	144.6

x	x	y	y
n − a + 6.4	n − b − 9.6	n − a − 24.9	n − b + 36.5
+ 6.4	− 9.5	− 24.9	+ 36.4
+ 6.4	− 9.55	− 24.9	+ 36.55
+ 6.46	− 9.65	− 25.15	+ 36.91
÷ .500	÷ .500	− 12.58	+ 18.46
+ 12.9	− 19.3		

Have re-measured the above object - see Bk 6 - page 52 - also took two new stars on the rest of the 4 stars measured gives practically the same results as that obtained in the above mean.

Results as per above mean.	10	56	23.4 +0° 33.9
" " " meas. Bk 6 pg 53	10	56	23.7 +0 34.0
mean.	10	56	23.6 +0° 34.0

Stars a. + 13. of the above set were meas - with a new star chosen for orienting the results are non accordant in R.A. but remain the same as that of the above meas. in Dec. For meas. see Bk 6 - pg. 35 - Pos. - 10 56 24.4 +0° 33.8

See Bk. 10 page 178 for meas. of star b. +0° 2731 - according to instructions I have Corrected above pos - My meas. being 2.9 greater in Dec. than pos. given in B.M. RON

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

Book 6 page 53 corrs.

A 8326 No. 54 Oct. 9, 1908.

								1900 pos.	10	57	26.1	+0	15.3	
a =	+0	2725	10	53	39.3	+0	49.6	+89.6	= 10	55	8.9	−20.3	= +0	29.3
b =	+0	2731	10	56	40.6	+0	13.7	−94.5	= 10	55	6.x	+13.6	= +0	27.3
c =	−0	2395	10	53	45.7	−0	16.2		10	55	7.5		+0	28.3
				x				mean pos	10	55	7.9		+0	29.8
			c − a =	+	6.4				+0.5		−0.5		−0.3	+0.3
					.500				(+0.1		−0.7)		(−0.3	+0.3)
					+3.2									

Cos −0.3 / 2

	x	y	x	y
a	30.0	143.8	20.0	160.0
b	121.2	76.6	106.1	93.0
η	74.4	103.5	59.3	119.8

	x	x	y	y
η − a	+44.4	−46.8	−40.3	+26.9
η − b	+44.3	−46.8	−40.2	+26.8
	+44.35	−46.8	−40.25	+26.85
	+44.79	−47.27	−40.65	+27.12
	÷ .500	÷ .500	−20.33	+13.56
	+89.6	−94.5		

See Bf. 10. pg. 178 for meas. of comparison star. pos. as given in B.M. differs by 2.9 in Dec. to pos. as determined by meas. According to instructions I have corrected above pos. & results of meas. of neb. are accordingly. R.C.M.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

For remeas this neb see Bk. 6 pg. 54 ✓

A 8326 No. 55 Oct. 9, 1908.

						1900 pos		10	57	19.6		+0	22.7				
a =	+0	2725	10	53	39.3	+0	49.6	+ 83.0	=	10	55	2.3	− 12.8	=	+0	36.8	
b =	+0	2731	10	56	40.6	+0	18.7	− 10.0	=	10	55	59.6	+ 21.0	=	+0	34.7	
c =	∓0	2395	10	53	45.7	−0	16.2			10	55	1.4			+0	35.8	
								mean pos.		10	55	1.4			+0	37.2	
										+0.3		−0.4			−0.3		+0.2
										(−0.1		+0.4)			(−0.3		+0.2)

x

c − a = +6.4

$\frac{c_{00} - o_{.3}}{2}$ .500

+3.2

	x	y	x	y
a	30.0	143.8	20.0	160.0
b	121.2	76.6	106.0	93.0
η	71.1	108.3	56.1	134.6

	x	x	y	y
η − a	+41.1	η − b −50.1	η − a −25.5	η − b +41.7
	+41.1	−49.9	−25.4	+41.6
	+41.1	−50.0	−25.45	+41.65
	+41.51	−50.50	−25.70	+42.07
	÷.500	÷.500	−17.85	+21.04
	+83.0	−101.0		

(See note on page 158)

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8336 No. 56 Oct. 9, 1908.

						1900 pos	10	49	14.4	+0	10.4	
a	= +0	2711	10	45	16.7	+0	22.3	+100.7	= 10	46	57.4 + 2.4	= +0 24.7
b	= +0	2716	10	49	28.3	+0	26.1	−144.2	= 10	46	55.6 − 1.6	= +0 24.5
c	= −0	2392	10	49	17.1	−0	23.2		10	46	56.5	+0 24.6
					x							
			c − b = − 2.5						− 0.3	+ 0.3		+0.5 − 0.1

cos −0.4 / 2

.500

− 1.2

	x	y	x	y
a	28.9	106.9	33.8	111.4
b	150.0	184.7	155.0	189.6
η	78.7	111.5	83.7	106.3

	x	x	y	y
η − a	+ 49.8	η − b − 71.3	η − a + 4.6	η − b − 3.2 / 8.8
	+ 49.9	− 71.3	+ 4.8	− 3.3
	+ 49.85	− 71.3	+ 4.7	− 3.25
	+ 50.35	− 72.01	+ 4.75	− 3.28
	÷ .500	÷ .500	+ 2.38	− 1.64
	+ 100.7	− 144.0		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1900phae.proj.2296B

Note - For No. 58 see Bk. 5, page 75.

A 8326 No. 57 Oct. 10, 1908.

(1900 pos) 10 41 41.0 +0° 35'.9

a =	+0.2702	10	39	23.9	+0	36.8	+0.8	=	10	39	24.7	+2.8	= +0 39.6
b =	+0.2703	10	39	30.2	+0	51.4	−9.9	=	10	39	20.8	−5.7	= +0 45.7
c =	+1.2487	10	39	24.4	+1	34.4			10	39	22.5		+0 40.0
													+0 40.1

x

c − a = +0.5 +1.8 −1.8 −0.5 +0.5

Cor +1.6 / 2

.500

+0.2

	x	y	x	y
a	25.0	20.1	35.0	30.6
b	29.9 / 30.3	47.0 / 35.9	40.0	57.7 / 46.4
η	25.4	25.6	35.4	36.1

x	x	y	y
η − a +0.4	η − b −4.95	η − a +5.5	η − b −21.4 / 20.1
+0.4	−4.96	+5.5	−21.6 / 20.8
+0.4	−4.955	+5.5	−21.5 / 20.12
+0.44	−4.959	+5.56	−21.72 / 20.80
÷.500	÷.500	+2.78	−10.86 / 5.45
+0.88	−9.92		

Child 67
5.1.3
12.9.08
Star has been
wrong
measured
Corrected
RGP.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 59 Oct. 10, 1908.

1900 pos. 10 59 18.2 −0 0.3

a =	+ 0	2730	10	56	36.4	+ 0	45.0	+ 23.1	= 10	57	59.5	−31.4	= + 0	13.6
b =	− 0	2402	10	57	21.3	∓ 0	9.6	− 20.8	= 10	57	0.5	+24.5	= + 0	14.7
c =	+ 0	2731	10	56	40.6	+ 0	13.7			10	57	0.0		+ 0	14.7

x

c − a = + 4.2

.500

+ 2.1

−0.7 +0.7 −0.3 +0.5

cos + 0.2 / 2

	x	y	x	y
a	75.0	118.6	80.0	111.5
b	96.8	8.0	101.7	0.7
η	86.5	56.6	91.4	49.3

	x	x	y	y
η − a	+ 11.5	η − b − 10.3	η − a − 62.0	η − b + 48.6
	+ 11.4	− 10.3	− 62.2	+ 48.6
	+ 11.45	− 10.3	− 62.1	+ 48.6
	+ 11.56	− 10.40	− 62.72	+ 49.09
	÷ .500	÷ .500	− 31.36	+ 24.54
	+ 23.1	− 20.8		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

Note – No. 60 is rejected.
Bf. 6, pg 57 for remeas.

A 8326 No. 61 Oct. 10, 1908.

1900 pos. 10 5 57.5 – 0 5.2

a =	– 0	23	10	52	58.9	– 0	2.4	+ 10.3 =	10	54	39.2	+ 12.3 = + 0 9.8
b =	+ 0	2731	10	56	40.6	+ 0	16.6 × 3.7	– 13.8 =	10	54	38.4	– 7.8 = + 0 6.0
c =	+ 0	2401	10	56	56.3	– 0	30.0		10	54	38.8	+ 0 8.0
								mean pos.	10	54	39.2	+ 0 9.2

(+0.4 – 0.4, +8 – 9)

(+0.3 – 0.3, (−0.1 − 0.5), (+0.6 – 0.2))

$\frac{c-a}{2} - 0.5$

c – b = + 15.5
.500
+ 7.8

	x	y	x	y
a	34.8	78.1	38.9	67.2
b	145.0	117.8	150.0	107.0
η	84.0	102.5	89.0	91.7

x	x	y	y
η – a + 50.2	η – b – 61.0	η – a + 24.4	η – b – 15.3
+ 50.1	– 61.0	+ 24.5	– 15.3
+ 50.15	– 61.0	+ 24.45	– 15.3
+ 50.65	– 61.61	+ 24.69	– 15.45
÷ .500	÷ .500	+ 12.345	– 15.72
+ 101.3	– 123.2		

For re-meas. of this neb. see pg. 57, Bf. 6
Also meas. two new stars and the results are practically the same as in the above comp. there being the large Diff. of res. in Dec. about 4′ in field notation.

Results as per above meas.	10	54	38.8 +0° 8.0
" " " meas. Bf. 6 – pg 57	10	54	39.5 +0 8.4
	10	54	39.2 +0° 8.2

See Bf. 10 page 178 for meas. of star b +0° 2731 – according to my meas. of same it differs in Dec. by 2.9 from pos. as given in B.M. Abandoning to instructions I have made correction in above pos. of b – and the results of meas. of neb. are accordant in Dec. R.C.W.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 62 Oct. 10, 1908.

						1900 pos.	10	56	28.8	−0	10.3			
a =	−0	3394	10	52	58.9	−0	2.4	+63.8	= 10	53	2.7	+6.8	= +0	4.4
b =	+0	2728	10	55	51.0	+0	1.8	−108.4	= 10	54	2.6	+1.7	= +0	3.5
c =	+0	2727	10	55	28.3	+0	53.0			10	54	2.7	+0	4.0

x

c − b = −22.7

.500

−11.4

−0.8 +0.8 +0.4 −0.4

$\frac{c_{00} + 0.9}{2}$

	x	y	x	y
a	14.8	8.2 9.9	19.7	13.8
b	100.0	18.5	105.0	24.0
η	46.4	21.8	51.3	27.3

	x		x		y		y	
η − a	+31.6	η − b	−53.6	η − a	+13.6	η − b	+3.3	
	+31.6		−53.7		+13.5		+3.3	
	+31.6		−53.65		+13.55		+3.3	
	+31.92		−54.19		+13.68		+3.33	
	÷ .500		÷ .500		+6.84		+1.67	
	+63.8		−108.4					

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8326 No. 63 Oct. 10, 1908.

							1900 fm.	10	54	8.0	− 0	9.0			
							175.2		49 3	22.9					
a = +0 2718	10	49	44.1	+0	27.8	+ 229.8	= 10	51	53.9	− 22.9	= +0		4	5.8	
b = −0 2394	10	52	58.9	−0	2.4	− 20.4	= 10	51	48.5	+ 7.8	= +0			5.9	
c = +1 2507	10	53	17.3	+1	9.0			10	51	31.2		+0		5.4	
		x													
	c − b = +13.4						− 0.5	+0.4			− 0.5	+0.5			

cos +1.1 / 2

.500 / 6 / +1.7

	x	y	x	y
a	10.9	74.6	15.9	83.3
b	110.0	15.5	115.0	23.1
η	75.2	31.0	80.1	38.6

error in orientation

	x	x	y	y
η−a	+ 64.3	η−b − 34.8	η−a − 43.6	η−b + 15.5
	+ 64.2	− 34.9	− 43.7	+ 15.5
	+ 64.25	− 34.85	− 43.65	+ 15.5
	+ 64.89	− 35.70	− 44.09	+ 15.66
	÷ .500	÷ .500	− 22.04	+ 7.83
	+ 129.8	− 70.4		

	x	y	x	y
a	13.1	85.8	18.0	92.6
b	110.0	23.5	115.0	20.3
η	75.8	40.0	80.6	46.9
	δ x	x	y	y
η−a	+ 62.6	η−b − 34.4	η−a − 45.8	η−b + 16.5
	+ 62.6	− 34.4	− 45.7	+ 16.6
	+ 62.6	− 34.35	− 45.75	+ 16.55
	+ 63.23	− 34.69	− 46.21	+ 16.71
	÷ .500	÷ .500	− 23.11	+ 8.36
	+ 126.5	− 69.4		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 64 Oct. 13, 1908.

1900 pos. 10 48 12.8 −0° 5′.0

a	+0	2708	10 44 4.3	+0	16.5	+11″.7	10 45 55.9	−7.4	+0	9.2
b	−0	2389	10 47 58.7	−0	3.0	−17″.3	10 45 55.6	+12.4	+0	9.3
c	+0	2715	10 48 12.3	+0	53.6		10 45 54.6		+0	9.2

x

c − b = +13.6

·500

+ 6.8

$\frac{c_{00} + 0.9}{2}$

−0.2 +0.2 +0.0 +0.1

	x	y	x	y
a	28.1	49.8	27.9	51.4
b	145.0	10.4	155.0	12.1
η	83.1	38.5	93.0	36.7

	x		x		y		y	
η − a	+55.0	η − b	−61.9	η − a	−14.8	η − b	+24.6	
	+55.1		−62.0		−14.7		+24.6	
	+55.05		−61.95		−14.75		+24.6	
	+55.60		−62.57		−14.90		+24.85	
	÷ .500		÷ 500		−7.45		+12.42	
	+111.2		−125.1					

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8326 No. 65. Oct. 13, 1908.

					1900 pos.		10	48	13.2	−0	9.8	
a = +0 2706	10	44	4.3	+0	16.5	+ 111.6	= 10	45	59.9	−14.3	= +0	4.2
b. −0 2389	10	47	58.7	−0	3.0	− 174.7	= 10	45	54.2	+ 7.6	= +0	4.6
c. +0 2715	10	48	12.3	+0	53.6		10	45	55.0		+0	4.4
			x									
	@ − b = +13.6						−0.2		+0.2		−0.1	+0.1

Coo +0.9 / 2

.500

+ 6.8

	x	y	x	y
a	28.1	49.8	37.9	51.4
b	145.0	10.4	155.0	12.1
η	83.3	25.5	93.2	27.1

	x	x	y	y
η − a	+ 55.2	η − b − 61.7	η − a − 24.3	η − b + 15.1
	+ 55.3	− 61.8	− 24.3	+ 15.0
	+ 55.25	− 61.75	− 24.3	+ 15.05
	+ 55.80	− 62.37	− 24.54	+ 15.20
	÷ .500	÷ .500	− 12.27	+ 7.60
	+ 111.6	− 174.7		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 66 Oct. 13, 1908.

			(1900 pos)	10 47 46.2	− 0° 8'.4	
a	− 0 2879	10 45 5.9	− 0 10.7 + 22.4	= 10 45 28.3 + 17.9	= + 0 6.1	a
b	+ 0 2711	10 45 16.7	+ 0 22.3 + 11.3	= 10 45 28.0 − 17.1	= + 0 5.4	b
c	+ 0 2710	10 45 10.9	+ 0 34.7	10 45 28.2	+ 0 5.8	c
		x				
		c − a = + 5.0		+ 0.1 − 0.1	+ 0.3 − 0.4	
		.500				
		+ 2.5				

Corr +0.6 / 2

	x	y	x	y
a	75.0	10.4	80.0	21.6
b	80.5	77.9	85.5	89.2
η	86.1	44.0	91.1	55.2

	x	x	y	y
η − a	+ 11.1	η − b + 5.6	η − a + 33.6	η − b − 33.9
	+ 11.1	+ 5.6	+ 33.6	− 34.0
	+ 11.1	+ 5.6	+ 33.6	− 33.95
	+ 11.21	+ 5.66	+ 33.94	− 34.29
	÷ .500	÷ 500	+ 16.97	− 17.14
	+ 22.4	+ 11.3		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8326 No. 67 Oct. 13, 1908.

1900 pos. 10 45 23.1 +0 7.4

a	−0	2379	10	45	5.9	−0	10.7	−0.9	= 10	45	5.0	+18.2	= +0	7.2
b	+0	2711	10	45	16.7	+0	22.3	−12.2	= 10	45	4.7	−16.8	= +0	6.2
c	+0	2710	10	45	10.9	+0	34.7		10	45	4.9		+0	6.8
					x									

c−a = +5.0 +0.1 −0.1 +0.3 −0.4

$\frac{c_{00}+0.6}{2}$

.500

+2.5

	x	y	x	y
a	75.0	10.4	80.0	21.6
b	80.5	77.9	85.5	89.2
η	74.5	46.1	79.6	57.3

x		x		y		y	
η−a	−0.5	η−b	−6.0	η−a	+35.7	η−b	−31.8
	−0.4		−5.9		+35.7		−31.9
	−0.45		−5.95		+35.7		−31.85
	−0.45		−5.01		+36.06		−32.17
	÷.500		÷.500		+18.03		−16.08
	−0.9		−12.0				

John C. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8376 No. 68 Oct. 13, 1908.

				(1900 p00)	10 46 59.5	−0° 1'.8				
a =	+0	2707	10 44 13.3	+0	6.7	+28.4	= 10 44 41.4	+5.3	= +0	12.0
b =	+0	2711	10 45 16.7	+0	22.3	−35.9	= 10 44 48.8	−9.6	= +0	17.6
c =	+0	2712	10 45 27.5	+0	55.3		10 44 41.3		+0	12.4
			x							
			c − b = +10.8				+0.1 −0.1		−0.4 +0.3	

a

b

c

cos +0.9 / 2

.500

+5.4

	x	y	x	y
a	28.2	15.6	33.2	26.5
b	60.0	45.6	65.0	56.5
η	42.3	26.3	47.2	37.3

	x	x	y	y
	n−a + 14.1	n−b − 17.7	n−a + 10.7	n−b − 19.3
	+ 14.0	− 17.8	+ 10.8	− 19.2
	+ 14.05	− 17.75	+ 10.75	− 19.25
	+ 14.19	− 17.93	+ 10.86	− 19.44
	÷ .500	÷ .500	+ 5.43	− 9.72
	+ 28.4	− 35.9		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1900phae.proj.22968

A 8326 No. 69 Oct. 13, 1908.

			(1900 pos.)		10 44 12.2	− 0 ° 8.5		
a = − 0 23 73	10 39 54.7	− 0	7.4	+ 118.6	= 10 41 53.3	+ 13.6	= + 0	6.2
b = + 0 27 06	10 44 4.5	+ 0	16.5	− 129.6	= 10 41 54.7	− 11.3	= + 0	5.2
c = + 0 27 03	10 49 30.2	+ 0	51.4		10 41 54.2		+ 0	5.7

x

c − a = − 24.5

cos +0.9 / 2

.500

− 12.2

	x	y	x	y
a	30.0	2.4	35.0	9.5
b	152.8	51.7	157.9	58.8
7	88.7	29.3	93.7	36.6

x		y	
n-a + 58.7	n-b − 64.1	n-a + 26.9	n-b − 22.4
+ 58.7	− 64.2	+ 27.1	− 22.2
+ 58.7	− 64.15	+ 27.0	− 22.3
+ 59.29	− 64.79	+ 27.27	− 22.52
÷ .500	÷ .500	+ 13.64	− 11.26
118.6	− 129.6		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 70 Oct. 13, 1908.

						1900 prov.	10 43 52.9	−0° 6'.9		
a	−0	2703	10 39 54.7	−0	7.4	+99.0 =	10 41 33.7	+15.2 =	+0	7.8
b	+0	2706	10 44 44.5	+0	16.5	−179.2 =	10 41 35.2	−9.6 =	+0	7.9
c	+0	2705	10 39 30.2	+0	51.4		10 41 34.4		+0	8.4
			x							7.6
			c − a = +24.5			−2.4 + 2.4			+0.4 −0.4	
			−.500							
			+12.2							

Corr. +0.9 / 2

	x	y	x	y
a	30.0	2.4	35.0	9.5
b	152.8	51.7	157.9	58.8
η	79.0	32.6	84.0	39.7

corrected, see sheet, + list.

	x		x		y		y	
η − a	+49.0	η − b	−73.8	η − a	+30.2	η − b	−19.1	
	+49.0		−73.9		+30.2		−19.1	
	+49.0		−73.85		+30.2		−19.1	
	+49.49		−74.59		+30.50		−19.29	
	÷.500		÷.500		+15.25		−9.64	
	+98.98	9.0	−149.1					

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8326 No. 71. Oct. 13, 1908.

						1900.0 pos	11	0	1.2	−0 14.7
a	−0.2402	10	57	21.3	−0	9.6	+21.2	= 10	57 42.5	+9.6 = −0 0.1
b	+0.2735	10	58	15.6	+0	11.7	−32.8	= 10	57 43.8	−17.1 = −0 0.5
c	−1.2478	10	57	39.6	−1	2.2			10 57 42.9	−0 0.2

x

c − a = +18.3

−0.7 +0.6 −0.1 +0.2

100 − 1.0 / 2

.500

+9.2

	x	y	x	y
a	45.0	110.0	50.0	115.5
b	71.5	153.4	76.5	158.6
η	55.5	129.0	60.5	134.5

	x	x	y	y
η − a	+10.5	η − b −16.0	η − a +19.0	η − b −24.4
	+10.5	−16.0	+19.0	−24.2
	+10.5	−16.0	+19.0	−24.2
	+10.61	−16.16	+19.19	−24.44
	÷.500	÷500	+9.595	−12.22
	+21.2	−32.3		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 72 Oct. 14th, 1908.

1900 prec. 10 57 50.6 −0 25.3

a = −0	2395	10	53	45.7	−0	16.2	+108.4	= 10 55 33.8	+5.1	−0 11.0
b = −0	2404	10	57	52.5	−0	4.6	−14.7	= 10 55 30.8	−6.1	−0 10.7
c = +0	2735	10	58	39.6	+0	49.6		10 55 32.3		−0 10.8

c − a = − 6.4

Corr +0.8 / 2

.500 / 6.5 / − 3.2

	x	y	x	y
a	26.4	96.9	31.3	103.2
b	150.0	119.3	155.0	125.6
η	79.9	107.2	84.8	113.5

x		x		y		y	
η−a	+ 53.5	η−b	− 70.1	η−a	+ 10.3	η−b	− 12.1
	+ 53.5		− 70.2		+ 10.3		− 12.1
	+ 53.5		− 70.15		+ 10.3		− 12.1
	+ 54.04		− 70.85		+ 10.40		− 12.22
	÷ .500		÷ .500		+ 5.2		− 6.11
	+ 108.1		− 141.7				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8326 No. 73 Oct. 14, 1908.

1900 pos. 10 53 1.4 − 0 13.9

a = − 0	2393	10	49	29.3	− 0	4.8	+ 73.1	=	10	50	4x.4	+ 4.2 = + 0 0.6
b = + 0	2723	10	52	39.1	+ 0	9.0	− 115.7	=	10	50	43.4	− 8.6 = + 0 0.4
c = + 0	2720	10	49	54.7	+ 0	36.8			10	50	4x.9	+ 0 0.5

x

c − a = + 25.4

− 1.5 + 1.4 + 0.2 − 0.1

$\frac{\cos + 0.6}{2}$

.500

+ 12.7

	x	y	x	y
a	45.0	11.5	50.0	21.4
b	138.5	36.6	143.5	46.8
η	81.2	19.7	86.2	29.8

x		x		y		y	
η − a	+ 36.2	η − b	− 57.3	η − a	+ 8.2	η − b	− 16.9
	+ 36.2		− 57.3		+ 8.4		− 17.0
	+ 36.2		− 57.3		+ 8.3		− 16.95
	+ 36.56		− 57.87		+ 8.38		− 17.12
	÷ .500		÷ 500		+ 4.19		− 8.56
	+ 73.1		− 115.7				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 74 Oct. 14, 1908.

(1900 pos.) 10 46 26.2 −0° 27′.4

a	−0 2377	10 41 42.7	−0 10.9	+146.1 =	10 44 8.8	−2.5 =	−0 13.4
b	−0 2381	10 45 47.1	−0 15.5	−99.3 =	10 44 8.8	+2.4 =	−0 13.1
c	+0 2710	10 45 10.9	+0 34.7		10 44 8.8		−0 13.2

x

c − b = −36.2

−0.7 +0.8 +0.2 −0.1

Cos +0.6 / z

.500

−18.1

	x	y	x	y
a	23.6	26.2	28.4	33.3
b	145.0	16.5	150.0	23.5
η	95.9	21.3	100.8	28.3

	x	x	y	y
η−a	+72.3	−49.1	−4.9	+4.8
η−b	+72.4	−49.2	−5.0	+4.8
	+72.35	−49.15	−4.95	+4.8
	+73.07	−49.64	−5.00	+4.85
	÷.500	÷500	−2.50	+2.42
	+146.1	−99.3		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8326 No. 75 — Oct. 14, 1908.

			(1900 pos)	10 45 49.1	−0° 15′.9			
a = −0 2977	10 41 42.7	−0	10.9	+ 109.3	= 10 43 32.0	+ 9.8	= −0	1.2
b = +0 2707	10 44 38.3	+0	25.1	− 42.8	= 10 43 30.5	− 9.0	= −0	2.3
c = +1 2485	10 42 10.6	+1	6.6		10 43 31.2		−0	1.7

×

c − a = +27.9

·500

+14.0

Coo +1.1 / 2

0.0 0.0 −0.5 +0.5

	x	y	x	y
a	10.0	6.5	15.0	10.7
b	85.3	43.9	90.3	48.0
η	64.1	26.1	69.1	30.1

x	x	y	y
η − a + 54.1	η − b − 21.2	η − a + 19.6	η − b − 17.8
+ 54.1	− 21.2	+ 19.4	− 17.9
+ 54.1	− 21.2	+ 19.5	− 17.85
+ 54.64	− 21.41	+ 19.70	− 18.03
÷ .500	÷ .500	+ 9.85	− 9.02
+ 109.3	− 42.8		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 76 – Oct. 14, 1908

					(1900 pos)	10 45 29.9	– 0 17.8			
a = –0	2377	10 41 42.7	– 0	10.9	+89.9	= 10 43 12.6	+ 7.8	= –0	3.2	a
b = +0	2707	10 44 13.3	+0	6.7	–62.2	= 10 43 11.7	–10.9	= –0	4.3	b
c = +1	2485	10 42 10.6	+1	6.6		10 43 11.8		–0	3.7	c

c – a = +27.9

·500

+14.0

Cos +1.1 / 2

0.0 0.0 –0.5 +0.6

	x	y	x	y
a	10.0	6.5	15.0	10.7
b	85.3	43.9	90.3	48.0
η	54.5	22.6	59.5	26.2

x	x	y	y
η–a +44.5	η–b –30.8	η–a +15.6	η–b –21.8
+44.5	–30.8	+15.5	–21.8
+44.5	–30.8	+15.55	–21.8
+44.94	–31.11	+15.71	–22.02
÷ .500	÷ .500	+7.86	–11.01
+89.9	–62.2		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1900phae.proj.22968

A 8326 No. 77 – Oct. 14, 1908.

						(1900 pos)	10	45	22.3		−0°	15.9	
a =	−0	2377	10	41	42.7	−0	10.9	+ 84.2	= 10	43	6.9	+ 9.8	= −0 1.1
b =	+0	2707	10	44	13.3	+0	6.7	− 67.9	= 10	43	5.4	− 9.8	= −0 2.3
c =	+1	2885	10	42	10.6	+1	6.6			10	43	6.2	−0 1.7

x

c − a = + 27.9

Cor +1.1 / 2

.500

+ 14.0

	x	y	x	y
a	10.0	6.5	15.0	10.7
b	85.3	43.9	90.3	48.0
η	51.7	26.1	56.7	30.1

x	x	y	y
η − a + 41.7	η − b − 33.6	η − a + 19.6	η − b − 17.5
+ 41.7	− 33.6	+ 19.4	− 17.9
+ 41.7	− 33.6	+ 19.5	− 17.85
+ 42.12	− 33.94	+ 19.69	− 18.03
÷ .500	÷ .500	+ 9.84	− 9.02
+ 84.2	− 67.9		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 87 Oct. 5h, 1908.

					1900 pos	10 58 29.6		−0 51.5		
a = −0 2396	10 55 17.8	−0 46.7	+54.0	=	10 56 11.8	+9.4	=	−0 37.3		a =
b = −0 2401	10 56 56.3	−0 30.0	−44.2	=	10 56 14.1	−6.8	=	−0 36.8		b =
c = +0 2728	10 55 57.0	+0 1.8			10 56 11.4			−0 37.8		c =
	x									
	c − a = +33.2				−0.1	+0.1		+0.4	−0.3	

c₀₀ +0.0

500

+16.6

	x	y	x	y
a	65.0	19.6	70.0	21.5
b	103.6	46.6	118.7	53.6
η	91.7	33.2	96.8	40.1

x	x	y	y
η − a + 26.7	η − b − 21.9	η − a + 18.6	η − b − 13.4
+ 26.8	− 21.9	+ 18.6	− 13.5
+ 26.745	− 21.9	+ 18.6	− 13.45
+ 27.02	− 22.12	+ 18.79	− 13.58
÷ .500	÷ .500	+ 9.395	− 6.79
+ 54.0	− 44.2		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1900phae.proj.22968

A 8326 No. 78 . Oct. 14, 1908.

							1900 pos.	10	56	16.5	−	0	35.9	
a =	−0	2394	10	53	58.9	−0	2.4	+ 59.4	= 10	53	58.9	− 18.7	= −0	21.5
b =	−0	2396	10	55	17.8	−0	46.7	− 80.7	= 10	53	58.9	+ 24.8	= −0	21.9
c =	+0	2778	10	55	51.0	+0	1.8			10	53	58.2	−0	21.5

x

c − b = +33.2

.500

+ 16.6

Corr +0.0 / 2

−0.6 +0.6 −0.6 +0.6

	x	y	x	y
a	55.7	108.5	60.6	107.9
b	125.0	16.4	130.0	21.8
η	85.1	65.4	90.0	71.0

x	x	y	y
n − a + 29.4	n − b − 39.9	n − a − 37.1	n − b + 49.0
+ 29.4	− 40.0	− 36.9	+ 49.2
+ 29.4	− 39.95	− 37.0	+ 49.1
+ 29.69	− 40.35	− 37.37	+ 49.59
÷ .500	÷ .500	− 18.69	+ 24.79
+ 59.4	− 80.7		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 79 Oct. 15, 1908.

						1900 pos.	10	52	17.6	− 0	50.0	
a	− 0	2390	10	48	30.3	− 0	14.7	+ 90.3	= 10	59	2.6	− 21.0	= − 0	35.7	a
b	− 1	2467	10	52	27.0	− 1	13.1	− 149.3	= 10	49	57.7	+ 37.6	= − 0	35.5	b
c	− 0	2391	10	48	42.7	− 0	50.7			10	49	59.4		− 0	35.6	c

x

c − a = + 12.4

· 500

+ 6.2

	x	y	x	y
a	25.0	122.5	40.0	126.0
b	143.4	6.2	158.7	10.1
η	69.7	80.7	84.7	84.6

	x		x		y		y	
η − a	+ 44.7	η − b	− 73.8	η − a	− 41.4	η − b	+ 74.5	
	+ 44.7		− 74.0		− 41.4		+ 74.5	
	+ 44.7		− 73.9		− 41.5		+ 74.55	
	+ 45.15		− 74.64		− 41.92		+ 75.29	
	÷ .500		÷ .500		− 20.96		+ 37.64	
	+ 90.3		− 149.3					

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8326 No. 80 Oct. 15, 1908.

				1900 pos.		10	49	58.1	− 0	32.9
a = − 0	2381	10	45	47.1	− 0	15.5	+ 113.3	10	47	40.4 − 2.8	− 0	18.3
b = − 0	2392	10	48	47.7	− 0	23.2	− 97.6	10	47	39.5 + 4.2	− 0	19.0
c = + 0	2716	10	49	19.6	+ 0	26.1		10	47	39.0	− 0	18.6

c − b = + 2.5

Cos +0.4 / 2

.500

+ 1.2

	x	y	x	y
a	35.6	33.8	40.6	40.1
b	140.0	20.0	145.0	26.4
η	91.8	28.2	96.67	34.7

x	x	y	y
η − a + 56.1	η − b − 48.3	η − a − 5.6	η − b + 8.2
+ 56.1	− 48.3	− 5.4	+ 8.3
+ 56.1	− 48.3	− 5.5	+ 8.25
+ 56.66	− 48.78	− 5.56	+ 8.33
÷ .500	÷ .500	− 2.78	+ 4.16
+ 113.3	− 97.6		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

For new meas. see Bd. 10 page 188.

A 8326 No. 81 Oct. 15, 1908

						1900 pos.	10	46	30.8			−0	35.4
a	−0	23′78	10	42	33.1	−0	0.4	+ 99.9	= 10	44	13.0	− 14.8	= −0 15.2
b	−0	23′82	10	46	14.8	−0	35.4	− 173.1	= 10	41	11.7	+ 13.3	= −0 21.4
c	−1	24′51	10	42	32.5	−1	11.2		10	44	12.4		−0 11.2
				x			mean pos.		10	44	12.6		−0 21.7
			c − a =		−0.6				−0.4	+0.5			−1.1 +1.0
									(−0.4	+0.5)			(−1.1 + +0.6)

Cos −1.2 / 2

.500

−0.3

	x	y	x	y
a	15.0	154.4	10.0	163.9
b	178.4	88.5	170.4	98.3
η	64.4	105.0	59.5	124.8

	x	x	y	y
η − a	+ 49.4	η − b − 61.0	η − a − 39.4	η − b + 26.5
	+ 49.5	− 60.9	− 39.3	+ 26.5
	+ 49.45	− 60.95	− 39.35	+ 26.4
	+ 49.94	− 61.56	− 39.64	+ 26.66
	÷ .500	÷ .500	− 14.82	+ 13.33
	+ 99.9	− 123.1		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

For new meas. see Book 10 page 189.

A 8376 No. 82 Oct. 15, 1908.

					1900 pos.	10	46	28.7	− 0	33.1
a = −0	2378	10	42	33.1	−0	0.4	+ 97.8	= 10	44	x0.9 − 17.6 = −0 18.9
b = −0	2382	10	46	14.8	−0	35.4	− 125.2	= 10	44	9.6 + 15.7 = −0 19.3
c = −1	2451	10	42	32.5	−1	11.2		10	44	10.3 −0 18.8
		x				mean pos	10	44	10.1	−0 18.8
		c − a = − 0.6					−0.5	+0.4	−1.0	+1.1
Cos −1.2 / 2		.500					(−0.4	+0.3)	(−1.0	+1.0)
		−0.3								

	x	y	x	y
a	15.0	154.4	10.0	163.9
b	125.4	88.5	170.4	98.3
η	63.4	179.6	38.4	179.2

x	x	y	y
η − a + 48.4	η − b − 62.0	η − a − 34.8	η − b + 81.1
+ 48.4	− 62.0	− 34.7	+ 80.9
+ 48.4	− 62.0	− 34.75	+ 81.0
+ 48.88	− 62.62	− 35.10	+ 81.31
÷ .500	÷ .500	− 17.55	+ 15.66
+ 97.8	− 125.2		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 83 Oct. 15, 1908.

(1900 pos.) 10 45 6.8 −0° 45′.8

a =	−0	2375	10	40	26.1	−0	27.7	+ 143.2	= 10 42 49.3	− 3.9	= −0 31.6
b =	−0	2382	10	46	14.8	−0	35.4	− 205.6	= 10 42 49.3	+ 3.8	= −0 31.6
c =	+0	2711	10	45	16.7	+0	22.3		10 42 49.3		−0 31.6

x

c − b = − 58.1

cos +0.4 / 2

.500

− 29.1

	x	y	x	y
a	6.3	25.8	11.3	29.3
b	180.0	10.4	185.0	14.1
η	77.2	18.0	87.2	21.5

	x	x	y	y
η − a	+ 70.9	η − b − 102.8	η − a − 7.7	η − b + 7.8
	+ 70.9	− 102.8	− 7.8	+ 7.4
	+ 70.9	− 102.8	− 7.75	+ 7.5
	+ 71.61	− 102.802	− 7.83	+ 7.58
	÷ .500	÷ .500	− 3.92	+ 3.79
	+ 143.2	− 205.6		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8326 No. 84 Oct. 15, 1908.

						(1900 pos.)	10	41	43.4	− 0°	51′	5
a	= − 0	2370	10	38	12.7	− 0	43.4	+72.4	= 10	39	44.8	+ 6.4 = − 0 37.0
b	= − 0	2375	10	40	26.1	− 0	27.7	−60.4	= 10	39	25.7	− 10.2 = − 0 37.9
c	= − 1	4443	10	40	9.0	− 1	20.0		10	39	25.2	− 0 37.4

x

c − b = − 17.1 | − 1.1 + 1.1 | − 0.3 + 0.4

Cos $\frac{-1.3}{2}$ | .500 | − 8.6

	x	y	x	y
a	44.4	87.0	49.4	82.1
b	110.0	119.9	115.0	115.0
η	80.1	99.7	85.1	94.8

x		x		y		y	
η − a	+ 35.7	η − b	− 29.9	η − a	+ 12.7	η − b	− 20.2
	+ 35.7		− 29.9		+ 12.7		− 20.2
	+ 35.7		− 29.9		+ 12.7		− 20.2
	+ 36.06		− 30.20		+ 12.83		− 20.40
	÷ .500		÷ .500		+ 6.4 x		− 10.20
	+ 72.1		− 60.4				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8316 No. 85 Oct. 15, 1908.

				(1900 pos)			10 38 45.7		−0 45.8	
a	−0 2366	10 35 42.4	−0	42.7	+46.3	=	10 36 28.7	+11.1	= −0 31.6	a
b	−0 2367	10 37 8.7	−0	23.1	−42.3	=	10 36 36.8	−9.9	= −0 32.1	b
c	+0 2696	10 37 9.2	+0	11.0			10 36 27.6		−0 31.9	c

c−b = +0.5

+0.7 −0.7 −0.1 +0.2

c₀₀ +0.2 / 2

.500

+0.3

	x	y	x	y
a	26.2	5.4	31.1	17.5
b	70.0	45.0	75.0	57.4
η	49.1	27.3	54.0	37.6

	x	x	y	y
η−a	+22.9	η−b −20.9	η−a +21.9	η−b −17.7
	+22.9	−21.0	+22.1	−17.8
	+22.9	−20.95	+22.0	−17.75
	+23.13	−21.16	+22.22	−17.95
	÷.500	÷.500	+11.11	−8.96
	+46.3	−42.3		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

For new meas. this neb. see B[illegible] 10. pg. 196.

A 8326 No. 86 Oct. 15, 1908.

						1900 pos	10 59 34.6		−1	0.7	
a = −0.7101	10	56	56.3	−0	30.0	+23.2	= 10 57 17.5	−	15.7	= −0	45.8
b = −1.2478	10	57	39.6	−1	2.2	−25.9	= 10 57 13.7	+	15.6	= −0	46.6
c = +0.2731	10	56	40.6	+0	×3.7		10 57 16.6			−0	46.2
			x			mean pos	10 57 16.4			−0	46.2
							+2.7 −2.6			−0.5	+0.6
							(+2.9 −2.4)			(−0.5	+0.6)

$\frac{000 + 0.3x}{2}$ $\quad \alpha - a = -15.5$

$-.500$

-7.8

	x	y	x	y
a	30.0	75.0	35.0	83.5
b	54.2	12.5	59.3	21.1
η	41.4	43.5	46.5	52.0

x		x		y		y	
η−a	+18.4	η−b	−12.8	η−a	−31.5	η−b	+31.0
	+11.5		−12.8		−31.5		+30.9
	+11.5		−12.8		−31.5		+30.95
	+11.62		−12.93		−31.82		+31.26
	÷.500		÷.500		−15.91		+15.63
	+23.2		−25.9				

10 57 17.3 +1.8
14.0 −1.5
15.4 −0.1
15.2 −0.3
10 57 15.5

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

See pg. 180 for No. 87.

A 8326 No. 88 Oct. 15, 1908.

						1900 pos	10	5 49	27.1	−0	58.9	
a =	−0	2397	10	55	38.1	−0	48.8	+30.2	= 10	56	8.3 + 3.9	= −0 44.9
b =	−0	2401	10	56	56.3	−0	30.0	−47.3	= 10	56	9.5 − 13.8	= −0 43.8
c =	+0	2728	10	55	51.0	+0	1.8		10	57	8.9	−0 43.9
				x								
			c − a =	+17.9					−0.6	+0.6		+0.5 −0.6
				.500								
				+6.5								

	x	y	x	y
a	50.0	10.0	55.0	16.4
b	88.5	45.2	93.5	51.5
η	65.1	17.4	70.1	24.0

x		x		y		y	
η − a	+15.1	η − b	−23.4	η − a	+7.7	η − b	−27.5
	+15.1		−23.4		+7.6		−27.5
	+15.25		−23.63		+7.73		−27.78
	÷ .500		÷ .500		+3.86		−13.89
	÷ 30.5		−47.3				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

H 8326 No. 89. Oct. 15, 1908.

					(1900 pos.)	10	44	29.8		−0	0.5
a = −0 2374	10	39	57.7	−0	57.8	+14.8	= 10	40	11.8	+11.4	= −0 46.4
b = −0 2375	10	40	26.1	−0	27.7	−13.8	= 10	40	12.4	−18.8	= −0 46.8
c = −0 2373	10	39	54.7	−0	7.4			10	40	12.1	−0 46.5
			x								
	c − a = − 3.0						−0.4	+0.4		+0.1	0.0

$\frac{\text{Coo} - 0.1}{2}$

.500

−1.5

	x	y	x	y
a	70.0	15.0	75.0	22.5
b	83.8	74.9	88.8	82.8
η	77.0	37.6	82.0	45.1

	x		x		y		y	
η−a	+ 7.0	η−b	− 6.8	η−a	+ 22.6	η−b	− 37.3	
	+ 7.0		− 6.8		+ 22.6		− 37.5	
	+ 7.0		− 6.8		+ 22.6		− 37.5	
	+ 7.07		− 6.87		+ 22.83		− 37.77	
	÷ .500		÷ .500		+ 11.42		− 18.89	
	+ 14.14		− 13.7					

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 90 Oct. 15, 1908.

					(1900 p00)	10 42 24.2	−0° 58′.1	
a = −0 3374	10 39 57.7	−0 57.8	+8.0	=	10 40 5.7	+13.9	= −0 43.9	a
b = −0 3375	10 40 26.1	−0 27.7	−19.8	=	10 40 6.2	−16.2	= −0 44.0	b
c = −0 3373	10 39 54.7	−0 7.4			10 40 6.0		−0 44.0	c

× c − a = − 3.0

cos −0.1 / 2

.500 / − 1.5

	x	y	x	y
a	70.0	15.0	95.0	22.5
b	83.8	74.9	88.8	82.6
7	73.9	42.6	79.0	50.1

x		x		y		y	
n − a	+ 3.9	n − b	− 9.9	n − a	+ 27.6	n − b	− 32.3
	+ 4.0		− 9.8		+ 27.6		− 32.5
	+ 3.95		− 9.85		+ 27.6		− 32.4
	+ 3.99		− 9.95		+ 27.88		− 32.72
	÷ .500		÷ .500		+ 13.94		−16.36
	+ 8.0		− 19.9				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8376 No. 91 Oct. 15, 1908.

							1900 pos.	10	57	9.7		−1	26.6	
a = −1 2471	10	54	26.6	−1	42.1	+	25.0	= 10	54	51.4	+	30.5	= −1	16.6
b = −0 2396	10	55	17.8	−0	46.7	−	26.5	= 10	54	51.3	−	26.8	= −1	17.5
c = −1 4713	10	55	35.5	−1	51.4			10	54	51.4		−1	17.7	
			x											
			e − b = +17.7							−0.1	+0.1		−0.3	+0.3
e00 − 1.9 / 2			.500											
			+8.9											

	x	y	x	y
a	44.5	40.2	49.5	48.9
b	70.0	157.3	75.0	161.0
7	56.9	100.6	61.9	109.3

	x	x	y	y
7 − a	+12.4	7 − b	−13.1	7 − a	+60.4	7 − b	−51.7
	+12.4		−13.1		+60.4		−51.7
	+12.4		−13.1		+60.4		−51.7
	+12.52		−13.23		+61.00		−52.22
	÷.500		÷.500		+30.50		−26.11
	+25.0		−26.5				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 92 Oct. 15, 1908

				1900 pos.	10 56 26.8	−1 21.7
a = −1 2467	10 52 27.0	−1	13.1	+10 3.9	= 10 54 16.9	+ 5.8 = −1 7.2
b = −1 2474	10 55 49.0	−1	6.8	−10 1.7	= 10 54 8.3	−0.6 = −1 7.4
c = −0 3398	10 55 55.1	−0	8.3		10 54 8.6	−1 7.8
	x					
	c − b = + 6.1				+ 1.3 − 1.3	−0.1 + 0.1

$\frac{c_{00} - 0.1}{2}$ · 500 + 3.1

	x	y	x	y
a	7.7	34.2	12.9	43.2
b	110.0	46.3	115.0	56.3
η	59.2	46.1	64.1	55.0

x	x	y	y
η−a + 51.5	η−b − 50.8	η−a + 11.9	η−b − 1.2
+ 51.4	− 50.9	+ 11.8	− 1.3
+ 51.45	− 50.85	+ 11.85	− 1.25
+ 51.96	− 51.36	+ 11.97	− 1.26
÷ .500	÷ .500	+ 5.99	− 0.63
+ 103.9	− 102.7		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

For new meas. see B.J. 10, pg. 199.

A 8326 No. 93. Oct. 16, 1908.

1900 pos. 10 50 9.2 − 1 27.2

a = −0 2382	10	46	14.8	−0	35.1	+ 98.2	= 10	47	53.0	− 37.4	= −1	12.8			
b = −1 1462	10	49	38.0	−1	48.5	− 109.7	= 10	47	48.8	+ 34.8	= −1	12.7			
c = −0 1460	10	46	21.5	−1	21.8										
							10	47	50.6		−1	13.3			
						(B.J. 10, 199)	10	47	51.3		−1	12.6			
						mean	10	47	50.9		−1	12.9			
							1.1	−1.5			−0.5	+1.3			
							+1.3	−1.3			−0.9	+0.8			
											−4	+3			

c − a = + 6.7

· .500

+ 3.4

cos −1.4 / 2

	x	y	x	y
a	10.0	148.5	15.0	155.0
b	112.8	5.7	118.0	12.4
η	58.5	74.4	63.7	88.9

x	x	y	y
η−a + 48.5	η−b − 59.3	η−a − 74.1	η−b + 68.7
+ 48.7	− 54.3	− 74.0	+ 68.6
+ 48.6	− 54.3	− 74.05	+ 68.65
+ 49.09	− 54.84	− 74.79	+ 69.34
÷ .500	÷ .500	− 37.395	+ 34.67
+ 98.2	− 109.7		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 94 Oct. 16, 1908

1900 pos 10 47 52.8 −1 24.1

a = −0	2380	10 45 16.5	−0	45.5	+ 18.3	= 10 45 35.8	− 24.2	= −1	9.7	a =
b = −1	2459	10 46 3.1	−1	28.8	− 7.7	= 10 45 35.4	+ 18.5	= −1	10.3	b =
c = −0	2382	10 46 14.8	−0	35.4		10 45 35.2		−1	9.9	c =

x

c − b = +11.7

cos −0.6

2

.500

+0.8

−0.3 + 0.4 −0.4 + 0.4

	x	y	x	y
a	87.0	100.2	77.0	96.6
b	110.0	15.1	100.0	11.5
η	96.1	52.1	86.2	48.7

x		x	y	y
η − a	+ 9.1	η − b − 13.9	η − a − 48.1	η − b + 37.0
	+ 9.2	− 13.8	− 47.9	+ 37.2
	+ 9.15	− 13.85	− 48.0	+ 37.1
	+ 9.24	− 13.99	− 48.48	+ 37.47
	÷ .500	÷ .500	− 24.24	+ 18.74
	+ 18.5	− 27.8		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 95 Oct. 16, 1908.

1900 pos. 10 47 47.5 −1° 21.0

a	−0	2380	10	45	16.5	−0	45.5	+13.$\overset{0}{X}$	=	10	45	29.$\overset{5}{6}$	−2$\overset{0.9}{X}$	= −1 6.$\overset{4}{6}$
b	−1	2459	10	46	3.1	−1	38.8	−33.$\overset{0}{3}$	=	10	45	$\overset{30.1}{2}$9.8	+21.$\overset{7}{9}$	= −1 $\overset{7.1}{6.9}$
c	−0	7382	10	46	14.8	−0	35.4			10	45	29.$\overset{8}{7}$		−1 6.8

x

c − b = +11.7

−0.3 +0.3 −0.4 +0.3

cos −0.6 / 2

.500

+5.8

	x	y	x	y
a	87.0	100.2	77.0	99.6
b	110.0	15.1	100.0	11.5
η	93.5	58.5	83.5	54.9

	x	x	y	y
η − a	+6.5	η − b −16.5	η − a −41.7	η − b +43.4
	+6.5	−16.5	−41.7	+43.4
	+6.56	−16.66	−47.12	+43.83
	÷.500	÷.500	−21.06	+21.92
	+13.1	−33.3		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 96 Oct. 16, 1908.

					1900 pos	10	47	46.9	−1	30.1
a = −1	2455	10	44	20.6	−1	42.4	+68.9	10	45	29.5 + 26.8 = −1 15.6
b = −0	2382	10	46	14.8	−0	35.4	−45.7	10	45	29.6 − 40.5 = −1 16.9
c = −1	2459	10	46	3.1	−1	28.8		10	45	29.2 −1 16.0
				×				−0.4	+0.4	0.0 0.0
		c − b = − 11.7								

Cos a = −1.5 / 2

.500

−5.8.

	x	y	x	y
a	28.3	14.8	33.3	15.7
b	85.0	148.8	90.0	149.8
η	62.4	67.9	67.4	68.7

x		x		y		y	
η-a	+34.1	η-b	−22.6	η-a	+53.1	η-b	−80.9
	+34.1		−22.6		+53.0		−81.1
	+34.1		−22.6		+53.05		−81.0
	+34.44		−22.83		+53.58		−81.81
	÷.500		÷.500		+26.79		−40.91
	+68.9		−45.7				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

A 8326 No. 97 Oct. 16, 1908.

(1900 pos) 10 45 4.8 −1° 12′.9

a = −1 ~~44.5~~ 10 41 9.9 −1 2.8 + 98.2 = 10 42 48.1 + 3.6 = −0 59.7

b = −0 23~~80~~ 10 45 46.5 −0 45.5 − 150.9 = 10 42 45.6 − 12.7 = −0 58.1

c = −1 ~~23~~ 10 45 ~~4~~.4 −1 ~~2~~.8 10 42 47.8 −0 58.6

47.1

x

c − b = − 10.6 ~~2~~.1

0.0 0.0 +0.6 −0.5

$\frac{c_{00} - 1.6}{2}$

.500

5.3

− ~~4~~.1

	x	y	x	y
a	26.7	5.2	31.7	9.8
b	150.0	37.5	155.0	42.0
η	75.3	12.3	80.3	16.8

x	x	y	y
n−a + 48.6	n−b − 74.7	n−a + 7.15	n−b − 25.2
+ 48.6	− 74.7	+ 7.0	− 25.2
+ 48.6	− 74.7	+ 7.05	− 25.2
+ 49.09	− 75.45	+ 7.12	− 25.405
÷ .500	÷ .500	+ 3.56	− 12.72
+ 98.2	− 150.9		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 — No. 98 Oct. 16, 1908

					(1900 pos)	10	44	54.1	−1	20.1		
a = −1 7443	10	40	9.0	−1	20.0 + 148.9	= 10	42	33.6	+ 13.6	= −1	6.4	a
b = −0 3380	10	45	16.5	−0	45.5 − 161.5	= 10	42	35.0	− 19.8	= −1	5.5	b
c = −0 2375	10	40	26.1	−0	27.7		10	42	36.4		−1	0.8	c
	−	x										
	c − a = + 17.1						0.0	+0.1		+0.6	−0.6	

cos −0.4 / 2 · 500 + 8.6

	x	y	x	y
a	20.0	12.0	25.0	14.0
b	173.6	78.4	178.7	80.5
η	93.7	38.9	98.7	40.9

	x	x	y	y
η − a	+ 73.7		+ 26.9	
η − b		− 79.9		− 39.5
	+ 73.7	− 80.0	+ 26.9	− 39.6
	+ 73.7	− 79.95	+ 26.9	− 39.53
	+ 74.44	− 80.75	+ 27.17	− 39.95
	÷ .500	÷ .500	+ 13.59	− 19.98
	+ 148.9	− 161.5		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8376 No. 99. Oct. 16, 1908.

						1900 fr.	10	44	48.6	−1	20.9
a =	−1	2443	10	40	9.0	−1	20.0	+ 145.2	= 10	42	32.2 + 17.8 =	−1	7.2
b =	−0	2380	10	45	16.5	−0	45.5	− 167.2	= 10	42	30.8 − 30.8 =	−1	6.8
c =	−0	2375	10	40	26.1	−0	27.7			10	42 30.8	−1	6.8
				x									
				c − a =	+ 17.1				−0.1	+0.1		+0.6	−0.6
Cos − 0.4 / Σ					−500								
					+ 8.6								

	x	y	x	y
a	20.0	12.0	25.0	14.0
b	173.6	78.4	178.7	80.5
η	90.9	37.3	95.9	39.3

	x	x	y	y
η − a	+ 70.9	η − b − 82.7	η − a + 25.3	η − b − 41.1
	+ 70.9	− 82.8	+ 25.3	− 41.2
	+ 70.9	− 82.75	+ 25.3	− 41.15
	+ 71.61	− 83.58	+ 25.55	− 41.56
	÷ .500	÷ .500	+ 12.78	− 20.78
	+ 143.2	− 167.2		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 100. Oct. 16, 1908

					(1900 prec.)	10	44	34.1	−1°	15.0
a = −1	2442	10	39	51.4	−1	6.8	+146.3	= 10	42	17.6 +5.4 = −1	1.8	a
b = −0	2380	10	45	16.5	−0	45.5	−181.7	= 10	42	14.8 −14.8 = −1	0.4	b
c = −0	2375	10	40	26.1	−0	27.7		10	42	16.4	−1	0.8	c

c − a = +24.7

−0.2 +0.2 +0.6 −0.6

c − 0.4 / 2

.500

+12.4

	x	y	x	y
a	15.0	31.5	20.0	40.0
b	177.3	71.7	187.5	80.4
n	87.4	42.3	92.5	50.9

	x	x	y	y
n − a	+72.4	n − b −89.9	n − a +10.8	n − b −29.4
	+72.5	−90.0	+10.9	−29.5
	+72.45	−89.95	+10.85	−29.45
	+73.17	−90.85	+10.96	−29.74
	÷.500	÷.500	+5.48	−14.87
	+146.3	−181.7		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1900phae.proj.2296B

A 8326 No. 101. Oct. 16, 1908.

						1900 pos.	10	40 58.5		−1° 24.4	
a =	−1 24.2	10	39 51.4	−1	6.8 + 49.2	=	10	40 39.9	− 3.0	= −1	9.8
b =	−1 24.6	10	41 17.3	−1	12.4 − 38.1	=	10	40 41.6	+ 1.9	= −1	10.5
c =	−0 23.5	10	40 26.1	−0	27.7		10	40 40.8		−1	10.2
			x					−0.9 +0.8		−0.4 +0.3	
			c − a = + 34.7								
			− 500								
			+ 17.4								

$\frac{\cos -0.4}{2}$

	x	y	x	y
a	40.0	30.2	45.0	36.5
b	82.1	20.5	87.1	26.7
η	64.2	24.3	69.3	30.4

x	x	y	y
η − a + 24.2	η − b − 17.9	η − a − 5.9	η − b + 3.8
+ 24.3	− 17.8	− 6.1	+ 3.7
+ 24.25	− 17.85	− 6.0	+ 3.75
+ 24.49	− 18.03	− 6.06	+ 3.79
÷ .500	÷ .500	− 3.03	+ 1.895
+ 49.0	− 36.1		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 102 Oct. 16, 1908.

(1900 pos.) 10 41 7.2 −1° 11.8

a =	−0	3370	10	38	12.7	−0	43.4	+36.4	= 10	38	49.1	−13.4	= −0 57.8
b =	−1	7442	10	39	51.4	−1	6.8	−6.5	= 10	38	50.5	+9.3	= −0 57.5
c =	−0	2373	10	39	54.7	−0	7.4			10	38	49.6	−0 57.7

x

a − b = +3.3 −0.9 +0.9 +0.1 −0.1

$\frac{\cos - 0.1}{2}$ .500 +1.6

	x	y	x	y
a	16.6	73.4	21.5	82.6
b	65.0	28.0	70.0	37.4
η	34.5	46.5	39.6	55.9

	x	x	y	y
η − a	+17.9		−26.9	
η − b		−30.5		+18.5
	+18.1	−30.4	−26.7	+18.5
	+18.0	−30.45	−26.8	+18.5
	+18.18	−30.75	−27.07	+18.68
	÷.500	÷.500	−13.54	+9.34
	+36.4	−61.5		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1900phae.proj.22968

A8326 No. 103 Oct. 16, 1908.

						1900 pos	11	1	13.4	−1	46.5	
a = −1 2477	10	57	27.8	−1	40.3	+8 (6.2) =	10	58	54.0	+ 8.0 (7.9) =	−1	32.4
b = −1 2486	10	0	3.1	−1	73.7	−6 (6.7) =	10	58	55.6 (6.4)	− 8.0 =	−1	31.8 (7)
c = −1 2478	10	57	39.6	−1	2.2		10	58	55.2		−1	32.0
			x									
			c − a = +11.8				−1.2		+1.2		+0.4	−0.3

$\frac{c_{00} - 1.0}{2}$ .500

+ 5.9

	x	y	x	y
a	80.0	25.0	85.0	32.5
b	156.5	58.7 (6)	161.5	65.3 (4)
η	123.1	40.8 (0)	128.1	48.3

x	x	y	y
η − a + 43.1	η − b − 33.4	η − a + 17.8 (5)	η − b − 15.9
+ 43.1	− 33.4	+ 15.8	− 16.0
+ 43.1	− 33.4	+ 15.8	− 15.95
+ 43.53	− 33.73	+ 15.96	− 16.11
÷ .500	÷ .500	+ 7.98	− 8.06
+ 87.1	− 67.5		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 104 Oct. 16, 1908.

				1900 pos	10 27.2	−1 36.9		
a = −1 2479	10 57 27.8	−1	40.3	+ 42.1 =	10 58	9.9 + 18.5 =	−1	21.8
b = −1 2479	10 58 51.2	−1	4.7	− 43.2 =	10 58	8.4 − 18.5 =	−1	23.9
c = −1 2478	10 57 39.6	−1	2.2		10 58	9.0	−1	22.4
	×							
	c − a = +11.8				+0.5 −0.6		−0.6 +0.6	

cos −1.0 / 2 = .500

+5.9

	x	y	x	y
a	80.0	25.5	75.0	30.0
b	122.3	99.1	117.2	103.7
.7	100.9	63.5	95.8	67.0

x	x	y	y
n-a +20.9	n-b −21.4	n-a +37.0	n-b −36.6
+20.8	−21.4	+37.0	−36.7
+20.85	−21.4	+37.0	−36.65
+21.06	−21.61	+37.37	−37.02
÷.500	÷.500	+18.69	−18.51
+42.1	−43.2		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1900phae.proj.22968

Note – No. 105 is rejected
See Bk. 6 pg. 55 for d-meas ~~this neb~~

A 8336 No. 105 Oct. 16, 1908.

				1900 pos.	10 56 19.2	−1 40.5
a = −1 2465	10 51 26.3	−1	27.6 + 156.9	= 10 54 3.2	+0.9	= −1 26.7
b = −1 2475	10 56 21.4	−1	33.2 − 142.7	= 10 53 58.7	−1.9	= −1 35.1
c = −0 3399	10 56 6.6	−0	42.5	10 54 0.8		−1 35.9
	x			mean pos	10 54 1.0	−1 26.1
	c−b = −14.8				+0.8 −0.7	+0.8 −0.8
cos −0.7 / 2	.500				(+0.6 −0.9)	(+0.6 −1.0)
	−7.4					

	x	y	x	y
a	31.7	17.9	26.7	22.2
b	180.0	23.5	175.0	28.0
n	109.3	19.6	104.4	24.1

x	x	y 1.7	y
n−a + 77.6	n−b − 70.7	n−a + 8.8	n−b − 3.9
+ 77.7	− 70.6	+ 1.9	− 3.9
+ 77.65	− 70.65	+ 1.8	− 3.9
+ 78.43	− 71.36	+ 1.82	− 3.94
÷ .500	÷ .500	+ 0.91	− 1.87
+ 156.9	− 142.7		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

For re-meas. of this nbk. see B1[6-pg.56. ✓

A 8326 No. 107 Oct. 17, 1908.

						1900 pos.	10 52 45.4	− 1	43.5 29.2	
a = −1	m61	10 49 5.3	−1	13.5	+76.6 (5.8)	=	10 50 21.1 (18.9)	− 16.2	= − 1	29.7	a
b = −1	m64	10 49 49.1	−1	31.2	−22.1 (1.9)	=	10 50 27.2	+ 2.6	= − 1	28.6	b
c = −0	3392	10 49 17.1	−0	23.2			10 50 24.4 (2)		− 1	29.2	c
		x				mean pos	10 50 25.2		− 1	29.2	
		c − a = +11.8					−3.1 + 3.0		+0.5 − 0.6		
							(−4.1 + 2.0)				

$\frac{\text{cos} - 0.4}{2}$

.500

+5.9

	x	y	x	y
a	35.0	61.5	30.0	63.8
b	73.9	23.9	78.8	26.0
η	62.9	29.0	67.9	31.2

x		x		y		y	
η − a	+37.9	η − b	−11.0	η − a	−32.5	η − b	+5.1
	+37.9		−10.9		−32.6		+5.2
	+37.9		−10.95		−32.55		+5.15
	+38.28		−11.06		−32.87		+5.20
	÷.500		÷.500		−16.44		+2.60
	+76.6		−22.1				

✓ ✓

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1900phae.proj.2296B

A 8326 No. 108 Oct. 17, 1908.

				1900 pos		
a = −1 2456	10 45 20.6	−1	42.4 + 15.7	10 46 58.8	+15.7	−1 26.7
b = −1 2461	10 49 5.3	−1	13.5 − 13.7	10 46 47.4	−13.7	−1 27.2
c = −0 2380	10 45 16.5	−0	45.5	10 46 50.4		−1 27.0
				+1.5	−1.5	−0.1 +0.1

c − a = + 55.9

.500

78.0

+6.4

	x	y	x	y
a	20.0	10.4	25.0	12.1
b	163.8	68.6	168.9	70.2
η	95.6	41.5	100.6	43.1

	x	x	y	y
η − a	+ 75.6	η − b − 68.2	η − a + 31.1	η − b − 27.1
	+ 75.6	− 68.3	+ 31.0	− 27.1
	+ 75.6	− 68.25	+ 31.0	− 27.1
	+ 76.36	− 68.93	+ 31.31	− 27.37
	÷ .500	÷ .500	+ 15.66	− 13.69
	+ 152.7	− 137.9		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

(see pg. 217.)

Have corrected pos. of comp. star b per my meas. of same on page 216 this book. Results are practically the same as new meas. on page 217. (see)

A 8326 No. 109 — Oct. 17, 1908.

						1900 Jno.	10	45	52.4	−1	37.4	
a	= −1	2457	10	42	32.5	−1	11.2	+62.6	= 10	43	45.1 − 11.5	= −1 22.6 a
b	= −1	2456	10	45	15.4	−1	24.3	−100.5	= 10	43	39.9 + 10.3	= −1 24.2 b
c	= −1	2450	10	42	30.2	−1	50.0		10	43	39.5	−1 23.4 c
					x						35.2	
									−0.7	+0.7		
									+4.8	+4.8		−0.8 +0.7

@ − a = − 2.3

Cos −1.9 / 2

− 500

−1.2

	x	y	x	y
a	45.0	105.6	50.0	110.5
b	125.7	62.4	130.8	67.4
η	76.0	82.8	81.0	87.8

	x	x	y	y
η−a	+ 31.0	η−b − 49.7	η−a − 22.8	η−b + 20.4
	+ 31.0	− 49.8	− 22.7	+ 20.4
	+ 31.0	− 49.75	− 22.75	+ 20.4
	+ 31.31	− 50.25	− 22.98	+ 20.60
	÷ 500	÷ 500	− 11.49	+ 10.30
	+ 62.6	− 100.5		

Note —

Star b — # −1 2456 is out at least 10" in R.A. and throws the computation out as pg. 216 this book for meas. of this star. In 2nd Comp. have taken new star — pg 217.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

For new meas. see BJS. 10, pg. 193.

A 8326 No. 110 Oct. 17, 1908

				(1900 pos)	10 42 6.3	− 1° 48′.4	
a = − 1 n36	10 37 34.1	− 1	29.4	+ 135.3	= 10 39 48.4	− 5.6	= − 1 35.0
b = − 1 n49	10 42 11.2	− 1	39.0	− 143.7	= 10 39 47.5	+ 5.8	= − 1 33.3
c = − 0 n69	10 38 0.5	− 0	39.1		10 39.48.4	− 1	34.1
	x			(mean pos)	10 39 48.6	− 1	34.3
	c − a = + 76.4				− 0.4 + 0.5	+ 0.8 − 0.8	
	.500				(− 0.6 + 0.3)	(+ 0.8 − 0.8)	
c.c. − 0.6 / 2	+ 13.2						

	x	y	x	y
a	20.0	n4.5	25.0	29.0
b	158.1	1.9	163.2	6.7
η	87.0	13.4	92.0	18.0

x	x	y	y
η − a + 67.0	η − b − 71.1	η − a − 11.1	η − b + 11.5
+ 67.0	− 71.2	− 11.0	+ 11.3
+ 67.0	− 71.15	− 11.05	+ 11.4
+ 67.67	− 71.86	− 11.16	+ 11.51
÷ .500	÷ .500	− 5.58	+ 5.76
+ 135.3	− 143.7		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

For new means. see B[10, pg. 194.

A 8326 No. 111 Oct. 17, 1908.

						(1900 pos)	10	42	2.3	− 1	49.9		
a =	− 1	2486	10	37	34.1	− 1	29.4	+ 13.3	= 10	39	47.4	− 7.5	= − 1 36.4
b =	− 1	2449	10	42	11.2	− 1	39.0	− 14.8	= 10	39	43.4	+ 4.2	= − 1 34.8
c =	− 0	2369	10	38	0.5	− 0	39.1		10	39	45.9	− 1	35.7
							mean pos.	10	39	44.6	− 1	35.8	
								− 0.4	+ 0.4		+ 0.8	− 0.8	
								(− 0.5	+ 0.3)		(+ 0.4	− 1.0)	

c − a = + 36.4

· 500

+ 13.2

c − a − 0.6 / 2

	x	y	x	y
a	20.0	24.5	25.0	29.0
b	158.1	1.9	163.2	6.7
η	85.0	10.2	90.0	15.0

	x		x		y		y	
η-a	+ 65.0	η-b	− 73.1	η-a	− 14.3	η-b	+ 8.3	
	+ 65.0		− 73.2		− 14.0		+ 8.3	
	+ 65.0		− 73.15		− 14.15		+ 8.3	
	+ 65.65		− 73.88		− 14.29		+ 8.38	
	÷ .500		÷ .500		− 7.14		+ 4.19	
	+ 131.3		− 147.8					

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae_proj_22968

For new meas. see B1/10 - pg. 195.

A 8326 No. 112 Oct. 17, 1908.

				(1900 pos)		10 41 58.0		−1° 48.7		
a = −1	2436	10 37 34.1	−1	34.4	+12 5.8	= 10 39 39.9	−	5.9	= −1	40.3
b = −1	2449	10 42 11.2	−1	39.0	−15 0.5	= 10 39 40.7	+	5.3	= −1	33.8
c = −0	2369	10 38 0.5	−0	39.1		10 39 40.3			−1	34.5
		x			mean pos.	10 39 40.3			−1	34.6
		c − a = +26.4				−0.4 +0.4			+0.8 −0.8	
						(−0.4 +0.4)			(+0.7) −0.9)	

$\frac{c_{00} - 0.6}{2}$

·500

+13.2

	x	y	x	y
a	20.0	24.5	25.0	29.0
b	158.1	1.9	163.2	6.7
η	82.9	12.6	87.9	17.3

x		x		y		y	
η − a	+62.9	η − b	−65.2	η − a	−11.9	η − b	+10.7
	+62.9		−65.3		−11.7		+10.6
	+62.9		−75.25		−11.8		+10.65
	+63.53		−76.00		−11.92		+10.76
	÷.500		÷.500		−5.96		+5.38
	+127.1		−154.0				

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

A 8326 No. 113 Oct. 17, 1908.

					(1900 prec.)	10	41	15.5	−1°	45′	.5
a = −α	m40	10	38	47.5	−1	40.4	+9.6	= 10	38	57.0	+9.4 = −1	31′	.9	a
b = −1	m41	10	39	33.0	−1	22.7	−34.5	= 10	38	58.5	−9.9 = −1	31	.7	b
c = −0	m372	10	39	16.8	−0	55.1		10	38	57.8	−1	31	.4	c
				x							
		c − b =		−16.2				−0.9	+0.9		−0.3	+0.2	
				−.500							
				−8.1							

	x	y	x	y
a	53.1	12.5	58.2	19.8
b	75.0	49.0	80.0	56.3
η	57.9	31.2	62.9	38.5
	x	x	y	y
	η − a + 4.8	m − b − 17.1	m − a + 18.7	m − b − 17.8
	+ 4.7	− 17.1	+ 18.7	− 17.8
	+ 4.75	− 17.1	+ 18.7	− 17.8
	+ 4.80	− 17.27	+ 18.89	− 17.88
	÷ .500	÷ .500	+ 9.44	− 8.99
	+ 9.6	− 34.5		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.22968

Note – No. 114 is rejected.

A 8376 No. 115 Oct. 17, 1908.

						1900 pos	10	59	36.7	−1	57.0
a = −1 2476	10	57	21.0	−1	43.5	−0.2	= 10	57	20.8	+ 1.3 = −1	42.2
b = −1 2477	10	57	27.8	−1	40.3	−10.8	= 10	57	17.0	− 2.5 = −1	42.8
c = − 23783	10	57	19.2	−2	11.6		10	57	18.9	−1	42.5

x

c − a = − 1.8

Cos − 2.2 / 2

.500

−0.9

+ 1.8 / 2.2 − 1.9 −0.3 +0.3

	x	y	x	y
a	90.0	70.0	100.0	73.4
b	95.3	77.5	105.2	80.8
η	89.9	72.5	99.9	75.9

	x	x	y	y
η − a	− 0.1	η − b − 5.4	η − a + 2.5	η − b − 5.0
	− 0.1	− 5.3	+ 2.5	− 4.9
	− 0.1	− 5.35	+ 2.5	− 4.95
	− 0.1	− 5.40	+ 2.52	− 5.00
	− 0.2	− 10.8	+ 1.26	− 2.50

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

* one of the comp. stars meas.
See page 216 for neb. prs.

A 8326 Star No. 2456 Oct. 17, 1908.

a = -1	2445	10	44	20.6	-1	42.4	+54.8	=	10	45	15.4	+8.8	= -1	33.6
b = -1	2460	10	46	21.5	-1	21.8	-66.4	=	10	45	15.4	-11.8	= -1	33.7
c. -0	2382	10	46	14.8	-0	35.4			10	45	15.4		-1	33.7

x

c - b = - 6.7

- 0.6 + 0.7 + 0.1 0.0

cor. $\frac{-0.6}{2}$ = -.500

- 3.4

	x	y	x	y
a	20.1	15.7	25.1	20.7
b	80.0	56.8	85.0	61.7
star (2)	47.2	33.2	52.3	38.1

x	x	y	y
2-a + 27.1	2-b - 32.8	2-a + 17.5	2-b - 23.6
+ 27.2	- 32.7	+ 17.4	- 23.6
+ 27.15	- 32.75	+ 17.45	- 23.6
+ 27.42	- 33.08	+ 17.62	- 23.84
÷ .500	÷ .500	+ 8.81	- 11.92
+ 54.8	- 66.1		

Note - This star (no. 2456) seemed a little out in R.A. so treated it as an unknown object. We find it comes 16" out, difference between this meas. & that given in catalogue, which is 0s.1 as it should be. see pg. 210.

R.A. as given in Catalog.	10^h	45^m	4.4^s	$-1°34'3$
" " determined by above meas.	10	45	15.4	$-1°33.7$
mean -	10	45	9.9	$-1°34.0$

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae_proj_22968

A 8326 No. 109. Oct. 17, 1908.

					(1900 pos)		10	45	52.4	−1°	37′.4	
$a = -1\ 3446$	10	41	17.3	−1	12.4	+138.9 (7.5)	= 10	43	38.2 (4.8)	−1 (0.9)	= −1	23.4 (3)
$b = -1\ 3459$	10	46	3.1	−1	28.8	−148.9 (7.4)	= 10	43	34.2 (5.7)	+5.9 (6)	= −1	23.X (2)
$c = -0\ 2382$	10	46	14.8	−0	35.4			10	43 35.2		−1	23.2

×

c − b = + 11.7

· 500

+ 5.8

−0.4 +0.5 +0.1 −0.0

$\frac{c_{00} - 0.6}{\cdot 2}$

	x	y	x	y
a	17.6	43.3	22.5	50.5
b	160.0	10.1	165.0	17.5
η	86.3	21.4	91.3	28.7

x	x	y	y
η − a + 68.7	η − b − 73.7	η − a − 21.9	η − b + 11.3
+ 68.8	− 73.7	− 21.8	+ 11.2
+ 68.75	− 73.7	− 21.85	+ 11.25
+ 69.44	− 74.44	− 22.07	+ 11.36
÷ .500	÷ .500	− 11.04	+ 5.68
+ 138.9	− 148.9		

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

No. of Net.	Dif. in R.A.	Dif. in Dec.	No. of Net.	Dif. in R.A.	Dif. in Dec.
Plate No. 8410.					
26.	− 3.2	0.0	62	+ 7.9	+ 1.5
27	− 3.2	+ 0.5	Plate # 8517		
	0.4	0.5	1	− 0.4	− 0.5
28	+ 3.0	+ 1.0	2	+ 1.3	+ 0.7
29	+ 5.7	+ 0.9	3	+ 1.4	− 0.1
33	+ 0.7	+ 1.3	4	+ 0.1	+ 0.3
34	+ 0.8	+ 1.3	5	+ 0.4	− 0.2
36	+ 0.8	+ 0.6	6	+ 3.7	− 0.4
37	+ 1.3	+ 0.4	7	+ 3.4	+ 0.2
18	+ 1.4	− 0.2	8	+ 1.7	+ 0.2
Plate — No. 8383					
7	− 3.6	+ 0.1	9	+ 1.9	+ 0.4
11	+ 2.7	+ 0.8	10	+ 0.6	+ 1.4
15	+ 1.7	− 0.3	11	+ 0.1	− 0.2
21	+ 1.7	− 0.5	12	− 0.1	− 0.7
24	+ 0.2	− 0.6	13	+ 0.3	− 0.2
28	− 0.1	+ 1.1	14	0.0	− 0.4
31	− 0.5	− 0.6	15	+ 0.8	− 0.2
32	− 0.5	− 0.6	16	+ 0.7	+ 0.2
37	+ 3.9	− 0.3	17	+ 0.4	− 0.7
38	+ 1.3	+ 0.2	18	+ 0.7	+ 0.2
39	+ 4.9	0.0	19	+ 0.7	+ 0.3
40	+ 1.3	0.0	20	+ 2.0	− 0.2
43	+ 0.6	0.0	21	+ 1.4	0.0
44	− 0.2	0.0	22a	+ 2.0	+ 0.5
47	+ 3.3	− 0.1	23	+ 1.5	+ 0.5
49	+ 2.3	+ 1.0	23a	+ 1.5	+ 0.5
50	+ 2.3	+ 1.0	24	+ 1.6	+ 0.5
51	− 6.9	+ 0.1	25	+ 1.5	+ 0.5
56	+ 2.5	+ 0.2	26	+ 2.5	+ 0.3

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae_proj_22968

No. of Net.	Dif. in R.A.	Dif. in Dec.	No. of Net.	Dif. in R.A.	Dif. in Dec.
27	+ 2.4	− 0.3	22	+ 0.3	+ 0.4
28	− 0.6	− 0.4	23	+ 1.5	+ 0.4
29	+ 1.6	− 0.2	24	+ 5.6	+ 0.5
30	+ 1.9	− 0.1	24a	+ 4.0	+ 0.2
31	+ 1.3	+ 0.1	25	+ 0.4	+ 0.8
32	+ 2.5	0.0	26	0.0	+ 0.8
33	+ 2.4	− 0.3	27	− 0.2	+ 0.7
22	+ 2.0	0.0	28	− 0.2	+ 0.7
R 8514					
1	+ 2.2	− 0.2	29	+ 0.3	+ 0.8
2	+ 2.2	− 0.2	30	+ 3.6	+ 0.5
3	+ 0.6	− 0.4	31	+ 3.5	− 0.7
4	− 0.1	+ 0.1	32	+ 1.3	− 0.1
5	+ 1.6	− 0.2	33	+ 0.8	+ 0.2
6	+ 0.5	+ 0.2	34	+ 1.0	0.0
7	+ 0.2	− 0.1	35	+ 0.3	+ 0.4
8	+ 1.6	− 0.3	37	+ 2.6	− 0.1
9	+ 2.0	0.0	38	+ 0.8	+ 0.1
10	+ 2.0	0.0	39	+ 0.7	0.0
			No. a 8326		
12	− 1.9	+ 1.1	1	+ 0.4	− 0.5
13	+ 0.8	− 0.2	2	+ 1.6	+ 0.4
14	− 0.3	+ 0.2	3	+ 1.9	+ 1.6
15	+ 0.4	− 0.2	4	+ 3.0	+ 0.3
16	+ 3.0	+ 0.2	5	+ 3.0	+ 0.3
17	+ 2.0	+ 0.2	6	+ 2.1	− 1.5
18	+ 3.4	∓ 0.7	7	+ 0.9	+ 1.4
19	+ 1.0	− 0.1	8	+ 0.9	+ 1.4
20	+ 0.3	+ 0.3	9	+ 2.1	+ 1.3
21	− 0.5	− 0.2	10	+ 0.9	+ 1.4

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

No. of Neb.	Dif. in R.A.	Dif. in Dec.	No. of Neb.	Dif. in R.A.	Dif. in Dec.
Δ 8376					
11	+ 2.1	+ 0.6	40	− 0.2	− 0.2
12	+ 2.0	+ 0.5	41	+ 1.5	− 1.9 ?
13	+ 2.1	+ 0.6	42	− 0.2	− 0.5
14	− 1.0	+ 1.0	Dup. 43	+ 0.5	− 0.8
15	+ 2.3	+ 1.8	44	+ 0.3	− 0.4
16	+ 2.3	+ 1.8	45	+ 0.3	+ 1.0
17	− 0.6	+ 0.5	46	+ 2.8	+ 0.2
18	− 1.2	− 2.5	47	∓ 0.6	− 0.7
19	− 1.1	− 2.5	48	+ 0.3	+ 0.8
21	− 1.8	+ 0.7	49	− 8.4	− 2.3 ?
22	− 0.5	− 1.9	50	+ 1.8	+ 0.2
23	− 0.4	− 1.9	51	− 2.2	+ 0.2
25	− 2.3	− 0.4	52	+ 1.0	+ 0.8
26	− 1.0	− 0.7	53	+ 3.1	+ 2.4 ?
27	+ 1.5	+ 0.1	54	+ 2.8	+ 2.0 ?
28	− 1.1	− 0.1	55	+ 2.7	+ 2.1 ? (7931)
29	+ 0.2	+ 1.3	56	+ 1.8	+ 0.2
30	− 0.4	− 0.2	57	+ 3.7	∓ 0.9
31	+ 2.5	− 1.2	59	− 1.0	− 1.3 (7931)
32	+ 2.4	− 1.1	60	+ 2.8	+ 3.9 8 (7931)
33	+ 0.9	− 0.4	62	+ 0.1	+ 0.9
(34) is rejected					
43	+ 0.7	− 0.8	63	+ 1.1	− 1.3
35	+ 0.2	+ 0.7	64	+ 1.9	− 0.3
36	+ 0.2	+ 0.7	65	+ 1.9	− 0.4
37	+ 0.7	+ 0.7	66	+ 0.3	+ 1.1
38	+ 0.7	+ 0.8	67	+ 0.3	+ 1.1
39	− 5.1	− 1.4 ?	68	+ 0.9	− 0.5
39	+ 3.0	− 3.8 ?	69	− 1.4	+ 1.0

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phao.proj.2296B

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics - Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1908phae.proj.2296B

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System