

KG
11365
914

Measurements of Variable Stars.

M. Harwood

KG11365-918

Correction to first scale.I, B and M plates $+0.2$ scale from I 32811A plates, H, X, C -0.3 " " C 15350

Always take the mean of the second reading and the
Corrected first reading to hundredths of a magnitude.

A C and A M plates taken with usual aperture.

Scale from A C 8858.

Scale 1 Correction = -0.2 Scale 2 " = -0.4 Scale 3 " = 0.0

Margaret Harwood

Var H 1299

a 8.90

b 9.28

c 9.50

d 10.10

e 10.50

f 10.90

g 11.20

h 11.50

k 11.80

l 12.08.

Margaret Harwood.

Var. H 1300.

a	8.6
b	9.0
c	9.5
d	9.7
e	10.3
f	11.0
g	11.5
h	12.1

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B 103✓	I 13101✓
B 957✓	15258✓
B 1954✓	14691✓
B 3042✓	✓17302
I 36✓	✓17553
37✓	✓19670
1918✓	✓20129
2146	✓23527
3270✓	✓27998
4232✓	✓28598
5362✓	✓29650
6854✓	✓30859
8051✓	✓33407
10932✓	35801

Margaret Harwood

KG 11365. 914



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Wednesday September 30, 1908

α $13^h 1^m 39.5$ δ $-59^\circ 34.8$

H. 1299. C.P.D. $-59^\circ 47.81$ 2 inch eyepiece.

Time: 22:55

First measurement.

9:10

Am. 3557 10.7

Am. 1159

Am. 1839

Am. 3370 10.6

Images elongated
var. too faint to
estimate.

10.6

Am. 1843

Am. 2738 10.2

Am. 1229

no image
Poor plate -
thick film

Am. 2717 10.0

Images slightly
elongated.

10.4

Am. 1899

Am. 389 images faint, vari-
able not seen.

Am. 1258

11.4

Am. 400 images faint, variable
not seen.

10.7

Am. 1915

Am. ~~445~~ 738 10.8

Am. 1411

11.7

Many scratches
on the plate

Am. 782 10.8

images slightly elongated.

11.2

and some
scratches pass
through the
comparison stars

Am. 806 10.9

Am. 1467

11.1

Am. 846 10.3

Am. 1724

Am. 1944

10.9

11.6

Am. 928

images faint

Am. 1970

11.6

There are 2 images of each star. The following is
fainter than the preceding image.

Preceding image 10.6

Following image 10.7

Am. 1808

Preceding 11.0

Middle 10.9

following 11.0

An excellent plate
4 exposures
Images are very
clear.

Time 0:35

3 images: the middle image the brightest. Time 4:35

Thursday, October 1, 1908

5

21:30		7.1299 C.P.D. -59° 4781	2 inch eyepiece.
		First measurement cont.	23:50
A.M. 2098	A.M. 2645	A.M. 4053	A.M. 4798
11.0	10.3	10.3.	11.6
The film is thick but the images are clear	Long exposure.		
	A.M. 2801	A.M. 4134	A.M. 4825
	10.4	10.2	11.3
			images elongated.
A.M. 2117	A.M. 3444	A.M. 4194	A.M. 4901
11.0	10.2	10.5	11.6
Thin film images slightly elongated.		A.M. 4212	
	A.M. 3487	10.6	A.M. 5287
	10.2	Film thick.	10.5
A.M. 2442	images elongated. poor.		images faint.
10.7		A.M. 4300	A.M. 5313
		11.1	11.0
A.M. 2478	A.M. 3499	A.M. 4364	Images slightly elongated - near edge.
11.1	10.6	11.6	
Images slightly elongated.	~~27~~	Film thick	
A.M. 2529	A.M. 3604		A.M. 5320
10.9			10.9
	Images elongated.	A.M. 4741	Image very faint.
A.M. 2569	ted.	No image - poor plate.	
10.5	Proc. 10.7		A.M. 5342
	Mid. 10.7		11.1
A.M. 2588	Foll. 10.2	A.M. 4746	Images slightly elong. near edge.
10.4		10.9	
Images slightly elongated.			
	22:30		23 0:33

Thursday, October 1, 1908
 // // // // //

H. 1299. First measurement cont. 2 in. eyepiece

Time 2:10

2 inch eyepiece

AM 5375

11.4

images slightly
elongated - near
edge.

AM 5419

no image

d is the faintest
comparison star
seen.

AM 5420

no image

g is faintest
comparison star.

AM 5419

no image

d, faintest compari-
son star.

AM 5375

11.3

1 inch eyepiece.

g

AM 5433

Too faint to
measure.

1 inch eyepiece

AM 5439

11.3

Very faint.

AM 5440

no image

f. faintest
comparison
star.

AM 5448

11.3

AM ⁵⁴⁷¹
5420

11.6

Very faint.

AM 5500

11.1

AM 5501

11.0

AM 5510

11.1

AM 5511

10.7

Faint images

1 inch eyepiece

AM 5513

11.1

Very faint.

AM 5515

Too faint to measure.

AM 5512

11.2

Faint.

g, faintest comp. star

AM 5514

10.9

Faint. f = faintest
comp. star.

AM 3682

10.8

AM 3664

10.7

Time 3:40

Friday, Oct. 2, 1908

H. 1299. First measurement continued.

Time 21:20

$\frac{1}{2}$ inch
eyepiece.

AM 5468

11.1

AM 5421

11.1

AM 5469

11.0

AM 5422

No image

c, faintest comp. star.

AM 5470

11.3

Images slightly
elongated - near edge.

AM 5413

Too faint to measure

AM 5415

11.4

AM 5434

11.3

AM 5405

11.4

AM 5438

11.5

Very faint.

Images slightly
elongated because
near the edge

AM 5401

11.3

AM 5456

No image.

f. faintest

Comparison star.

On these
three
plates
the var.

is near

the edge.

AM 5293

10.7

AM 5416

11.4

AM 5461

11.4

AM 5462

11.4

Time 22:00.

Friday Oct 2, 1908

H. 1299 Second Measurement

Time 23:50

2 in. eyepiece

Am 2645
10.4Am 5514
10.8Am 5510
11.1Am 1467
11.1Very faint.
f. faintest
Comp. starAm 5501
11.0

Time 0:45

Am 3682
10.4Am 5512
11.1

Very faint

Am. 3664
10.6Am 5515
n.s.Am 5433
11.6fainter than
eTime 1:00
Am 5500
11.1k appears brighter than h,
but this is unreliable b.c. images are so faint.Am 5375
11.4Am 5513
11.1

very faint

Am 5448
11.1Am 5419
n.s.Am 5471
11.6g, faintest
Comp. starThick film,
but clear.Am 5440
n.s.
fainter than gAm 5420
n.s.Am 5511
10.7h, faintest Comp
star: Very faintAm 5439
11.2
g, faintest star seen

Friday, Oct. 2, 1908.

24. 1299 2nd meas. Continued.

Time 3:40

AM 5462
11.4AM 5421
11.1AM 5342
11.1AM 4741
n.s.

Thick film

very poor plate
no. comp. stars seenAM 5416
11.4AM 5461
11.3AM 5320
n.s.AM 4364
11.4AM 5293
10.9AM 5456
n.s.fainter than ϵ , 0.2

Time 4:55

AM 5401
11.3fainter than
f. 0.1AM 5313
11.0AM 5405
11.3AM 5438
11.4AM 5287
10.6AM 5415
11.4AM 5434
11.3AM 4901
11.4AM 5413
n.s.AM 5470
11.3AM 1970
11.7fainter than γ

Thick film

AM 4825
11.3AM 5422
n.s.AM 5469
11.1AM 4798
11.5fainter than
C.AM 5468
11.2AM 4746
10.9

Saturday, October 3, 1908

H. 1299 2nd Measurement Cont.

Time 21:15

1 1/2 in. eyepiece.

AM 4300
11.0

AM 2801
10.2

Time 23:25

AM 1944
11.4

AM 1411
11.1

AM 4212
11.0

Q
AM 2588
10.3

AM 1915
11.6

AM 1229
10.3

AM 4194
10.5

AM 2569
10.7

AM 1899
11.4

AM 1258
10.6

AM 4134
10.1

AM 2529
11.0

AM 1843
n.s.

AM 1159
11.0

AM 4053
10.3

AM 2478
11.1

No comparison stars
seen - 2.0 magn.
before a could be seen -
poor plate.

AM 928
f 10.8
f 10.7

AM 3487
10.5

AM 2442
10.8

AM 1839
10.7

2 inch eyepiece
AM 846
10.5

AM 3604
p 10.7
m 10.7
f 10.6

AM 2117
11.0
images elonga-
ted.

AM 1808
p. 11.0
m. 10.8
f. 11.0

AM 806
10.9

AM 3499
10.7

AM 2098
11.0

AM 1724
11.0

AM 782
10.7

AM 3444
10.2

Time 22:05

AM 738
10.7

Saturday, Oct. 3, 1908

H. 1299. 2nd meas. Cont.

2 inch eyepiece A M 389 A M 5515
 n.s. n.s.
 fainter than fainter
 d. ϵ , 0.2 than ϵ , (0.3)

A M 2717 A M 5439
 10.0 n.s.
 fainter than
 A M 2738 g
 10.2 11.1

A M 3370 A M 5440
 10.7 n.s.
 g. faintest
 A M 3557 comp. star (0.1)
 10.8

A M 5413
 n.s.

Time 0:30 Time 0^h 30^m
 3rd meas. of regions in wh. var. cannot
 be seen.
 Time 1:40 A M 5514

10.9

very faint.

g. faintest
 Comp. star
 (0.1)

A M 5422

A M 5420

n.s.
 h faintest
 comp. star (0.1)

n.s.
 fainter than
 c (0.3)

Time 1:50

Monday, October 5, 1908

H. 1299 First meas. continued.

Time 4:00

AM 3306

11.0

AM 1799

11.0

Images elonga-

~~AM~~ ted.

film thick, the
images are fairly
clear.

~~AM 2522~~

AM 459

11.0

There are
scratches
thru the stars
of the region
Compared, also
thru variable.

4:20

Thursday Oct. 8, 1908

H. 1299 Second Measurements Cont-3rd Meas. of
discordant observations.

Time 23:00

1 1/2 in. eyepiece

Am 400

n.s.

 $\Sigma l = 0.0$

Am 459

11.0

Am 3306

11.0

Am 1799

11.0

Am 3682

10.7

Am 5320

11.0

Am 5433

Too faint to measure

Am 4212

10.8

Am 3487

2 images - trailed

Am 3607

p 10.2
f 10.2

Am 3604

p 10.7

m 10.7

f 10.6

Time 24:00

First Measurements Cont.

Time: 0^h30^m2 inch eyepiece

Am 5525

11.0

Am 496

Too near edge.

Am 902

10.6 r

Very faint.
Am 831

11.0

Am 1187

10.7

1 1/2 inch eyepiece

Am 1218

10.3

Am 1342

11.0

Time 1:50

Am 1349

11.0

Am 1815

10.6

Am 1825

10.2

Am 1988

11.9

Am 2057

11.4

Am 2506

10.9

Am 2542

11.0

Am 2612

10.3

Am 2676

10.2

Time 1:00

2:05

Thursday, Oct. 8, 1908

H. 1299

First measurements cont.

Time 1:10

am 2813

10.3

 $\frac{1}{2}$ in. eyepiece:

am 5541

11.0

am 3697

10.8

am 3629

10.9

Time 1:19

am 3574

10.7

Friday, Oct 9, 1908

74.1299

First measurements Continued.

Time 23:35 AM 3522
lin. eyepiece 10.6

AM 3470
10.6

AM 3433
10.3

AM 3424
10.3

AM 3396
10.2

Images slightly
elongated

AM 4280
11.1

AM 4224
10.9

AM 4167
10.9

AM 4326
11.2

AM 4867
11.6

Images elongated
film thick.

AM 4893
11.3

Time 24:00

Time 1:10

AM 4444
11.3

AM 4938
11.3

AM 5009
11.3

AM 2429
~~10.8~~ 11.0

Time 1:17

Saturday, Oct. 10, 1908

St. 1299.

Time 23:30

Second Measurements cont.

2 inch eyepiece

Am 3522

10.6

Am 4326

11.1

Am 5009

11.3

Am 2813

10.4

Am 4167

10.7

Am 4938

11.4

Am 5541

11.0

Am 4224

11.0

Am 4444

11.4

Am 3697

10.8

Am 4280

11.1

Am 4107

10.2

Am 4107 (1st meas.)

10.3

Am 3396

10.2

Am 3629

10.8

Am 3424

10.4

Am 3574

10.7

[1 in eyepiece - Am 3433

10.3

Am 4893

11.3

[1 in eyepiece - Am 3470

10.6

Am 4867

11.7

Images
elongated

Am 2429

11.0

Monday, Oct. 12, 1908.

H. 1299

Second Measurements Cont.

Time 2:30	✓ atm 1159 11.0	atm 5525 11.0	atm 4212 10.8 ^{4th} meas.
1 in. eyepiece	Very faint.		
	✓ atm 1988 11.9	atm 496 ✓ Too near edge ^{2.5}	
$1\frac{1}{2}$ in. eyepiece	atm 1815 10.4	atm 1825 ✓ 10.2	
	✓ atm 1349 11.0	atm 2676 ✓ 10.3	
	✓ atm 1342 10.9	atm 2612 ✓ 10.4	
	✓ atm 1218 10.3	atm 2542 ✓ 11.0	
	✓ atm 1187 10.7	atm 2506 ✓ 11.0	
	✓ atm 831 10.7	Images elongated	
	✓ atm 902 ~~9.8~~ 10.6	atm 2057 ✓ 11.3	
		atm 831 11.0	

Time 3:05

Tuesday Oct. 14, 1908

H. 1299.

Time 22:00 Measurements of early B plates. First Meas.
2 in. eyepiece

B 5402
11.3

B 9640
10.9

B 12543
10.2

Thick film

B 11196
10.3

B 11437
10.7

B 12911
11.0

B 12802
n.s.

$\Delta d = 0.0$

B 11134
10.3

B 3477
10.3

B 3420
10.4

Time 22:30

Wednesday, Oct. 14 1908

H. 1299

Measures of early B plates. 2nd meas.

Time 22:45

$\frac{1}{2}$ inch eyepiece

✓ B 11196

10.4

B 9640

10.9

B 11134 (3rd. Measure)

10.6

✓ B 5402

11.1

Reject meas. 10.3 for B 11134

✓ B 11437

10.8

✓ B 12543

10.3

✓ B 12911

11.1

✓ B 11134

10.7

B 12802

n.s.

$\gamma d = 0.0$

✓ B 3420

10.3

B 3477

10.4

Time 23:05

Friday Oct. 16, 1908.

7.1300.

Time 22:30

First measures.

2 in. eyepiece

Am 1944

Am 3370

Am 3370

2 in eyepiece

10.0

Reject

(a mistake
in taking the

10.0

1 in eyepiece

Am 3664

value of

Am 5320

1 in eyepiece

9.8

comp. star f

n.s. $\delta = 0.1$

Am 3306

Am 5448

2 in "

9.8

9.9

Am 1799

Am 3444

10.0

Reject

9.9

Thick film.

Am 3499

Am 3682

10.0

10.1 Reject

fine scratches
on plate.

Am 1899

9.8

2 in eyepiece

Am 2645

Am 1915

8.7

10.0

1 in eyepiece

Am 1467

Am 3557

11.8

9.8

Very faint.

Am 4134

Am 2588

n.s.

10.2

Reject

$\delta = 0.0$

23:50

Friday Oct. 16, 1908.

H. 1300

22:50 First measures. Contin.
 2 in. eyepiece 'Am 2588
 10.7

'Am 738
 9.6

'Am 1944
 10.0

'Am 5287
 9.2

'Am 3682
 11.2

'Am 3604

3 images

μ 10.3

m 10.1

γ too blurred to
 measure.

'Am 2738
 8.8

'Am 782
 n.s.

$\delta d = 0.1$

'Am 806
 9.8

'Am 2717
 11.4

h not seen.

'Am 846
 9.9

0:20

Saturday Oct. 17 1908

H. 1300

Time 22:40	First Measures. Contin.	2 in eyepiece	
2 in eyepiece	'Am 5342 10.0	'Am 1839 9.9	'Am 2529 9.1
	Poor images.		'Am 5375 9.8
	'Am 4194 10.7	'Am 2098 11.1	'Am 2569 11.2
	Good images.		'Am 5313 10.0
	'Am 4300 11.3	'Am 459 11.4	'Am 1258 11.3
		Very indistinct	Images very faint
1 in eyepiece	'Am 4364 9.3	1 in eyepiece	1 in eyepiece
	'Am 5525 11.0	'Am 1229 n.s.	'Am 4901 10.4
		$f = 0.5$	1 in eyep.
2 in.	'Am 4746 9.6	1 in eyepiece	'Am 4212 11.2
	'Am 2801 11.0	'Am 1411 n.s.	'Am 1159 n.s.
	'Am 4798 10.0	$f = 0.6$	$< d = 0.0$
	Good plate	1 in eyepiece	Images elongated
	'Am 4825 11.1	'Am 1724 n.s.	
	'Am 1808	$f = 0.1$	
	3 images of each star	1 in eyepiece	
	'Am 2478 10.0	'Am 4053 11.2	
	Too indistinct to measure	1 in eyep.	
	Very faint		
	f. not seen		
	1 in eyepiece		

24:00

Monday Oct. 19, 1908

H. 1300

0:30

First measures continued

1 in eyepiece

Am 4221

11.1

n

Am 2042

9.2

Am 5046

11.2

Am 4086

10.1

Am 1389

10.5

Am 3520

10.0

Am 417

11.2

Am 3621

10.8

Am 4986

11.0

Am 2198

Very faint

$\leq f = 0.1$

Am 1363

$\leq f = 0.2$

Very faint

Scratches

Am 2504

11.2

through region

Very faint

Images slightly

elongated

Am 1334

11.8

Am 1224

11.3

Am 3817

9.0

Am 5402

9.6

Am 3701

10.5

Am 3583

11.1

Am 2474

n.s.

$\leq f = 0.0$

Am 5300

11.1

Monday Oct. 19, 1908

H. 1300

2:40

First measures (cont.) with eyepiece

'Am 2016

11.2

'Am 3428

11.2

'Am 1978

9.1

'Am 3383

10.3

'Am 1886

11.2

'Am 3329

11.1

'Am 1855

9.6

'Am 1828

10.1

'Am 5457

9.1

3:20

Tuesday, Oct. 20, 1908

Th. 1300

22:50

First Measures Continued.

1 in. eyepiece

'Am 2649
9.6

'Am 1190
9.6

Images elongated

'Am 886
9.2

'Am 501
10.7

'Am 2922
ns.

'Am 2606
11.5

$\bar{z} = 0.1$

'Am 839
10.1

'Am 4884
9.8

'Am 2547
10.5

'Am 4849
11.2

'Am 2814
11.1

'Am 4400
11.2

'Am 4310
11.1

'Am 2700
11.2

23:10

Tuesday, October 20, 1908

H 1300

4:30

Second Measures

✓ AM 2042

9.1

1 in. eyepiece

✓ AM 2474

n.s.

✓ $\bar{x} = 0.0$

✓ AM 3701

10.4

✓ AM 3817

8.9

✓ AM 2504

9.6

images slightly
elongated
but clear &
reliable

✓ AM 2198

4:45

Tuesday, Oct. 21, 1908

7.1300

21:05

2nd Measures Continued

AM 2198

AM 1724

lin eyepiece

n.s

n.s

$\bar{x}_f = 0.1$

$\bar{x}_C = 0.2$

AM 417

AM 1411

10.5

10.6

AM 4086

AM 1229

10.0

n.s. $\bar{x}_f = 0.4$

AM 4221

AM 1258

11.1

11.2

AM 1159

AM 2478

n.s

10.6

$\bar{x}_d = 0.0$

AM 2569

AM 4212

11.3

11.1

AM 2529

8.9

AM 4901

10.4

AM 4053

11.1

21:35

Thursday, Oct. 22, 1908

H 1300

2:40

Second measures cont.

 $1\frac{1}{2}$ inch eyepiece✓ am 2649
9.6✓ am 4849
11.1✓ am 1978
9.1✓ am 1334
11.1✓ am 2547
10.6✓ am 4884
9.8✓ am 3428
11.2✓ am 1363
11.2

Indistinct

✓ am 839
10.1✓ am 2922
11.2✓ am 2016
11.0✓ am 3621
11.0✓ am 2606
11.7✓ am 886
9.2✓ am 4986
11.1✓ am 1389
10.4✓ am 501
11.1✓ am 5457
9.1✓ am 3520
9.9✓ am 2442
10.4✓ am 1190
9.6✓ am 1828
10.0✓ am 5046
11.2✓ am 2117
10.0✓ am 2700
11.1✓ am 1855
9.8✓ am 5300
10.8✓ am 4310
11.1✓ am 2329
11.1✓ am 3583
11.1✓ am 4400
11.3✓ am 1886
11.3✓ am 5402
9.6✓ am 2814
11.2✓ am 3383
10.1✓ am 1224
11.2

3:40

Friday, Oct. 23, 1908

24 1300

21:10

Second Measures Continued $1\frac{1}{2}$ in. eyepiece.

Am 2801

11.1

Am 4825

11.3

Am 5287

9.1

Am 1899

9.8

Am 5525

11.1

Am 4364

9.2

Am 738

9.4

Am 3499

10.4

Am 459

11.3

Am 4300

11.4

Am 846

9.9

Am 3444

10.0

Am 2098

11.1

Am 4194

10.6

Am 2717

11.3

Am 5448

9.9

Am 1839

10.0

Am 2588

10.7

Am 806

9.8

Am 3370

10.1

Am 1808

p 9.6

m 9.6 } reject

f ns. }

too indistinct

for certainty

Am 4746

9.6

Am 1944

10.0

Am 3604

p n

m 10.0

f 10.0

too indistinct

Am 782

n.s. $\bar{f}d = 0.1$

Am 2738

9.2

Am 4134

n.s. $\bar{f}d = 0.0$

Am 3557

9.8

Am 1915

10.1

(1 in eyepiece)

$\frac{1}{2}$ in eyep.

Am 4798

10.0

to measure
preceding
image

Am 5287

22:15

Friday, Oct. 23, 1908

H 1300

23:00

 $1\frac{1}{2}$ in. eyepiece

Second Measures Cont.

Third measures of discordant Obj

✓ AM 1799
9.9✓ AM 417
10.5✓ AM 3499
10.4✓ AM 3682
11.2✓ AM 2504
~~7.5~~ 11.2✓ AM 2738
9.2✓ AM 3306
9.8~~7 = 0.4~~
lin. eyepiece✓ AM 1363
11.2✓ AM 3664
9.8AM 501
10.8✓ AM 1411
Reject reading
10.6AM 1467
Indistinct
~~7~~ = 0.4AM 3604
7
m 10.0✓ AM 1467
Indistinct
~~7~~ = 0.4✓ AM 2645
8.87
p + f.
images
too faint
to measure
middle✓ AM 3621
10.6(lin. eyepiece) ✓ AM 2478
10.7✓ AM 2922
11.1image fairly
distinct
Reject other
measures of
p + f.
images✓ AM 1411
11.1

Friday, October 23, 1908

H. 1300

1:10

Second Measures cont.

Am 5313

9.9

Am 5320

n.s.

~~*~~ $d = 0.0$

1:12

Am 5300

10.8

Am 5375

9.8

Am 5342

9.9

1:20

Tuesday, October 27, 1908

H. 1300.

Time 3:15

Measures of 10 early B plates 1st meas.

$\frac{1}{2}$ inch eyepiece

B11139

10.5

B16221

11.1

✓ B10934

11.2

at

✓ B3543

10.0

✓ B9328

10.0

✓ B3480

11.2

✓ B34¹⁹~~20~~

11.0

✓ B3347

11.1

images elongated

✓ B12857

9.2

✓ B13569

9.2

3:45

Wednesday October 28, 1908

4.1300

0:30 Measures of 10 early B plates. 2nd meas.
 Limb piece B 16221
 11.1

✓ B 3347
 11.2

✓ B 13569
 9.3

✓ B 12857 near edge -
 9.2 images elongated

✓ B 3419
 10.9

✓ B 3480
 11.2

✓ B 9328
~~9.9~~ 10.1

✓ B 10934
 11.2

✓ B 3543
 10.1

✓ B 11139
 10.5

0:45

Saturday, October 31, 1908

Var 404. Nova? Pyxis.

Plates examined - no nova seen.

AC 566	1904, 12, 3	AM 4159	1906, 3, 29	AC 1046	1900, 11, 27
AC 9246	1908, 2, 7	4198	" 5, 4	AM 721	1900, 11, 17
AM 263	1899, 10, 28	4230	" 5, 14	723	" 11, 20
332	1899, 12, 1	4237	" 5, 15	735	1901, 3, 25
340	1899, 12, 2	4669	" 11, 8	3299	1905, 1, 8
371	1900, 2, 23	4724	" 12, 13	3377	" 3, 11
380	1900, 3, 3	4735	1907, 1, 3	3451	" 4, 11
415	1900, 4, 6	4744	" 3, 16	3476*	" 4, 24
754	1901, 4, 10	4755	" 4, 11	3527	" 5, 12
785	1901, 5, 14	4874	" 5, 31	3532	" 5, 13
791	1901, 5, 21	5223	" 10, 17	3555	" 5, 25
818	1901, 5, 28	5254	" 11, 13		
1898	1903, 5, 4	5263	" 12, 5		
1922	1903, 5, 7	5276	1908, 1, 24		
1945	1903, 5, 16	5278	" 1, 24		
2388	1903, 11, 19	5291	" 1, 30		
2477	1904, 3, 9	5305	" 2, 5		
2494	1904, 3, 26	5334	" 3, 26		
2521	1904, 4, 11	5336	" 3, 26		
2642	1904, 5, 11	5363	" 4, 5		
2648	1904, 5, 13	5368	" 4, 6		
2722	1904, 6, 7	5379	" 4, 9		
2741	1904, 6, 12	5394	" 4, 22		
2800	1904, 7, 2	5399	" 4, 23		
3283	1904, 12, 3	5437	" 5, 7		
4068	1906, 1, 29	5445	" 5, 8		
4123	1906, 3, 6	5454	" 5, 9		
AM 4139	1906, 3, 24	AM 5460	" 5, 10		

*For a suspected image see Page 36.

Monday, November 2, 1908

Var. 404 Nova Pyxis

RA. $9^h 0^m 32^s$ Dec. $-31^\circ 58.7'$ (1900)

Time 0:35 ✓ B 5014

1 eye piece 13.8

✓ B 7850

Too faint to measure
 $< T = 0.0$

✓ B 5289

 $> d = 0.3$

Brighter

than d by
at least 0.3.

Comp. stars

a, b, c not

on the plate
region for
extreme edge.

Time 4:40 B 4661

✓ B 5010

 $ns < s = 0.2$

B 5075 spectrum pl.

B 4661

n.s.

useless no images.

✓ B 5054

n.s.

 $< T = 0.1$

✓ B 13609

n.s.

 $< T = 0.0$

✓ B 7440

13.4

✓ B 7449

13.6 ?

1:30

✓ B 18228

 $< m = 0.6$

n.s.

Tuesday November 3, 1908

Var 404

AM 3476

2:45
1 in eyepiece

There is an extremely faint object in the region of H. 404 which is probably a defect in the plate. The image is more of a dot than the star images which are elongated.
12.8

B 8889

spectrum plate n.s.

<T = 0.4

✓ B. 24754

✓ B 21043

n.s. < l = 0.4

near edge.

✓ B 20881

n.s. < l = 0.4

extreme edge

2 in eyepiece

✓ B 15317

prec. 14.3

w seems

0.4 fainter than H. 404.

prec. 14.3

B 22636

n.s. < T = 0.2

w is barely seen.

✓ B 21002

n.s. < q = 0.4

Extreme edge

✓ B 20939

n.s. < n = 0.4

✓ B. 21001

n.s. < l = 0.4

extreme edge

✓ B 15237

12.8?

very faint

q barely

visible

✓ B. 15316

n.s. < m = 0.0

n.s. < θ = 0.2

from plate

region poor

very near edge

✓ B 18082

14.8³

Brighter than u by 0.1 at least.

✓ B 15901

n.s. < l = 0.6

extreme edge

1 in eyepiece

✓ B 24555

n.s.

< T = 0.0

✓ B 21209

n.s. < T = 0.3

u not seen

✓ B 18420

n.s. < θ = 0.0

B 15902

not seen

✓ B 24698

14.2

u is very faint certainly as faint as u white t

✓ B 19573

wrong region

✓ B 18958

n.s. < u = 0.2 < T = 0.7

region off plate.

3:55

is very clear & marked.

Tuesday November 3, 1908

Var 404

3:55 ✓B 7659 14.2	✓B 25143 14.2
✓B 24671 Region not on plate	✓B 25163 n.s. < $t=0.0$ near edge
✓B 24967 n.s. < $q=0.0$	✓B 26582 n.s. < $q=0.0$ near edge
✓B 11143 n.s. < $t=0.0$	✓B 26713 14.2
✓B 11144 14.0	✓B 10926 14.2 ?
✓B 12669 n.s. < $r=0.0$	very faint
✓B 28846 n.s. just off plate	✓B 10949 Region not on plate
✓B 27132 n.s. < $p=0.0$ extreme edge	B 10950 n.s. < $q=0.1$ near edge

4:15

Cont. p. 36

Saturday, December 5, 1908

Variable H. 2898.

Measures of Comparison stars. 2 inch eyepiece.

23:30

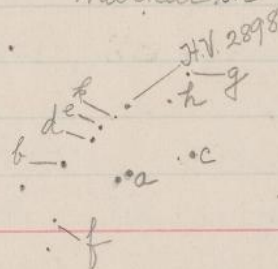
First scale

Marked on I 12,536.

I 12,536

a	5.2 5.4 5.5	5.45	0.1
b	5.4 5.6 5.7	5.65	0.1
d	6.2 6.4 6.5	6.45	0.1
e	6.5 6.7 6.6	6.65	1.0
c	5.7 5.9 5.7	5.80	1.1
k	8.2	8.20	a
f	6.8	6.80	a
g	7.3	7.30	a
h	7.8	7.80	a

20:15



Tuesday, December 8, 1908

Variable H 2898

Measures of Comparison stars.

Scale from I 32811.

2 inch eyepiece

0:20

I 13307

C	5.6	5.8	5.8	5.80	0 0
a	4.8	5.0	5.1	5.05	0 1
b	5.0	5.2	5.5	5.35	2 1
d	6.2	6.2	6.2	6.20	0 0
e	6.3	6.5	6.4	6.45	1 0
f	6.5	6.7	7.0	6.85	1 2
g		7.2	7.2	a	
h		7.5	7.5	a	
k		8.2	8.2	a	

1:00

2:45

I 19515

I 33587

a	5.2	5.4	5.4	5.40	0 0	a	4.0	4.2	4.1	4.15	0 1
b	5.5	5.7	5.9	5.80	1 1	b	4.8	5.0	5.0	5.00	0 0
c	6.0	6.2	6.0	6.10	1 0	c	5.1	5.3	5.3	5.30	0 0
d	6.7	6.9	6.8	6.85	1 0	d	5.4	5.6	5.0	5.30	3 3
e	6.2	6.4	6.5	6.45	0 1	e	5.8	6.0	5.8	5.90	1 1
f		7.5	7.5	a		f	5.9	6.1	6.0	6.05	1 0
g		8.5	8.5	a		g	6.2	6.4	6.4	6.40	0 0
h		7.7	7.7	a		h	5.5	5.7	5.2	5.45	3 2
k		8.2	8.2	a		k	6.2	6.4	6.5	6.45	0 1

3:45

Sunday, December 11, 1908

0:45

Variable H 2898					Measures of Comp. stars. 2 in. eyepiece				
Scale from AC 8858					AC 2781				
a	7.3	6.9	6.7	6.80	11	a	6.6*	6.2	6.3
b	7.5	7.1	7.4	7.25	12	c	7.2	6.8	6.25
c	8.4	8.0	7.8	7.90	11	c	8.0	7.6	7.55
d	8.5	8.1	8.3	8.20	11	b	7.3	6.9	7.0
e	8.8	8.4	8.4	8.40	00	d	8.3	7.9	7.95
f			9.2	9.20	a	e	8.5	8.1	8.2
g			9.4	9.40	a	f	8.7	8.3	8.4
h			9.6	9.60	a	g	8.8	9.0	9.00
k			9.8	9.80	a	h		9.4	9.40
						k		9.6	9.60

1:45

* a remeasured with second and third scales.

Saturday December 12, 1908

0:20	Variable H 2898					measures of comparison stars				
	Scale from AC 8858					AC 3184				
	AC 3193					AC 3184				
a.	7.0	6.6	6.8	6.70	1.1	a.	6.8	6.4	6.6	6.50 1.1
b.	7.2	6.8	7.0	6.90	1.1	b.	7.2	6.8	7.0	6.90 1.1
c.	7.4	7.0	7.2	7.10	1.1	c.	7.8	7.4	7.2	7.30 1.1
d.	7.8	7.4	7.5	7.45	0.1	d.	8.0	7.6	7.5	7.55 0.1
e.	8.0	7.6	7.7	7.65	0.1	e.	8.2	7.8	7.8	7.80 0.0
f.	8.4	8.0	8.2	8.10	0.1	f.	8.4	8.0	8.0	8.00 0.0
g.	8.5	8.1	8.5	8.30	2.2	g.	8.6	8.2	8.4	8.30 1.1
h.		8.8		8.80	a	h.	8.8	8.4	8.0	8.70 3.3
k.		9.2		9.20	a	k.		9.2		9.20 a

1:12

Treasures of Comparison Stars.

Tuesday, December 16, 1908.

2:45

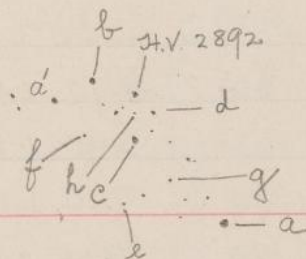
Variable H. 2892

Scale from I 32811

Marked on

2 in. eyepiece

I 17552 and
I 16629



I 17552

a	4.8	5.0	5.1	5.05	0.1
b	5.1	5.3	5.5	5.40	1.1
c	5.5	5.7	6.0	5.85	1.2
d	5.7	5.9	6.2	6.05	1.2
e	6.2	6.4	6.3	6.35	0.1
f	6.5	6.7	6.7	6.70	0.0
g	6.8	7.0	7.1	7.05	0.1
h	.	.	7.5	7.5	.a

I 16764

a	5.3	5.5	5.8	5.65	1.2
b	5.8	6.0	6.2	6.10	1.1
c	6.0	6.2	6.3	6.25	0.1
d	6.2	6.4	6.5	6.45	0.1
e	6.3	6.5	6.7	6.60	1.1
f	6.5	6.7	7.0	6.85	1.2
g	7.0	7.2	7.2	7.20	0.0
h	.	.	8.0	8.0	.a

3:30

Wednesday, December 15, 1908

Variable J 2892					Measures of Comparison stars				
2130 I 16629					I 29874				
a 4.5	47	50	4.85	12	a 50	5.2	5.2	5.20	00
b 5.2	54	56	5.50	11	b 5.5	5.7	6.0	5.85	12
c 5.5	57	58	5.75	10	c 6.0	6.2	6.2	6.20	00
d 5.8	60	60	6.00	00	d 6.2	6.4	6.3	6.35	01
e 6.0	62	62	6.20	00	e 6.3	6.5	6.4	6.45	11
f 6.2	64	65	6.45	01	f 6.4	6.6	6.6	6.60	00
g 6.3	65	67	6.60	11	g 6.8	7.0	6.8	6.90	11
h 7.0	72	74	7.30	11	h		7.5	7.5	.a

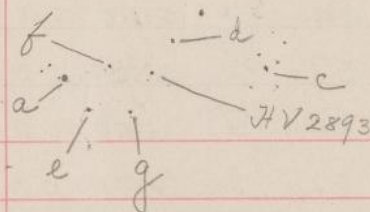
3:00

Monday December 21, 1908

2:45

Variable H. 2893

Measures of Comparison Stars.

f marked on I 17552 and
I 16629

I 17552

a	5.0	5.2	5.2	5.20	00
b	5.8	6.0	6.0	6.00	00
c	6.7	6.9	7.1	7.00	11
d	6.2	6.4	6.2	6.30	11
e	6.4	6.6	6.5	6.55	01
f	.	7.3	7.3	.	a
g	.	7.8	7.8	.	a

I 29874

a	5.2	5.4	5.5	5.45	01
b	6.2	6.4	6.6	6.50	11
c	5.8	6.0	6.3	6.15	21
d	6.2	6.4	6.4	6.40	00
e	7.0	7.2	7.2	7.20	00
f	.	8.0	8.0	.	a
g	.	8.2	8.2	.	a

3:40

Tuesday December 22, 1908

	Variable	H. 2893.	Measures of Comparison Stars.
2:45	I 16764		I 16629
	a 5.8 6.0 6.2	6.10 1 1	a 5.2 5.4 5.3 5.35 0 1
	b 6.3 6.5 6.4	6.45 1 0	c 6.0 6.2 6.2 6.20 0 0
	c 6.4 6.6 7.1	6.85 2 3	f 5.5 5.7 6.0 5.85 1 2
	d 6.6 6.8 ~~6.7~~	7.00 2 2	d 6.2 6.4 6.5 6.45 0 1
	e . 7.3	7.3 . a	e 6.7 6.9 7.0 6.95 1 0
	f . 7.8	7.8 . a	f . 7.7 7.7 . a
	g . 7.8	7.9 . a	g . 7.8 7.8 . a

3:30

Monday, December 28, 1908

3:00

Variable H 2892

Measures of Comparison stars

Scale from AC 8858

AC 4214

a.	¹ 7.2	² 6.8	³ 7.0	6.90	1 1
b.	7.7	7.3	7.2	7.25	1 1
c.	8.2	7.8	7.4	7.60	2 2
d.	8.3	7.9	8.2	8.05	1 2
e.	8.6	8.2	8.4	8.30	1 1
f.		8.7	8.7		a
g.		9.2	9.2		a
h.		9.8	9.8		a

AC 5402

a.	¹ 7.8	² 7.4	³ 7.2	7.30	1 1
b.	8.1	7.7	7.6	7.65	1 0
c.	8.2	7.8	8.2	8.00	2 2
d.	8.4	8.0	8.3	8.15	2 1
e.			8.8	8.8	a
f.			9.3	9.3	a
g.			9.7	9.7	a
h.			10.2	10.2	a

AC 3959

a.	¹ 7.5	² 7.1	³ 7.2	7.15	1 0
b.	~~8.2~~	7.6	7.8	7.70	1 1
c.	8.2	7.8	8.1	7.95	2 1
d.	8.5	8.1	8.3	8.20	1 1
e.	8.8	8.4	8.6	8.50	1 1
f.		9.4	9.4		a
g.		9.5	9.5		a
h.		10.0	10.0		a

AC 5369

a.	¹ 7.3	² 6.9	³ 6.7	6.80	1 1
b.	7.6	7.2	7.3	7.25	0 1
c.	8.2	7.8	8.1	7.95	2 1
d.	8.3	7.9	8.1	7.85	1 0
e.	8.6	8.2	8.3	8.25	0 1
f.	8.8	8.4	8.6	8.50	1 1
g.			8.8	8.8	a
h.			9.4	9.4	a

4:15

Tuesday, December 29, 1908

Variable H 2893

Measures of Comparison stars

Scale from AC 8858.

0:15

^{AC 4214}
 a . 7.8 7.4 7.3 7.35 0.1
 b . 8.5 8.1 8.2 8.20 1.1
 c . 8.8 8.4 8.6 8.50 1.1
 d . . 9.0 9.0 . a
 e . . 9.4 9.4 . a
 f . . 10.0 10.0 . a
 g

AC 3959

a . 8.3 7.9 8.1 8.00 1.1
 b . . 9.1 9.1 . a
 c . . 9.3 9.3 . a
 d . . 9.4 9.4 . a
 e . . 9.7 9.7 . a
 f
 g

0:45

AC 5831

AC 3917

3:00

a . 7.5 7.1 7.2 7.15 1.0
 b . 8.5 8.1 8.2 8.15 1.0
 c . 8.7 8.3 8.5 8.40 1.1
 d . 9.0 8.6 8.6 8.60 0.0
 e . . 9.2 9.2 . a
 f . . 9.7 9.7 . a
 g . . 9.8 9.8 . a

a . 7.7 7.3 7.3 7.30 0.0
 b . 8.3 7.9 8.2 8.05 1.2
 c . 8.8 8.4 8.6 8.50 1.1
 d . . 9.2 9.2 . a
 e . . 9.3 9.3 . a
 f . . 9.7 9.7 . a
 g . . 9.8 9.8 . a

3:20

Tuesday, January 26, 1909

	Variable H 2892	First measures	2 in. eyepiece
0:30	AC 5606 8.8 images elongated	AC 5314 8.7	AC 3932 8.4
	AC 5548 8.6 good plate.	AC 5300 8.7	AC 3924 8.6 C seems brighter than b. ~~B~~ C = 8.2
	AC 5176 8.8	AC 5271 8.6	AC 3917 8.2
	AC 1161 8.8	AC 5219 8.8	AC 3849 8.7
	AC 5822 8.8	AC 5196 8.8	AC 3790 8.2
	AC 5723 8.8	AC 4619 8.8	AC 3747 8.2
	AC 5685 8.8	AC 4555 8.8	AC 3746 8.2
	AC 5480 8.7	AC 4395 8.8	images elongated
	AC 5402 8.7	AC 3959 8.4	
1:15	AC 5369 8.7	AC 3937 8.4	

Tuesday, January 26, 1909

	Variable H 2892	First measures
3:15	ac 5597 8.7 C; C seems as bright as b.	ac 5773 8.6 ac 5925 8.8 ac 5933 8.8 ac 5979 8.8 ac 5990 8.8 ac 3376 8.6 C > b; c = 8.2 ac 4035 8.6 ac 4139 8.4 C > b. c = 8.2 ac 4551 8.8
	ac 5566 8.5 C. C appears its estimated brightness = 8.7	
	ac 5525 8.8	
	ac 5232 8.8	
	ac 5377 8.5 C. C > b C = 8.2	
	ac 5709 8.7	
	ac 5737 8.8	

4:00

Thursday January 28, 1909

	Variable H	2892.	First measures	2 in. eyepiece
D: 40	AC 3299 8.5 C = b = 8.3	AC 4180 8.5 ⁶ C = 8.5	AC 4398 8.8 ⁶ ~~C = b = 8.2~~	AC 2306 8.6 C = 8.4
	AC 5186 8.7	AC 4262 8.5 ⁴ C = 8.5	AC 4415 8.5 C = 8.4	AC 2743 8.7 C = 8.2
	AC 5331 8.5 C = b = 8.3 not a very good plate.	Very good ^{image} plate AC 4367 9.0 C = b = 8.3 ~~C = 8.1~~	AC 2235 8.5 C = 8.7	AC 2913 8.2 C = 8.5
1: 20				AC 2938 8.6 C = 8.7
2: 45	AC 2987 8.6 C = 8.3	AC 3108 C = 8.5 C = 8.2	AC 3255 8.6 C = 8.4	AC 1015 9.0 C = 8.3 (1 in eyepiece)
	AC 3009 8.3 C = 8.5	AC 3118 8.2 C = 8.5	AC 71 9.0 C = 8.5	AC 680 8.5 C = 8.2
	AC 3061 8.5 C = 8.6 (1 in eyepiece)	AC 3183 8.5 C = 8.2 (1 in eyepiece)	AC 1030 9.1 C = 7.6 Images faint	(1 in eyepiece) AC 664 8.9 C = 8.2 1 in eyepiece
3: 30		AC 3199 8.5 ⁶ C = 8.4		

Friday January 29, 1909

	H. 2892	First Measures	2 inch eyepiece.
0:30	AC 107 9.1 C = 8.5		AC 1384 8.7 C = 8.5
	AC 163 9.3 C = 8.5	(in eyepiece)	<u>b</u> is suspected of variability. It seems more than 0.5 magn fainter than <u>a</u> .
	AC 504 8.6 C = 8.5		
	AC 579 8.6 C = 8.2	images elongated but distinct.	
	AC 1054 ✓ 8.9 C = 8.2		
	AC ¹³⁰⁹ ~~118~~ 8.6 C = 8.4	Images faint.	
	AC 1317 9.0 C = 8.7	images faint.	

1:15

Friday January 29, 1909

3:10

H 2892

First measures.

AC 9124

9.0

 $C = 8.2$

3:20

See page 42 diagram of region of H 2892.

The difference between a and b seems greater than my computed value of 0.5 magn.

I have therefore taken a' as a temporary comparison star and call the difference in magn. between a and a' 0.6.

On I 16629 b is 0.1 fainter than a'.

On AC 4262 b is 0.1 > a', b is .3 > d c is 0.2 > d

Var is .1 < c = .1 > d

Saturday, January 20, 1909

21:25 H 2892
 AC 6164
 8.7 ?
 in. eyepiece b. is 0.3 or 0.4
 of a magn. brighter
 than d and
 certainly 0.6 or
 0.7 fainter than a
 $C > b$ by 0.1
 Var. is .2 or .3
 brighter
 fainter than d +
 .1 or .2 fainter than
 b. Images
 slightly elongated.
 AC 6660
 9.3
 $C > b$ by .1 or .2
 var < l
 $b > d$ by .1 or .2
 $b < a'$ by 0.3

First measures 1 inch eyepiece.

AC 6733
 9.3
 $b, .1 < a'$
 $b, .3 > d$
 $C, .2 > d, .1 < b$

22:50

Monday, February 1, 1909

0:40

H 2892

First measures

AC 6766

9.3

 $b < a'$ by 0.2 $c < a'$ by 0.1 $c > d$ by 0.3d seems at

least 0.4 magn

brighter than e

H 6784

Wednesday, February 3, 1909

0:45 JH 2892 Measures on I plates to test variability of
Companion star, C.

B103

8.8

C < b.

B1954

8.8

C < b

B

I 33407

spectrum pl.

I 30859

8.2

b < ^a_b

Var < b

I 29650

1:10

Tuesday August 2, 1910

12:0:10

Variable 404

A 9180

not in region

A 9191

not in region

A 9139

not in region

AC 11306

n.s. < m

AC 11321

0:15

n.s. < 0

Friday Sept. 30. 1910

Variable 404

 $1\frac{1}{2}$ eyepiece & 2 in eyepiece

Cont. from p. 37

0:10

Am 6833

Am 6816

Am 6852

n.s. < k

n.s. < o

n.s. very poor images

a, the only comp. star identified

Am 6845

Am 6851

Am 6874

n.s. < g

poor plate

n.s. < e

Am 6882

comparison

Am 6894

n.s. < h

stars not seen

n.s. < g

very clear images

Am 6924

Am 6881

Am 6912

n.s. < n

n.s. < o

n.s. < m

Am 6064

Am 6900

Am 6059

134

n.s. < n

very faint

I not seen

Am 6904

n.s. < n

too poor to measure
images of comp. stars
not seen

Am 6712

Am 6923

Am 6853

n.s. < p

n.s. < m

n.s. < c

Am 6760

Am 6959

very poor images

n.s. < s

n.s. < o

images elongated

Am 6767

Am 6965

n.s. < p

n.s. < m

0:50

Saturday, October 8, 1910Variable 404 $\frac{1}{2}$ inch eyepiece.

22:25

AC 11355 B 39850

ns. < n

AC 11409

ns. < h

AC 11423

ns. < l

AC 11477

ns. < l

AC 11504

ns. < h

AC 11575

ns. < l

22:23

070207 Plates on which variable in Monoceros can be seen

I 17657

B 31294

All 339 Iso.

AC 12763

AC 12810

AC 12849 Iso.

MC 1602 Iso yellow screen

MC 1603

MC 1616 Iso Screen A.

MC 1617

MC 1624 Iso Screen A.

Friday, February 23, 1912

11 A.M.
23:00

MC 1624
Leo.

Ry Monocerotis 070207

$a'2v$

cf'd with X Mon.

$v \approx b'$

$v > \frac{1}{2}a$ near edge: a not on plate

$v = 7.4$

MC 1617

K 1711

(10.6) 3, 4 (11.4) $v = \frac{10.9}{11.0}$

Compared with comparison stars
of X Monocerotis. Near edge of plate

MC 1616 Leo.

$v = b$

$v > a$

$a'2v$

$v = 7.4$

MC 1603

1603

$v1R$

$v2 (18.6) v = 10.4$

Conf'd with comp. stars of X Mon. Near edge

MC 1602 Leo.

$v1 b'$

$v > a$

($a = 7.5$)

$a'1v$

$v = 7.3$

1908phae.proj..915H