

1122- 3 3 94 +47 38 +30 +013
Date 11/3/25

20449 20960 2022 053 546 2671

17354

700 281 20340

0254-0340

23.83 24/42
6018 0.55

ms 2000

9997 4084 10483 0482
0260 2837 0052 0014

ms 1914
ms 1913

708

7181 11 2928

FL 604 0703

2-7-16

2.91
15.34
1/4

90 = 40.8
sum 19257
1012 324
12/10/25

3.650	:	R.A.	:
47.650	:	DEC.	:
0.000	:	M. R.A.	:
0.000	:	M. DEC.	:
0.000	:	STANCE	:
10	:	MODULUS	:
0.000	:	D. VEL.	:
0.449	:	q1 (U)	:
-0.230	:	q2 (U)	:
0.864	:	q3 (U)	:
0.000	:	DU	:
0.000	:	U	:
-0.662	:	q1 (V)	:
0.563	:	q2 (V)	:
0.494	:	q3 (V)	:
0.000	:	DV	:
0.000	:	V	:
0.600	:	q1 (M)	:
0.794	:	q2 (M)	:
-0.101	:	q3 (M)	:
0.000	:	MP	:
0.000	:	M	:

1122.000*

3.000*

39.400*

47.000*

38.000*

0.026*

-0.035*

5.300*

114.815 146

2.700

0.093

0.864

112 13.047 17

-0.175

0.493

-17 -18.785 27

-0.057

-0.100

-6 1 -6.872 4

+4.5
 -7.7
 38
 +4.5
 -2.31
 18
 2 25 16
 +4.5
 -7.7
 38
 +4.5
 -2.31
 18
 2 25 16

+4.5
 -7.7
 38
 +4.5
 -2.31
 18
 2 25 16

1220.000*

3.000*

54.500*

39.000*

51.000*

0.018*

-0.027*

6.558*

204.174

0.900

0.050

0.909

11.097

-0.140

0.379

-28.151

-0.041

-0.175

-0.451

6.3
182

+10

-25

-8

Observer:

Date: / - /

168°11- 5

STAI

MAGN

TIME

-0.175

-0.047

0.02

-33.152 -25

0.379

-0.133

0.02

12.518 110

0.909

0.047

0.02

0.900

251.189 151

7.000*

-0.027*

0.016*

51.000*

39.000*

54.500*

3.000*

1220.000*

Comments:

9291 4259 } 0882 24200 resident, 41028-30
8646 -4028 -0022 1145-2445 912-206 85.2 B.R.O.S
41 Tame Si 4 03.5 727 28
SP d 7.23
7.23
7.23

1268

25823

19171

2013 1500.5
1500.5
201 24

Red

APIS 57137

-668 134 47 27276

-16 5922-1422

506 2248
2248
722 2248
722 2248

+00125 -053126

40168 8054

+00147 -0522

+00127 -0502

+0014 -054

+00213

+01064

+00171 -0521

+0521

0228

+05259

+0596

+0011 022

+0023 -054

2492

+0045

+0014 -0514

510

150
024250 - 052220
1008100

32.065 2.2-10019
10021
10021
2.78
2.78
0.50 67

6040
6040

32.075
2.2
103

59.67
59.70
10019

32.058
2.2
100

58.10
58.11

Hitam Boback 4 03.5 t27 28 5.3 ADP
 25823440 -206

4937 GC Top 5.27 -0.16 -0.49 3 av.

W 2349 $\frac{251}{242}$

Z cut

+11.9 ± 0.3 3

- 3.3 ± 0.3 ± 11.9
 -33

5 2421948.812 +12.8 +13.8
 958.731 +1.4 +2.4
 958.665 -12.0 -16.0
 2004.664 -7.9 -6.9
 0

~~70012 -053
 + 7
 70014
 70012 -050 N32~~

+365	+56	+925	0334	-0129	0205	+4.8	-1.8	+1.1
-450	+724	+220	-0585	1669	-2264	-22.6	-0.4	-22.4
+666	+885	-309	+0609	-1575	-0966	-4.6	-0.6	-7.2

~~total~~ 2.1 ~~total~~
total ± 2.4 -0.52 ± 2.0

~~54.678~~ 1509.3 ~~128~~ 57 ~~359~~ 1507.4

32.068 1507.2 127 28 0.50 1506.7

~~31.982~~
-0.50
12.56
3.06
1525.26

~~31.892~~
0.1053
5.427
4.727
3.04
55.45 1528.33

~~31.542~~
0.137
2.98
3.2
62.43

~~31.492~~
0.137
2.98
3.2
62.43

1.06 1938.20

32.014
0.5

3

32.068
- 054

982

1502.2

+001852.6
+ 15
+0619
+00217
28
0.50

-052
-049
-056 ✓

5202

5202
+0018
-0523
+00163
-0504

RD

total
+0013 -047 New

-050 GCM30

2.06

25.7

55.65
4.75

2.90

-1.50

0.40

1.04

192833

0217

+0015 -0524529

319

24.2

0.053
21.992

0.008

0.019

32.075

103

54.07

54.07

54.27

6.72

3.03

-1.22

1.81

1.04

192426

0.072
31.593

0.031

0.032

25

59.71

3.03

1.81

0867
+0006

32.016

032

32.094

49.85

56.00

1.52

1.04

193820

4.550

27.500

19.000

-52.000

5.500

126

2.300

0.368

0.062

0.928

14.072

3.905

-0.650

0.731

0.209

-232.029

-28.730

0.665

0.680

-0.309

-114.450

-15.120

1268.000*

4.000*

3.500*

27.000*

28.000*

0.019*

-0.051*

6.250*

177.828

2.300

0.018

0.928¹⁰⁰

5.321

-0.235

0.207^{rr}

-41.373

-0.104

-0.308

-19.229

60
158

5.15
108.2

5

+7

-38

-25

-17

-12

Observer:

Date: / - /

-16.003

51-

STAR

MAGN

TIME

-0.308

-0.101

-36.600

35-

08

0.207

-0.245

5.328

410

135

0.928

0.021

2.300

151.356

5.900*

-0.052*

0.021*

28.000*

27.000*

3.500*

4.000*

1268.000*

145
58

135

Comments:

1339 5726
5729

(P 412.9)

022
16

0455 0500 1339 PMSA 876 657 556
0045 0103 1300 PMS 25 131
+ 210 173.25 10 1p

1339) -023 112 729 2.807

1341) -094 196 540 2.764

P=4.45d +125

20 485

29.49 -42.73

12-20 0.76

2677 -4129

+00154 -0435 EC

10022

+00166 -0426 GV

-026 1130 70.63 2749

(20156) 157 -0406

F18772 4074 0540 974

2677 -4129

4801 -4135 0033 971

1024 1023 76

0500

1024 1023 -4139

0015

1027 1032 76

425

1386 2907

947 2885

912 2822

26 45

0545

517

8448

4368

0027

425

9175 2888 499

5351

8996

11.2 0095

511

1022 -049
1024 -017
1025 -018

-10,920

-46,559

-0,851

0,628

0,695

-29,727

-223,998

0,093

0,762

-0,641

12,598

4,868

0,932

0,160

0,225

12,800

198

5,700

-42,000

25,500

21,000

-4,250

1334
27296

4 Dec 2013 +12.5

20171

24449

44273

1220006

Q 2212

20182

26777

44139

10037076

1371
V77470
27304

10022-855

Q 2.014

-036

~~130~~ 736

27997
2764

1031-048

0525
0557

-1094 198

633

Q 13.5

950 98 2845

8794

1002

10510, 01199
0096 0104

4766

9/34

Handwritten notes and signatures

Handwritten notes

9143

5962 / 0530

6942

-8876

0035

Handwritten notes at bottom left

PASB 56, 649 1972

M. D. Woretsky

H027925

GL5210

W2476

4 5.39 -05 -24
16.5 +21 01 5.4 A1 +10L

+0024 ±25 -042 ± 21
+0019.5 -047.5
+0019 -048.5

29.047 1900.1 +21 1 22.85 1899.7 +13.8 W5

+3.3 2157.01 +

+25.2 2301.87 L

+7.1 2977.02 L

+25.0 2887.93 L

$\frac{-120}{28.927}$

$\frac{0.403}{28.300}$
 $\frac{.903}{.445}$
 $\frac{.19}{.964}$

$\frac{+21 -40.66 \pm 230}{+17 -46.44 \pm 24.96}$
+19 -43

2.11
+15.1 L4
-1.4 43

26.7

+056

43.43 1927.63
29.1 243

+00195 -0480 41.62
+00180 -0461 25.06

House

0.617
 $\frac{28.300}{28.914}$
 $\frac{.958}{.975}$
 $\frac{.9}{.975}$
 $\frac{28.984}{29.01}$

29.036 21.72
+21 -10
051 2162

23.58
-1.38
23.20

43.48
 $\frac{.442}{25.102}$
 $\frac{.442}{25.102}$
 $\frac{.442}{25.102}$

1924.27

1929.53

+025.5 -048

23.33
+7
23.34

4.250
 21.000
 27.500
 -48.000
 5.500
 126
 12.500

 0.326
 0.160
 0.932
 3.194
 12.048

 -0.641
 0.762
 0.093
 -251.337
 -30.476

 0.695
 0.628
 -0.351
 -58.261
 -11.723

4.250
 21.000
 27.500
 -44.000
 4.000
 12.500

 0.326
 0.160
 0.932
 17.050
 13.238

 -0.641
 0.762
 0.093
 -258.170
 -22.929

 0.695
 0.628
 -0.351
 -23.300
 -6.563

+324	+152	+934	+0409	-0310	+0100	+9.3
-641	+761	+98	-0808	-1551	-2359	+10
+696	+630	-345	+0878	-1284	+0406	-3.4

567am

7002422.1
+0023

-04052.1
-044

27309 4 16.6 +21 39 81.3 Aug +12.48

2480

5.32-14-39

4

5216 38.867 1859.4 +21 39 15.86 1859.4

$$\begin{array}{r} 121 \\ \underline{746} \end{array}$$

$$\begin{array}{r} 2.02 \\ \underline{17.54} \end{array}$$

1341

$$\begin{array}{r} 39.806 \\ \underline{16} \\ 824 \end{array}$$

$$\begin{array}{r} 15.64 \\ \underline{23} \end{array}$$

1433.50

$$\begin{array}{r} 824 \end{array}$$

32.65

32.7

$$\begin{array}{r} 15.87 \\ \underline{23} \end{array}$$

1427.76

$$\begin{array}{r} 10.050 \\ \underline{28.652} \end{array}$$

$$\begin{array}{r} 28.652 \\ \underline{42} \end{array}$$

$$\begin{array}{r} 38732 \\ \underline{42} \end{array}$$

$$\begin{array}{r} 774 \\ \underline{114} \end{array}$$

$$\begin{array}{r} 793 \end{array}$$

$$\begin{array}{r} 38.77 \\ \underline{38.823} \end{array}$$

$$\begin{array}{r} 1440 \\ \underline{144} \end{array}$$

$$\begin{array}{r} 1440 \\ \underline{144} \end{array}$$

$$\begin{array}{r} 38.926 \\ \underline{424} \end{array}$$

$$\begin{array}{r} 38.926 \\ \underline{1.44} \end{array}$$

1428.01

1939.73

32.31
32.9

$$\begin{array}{r} 35.850 \\ \underline{28.908} \end{array}$$

$$\begin{array}{r} 16.40 \\ \underline{10.53} \end{array}$$

$$\begin{array}{r} 15.94 \end{array}$$

4,000
 21,000
 27,500
 -46,000
 5,500
 125.94
 10571
 12,500
 0,326
 0,160
 0,932
 4,713
 12,240
 412
 -0,541
 0,762
 0,093
 -244,115
 -29,567
 0,695
 0,628
 -0,351
 -52,310
 -10,974
 24
 24

1341
 252
 6969 2769
 529 5145
 557
 340
 170
 168

18 Tam 95 31

1329 4.10.1948

4 Net

+21 07

505

27295 17/11/48 ASPB 1/65 5.53 -0005 0.27825

(20171)

16002-050

(12.5)

Open 1341

10.2

1033 -044

12.5

120

2449 1200 270

Plum BP-48

5409

9914

7143

5962 0540

9775 1089 0504 0510
9801 9130 0503 0505

4020

6643 8876 0025

1.79 49 3000

130 736 2757
049 198 089 2704

4.258
21.888
35.888
-44.888
5.258
112
12.588

0.326
0.168
0.932
17.058
13.559

-0.641
0.762
0.093
-258.178
-27.882

0.695
0.628
-0.351
-23.388
-7.882

COST.

R.A. : 4.250
DEC. : 21.650
R.A. : 0.000
DEC. : 0.000
ANCE : 0.000
ANCE : 10
JULUS : 0.000
VEL. :

(U) : 0.326
(U) : 0.150
(U) : 0.933
DU : 0.000
U : 0.000

1 (V) : -0.641
2 (V) : 0.761
3 (V) : 0.102
DV : 0.000
U : 0.000

1 (W) : 0.695
2 (W) : 0.632
3 (W) : -0.344
DW : 0.000
W :

AK 89227
1983

D. DeWitt S.M. and et al

65181 934 +021±0.5

$\frac{26}{11}$

55229 6785

$\frac{34}{19}$

+0028
+0024

52.54

$\frac{13}{57}$

-039±1.7

5292-943

$\frac{217}{5509}$

+0024 -037

55.711 60.72

~~11.19~~

$\frac{18}{719}$

52.96

$\frac{-30}{52.66}$

0990
AP 15 24 0557

Adt

Honey &

Aug 20 1987

41667) A A 39227
88.520 +0024 1501

July 16
AP 15 24 0557

966-
②

Observer:

Date:

/

STAR	R.A. :	4.300	ME
	DEC. :	46.400	
1.	R.A. :	0.000	
1.	DEC. :	0.000	
	DISTANCE :	0.000	
	MODULUS :	10	
	PROPER VEL. :	0.000	
	q1 (U) :	0.315	
	q2 (U) :	-0.258	
	q3 (U) :	0.913	
	du :	0.000	
	u :	0.000	
	q1 (V) :	-0.639	
	q2 (V) :	0.654	
	q3 (V) :	0.405	
	dV :	0.000	
	V :	0.000	
	q1 (W) :	0.702	
	q2 (W) :	0.711	
	q3 (W) :	-0.042	
	dW :	0.000	
	W :	0.000	

Comments:

1350

158

023 062 305
49 004 310

4 17.9 44 23

$\bar{P} = 416$

$\bar{P} = 413$

484-04 -051

414-02 -568614

485-03 -533'

4019-036 mm

4019-036

2.676 -2.04
0.140 102
(41)

14-02512

1350.000*

4.000*

17.900*

46.000*

23.000*

0.019*

-0.036*

6.400*

190.546 *1645*

1.300

0.072

0.913 *1172*

14.977

-0.169

0.405 *577*

-31.703

-0.059

-0.042 *5*

-11.106

139 2.55 ✓
 121 2.94 ✓
 115.55 2.94 ✓
 137 2.94 ✓
 115.4 2.94 ✓
 8717 3.82 ✓
 4500 4.21 ✓
 420 5.2 ✓
 845 7.01 ✓
 0372 0.385 ✓
 0216 0.21 ✓
 0211 0.21 ✓
 0372 0.385 ✓

140 3.15 ✓
 0706 2.94 ✓
 5.94 0.15 ✓
 113 6.48 ✓
 6.57 2.759 ✓
 8717 2.94 ✓
 7.01 0.385 ✓

Ex-116

1643 0.11 ✓
 1643 0.11 ✓
 1643 0.11 ✓

AG 0.11 ✓

6.40 5.64 ✓

$\frac{2.24}{8.74}$
 0.257 ✓

110 Van 110 ✓

$m_v = -0.3$
 $\frac{5.65}{5.95}$
 0.95 ✓

1001 0.11 ✓

1020 0.29 ✓
 1018 0.27 ✓
 1018 0.24 ✓

1001 0.24 ✓
 1001 0.24 ✓
 1001 0.24 ✓

0148 0.11 ✓

8366 4.17 ✓
 5478 4.04 ✓
 0372 0.385 ✓
 0216 0.21 ✓
 0211 0.21 ✓

5.43

TOU 14 #42 ~024 ± 3.5
TOU 13 1-93 10 -033
TOU 10 1420 -035

35354 22
47

35343 6664

1.33
-17
116

27
370

335

35331 68.55 1.05
23
354

0

APRS 53 448

RU 4416

MEM 72, 233

Observer: _____

_____ / _____

-7.050

STA

TIME

-0.336

-0.025

-22.868

0.077

-0.160

10.000

0.939

0.004

10.000

147.911

5.850*

-0.029*

0.018*

52.000*

20.000*

20.000*

4.000*

1375.000*

Comments: _____

1325 ✓

4 20.6 100 52

242

(+100)

110 Van 5.44 075 ¹⁰⁵ 100 657 2.759 L

114 647

100126 -0283 ~~2~~L

228
976

5.55 ✓

100145 -0277
-0254

-1.3
5.76

110/133

4.33

10196

129.9

120.5

Le-27

1014-027

5.5

+11

4.330
20.900
20.500
-27.000
5.850 *605*
148 *162*
10.000

0.309
0.160
0.938
7.617
10.503

-0.637
0.767
0.079
-155.955
-22.274 *-25*

0.706
0.622
-0.338
-15.475
-5.673

1377 } 4 21.2 } 9888 3822 } 0292 123
27 } +33283 } 2457 -9352 } 0077 022
4 21.2 } 124 01 } 022

29977 } 119 31 }
20579 } 373 }
59106 }

~~+0005-04866L
+0005-0422 P104
+0005-041
+0005-041
+0017-0416C
+0017-0416C
+0199-039 P214
+019-040~~

~~+0009-027
+0002-077
2003 099~~

~~AV = -0.55
VU 5.50
VU 5.1~~

~~649 2.744 }
650 9555 3542 }
646 2457 -9357 }
4.33 }
+0050-04417
+05739 009 72223
+0005-03000~~

~~AD.50 -34.19
5.24 0.84-40
+20.5~~

9555 3292 } 0352
2997 9352 } 0020.56 0066
582

529.3 3000 0294
6.49 1148 0084

Observer:

Date: / - /

DEC

R.A. : 0.000

S1 DEC. : 0.000

TIME

STANCE : 0.000

RADIUS : 10

VEL. : 0.000

1 (U) : 0.305

2 (U) : -0.058

3 (U) : 0.951

dU : 0.000

U : 0.000

1 (V) : -0.636

2 (V) : 0.731

3 (V) : 0.248

dV : 0.000

V : 0.000

1 (W) : 0.709

2 (W) : 0.680

3 (W) : -0.186

dW : 0.000

W : 0.000

Comments:

254 ✓

1558 4 87.3 443 59 0352

31069

5969

6.05 0.00 -0.02 59

608-22 157932 25779 HOV

+4.0 ✓

pink

150936
300
1236

10²⁴ 1059
3 +3
-3 +2
-2 -1.1
-0.55

1016
928 28.4 92.8 34.0 +7.0

281 28.7
09.6 28.4
24.0 24.0 5.10

195

2338
9723
-4640

2415

4.050

44.000

22.000

55.000

5.100

105

4.000

0.195

-0.245

0.950

78.479

12.017

-0.604

0.733

0.313

-2.0376

4.0500

0.773

0.635

0.005

-1.7512

-1.237

1558 4 51.3 +43 59 84.50

3104

22842

66

ADDD 1,71

-0.2

FDLH 0.50

6.09 -0.22 157

PUB 135

532 2.979 ADI

150 936

500

300 1286

PC 8417

2134 - 2110
9124 9110

8498 2854
5302 - 4592

604

+0.95

0297 6772 5752 0671

2358 - 452 - 1114

+1.85

028-060

+017-061

-6000

6559

+3.20

9677 0616 06716 6559
1027 4504 0632 0671

1003+95 298

5.96+95 289

$$\begin{array}{r}
 15.596 \\
 -148 \\
 \hline
 1448
 \end{array}$$

$$\begin{array}{r}
 990 \\
 +0024 \\
 \hline
 1014
 \end{array}$$

$$\begin{array}{r}
 5-3.34 \\
 \hline
 2.95
 \end{array}$$

$$\begin{array}{r}
 5629 \\
 \hline
 5629
 \end{array}$$

$$\begin{array}{r}
 +00265-056 \\
 +00275-058
 \end{array}$$

$$\begin{array}{r}
 18.600 \\
 +5 \\
 \hline
 18.605
 \end{array}$$

$$(65.90)$$

$$\begin{array}{r}
 52.34 \\
 -5 \\
 \hline
 52.33
 \end{array}$$

300
348 274
348 274
300

180
180
180

315-4922

1947 3210 1271 1947
1947 3210 1271 1947

313
319
124
30
300-1271
1271-300

1271-300

1271-300

1947 3210 1271 1947
1947 3210 1271 1947
1947 3210 1271 1947

1271-300

1271-300

1271-300

1271-300

q1 (M) : 0.773
 q2 (M) : 0.529
 q3 (M) : -0.350
 PM : -202.985
 M : -13.372

q1 (V) : -0.604
 q2 (V) : 0.783
 q3 (V) : -0.150
 DV : -544.638
 V : -25.611

q1 (U) : 0.195
 q2 (U) : 0.327
 q3 (U) : 0.925
 DU : -165.036
 U : 4.850

R.A. : 4.850
 DEC. : 10.050
 M. R.A. : 30.000
 M. DEC. : -124.000
 DISTANCE : 3.190
 MODULUS : 43
 D. VEL. : 13.000

21143

31146 760 tie

4 656 + 29 45

6.25 - 12.180
762 118

5186 2482 / 10246
8952 - 9687 / 6651

3836

R.A. : 4.900
 DEC. : 29.800
 PM. R.A. : 5.980
 PM. DEC. : 0.000
 DISTANCE : 0.000
 MODULUS : 10
 AD. VEL. : 0.000

q1 (U) : 0.184
 q2 (U) : -0.006
 q3 (U) : 0.983
 DU : 4.517
 U : 0.045

q1 (V) : -0.600
 q2 (V) : 0.791
 q3 (V) : 0.117
 DV : -14.767
 V : -0.148

q1 (M) : 0.778
 q2 (M) : 0.612
 q3 (M) : -0.142
 DM : 19.146
 M : 0.191

PM. DEC. : 0.000
 PM. R.A. : 5.980
 DISTANCE : 0.000
 MODULUS : 10
 AD. VEL. : 0.000

R.A. : 4.900
 DEC. : 29.800
 PM. R.A. : 5.980
 PM. DEC. : 0.000
 DISTANCE : 0.000

4 Ann

4 55.9 +32 49 A +5.2
B +6.96

HR1592

4.9 "

FOYS -102

4.99 +02 +05

ADRE +051 -106.830
FOYS -109

9m F9 6"

9m F9 6"

9m F9 6"

9m F9 6"

9m F9 6"

9m F9 6"

9m F9 6"

9635 2208 1060
9676 9716 0915

18.76 +55 27.60

18.76

$$\begin{array}{r} 941\ 276 \\ -076\ 062 \\ \hline 613\ 780 \\ +048\ 104 \\ \hline 613\ 780 \\ -018\ 013 \\ \hline 6049\ 767 \\ +69\ 064 \\ \hline 6118\ 831 \\ +55\ 055 \\ \hline 6173\ 886 \\ +2\ 025 \\ \hline 6175\ 911 \\ 023 \end{array}$$

$$\begin{array}{r} -4 + 20 - 13 \\ \boxed{+12 - 21 - 6} \end{array}$$

19

$$-5 + 24 - 17$$

$$+13 - 26 - 8$$

22

$$-4 + 21 - 14$$

$$\boxed{+11 - 21 - 7}$$