

5842

15

39.3

V044V

517

310

719

M<sub>J</sub> = 21.15

51

A1E

140159

5m200

21102

20gum

4.53

+06

1.400

00

2.900

15

528

180

1037

033

176

1.045

2.500

0047-047 N30

0043

0634

0615-0445

180

236

4

1.82

360

054 = a

1046

036 = n

1.400

15.66

+14.85

1.469

-6.55

-44.5

F-2026

4.30

4.05

7.0

17.2

Bnd 81

003 -048  
-17.2

69.15

$\frac{1}{2} \times 39$

$$\frac{16}{114}$$

1.3m

$\rho = 2185 \pm 10$   
 $\alpha = 20.211 \pm 0.01$

$4.52 + 0.04 + 0.04 \text{ A/E}$

AP055744

15 33.3 +15 500

0.44

-17.22

140154

4.44 +0.01 +0.04 A/E 0.0182

21102  
9059

$-0047^{30} -047^{32} N30$   
 $-0044 \pm 1.7 -044 \pm 1.4 \text{ A/E } N30$

$-061 -054 \text{ A/E}$   
 $-064 -047 N30$   
 $-064 -050$



$5134 -8306$   
 $-8059 -5518$

$W234 -034$   
 $-055 -034$

0.674  
0.019

0.54

15.66

5.36410

Plank

+9 -24 -14  
+8 -26 -6

to 1.3m

0.0145

17

+14.5

-6.35

-47

4.1

-17.2

0.156

-35.4 25.6 (102)

-24.4 25.4 3.30  
-24.8 25.8 3.30

11 43

$\frac{0.53}{0.21m}$

(0.015)

$\sqrt{-818 - 576 \ 339 \ 941 - 064 - 050 - 422 - 017 - 6 - 223}$   
 $\sqrt{-052 - 014 \ 037 \ 010 - 394 \ 109 - 16.2 + 9 + 13} \quad 0182$

$$-7 + 19 - 18$$

$+8 - 26 - 5$

014

$$-12 + 21 - 22$$

$+7 - 32 - 3$

5/24

15.660  
19.850  
-65.590  
-44.500  
4.000  
63  
-17.200  
  
-0.447  
0.710  
-0.544  
-19.290  
8.134  
  
0.662  
0.671  
0.333  
-334.969  
-26.861  
  
-0.602  
0.211  
0.770  
131.121  
-4.979

Obs

-1.791

-5.112

y6

0.771

123.160

0.131

0.770

TIME

0.212

-0.602

-22.347

-27.991

y6

0.332

-337.146

-0.051

0.332

7.547

0.672

0.662

0.547

7.272

y6

0.628

-31.548

-17.200

-0.544

6.565

0.710

0.000

-0.447

-0.040

-17.200

-0.063

66

01.000

4.100

19.000

-47.000

39.000

-63.500

15.000

13.800

5842.000

15.660

y6

0710

Comments:

5796

15 41.0 -41 39

5.93 004 133 726 2.810 6.0

-0014 -047 sty

-00167 -0439

5.72

-0187

-020 -041

27

41

5.19

|       |       |        |      |
|-------|-------|--------|------|
| 9817  | -4851 | 0456   | 0094 |
| -1903 | -8745 | 100214 | 5.19 |
|       |       | #1.2   |      |



R.A. : 15.700  
DEC. : -41.650  
PM. R.A. : -27.000  
PM. DEC. : -41.000  
DISTANCE : 5.190  
MODULUS : 109  
RAD. VEL. : 0.000

q1 (U) : -0.439  
q2 (U) : -0.142  
q3 (U) : -0.887  
dU : 69.573  
U : 7.593

q1 (V) : 0.661  
q2 (V) : 0.618  
q3 (V) : -0.426  
dV : -183.239  
V : -19.999

q1 (W) : -0.608  
q2 (W) : 0.774  
q3 (W) : 0.177  
dW : -92.175  
W : -10.060

0027

16 09.1 / 14 20

0350

00016 00016 0334

0023

0020 0314



5.32 -06 1.34 -185 075 325

6083

16

187

-44

27

B6<sup>15</sup>

147152

53-014 667 666 2.704 60

601

087

573

2.707

5.10

$\frac{174}{747}$

-10.4

-1.3

-033

-008

-0014

-036

Stop

$\frac{6.4}{-}$

-00072

-0316

0312

-0070

9934 -3612

0024

7147 -4335

+148

0064.45

$\frac{-009-030}{-}$

6074  
146926

88E

5.46 -0.43 111 701 2.786

103 710

206

916

0.8

6000.000 \*

16.000 \*

18.700 \*

-49.000 \*

-27.000 \*

-0.000 \*

-0.000 \*

6.400 \*

190.546

-10.400

0.000

-0.899

20.754

-0.123

-0.430

-10.920

-0.084

0.000

-16.118

6083

140152

16 1817

44 27

7014-1936

-0114-036

147194

118 15.3 -23 35

-2302553

GC

-0017

-025

-0042  
-0017

~~-0015~~  
-025

859 -571 -220 -411 409

GC

-0017 -0016 -0220

-026.5 -0222

-022  
-020

18413 15333

~~694~~  
~~4.0764~~  
4.007

2344 15340  
+170  
2479

75089

$\mu = \frac{123}{57}$

48.578  
29.918

46.21  
-3908

153332

18896  
18043

24.2  
2448

19930  
19810

22.89  
22.77  
22914

15 Dec  
143212

010 119 1061 28820  
16 28.1 468 53 5.0 139m -6.76

22144  
94941

-0057<sup>75</sup> +033<sup>69</sup> 1130

40 11

6161

-6059<sup>41.0</sup> +034<sup>54.0</sup> 6c → 1130

+2

-0242 +0360  
F115

5481 -5174  
-8364 8558

5413  
5400 -5413  
8082 8409  
CV134  
0009



6124

16 35.5 - 43 N

5.53

149711

0.215

+9727-3050

-2390-9524



6188

13.863 78

-0005 ± 43

-030 ± 3.4

$\frac{106}{468}$

~~-0008~~ 024  
~~-0010~~ 022

51.45 44  
 $\frac{1.35}{50.10}$

14405

64.82

70.28

51.58

$\frac{77}{407}$

$\frac{-14}{4.77}$

14472

38.26

50.71

-36

$\frac{-13}{83}$

$\frac{44}{442}$

14423

54.70

51.39

$\frac{-4}{417}$

$\frac{-14}{58}$

55c 580 5.21-

L2.1 10-1-59.5

2289

16 41.2 -40 44

62.4

150742

584-026 095 243 2184 60

031 091 309 2.650 5.4

095 315 170

~~010-025 411.8~~

$$\begin{array}{r} 7.0 \\ -1.6 \\ \hline \end{array}$$

1209-024

5

564-026 085 243 2.684

59c 660 5

06.00-

2431 59c 660 59c 660 59c 660

120-500

0047 600

59.1- 0855 6822

5.73 ~ 10 1.29 -16.5 065<sub>195</sub>

6320

17 00.1 -57 35 B574

153716

671-020 090 243 2704

234  
142 141

-034 094 408 2701

(109)  
088 407 5.55

-005 -026

176  
583

-00145 -028.

-125

-00074 -028

6.9

-0060

9446 -2110

0234

-004-022

-0094 -9775

-0092

-40

0097 642

023#41

0216#45

0011-026

0016-036

8.670

11.2

$\frac{62}{23}$

8.680

$\frac{13}{667}$

64.80

1.34

3342.71

$\frac{23}{138}$

8.716

$\frac{37}{679}$

38.50

32.53

$\frac{17}{63}$

6320.000\*

17.000\*

0.100\*

-57.000\*

-38.000\*

-0.005\*

-0.026\*

6.800\*

229.087

6.900

0.061

-0.869

8.087

-0.095

-0.464

-25.011

-0.054

-0.171

-13.537

$10^5$   
 $14 \quad 28.1 - 34 \quad 36$   
 $-0.60 + 0.69 + 1.33 \quad (3) \quad 2.64$   
 $11.6 \quad 82 \quad 117$

$6143$   
 $148703$   
 $4.23 - 14 - 90 \text{ E}$

$E + 0.8 \quad (-86)$

$2.647$   
 $2.677$   
 $(30)$   
 $(34) \quad (261)$   
 $4.00 \quad 10$   
 $26$

$-4.5 \pm 0.6$

$-00077 - 0175 \text{ F144}$   
 $+17$   
 $-0006 - 020$

$E = +8$

$-0045$   
 $-0074$

$V_0 = 40.64$   
 $-24$

$-008 - 015$

$0206$   
 $0010$   
 $651$   
 $-955$

$-016 - 016$

$+15$   
 $-23$   
 $9318 - 3405$   
 $-3629 - 3401$

$M_V = -2.4$

$$\begin{array}{r} 6.566 \\ 30 \\ \hline 596 \end{array}$$

7.5

$$\begin{array}{r} 0007 \pm 2.4 \\ -0008 -0.25 \\ \hline 0019 -0.24 \\ -0005 -0.21 \\ \hline 0014 \end{array}$$

$$\begin{array}{r} 6.539 \\ 844 \\ \hline \end{array}$$

(10.29)

$$\begin{array}{r} 6.554 \\ 18 \\ \hline 536 \end{array}$$

(3271)

$$\begin{array}{r} 6.562 \\ 23 \\ \hline 505 \end{array}$$

(56.13)

$$\begin{array}{r} 50.77 \\ -21 \\ \hline 50.55 \\ 50.11 \\ -10 \\ \hline 50.21 \end{array}$$

-0005 -0.23

$$\begin{array}{r} 50.19 \\ -23 \\ \hline 50.42 \end{array}$$

$$\begin{array}{r} 50.35 \\ 94 \\ \hline 79.36 \end{array}$$

-0.22 \pm 2.2



Observer:

199°E-

h-

STAR

291°0 MAGN.

TIME

918°0-

812°0-

13

882°0-

988°0-

819°0-

L+

856°0-

810°0-

882°0-

177°828

166

+092°9

17

+0810°0-

+0810°0-

+000°02-

+34°000+

28°100+

18°000+

6143°000+

Comments:

6432

D4071  
D00471

17 15.6 35.1

17 15.6 417 23 A17

3205  
2561  
9552

156653

23371

$\left[ \begin{array}{l} 600 \\ 2544 \end{array} \right] \left[ \begin{array}{l} 5 \\ 15=0174 \end{array} \right] = 0033$   
600 5 15=0174  
2544 15=0174  
600 5 15=0174  
2544 15=0174

585

615

142

1.095

2873

76

624

614

144

1.164

2856

204

4135 B5

1.5

614

154

1.094

2862

58

0174

27  
+3

15.0

158

1496

1574

174

167

0940

1013-113

1014-012

10004

013

1725

1.1436

28=2

40.2

565

10006

013

1724

114

113

40.1

156

314

10964

10964

10964

550

550

550

550

550

550

550

550

550

550

$$\begin{array}{r} 57.634 \\ -34 \\ \hline 23.634 \end{array}$$

$$1.3$$

$$\begin{array}{r} 10007 \\ -027 \\ \hline 9980 \end{array}$$

$$\begin{array}{r} 1176 \\ -017 \\ \hline 1159 \end{array}$$

$$12.55$$

$$74$$

$$\begin{array}{r} 11.23 \\ -01 \\ \hline 11.12 \end{array}$$

$$\begin{array}{r} 11.23 \\ -01 \\ \hline 11.12 \end{array}$$

$$\begin{array}{r} 11.23 \\ -01 \\ \hline 11.12 \end{array}$$

$$11.23$$

$$\begin{array}{r} 11.23 \\ -01 \\ \hline 11.12 \end{array}$$

$$\begin{array}{r} 11.23 \\ -01 \\ \hline 11.12 \end{array}$$

$$\begin{array}{r} 11.23 \\ -01 \\ \hline 11.12 \end{array}$$

$$\begin{array}{r} 11.23 \\ -01 \\ \hline 11.12 \end{array}$$



23350 -0027 -015 Stuy

6460

17 20.6 -44 7 BLU

157243

23503

(+09)

5.11-06 -39

5.12 -003 050 613

5.12 +010 074 623

077 638

184

779

785

6.5

2.702-60

2.682 (2) 544

$n_V = -1.86$

$v_0$  4.85  
6.65

Stuy

dbl line

Uncly

-0009-034 +14.1

-0005-030 PK4

-0054

-007-024

-0005-033

-00013 029

-0014

-003-026

9684 -1815 0282  
0008

-2496 5904 +061  
005 9 km

$$\begin{array}{r} 35.324 \\ 0.59 \\ \hline 374 \end{array}$$

$$1508.0$$

$$-004$$

$$-0006$$

$$-032$$

$$1900.5$$

$$\begin{array}{r} -0012 \pm 48 \\ -031 \\ \hline -083 \end{array}$$

$$\begin{array}{r} +1.53 \\ \hline 58879 \end{array}$$

$$35.371$$

$$\begin{array}{r} -16 \\ \hline 355 \\ \hline 1019 \end{array}$$

$$89.93 \quad 1939.50$$

$$\begin{array}{r} -11 \\ \hline 0004 \\ \hline -1255 \end{array}$$

$$64.44$$

$$\begin{array}{r} 35312 \\ -11 \\ \hline 351 \end{array}$$

$$\begin{array}{r} 0.64 \\ -22 \\ \hline 0.91 \end{array}$$



Observer:

/ - /

580°21-

| STAR |           | TIME |
|------|-----------|------|
|      | 180°0-    |      |
|      | 050°0-    |      |
|      | 31°327    |      |
|      | 02°260    |      |
|      | 0°127     |      |
|      | 5°064     |      |
|      | 0°962     |      |
|      | 0°038     |      |
|      | 14°000    |      |
|      | 218°776   |      |
|      | 6°700*    |      |
|      | 0°029*    |      |
|      | 0°007*    |      |
|      | 7°000*    |      |
|      | 44°000*   |      |
|      | 20°600*   |      |
|      | 17°000*   |      |
|      | 6460°000* |      |

Comments:

2550

6508

158488

23653

-170 2225  
-1425 2295  
-1472  
274

-37 15

13216

13212

277  
270  
472

2.70-22-84 C

085 130 2.624  
-107 4084 +157 3 2624

124

311

+14

FRB

-0017-0810

-117

9584 -1188

-4430

275

0310  
0020

245

130004

5310 -116  
-1564 -4432

0014

10

=2.64 5.79

-0013 9664 -0856  
-2802 -4463

0314

-24

-11132

574 -116  
-3611 -4428

0028  
4145

0064 MV-305

$$-0003 \pm 2.8 \quad -034 \pm 2.4$$

$$\begin{array}{r} 21.675 \\ \hline 14 \\ 689 \end{array} \quad \begin{array}{r} 50 \\ 50 \\ +004 \\ -007 \end{array} \quad \begin{array}{r} 24.00 \\ 1.82 \\ \hline 22.18 \end{array} \quad \begin{array}{r} 993.3 \\ -035 \\ -036 \end{array}$$

$$\begin{array}{r} 21.665 \\ \hline 14 \\ 689 \end{array} \quad \begin{array}{r} 01170.09 \\ 29.38 \\ \hline -17 \\ 29.58 \end{array}$$

$$\begin{array}{r} 21.705 \\ \hline 14 \\ 689 \end{array} \quad \begin{array}{r} 5643 \\ 28.56 \\ +25 \\ \hline 28.31 \end{array}$$

$$\begin{array}{r} 21.673 \\ \hline 14 \\ 689 \end{array} \quad \begin{array}{r} 3881 \\ 2830 \\ -17 \\ \hline 2847 \end{array}$$

Observer:

Date:

/ - /

STAR

TIME

M : -12.650

MP : -74.872

(M) : -0.031

(M) : 0.555

(M) : -0.832

V : -20.289

dV : -124.817

3 (V) : -0.152

2 (V) : 0.820

1 (V) : 0.552

U : 11.521

dU : 21.587

3 (U) : -0.988

2 (U) : -0.144

1 (U) : -0.059

VEL. : -7.900

DULUS : 172

TANCE : 6.180

DEC. : -31.000

R.A. : -2.100

DEC. : -37.250

R.A. : 17.450

Comments:

550  
6527

IC264L  
9624-10922

161 2445 -1445 2285  
151 2225

17 30.2 -37 + B1.5  $\frac{14}{11}$

158426 2412-9924

1.63-22-50 C

23736

26  
214

-105 +053 72 74  
+055 (4) 261143

FRB

9536 -1678  
3000 -9942

$\frac{106}{201.74}$

47

+ 1014-029.20

9659 -0750

9246 -8408 6113 1.41  
3859 -9989

-3.15

+ 6.6  
6.0

9249 9289 -9972  
-3652 -994

00 21.6  
00 21.6

247  
10000  
10000-028

460

$$-0001 \pm 19 \quad -031 \pm 18$$

$$-0001 \quad 978 \quad 22$$

$$\begin{array}{r} +0004 \\ +0001 \\ \hline 8.30 \end{array} \quad -034$$

$$10.94 \quad 10.46 \quad -032$$

$$\begin{array}{r} -18 \\ \hline 64 \end{array} \quad -029$$

$$9.34$$

$$\begin{array}{r} -17 \\ \hline 9.57 \end{array}$$

$$121630 \quad 54$$

$$\begin{array}{r} 634 \\ \hline \end{array}$$

$$121603$$

$$121658 \quad 34.81$$

$$\begin{array}{r} 9 \\ \hline \end{array}$$

$$649$$

$$86.42$$

$$\begin{array}{r} 10.14 \\ +25.9 \\ \hline 9.8 \end{array}$$

$$121632$$

$$\begin{array}{r} 16 \\ \hline 138 \end{array}$$



Observer:

Date: / - /

ST

TIME

R.A. : 17.600  
 DEC. : -37.100  
 R.A. : -1.800  
 DEC. : -29.200  
 ANCE : 6.310  
 ULUS : 183  
 VEL. : -8.000  
 8.7  
 {R} : -0.025  
 (U) : -0.990  
 pU : 19.840  
 U : 11.543  
 12.23  
 (V) : 0.537  
 (V) : 0.833  
 (V) : -0.133  
 pV : -118.944  
 V : -20.680  
 12.12  
 (M) : -0.843  
 (M) : 0.535  
 (M) : -0.056  
 MP : -0.89  
 M : -12.035

Comments:

25-8 9.5  
12.13  
12.13

32.4

17

24.3

38.4

45.2

21

62 II

6536

5 m m

26.6 4.2

45.48 42.45  
1.60 760  
1.13 732  
1.13

44.42  
1.40  
1.32

159181

514 511 352  
691 514 349  
540

2.78 +1.00 +0.63  
2.45 +0.335 3 J

3 5.13

2.37 305

1.295  
9.15  
3.77

-0.787

2.04  
1.14

-6.00236 +0.0131 Fly -20.0 a

128  
178  
4223

-0.216

+0.087

-0.0237 +0.087  
-0.0241 +0.041

-0.17 +0.14

590  
555  
1.3

-0.227  
-0.18 +0.05.5

-298  
446  
240  
-20.0

5 Apr 17 16.7 -67 43 g 101  
 4474 + 121 + 125 C  
 44721  
 44721

6536.000\*

17.000\*

29.300\*

52.000\*

21.000\*

-0.017\*

0.014\*

8.250\*

5.45 7.0  
 23 2516

446.684

-20.000

0.070

-0.151

112

+20

34.090

-0.034

0.822

21 25

-31.629

0.070

0.549

25

+7

20.291

Observer:

Date

010

S

TIME

11.206

69.697

73.828

0.548

0.548

0.044

0.044

-0.836

-0.836

-21.119

-28.588

-37.895

-39.899

0.823

0.823

0.153

0.153

0.547

0.547

8.694

17.680

45.972

48.519

-0.152

-0.151

0.987

0.987

-0.048

-0.048

-20.000

-20.000

123

302

5.450

7.400

9.000

9.500

-28.000

-29.500

52.300

52.300

17.500

17.500

Comments:

6567

17

35.1

-8

05

RTT

(+24)

462+11-22

461 129

044 775

2.721

8811-111

384

080

749

760

909

0009-028 0-0+

0008 -0255 -18.54

-013-024

-0114  
-011-025

$m_V = -1.1$   
 $V_0 = 3.9$   
5.0

6567.000\*

17.000\*

35.100\*

-8.000\*

-5.000\*

-0.011\*

-0.025\*

5.000\*

100.000

-18.500

-0.041

-0.934

13.213

-0.122

0.286

-17.486

-0.015

0.214

-5.434