2 Gem

41543 6 03.8 +23 39 6.9 gK4 −15,36

3835 6.72 10.57 K3 III ?

7739 −13.2 (1)

−17.5 (1)

−17.6 (1)

+23.1197

30

0000 −004

−0001 ±2.3 −005 ±20

14 Sep 6 03.9 -14 56 +82° 6

1HR2155 4.65 +0.06 AIV

-014 +015 GL
-023 +010 V
-018 +014

-0016 +010
-0021 +017
-0014 +019
-0020

37 pr.

-086	+693	+716	+0083	+0460	+0543	+2.0	+22.9
-483	+600	-658	+0465	+0398	+0863	+3.2	-20.4
+872	+401	-283	-0839	+0266	-0573	-2.1	-9.1

+24.9
-17.2
-11.2

1 0 -257 56 6 -018 +014 +32. -004 5 066

018 004

-0010 ± 2.0 +018 ± 1.2

-0021 +010 +009

53.491 3.3 -0010 45.46 3.1

047 -74

538 46.30

53.457 46.26 35.76

+5 +32

463 45.54

55.438 45.78 (70.05)

+24 .467 +4

402

6 25.✓

2155 6 3.9 -14 56 A I E

41695
7772

467 +04 0# 6

0231571.076 (3) 2884 (3) 6s

31

(16) +53, +61, +33+1, +3, +3 +44, +10

314
212 1590
+4
1436

141 a=037✓
322 1=056✓
1.071
1.393
1435

177
-0016
-0006 +0.0010
-023

+0.85
3.88

+32

924
3870
9714
-2323

D A07, 1 +15, +29, +43

2155.000+

6.000+
3.900+
-14.000+
-56.000+
-0.023+
0.010+
3.950+
58.084
32.000

9.042
0.717

25.415

0.081
-0.635

15.530

ADS 4704 −0015 ±3.5″ −024±31 −0015 −031

41841 6 044 −23 06 5.5″ A2 −14.66

3846

7763 26.891 1905.4 −23 6 13.37 1900.8

10mm 44″ 067 .958

24.336 2.570 26.906 .931

26.904 +8 912 909 −049

32.5

12.35 −1.14 13.49 +19 13.30

13.70 20 13.50

+1.18 12.19 4.90 −2.45 2.45 1.14 58.159 1434.87

13.79 +39 13.40 13.35 −1.16 1940.92 7579 37.9 37.1

HJD 42078 G 05.1 -42 17

-0034 G +003 FL
-0041 -013 N80

-086	942	324	0166	+0313	+0474
-483	245	-841	0932	+0081	+1013
872	229	-434	-1482	+0074	-1606

-0.7
+1.7
+0.9

42078 6 05.1 -42 17 Am +4.9 C4

I=D 1146

-2 Sti Var

+1.5

6.17 +0.25 (1.59)

-0041 -013 N30

-0035 +003 BC

-0038 -005

1704421443 6 05.6 -22 45

Ref 3442

+20 -18 +11
+2 -1 +5

b-f	m_1	c_1	β
0.296	+0.154	+0.478	2.671
	053	- 59	
	.207	.479	

$\Delta[c_1]$

$P = 18.2$ $P^2 = 3.31 \times 10^{-2}$

$Q = 0.2027$ $Q^3 = 8.33 \times 10^{-3}$

$Q^3/P^2 = 2.5 \times 10^{-4}$

$\Delta[m_1] = +.013$

$\Pi = 41 \times 10^{-6}$

$\Pi^3 = 2.8 \times 10^{-6}$

$m_1 + m_2 = 1.22$

$[\alpha - \beta] = [c_1] + 2[m_1]$

5.70 +0.43 0.00

Cw2-49 6 057 711 28 T26-5

711037

980858-58

Wyse 9000

9476 5017

Asa 3534

7.95 +58 — —

3756 5. 3[illegible] -31 22— -19.2 1St.

5-[illegible] (1.7) log

-051 -3[illegible] cP

37 Lam
41597 L 05.6 +58 57 5.4 gG8 +31.1a
3858
7796 +0023 +014 N30
+0030±2.2 +022±1.9 0c →
+0026 +018
+020

-086 -458 863	-0082 -0422	-0504 -5.0 +27.0
-483 779 401	-0408 +0660	+0252 +2.5 +12.5
872 382 307	+0828 +0325	+1153 +11.5 +9.6

2169 6 05.6 +14 00

$\rho = +16$ 6 stars Trumpler Sanford

+004 −016 5 stars GC + Yale Zone
−2 +2
+002 −014 → N30

−067 +241 +468
−493 +836 −243
+864 +493 −063

0

	1000 pc.		
−01600	−16	+15.4	0
−05548	−55	−4	−60
−0327	−33	0	

OCal

-0003 ± 2.4 -001 ± 2.1
-008

42167 6 05.8 -37 -0003 15 5.1 89 +45.38

3765

7805 48.696 1909.4 -37 14 41.35 1906.2
012 +04
.708 41.31

48.694 41.94 1938.75
-6 +12
688 41.82

37.9

+18.3 693 41.62 47.3
-37.0 -0001 -1 -.31 41.1
-15.7 -0015 -0001 -8

47.685 41.44 1935.87
13 +3
698 41.41

R.A.	:	6.100
DEC.	:	17.950
PM. R.A.	:	213.000
PM. DEC.	:	-231.000
DISTANCE	:	3.100
MODULUS	:	42
RAD. VEL.	:	17.600
q1 (U)	:	-0.090
q2 (U)	:	0.192
q3 (U)	:	0.977
dU	:	-296.123
U	:	4.857
q1 (V)	:	-0.481
q2 (V)	:	0.851
q3 (V)	:	-0.211
dV	:	%-1393.636
V	:	-61.811
q1 (W)	:	0.872
q2 (W)	:	0.489
q3 (W)	:	-0.016
dW	:	302.514
W	:	12.334

2

42272 L 07.8 +26 03 7.4-8.3 +48 km/sec

+4 Klm

+26°11'7

+0006 ±3.5 -007 ±3.2

46.535 1904.5 3466 1903.2

+10.103

6 08 +10 4

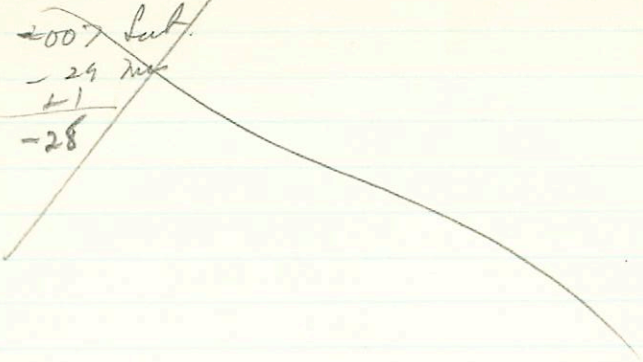
274

071-967

5763 3144
7035 -9463

X Au 4 083 750 15 -18

+0034 +007 Lut.
-3 -24 Mn
+3 +1
0 -28



XAu 825
70 ±1.02 Barns

0.000*

6.000*
8.300*
50.000*
15.000*
0.000*
-0.029*
9.000*
630.957
-18.000

0.048
0.929

13.403

-0.111
0.273

-74.914

-0.055
0.254

-39.304

-0096±3.9 +022±3.8
-0099 +017

43107 6 09.1 -68 50 5.2 B9 +17.56

3408 +15 (1)

7886 3.551 1903.4 68 49 58.14 1902.2
v Dor 447 -1.05
1.847 3.998 119 903 59.19
-0.1178 897 7816
1140
3.684 58.41 1940.3
-47 -8
.637 58.49
1085 45.0 58.42
542 +0.77
-446 96.77
48.4
46.2

3.422 58.50 195645
26 +14
448 58.36

-12.5 (3)

42637 6 09.6 +15 22 G5

+15°/107

8.45 +0.91 +0.615 (2)

8.20 +0.325 (3)

?86

?4

-12.5 Ruffi

+015 -037 Tab

+019 -034 GC

+017 -032⁵ FRY

+017 -032 +Gum

2188.000+

6.000+
9.800+
51.000*
11.000+
-0.004*
-0.069*
5.500*
125.893
10.800

0.124
0.922

25.603

-0.264
0.285

5

-30.121

-0.149
0.264

-15.964

HD42616 G 10.2 +41 43 Aop +0.5a

7913 6.90 +0.05 +0.03 .0065

+001 -004 Gm2
+003 -003
+002 -007

+38 (1)

3²Hor 6 11.1 -63- 35 M4 +34.5 a

5.00 +1.59 Cone

4345-5
3430
7946

-029 +111 GC
-019 +122 [illegible]

9
-0030 +122
-0038 ±3.2 +113 ±3.5

-7945
3411

Gc7556 G 11.6 +17 55 Am

#h2214 −0003 −011 1st G 50

+288 Orbit

K34

1952.22 137 0.35 4VD
1956.15 139 0.47 3VB
1961.87 141 0.44 4B

40 Cam +0050 ± 2.4 −021 ± 1.7
42633 6 11.2 +60 01 5.6 gR3 +12.16
+0041 −021

3932 11.178 1897.5 +60 0 56.54 1894.3
7949

262
10,916

-4.33
14.692
11.082
-15
007
24
031 152

11.083
38
121
.076
+.160

38.6

1.17
57.71

78.7 1927.1
19.45
59.15
-2.45
70
56'33
57.03
56.73 1545.02
-13
56.60
56.42
-0.89

72.12
36.1
41.9

13'
184 (X)

MIRIF

2214 L 11.9 +22 31 M8 III

7569

4295 3.28 +1.41 +1.66 F
02mg 3.25V +1.58 +1.61 81E

2.17 +1.00 I +17.9 (1)
2.11 +106 B

2.14 +106 13
1.76
1.84

SB 58 cl. 5m 7.4

m_V = -2.2 ± 3 mag

= -1.4

0.4 42
4.65

-0048 -013 ±001 N30 +190

+066 -013

-00472 -013

13
208 104

+17

1.70
106
3
42

-0650

-065 -013

2216.000*

6.000*
11.900*
22.000*
31.000*
-0.065*
-0.013*
4.650*
35.114
19.000

0.020
0.987

21.143

0.093
-0.154

4.993

-0.304
0.044

-25.011

6


216.000*
6.000*
11.900*
22.000*
31.000*
-0.065*
-0.013*
4.600*
93.176
19.000
0.028
0.987
21.045
0.091
6

42983 6 11.3 +02 50 dKO -26.3 6 w(3)

GC7951

W3933 7.34 +0.975 +0.97 2Σ55 15"

Y1442

+20°11'63

-54 -44 -14

~~+39 +20~~ 44 .020 +057 -276 GC

-45 -25 -10 .030

$\overline{\gamma \pm \gamma}$ A(20)

+0038 ± 10.0 −276 ± 9.5
+0051 −252

15.510 1907.8
−160
350

15.466
04
500

+2 49 38.97 1907.3
11.79
5076

43.10 1937.05
15
4328

ADS4849

1" ≈ 200"

43017 6 12.3 +36 10 12" (6.7 dFH +6.8 b
(7.5 dFH +9c)

3947

7983

HR2217

40

-0052 +001 N30

-0052 ±3.0 +004 ±1.9 GC → N30

V Pic 6 12.6 -59 54

#114 Fuat

No M

43186
+18 1141 6 12.8 T18 18.9 Var unl

+37 +17 -156 (5)

-00237 -0218 ~~20~~ 6

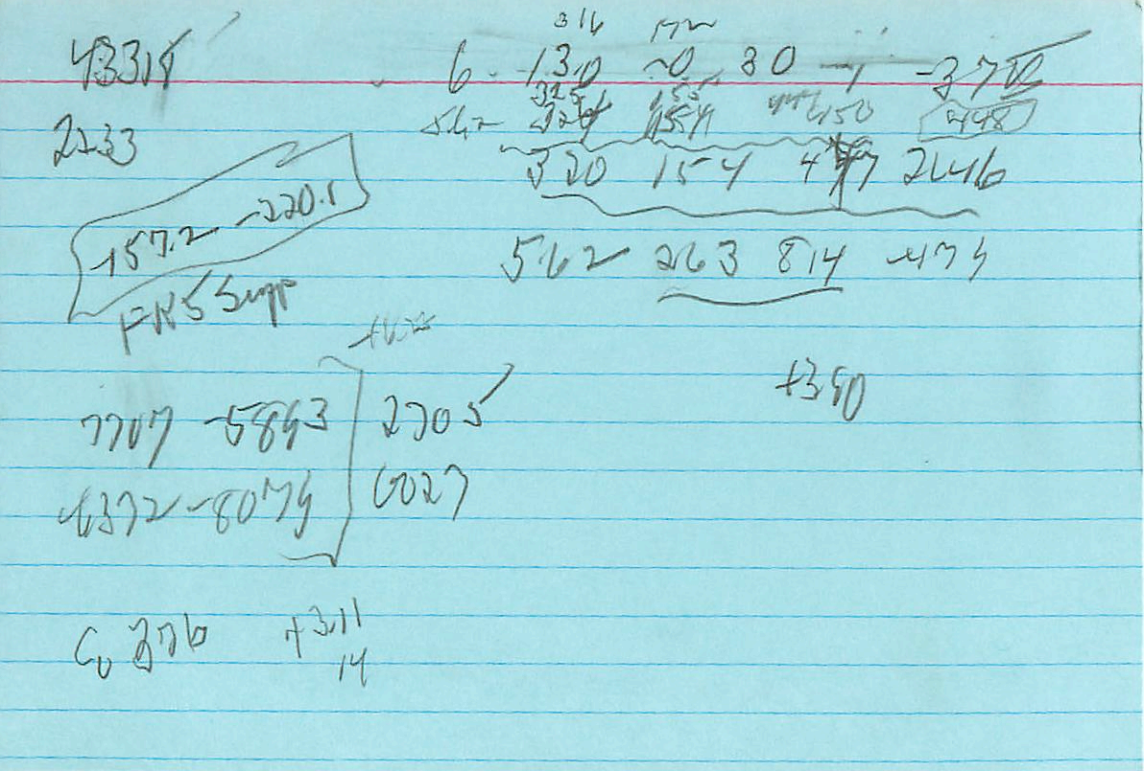
-00219 -0206

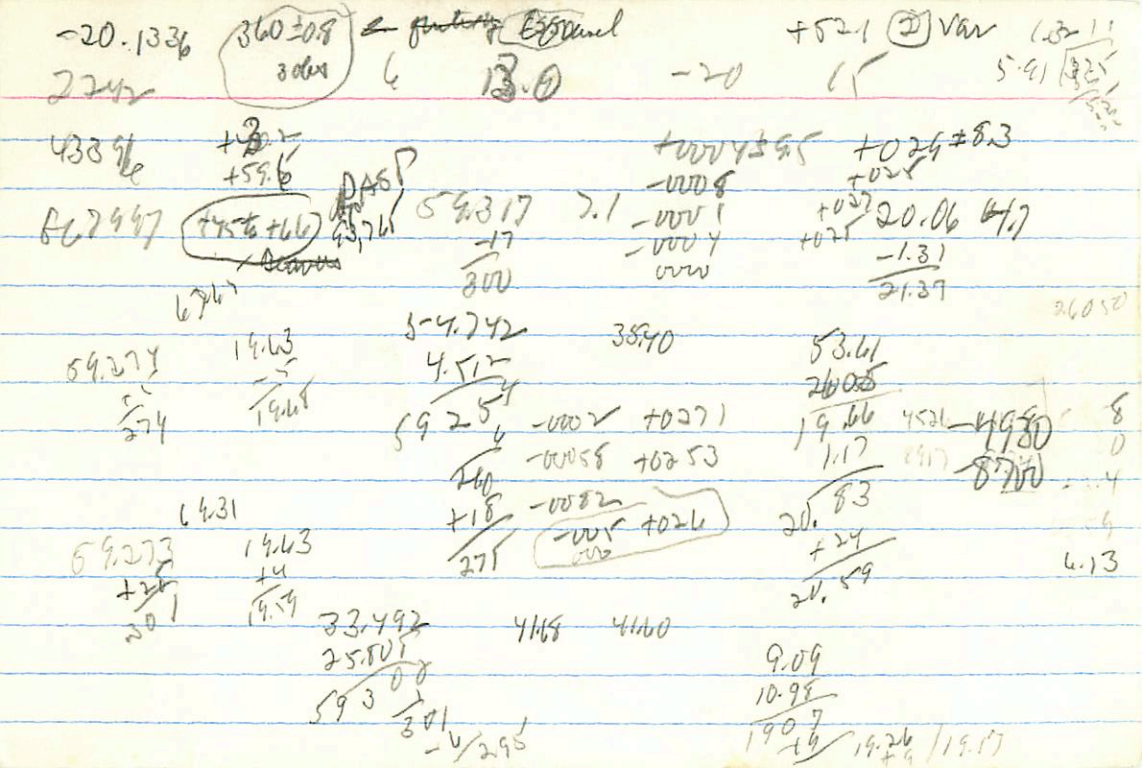
-00231 -0140

-0329

-032 -019

5448 -76.36 0367
-8034 -6457 -0062
-1.8
0162
3.96





$$\chi = 0.93\left(\frac{1}{\nu}\right) + 0.07\left(\frac{\Delta S_{mix}}{R}\right) - 10.52$$

0.70

Wendy Hsieh

Dan 1 132-014-8181

10.443.8702

04B100-0382-F

ふくしま ケン

ふくしま シ

10.444.01

43358 6 13.3 +01 11 6.3 F5- +2.68

3963
8017

2d +4.8 (1)

-0002 +023 N30

-0005 ±4.5 +033 ±3.9 GC 7N30

-010 +028

+6.7
+6.7
+1.0

L4.4pA

-114	468	875	+0054	+0621	+0675	+44	+23
-467	752	-463	+0221	+0998	+1219	+7.9	-1.2
876	462	-132	-0415	+0613	+0198	+1.3	-0.3

+25°11'8 | +0026±15.0 +37 | -435±10.0 -432 | +26 +37 +40 | -435 -432 -445

254229 | 6 | 13.6 | +25 14 | 2N6 | +44C

8028
3946

9.8

+035 -435 GC
+048 -442 Y
-442
-438

34.224 1912.9 +25 13 48.39 1910.4 +64 054

-096
128

17.23
5.62

34.154 24/180 188/1060 (16.4)

57.99 1928.04 57.97 49.0

57.2 1930.0 (18.6)

34.15 -T 195

57.19 116 57.28 -8.04

$$-3x^4 + 17x^3 - 14x^2 - 1$$

$$-x^4 + 15x^3 - 8x^2 - 1$$

$$-3x^4 + 51x^3 - 24x^2 - 1$$

$$-x^4 + 17x^3 - 8x^2 - 1$$

$$-3x^4 + 51x^3 - 24x^2 - 1$$

$$-x^4 + 17x^3 - 8x^2 - 1$$

```
     6.200
    25.200
    60.000
  -438.000
     0.000
        10
    44.000

    -0.113
     0.068
     0.991
  -169.977
    41.918

    -0.468
     0.876
    -0.113
 -1939.627
   -24.378

     0.876
     0.477
     0.067
  -765.162
    -4.712
```

HR 2225 — 157 (239) (223) 804 2.747

42 Aur — 6 13.9 +46 27 (643) A2 m -8 c

W 3970 — 6.52 +0.27 +0.09 -040 +014 Bc

+043244 — FOV

GC8037 — -008 ±0.30 +014 ±26

57077 9/6 -003 +004 34.80 56.9 -56 33.42

+242 +216 NTW

51.067 +24 .046 — 58.04 — 34.41 -11 3431

-9.5
+3.4
-4.7 VA0
-20.4
-11.3

998 -060 724689 -040 +014 -8 010 -6 047

040 010 002 -001 144 -038 -5.5 0 -5 025

+8 -6 -4

+12 -8 -3 015

43624 6 15.2 +27 14 gRO -49c

GC8069 6.66 +1.09 +1.12 K R -46.0 v(5)

W3487 -53.4 w(3)

+0.1054 +00035 -074 w(±0.7) -554 (1)

+00040 -0764

+00053

-50 -42 -31 .007 +005 -076 +012±3 -074±2 4c

-52 -51 -27 .006 +003±5 -073±5 Y

+010 -074

6.4

3541 1095 0761

9344 -9440 +032

-0.7

0223

3.24

+0009±2.6
-0002

-074±2.2
-074

12.789 1903Y

-042

.747

38.755
33.915
12.670
2
668
39
7 0

12.752
24
.7 76

30.0

83
742
-005

+27 13 53.18 1855.0

3.77
56.85

25.87 1927.55
29.52
-6.05
-1 71
54.34
21
54.55

54.31
-2.54

46 77
33.4
34.4

54.04 1939.22
1
54.07

2238 2 Lyn 6 15.2 +59 02 -3.68

4.38" 0.00"

-005 +022 GC
AZ[V] -005 +024 A31
-010 +020 PE3
-007 +022

998 -066 857 515 -007 +022 -3.6 019 -3.2 052

007 -019 0 0 035 -050 -1.5 0.1 -1.8 029

+2 -6 -1

-5 +3 -1

+2.3 -7.5 +0.2 015

-6.6 +4.8 -0.6

025

+1.3 -5.0 -1.4

-4.9 +1.7 -0.9

42637.000*

6.000*
9.600*
15.000*
22.000*
0.017*
-0.032*
7.400*
301.995
-12.500

-0.044
0.966

-25.403

-0.166
-0.256

-46.915

4

-0.003
-0.025

-0.578

+10.8 β

HR2158 L 09 8 +5 1 11 6.13 1P, 1T

-003 -069 Cc
-1 0
-004