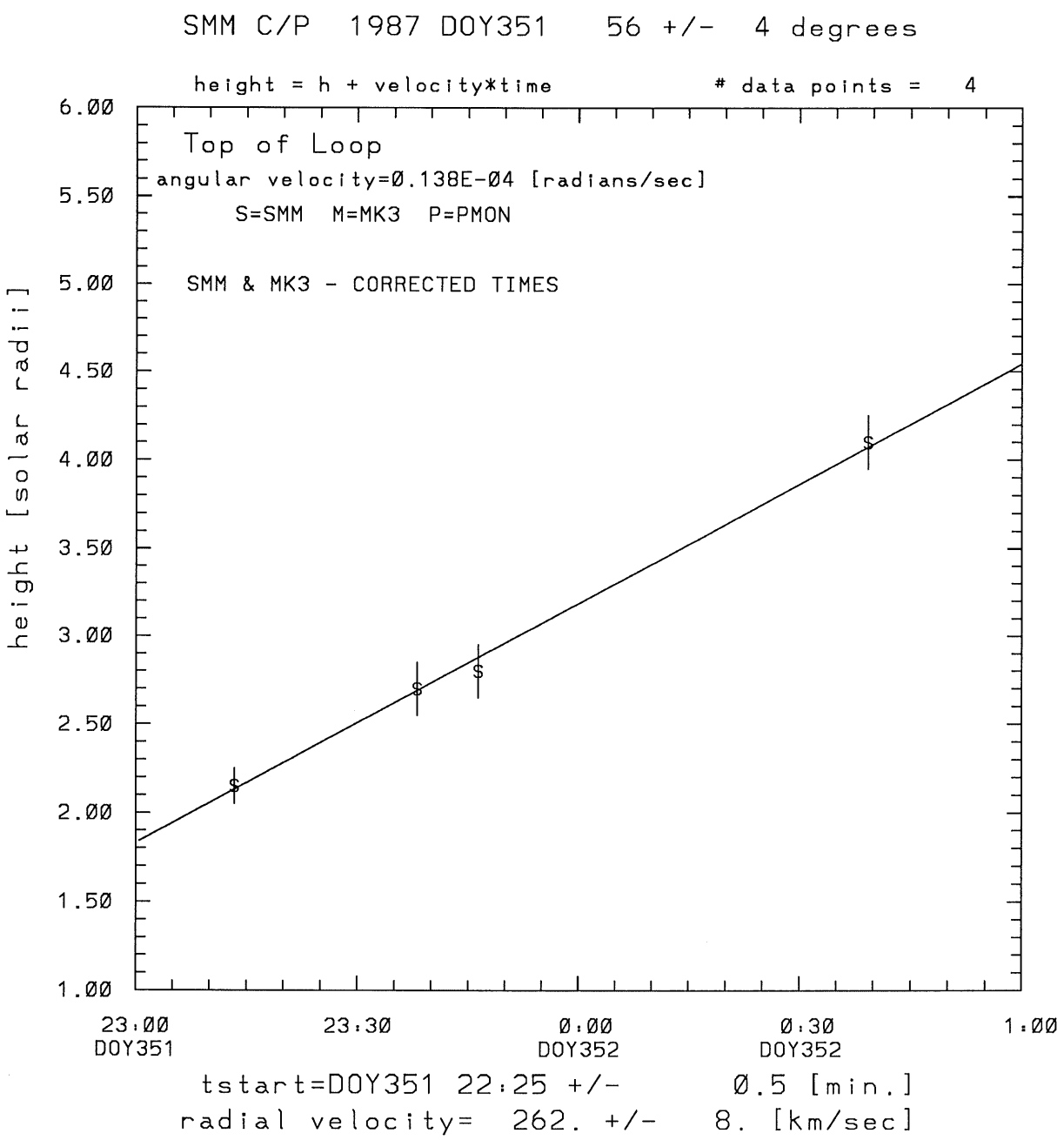
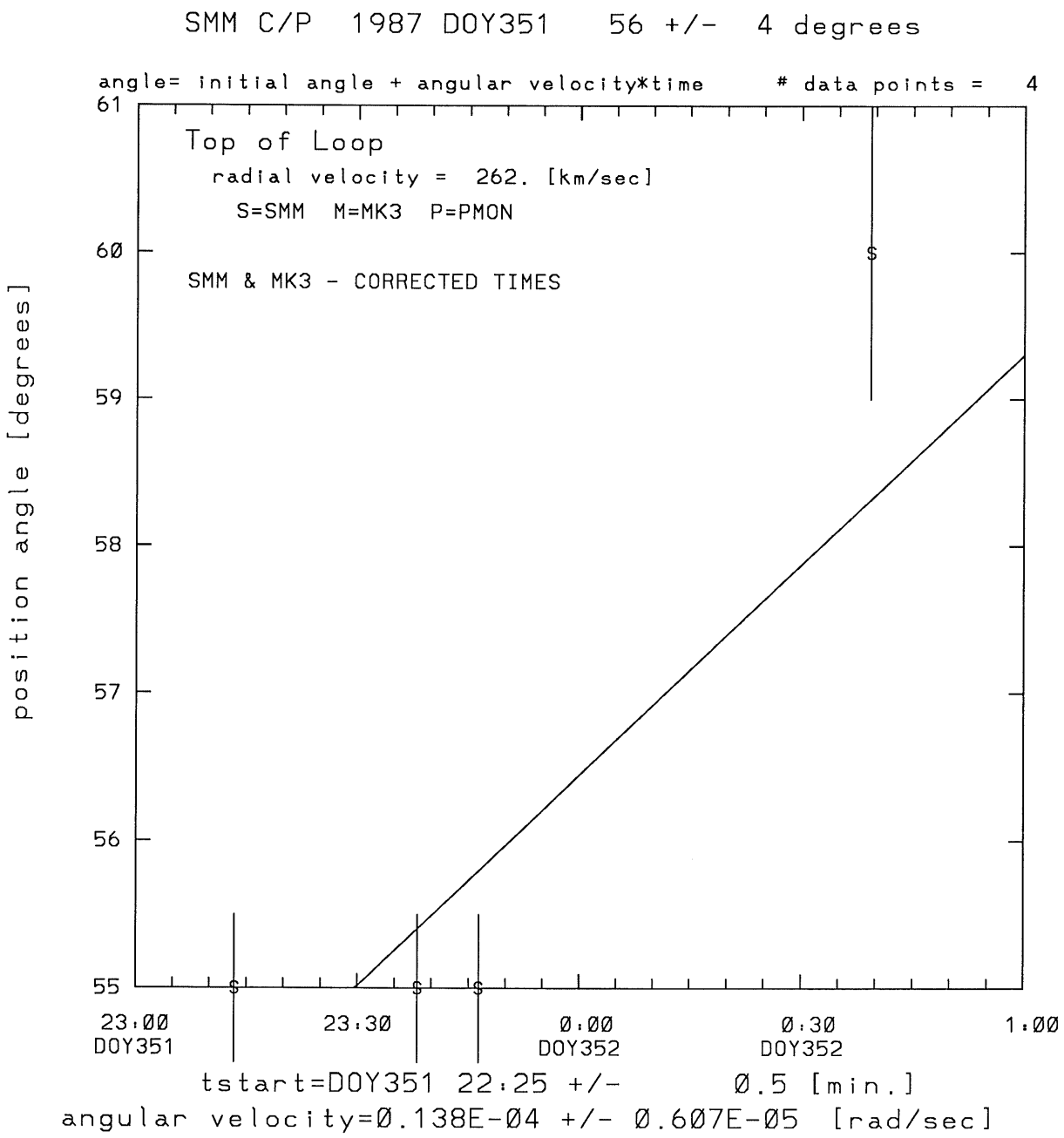
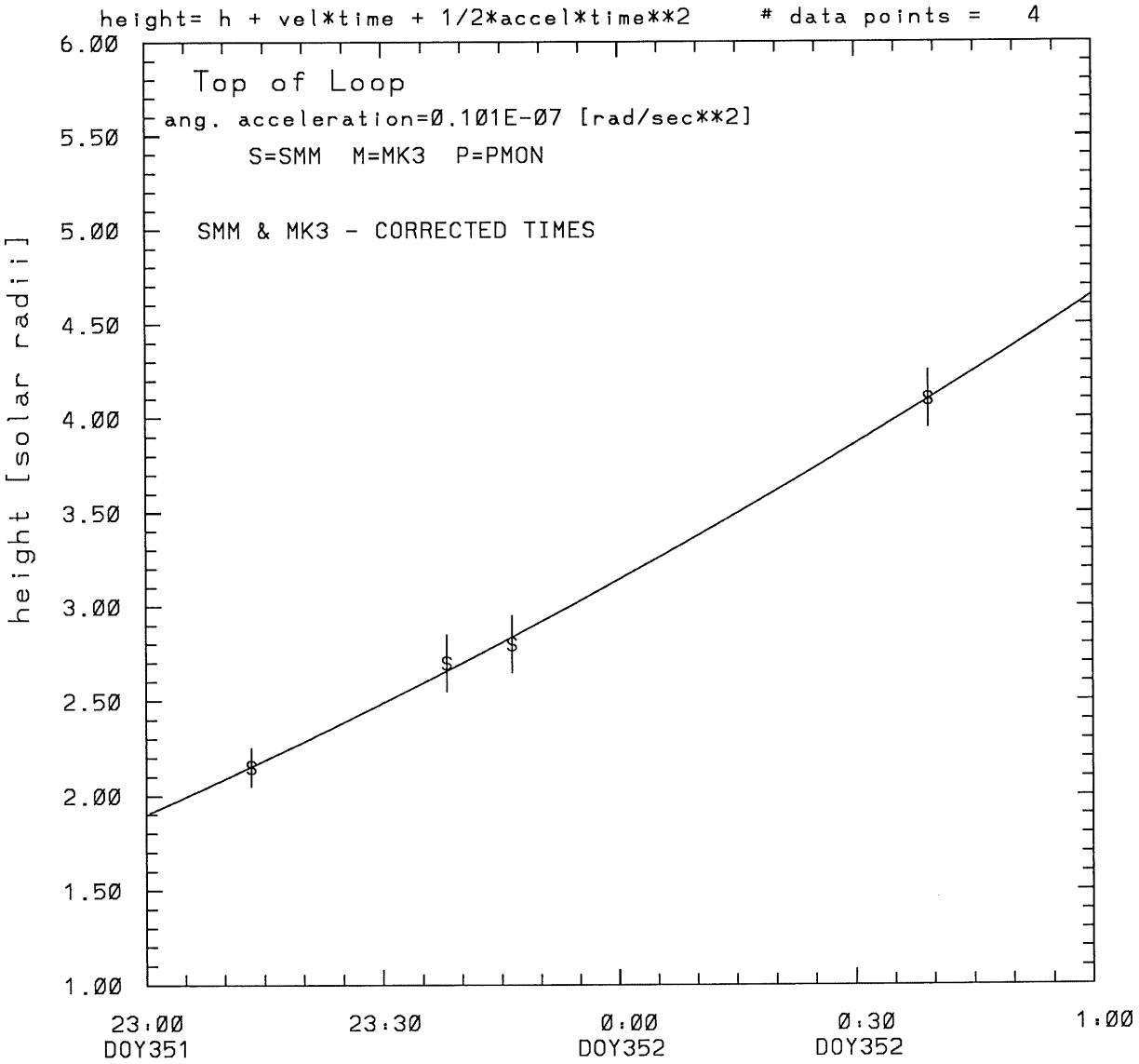

SMM C/P 1987 DOY351 56 +/- 4 degrees
height = h + velocity*time
# data points = 4
Top of Loop
angular velocity=0.138E-04 [radians/sec]
S=SMM M=MK3 P=PMON
SMM & MK3 - CORRECTED TIMES
height [solar radii]
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
23:00
DOY351
23:30
0:00
DOY352
0:30
DOY352
1:00
tstart=DOY351 22:25 +/- 0.5 [min.]
radial velocity= 262. +/- 8. [km/sec]

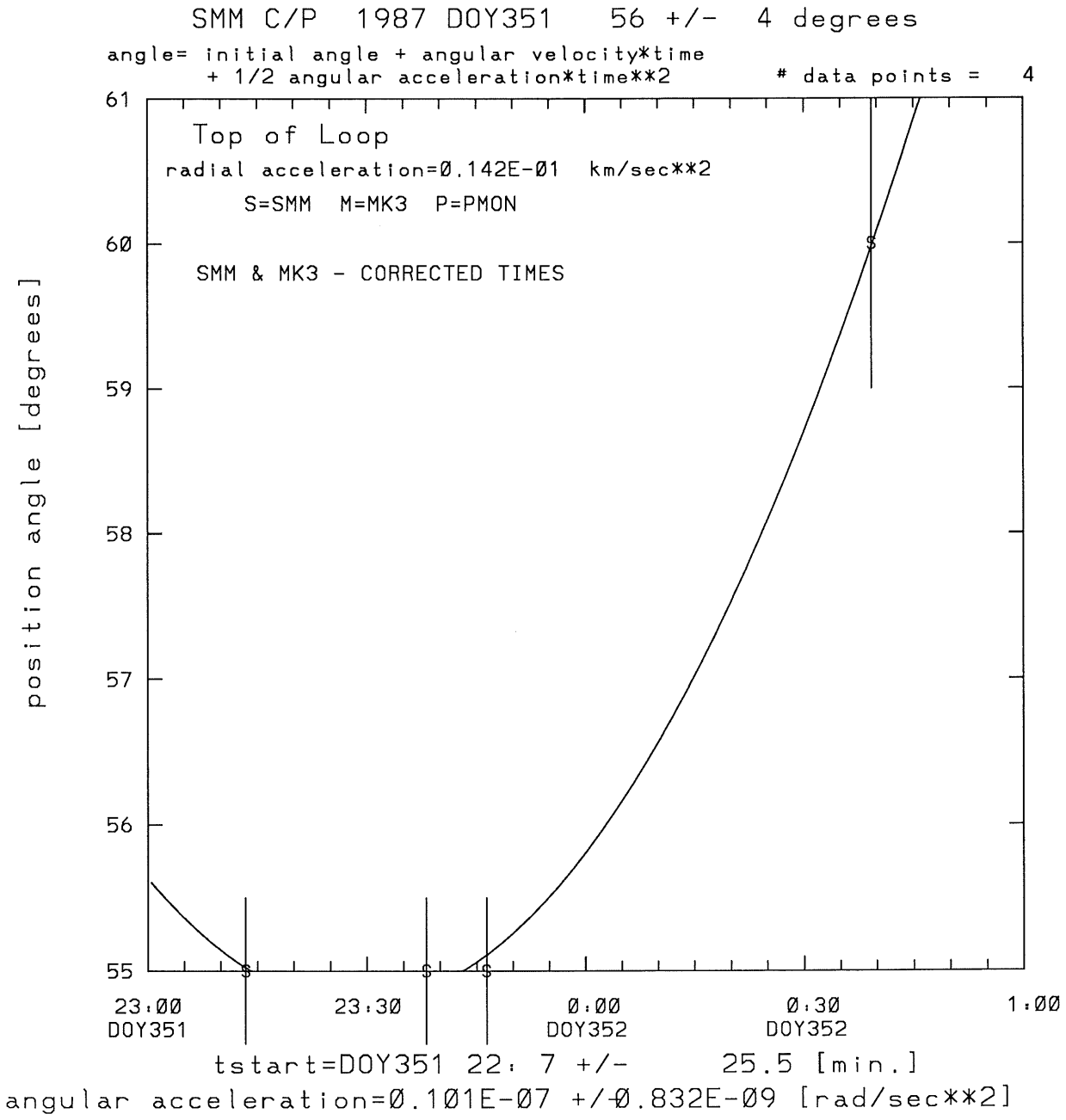

SMM C/P 1987 DOY351 56 +/- 4 degrees
angle= initial angle + angular velocity*time
# data points = 4
Top of Loop
radial velocity = 262. [km/sec]
S=SMM M=MK3 P=PMON
SMM & MK3 - CORRECTED TIMES
position angle [degrees]
61
60
59
58
57
56
55
23:00
DOY351
23:30
0:00
DOY352
0:30
DOY352
1:00
tstart=DOY351 22:25 +/- 0.5 [min.]
angular velocity=0.138E-04 +/- 0.607E-05 [rad/sec]

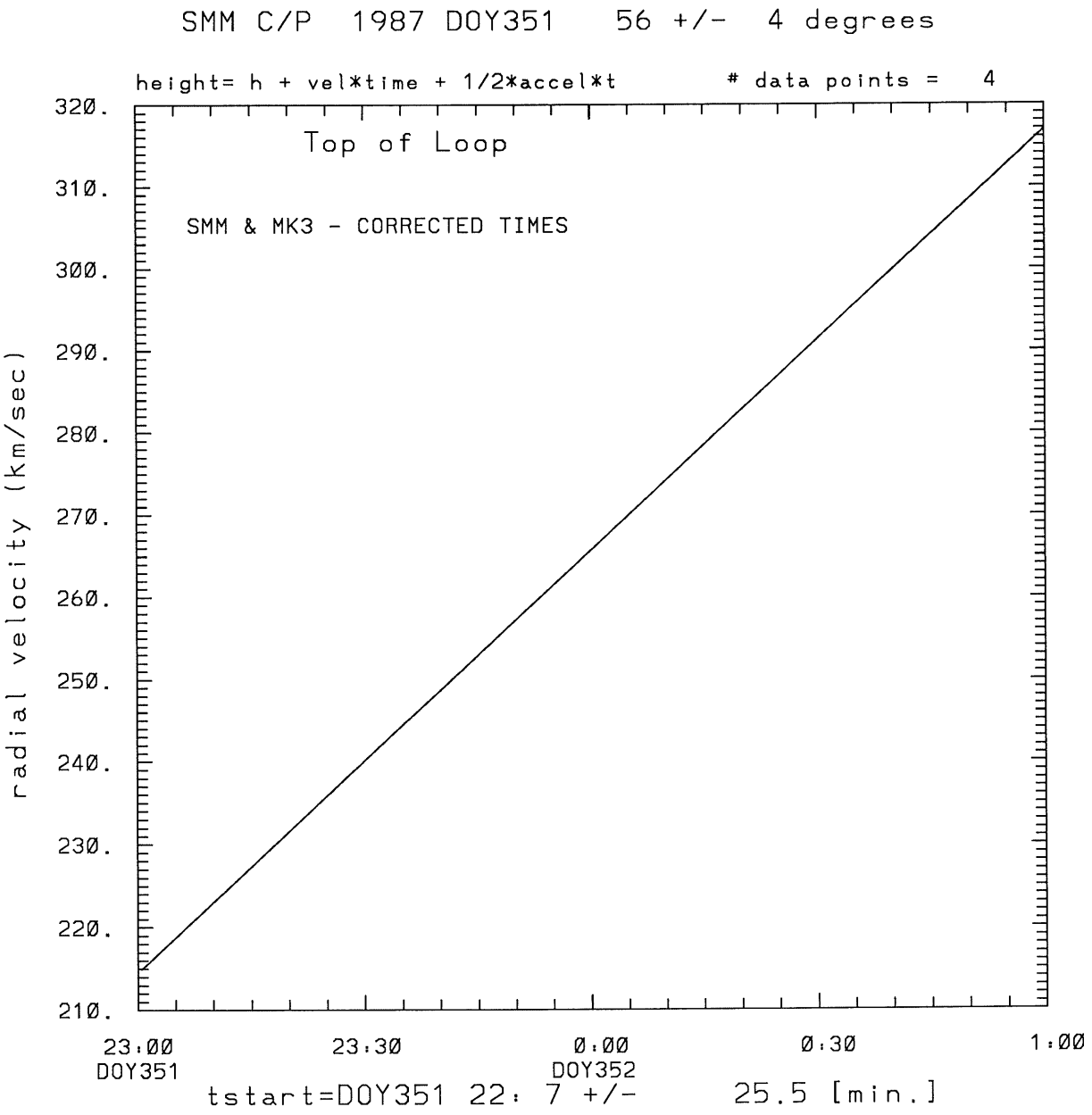
SMM C/P 1987 DOY351 56 +/- 4 degrees

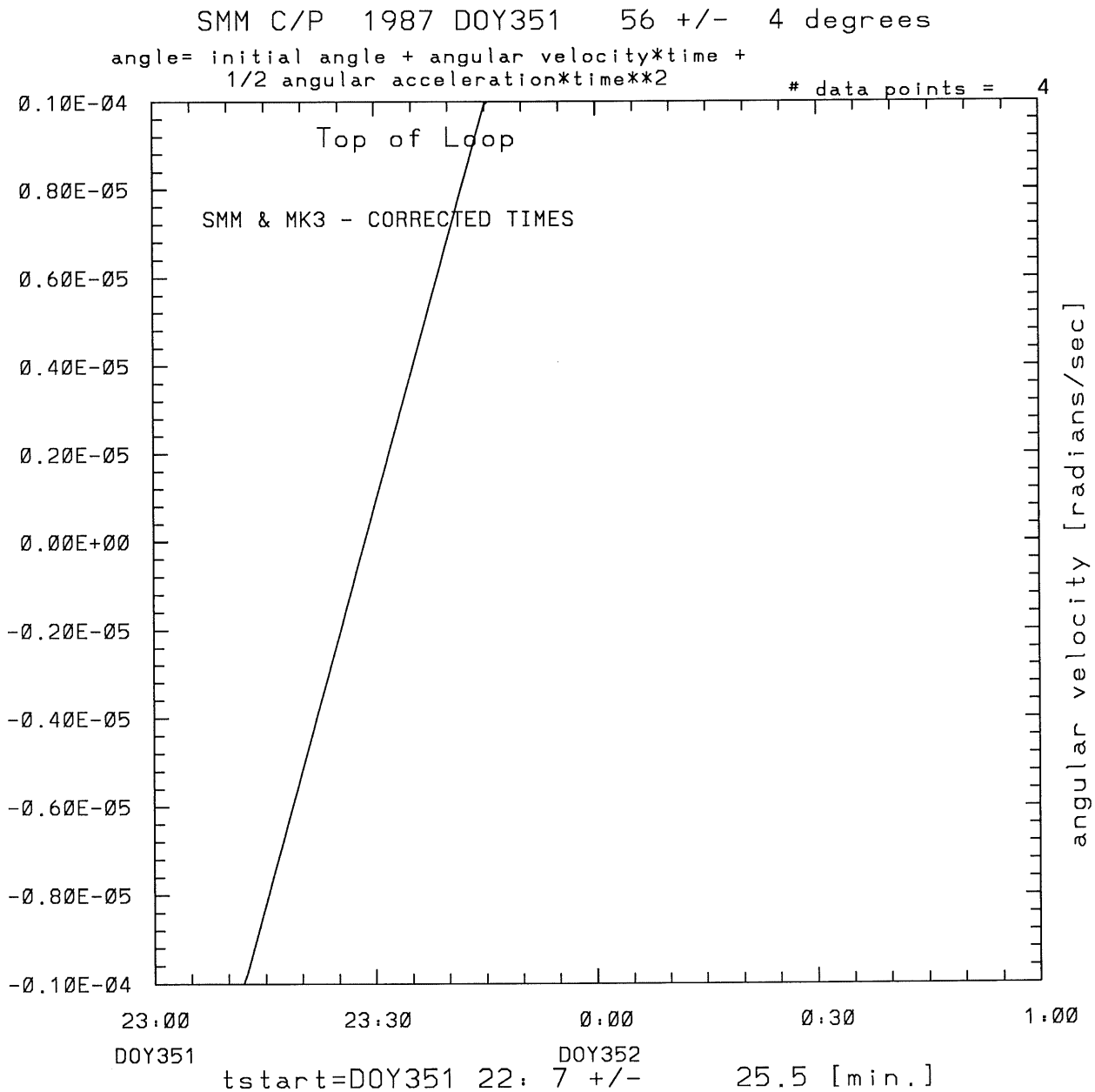


tstart=DOY351 22: 7 +/- 25.5 [min.]

radial acceleration= 0.0142 +/- 0.0084 [km/sec**2]


SMM C/P 1987 DOY351 56 +/- 4 degrees
angle= initial angle + angular velocity*time
+ 1/2 angular acceleration*time**2
# data points = 4
Top of Loop
radial acceleration=0.142E-01 km/sec**2
S=SMM M=MK3 P=PMON
SMM & MK3 - CORRECTED TIMES
position angle [degrees]
61
60
59
58
57
56
55
23:00
DOY351
23:30
0:00
DOY352
0:30
DOY352
1:00
tstart=DOY351 22: 7 +/- 25.5 [min.]
angular acceleration=0.101E-07 +/-0.832E-09 [rad/sec**2]


SMM C/P 1987 DOY351 56 +/- 4 degrees
height= h + vel*time + 1/2*accel*t
# data points = 4
Top of Loop
SMM & MK3 - CORRECTED TIMES
radial velocity (km/sec)
320.
310.
300.
290.
280.
270.
260.
250.
240.
230.
220.
210.
23:00
DOY351
23:30
0:00
DOY352
0:30
1:00
tstart=DOY351 22: 7 +/- 25.5 [min.]
radial acceleration=0.142E-01 km/sec**2


SMM C/P 1987 DOY351 56 +/- 4 degrees
angle= initial angle + angular velocity*time +
1/2 angular acceleration*time**2
data points = 4
Top of Loop
SMM & MK3 - CORRECTED TIMES
0.10E-04
0.80E-05
0.60E-05
0.40E-05
0.20E-05
0.00E+00
-0.20E-05
-0.40E-05
-0.60E-05
-0.80E-05
-0.10E-04
23:00
23:30
0:00
0:30
1:00
DOY351
DOY352
angular velocity [radians/sec]
tstart=DOY351 22: 7 +/- 25.5 [min.]
angular acceleration=0.101E-07 +/-
0.832E-09 [rad/sec**2]

```
**********************
 This is a 1 order run
**********************

*******
 INPUT:
*******

                                    error in          error in
year doy    time      radii    radius      angle    angle     datatype
1987 351   23:13:22   2.15 +/- 0.10      55.0 +/-  0.5         SMM
1987 351   23:38: 7   2.70 +/- 0.15      55.0 +/-  0.5         SMM
1987 351   23:46:23   2.80 +/- 0.15      55.0 +/-  0.5         SMM
1987 352    0:39:17   4.10 +/- 0.15      60.0 +/-  1.0         SMM

**************************************
 Structure being measured:
Top of Loop
**************************************

********
 OUTPUT:
********

START TIME:

 Event began at t = 0 + -0.367E+02 +/-  0.498E+00 [minutes]
 In more convenient units:
 Event began at DOY 351 22:25 +/-  0.498E+00 [minutes]

 Origin defined at DOY351 23: 0

RADIAL INFORMATION:

RADIAL VELOCITY =   262. +/-     8. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

 c(1) =    0.183E+01 +/-    0.360E-01 [solar radii]
 c(2) =    0.226E-01 +/-    0.701E-03 [radii/min]
 c(2) =    0.262E+03 +/-    0.814E+01 [km/sec]
 c(3) =    0.000E+00 +/-    0.000E+00 [radii/min**2]
 c(3) =    0.000E+00 +/-    0.000E+00 [km/sec**2]

 The computed ERRORS in coefficients [BEVINGTON] are:

                   error in c(1)=  0.55877E-01 [radii] see Bevington pg. 114
                   error in c(2)=  0.95687E-03 [radii/min] see Bevington pg. 114
ANGULAR INFORMATION:

ANGULAR VELOCITY =  0.1385E-04 +/-   0.6066E-05[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

 a(1) =  54. +/-   1. [degrees]
 a(2) =    0.476E-01 +/-    0.209E-01 [degrees/min]
 a(2) =    0.138E-04 +/-    0.607E-05 [rad/sec]
 a(3) =    0.000E+00 +/-    0.000E+00 [degrees/min**2]
 a(3) =    0.000E+00 +/-    0.000E+00 [rad/sec**2]

The RADIAL velocity at 23:13 =  262. km/sec

The RADIAL velocity at 23:38 =  262. km/sec

The RADIAL velocity at 23:46 =  262. km/sec
```

The RADIAL velocity at 0:39 = 262. km/sec

****
The following info is for estimating goodness of the fit
****

Fit is ok [ier=1]

Standard Deviation in the height = 0.83
Standard Deviation in start time measurement = 0.313E+02
Error in time = 0.37515E+01 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.193E-02
Reduced Chi Squared = 0.108E-01
Chi Squared = 0.215E-01
The probability for exceeding chi square = 0.998E+00

The correlation coefficient = 0.998E+00
The probability that no LINEAR correlation exists between the variables = 0.1682
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

****
 This is a 2 order run
****

****
 INPUT:
****

year	doy	time	radii	error in radius	angle	error in angle	datatype
1987	351	23:13:22	2.15 +/-	0.10	55.0 +/-	0.5	SMM
1987	351	23:38: 7	2.70 +/-	0.15	55.0 +/-	0.5	SMM
1987	351	23:46:23	2.80 +/-	0.15	55.0 +/-	0.5	SMM
1987	352	0:39:17	4.10 +/-	0.15	60.0 +/-	1.0	SMM

****
 Structure being measured:
Top of Loop
****

****
 OUTPUT:
****

START TIME:

 Event began at t = 0 + -0.546E+02 +/- 0.255E+02 [minutes]
 In more convenient units:
 Event began at DOY 351 22: 7 +/- 0.255E+02 [minutes]

 Origin defined at DOY351 23: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.142E-01 +/- 0.841E-02 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

 c(1) =   0.190E+01 +/-   0.501E-01 [solar radii]
 c(2) =   0.185E-01 +/-   0.249E-02 [radii/min]
 c(2) =   0.215E+03 +/-   0.288E+02 [km/sec]
 c(3) =   0.368E-04 +/-   0.217E-04 [radii/min**2]
 c(3) =   0.142E-01 +/-   0.841E-02 [km/sec**2]

 The computed ERRORS in coefficients [BEVINGTON] are:

    Approximate error in c(1) = 0.99123E-01 [radii] Bevington pg 154 (8-30)
          Exact error in c(1) = 0.22857E-01 [radii] Bevington pg 154 (8-28)
    Approximate error in c(2) = 0.42201E-02 [radii/min] Bevington pg 154 (8-30)
          Exact error in c(2) = 0.18904E-02 [radii/min] Bevington pg 154 (8-28)
    Approximate error in c(3) = 0.34882E-04 [radii/min**2] Bevington pg 154 (8-30)
          Exact error in c(3) = 0.16754E-04 [radii/min**2] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

ANGULAR ACCELERATION= 0.1009E-07 +/-   0.8321E-09[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

 a(1) = 56. +/-   0. [degrees]
 a(2) =   -0.596E-01 +/-   0.932E-02 [degrees/min]
 a(2) =   -0.173E-04 +/-   0.271E-05 [rad/sec]
 a(3) =   0.104E-02 +/-   0.858E-04 [degrees/min**2]
 a(3) =   0.101E-07 +/-   0.832E-09 [rad/sec**2]

The RADIAL velocity at 23:13 = 226. km/sec

The RADIAL velocity at 23:38 = 247. km/sec

The RADIAL velocity at 23:46 = 254. km/sec

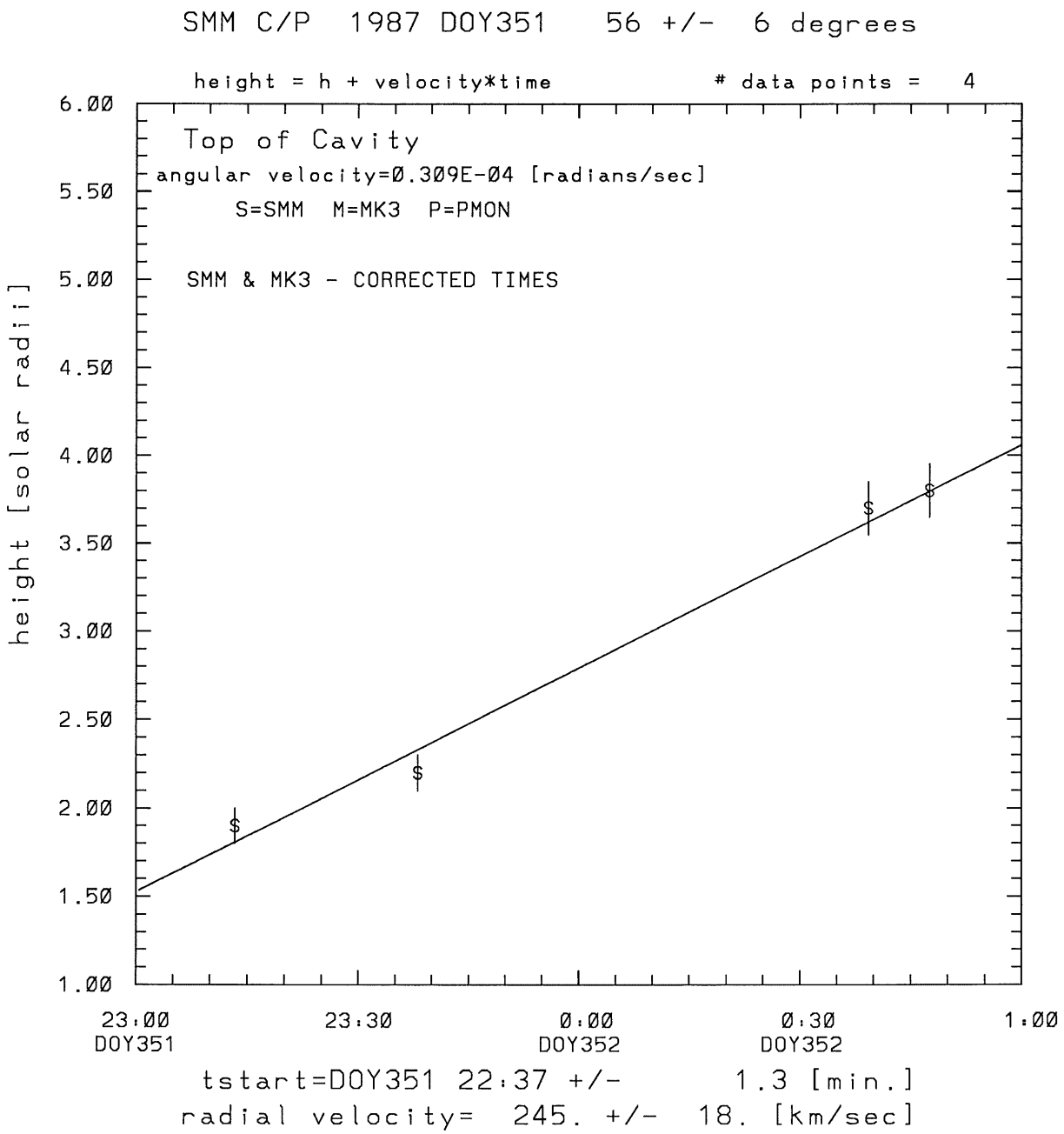
The RADIAL velocity at 0:39 = 299. km/sec

****
 The following info is for estimating goodness of the fit
****

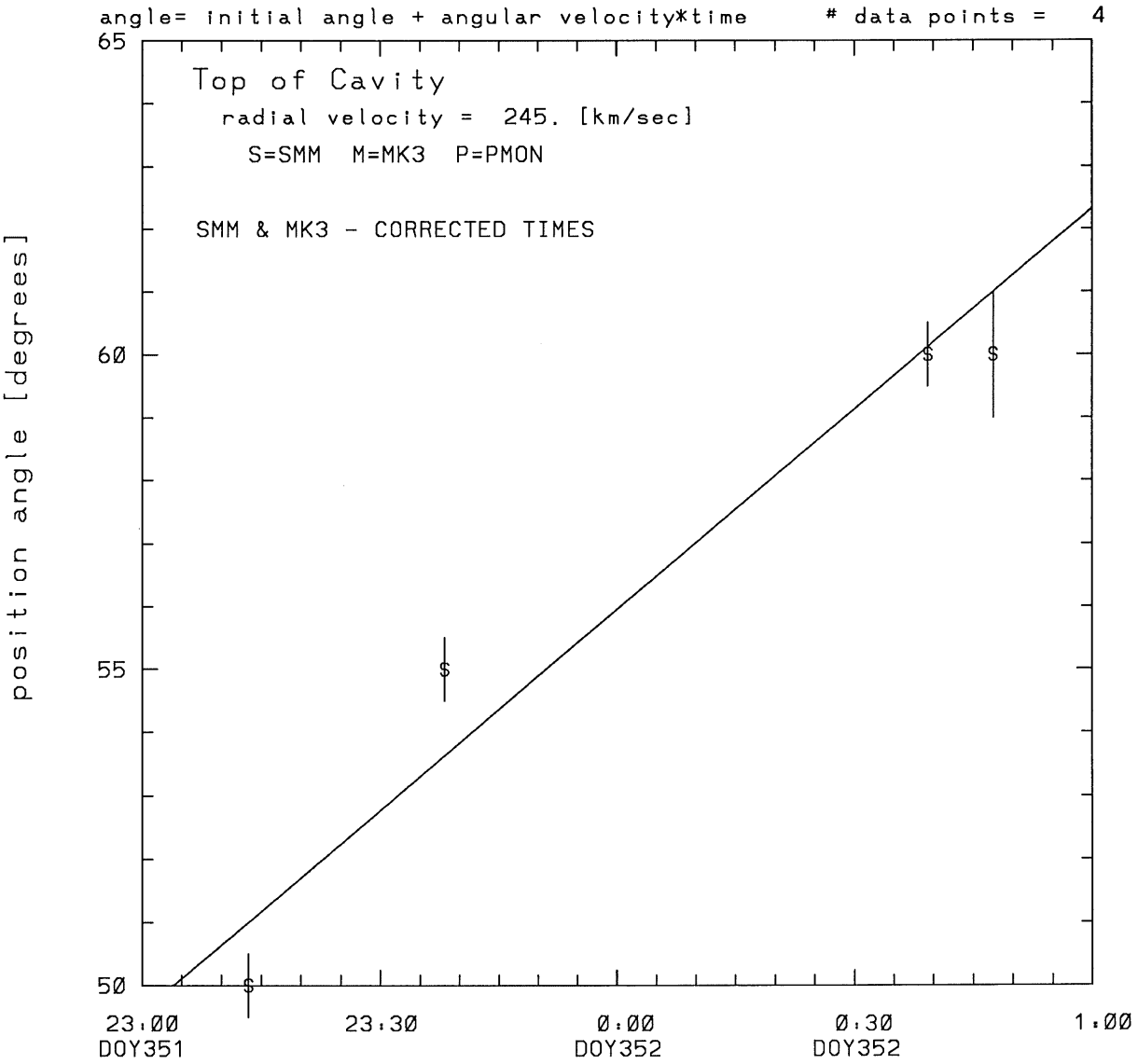
 Fit is ok [ier=1]

 Standard Deviation in the height = 0.83
 Standard Deviation in start time measurement =   0.313E+02
 Value of reduced Chi Squared returned from nllst2 = 0.119E-02
 Reduced Chi Squared = 0.756E-02
 Chi Squared = 0.756E-02
 The probability for exceeding chi square = 0.972E+00

 For a second order fit 3 correlation coefficients are given:
  (Using equation of motion: r = a + bt + at**2)
 The correlation between the data and the term linear in time =   0.1035E+01
 The correlation between the data and the time**2 term =   0.9502E+00
 The correlation between the data and the complete equation of motion=0.9985E+00
 SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

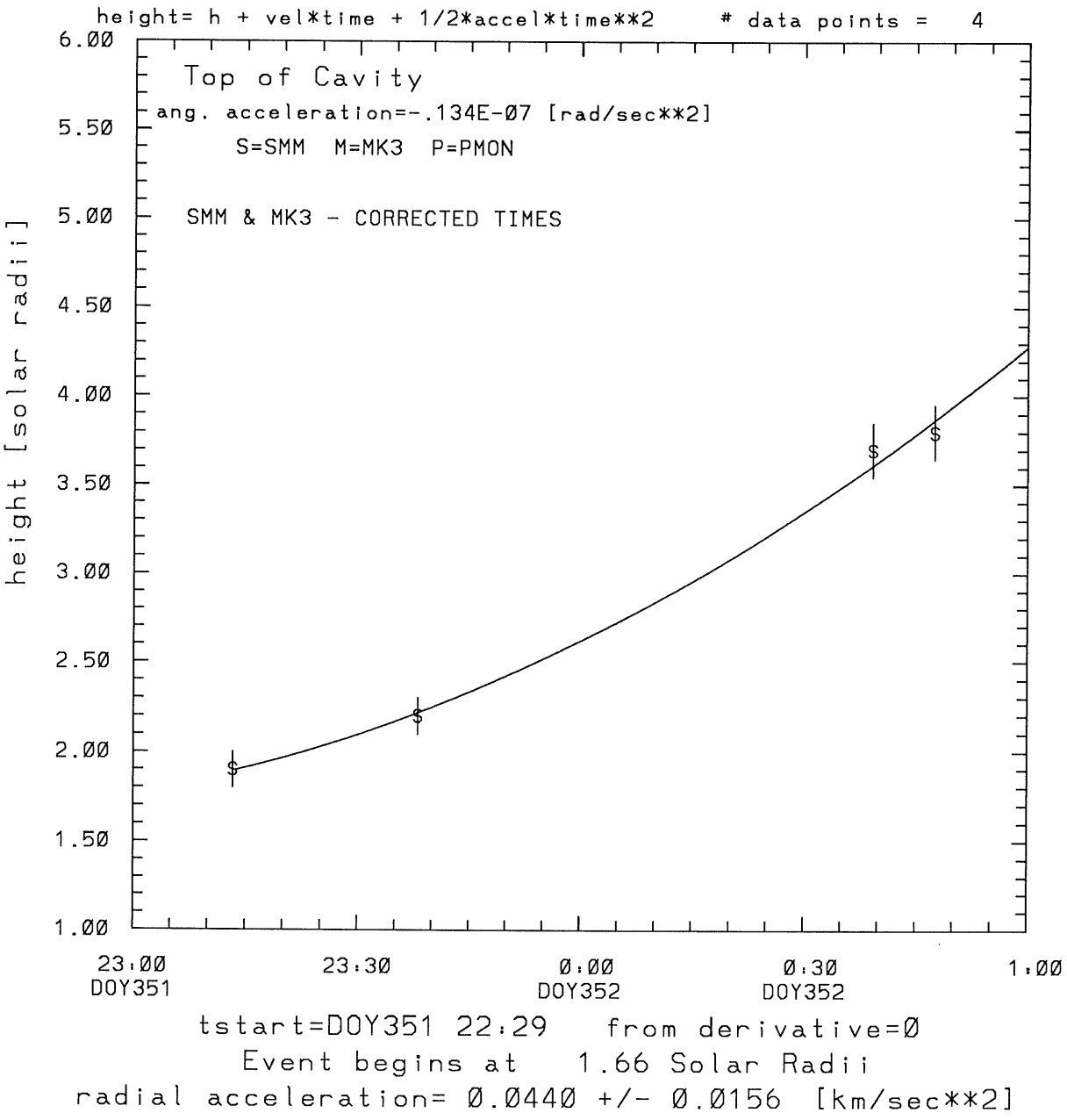

SMM C/P 1987 DOY351 56 +/- 6 degrees
height = h + velocity*time
# data points = 4
Top of Cavity
angular velocity=Ø.3Ø9E-Ø4 [radians/sec]
S=SMM M=MK3 P=PMON
SMM & MK3 - CORRECTED TIMES
height [solar radii]
6.ØØ
5.5Ø
5.ØØ
4.5Ø
4.ØØ
3.5Ø
3.ØØ
2.5Ø
2.ØØ
1.5Ø
1.ØØ
23:ØØ
DOY351
23:3Ø
Ø:ØØ
DOY352
Ø:3Ø
DOY352
1:ØØ
tstart=DOY351 22:37 +/- 1.3 [min.]
radial velocity= 245. +/- 18. [km/sec]

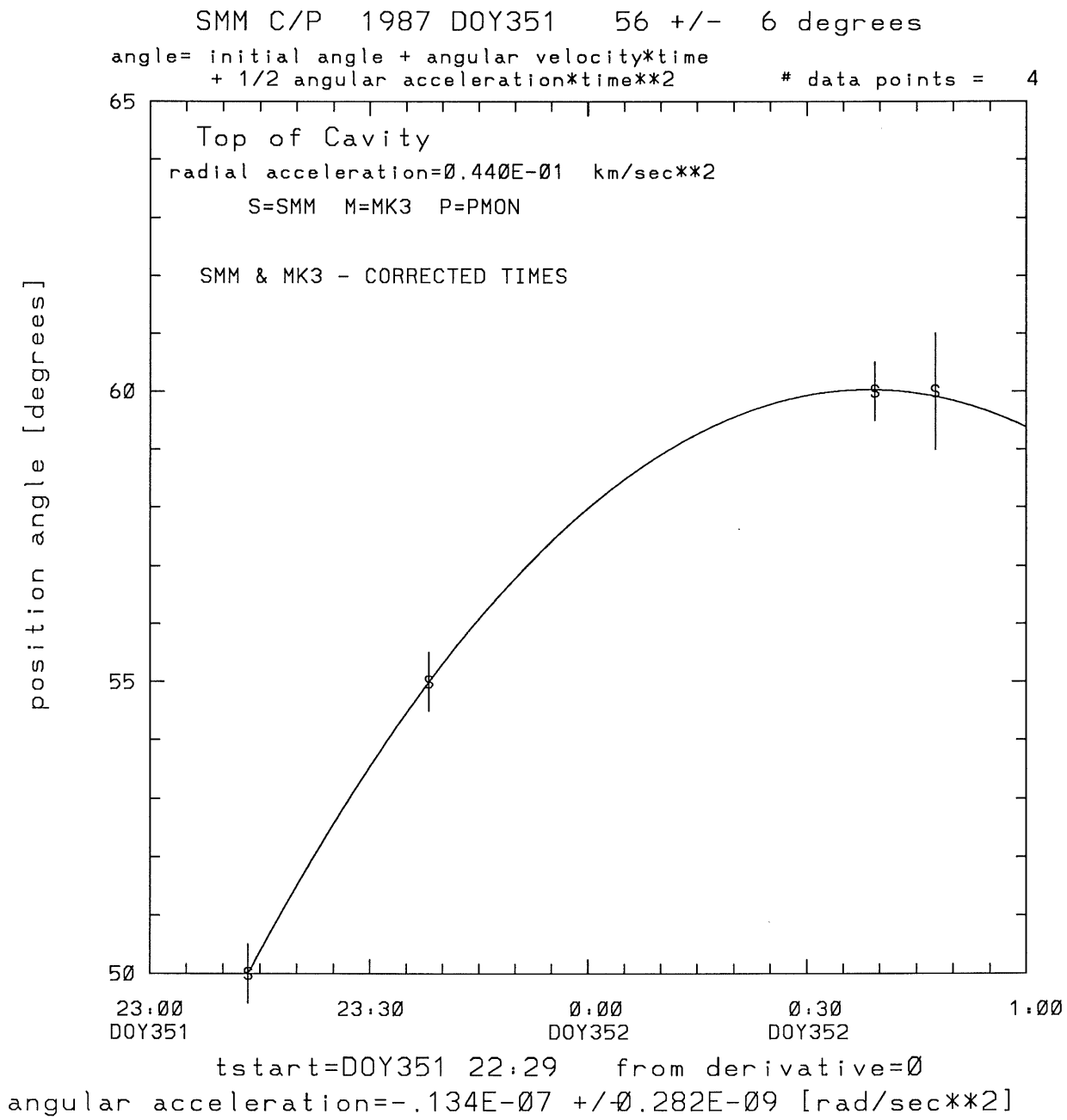
SMM C/P 1987 DOY351 56 +/- 6 degrees



tstart=DOY351 22:37 +/- 1.3 [min.]

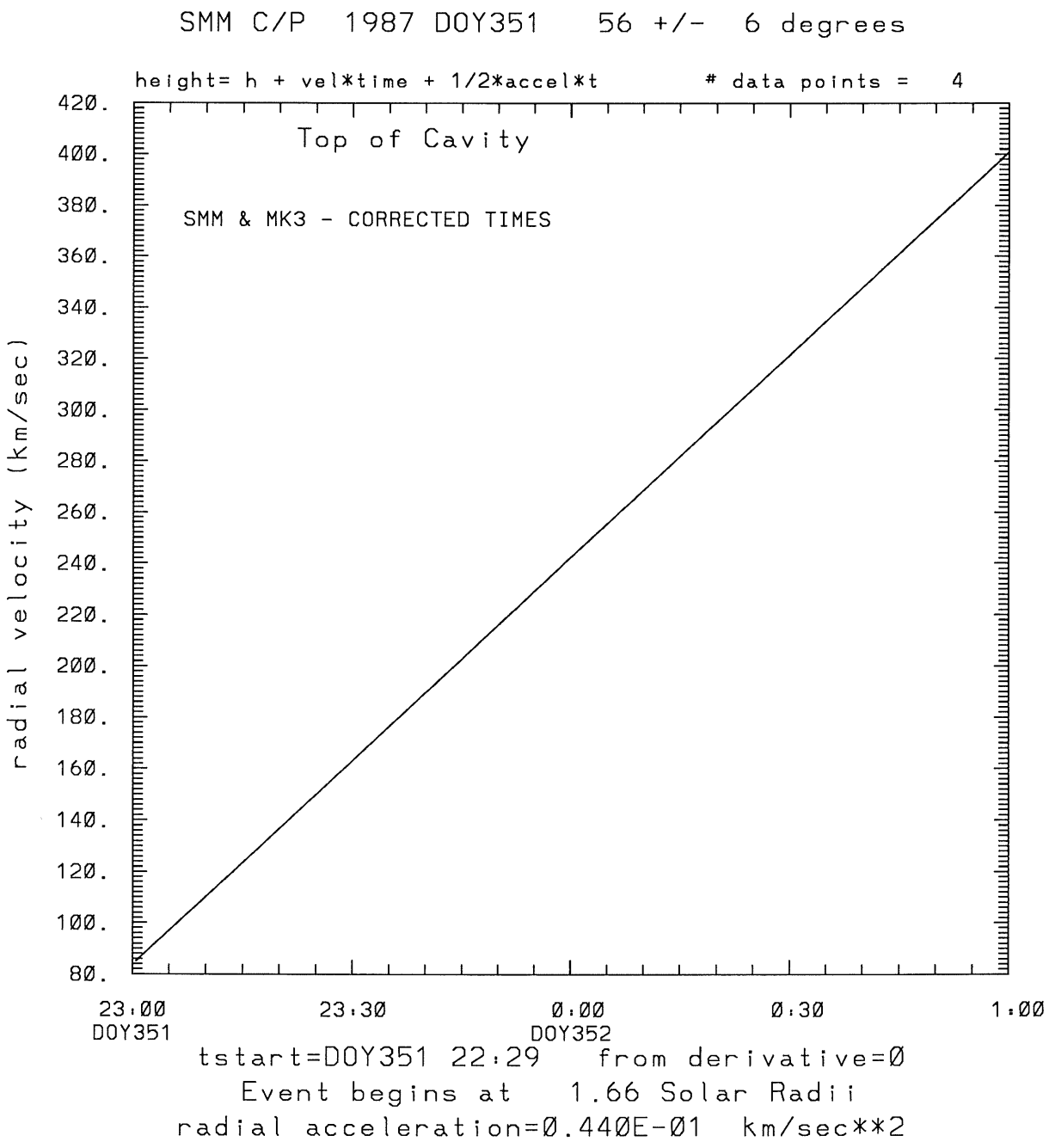
angular velocity=0.309E-04 +/- 0.436E-05 [rad/sec]

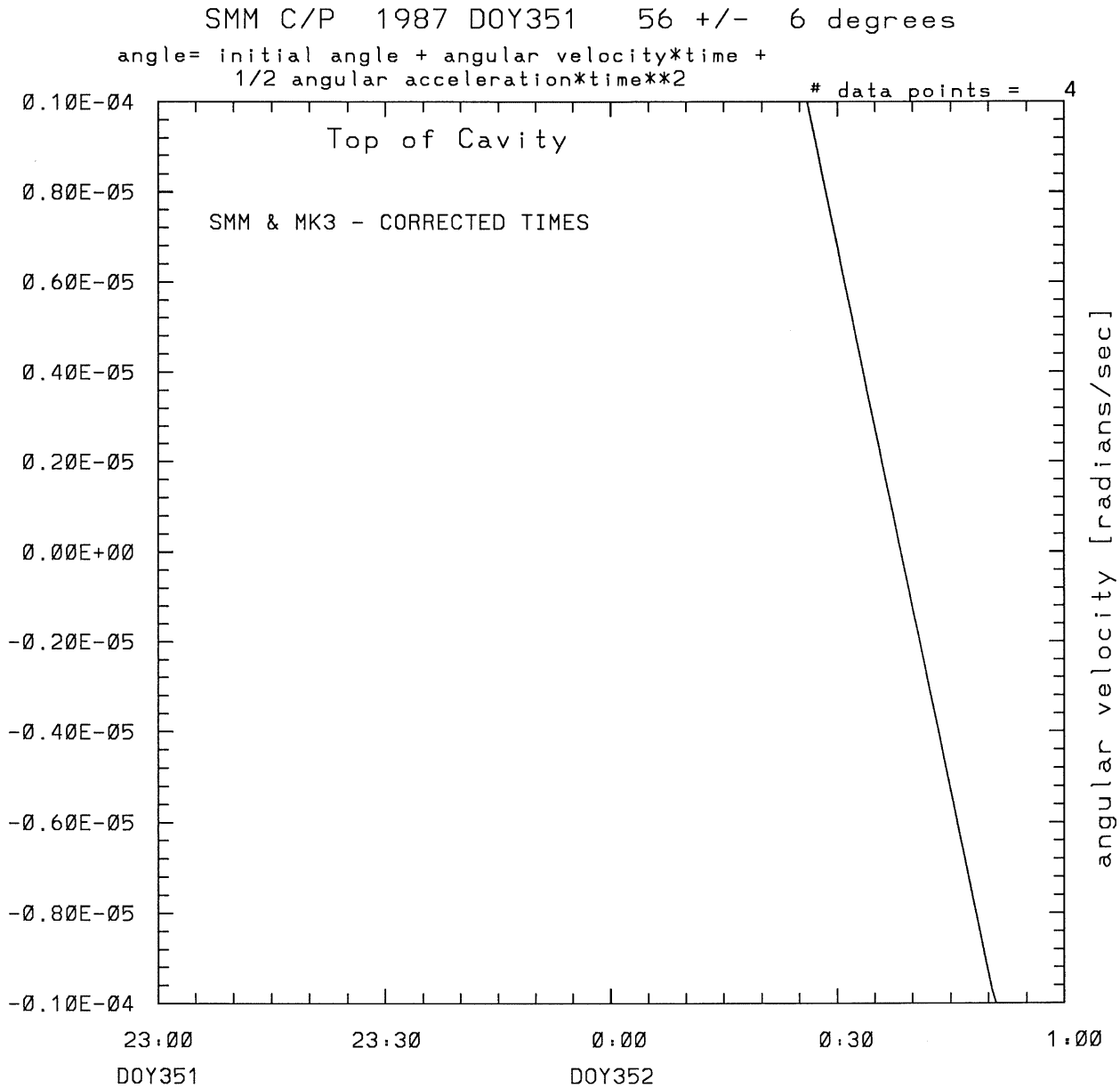

SMM C/P 1987 DOY351 56 +/- 6 degrees
height= h + vel*time + 1/2*accel*time**2 # data points = 4
Top of Cavity
ang. acceleration=-.134E-07 [rad/sec**2]
S=SMM M=MK3 P=PMON
SMM & MK3 - CORRECTED TIMES
height [solar radii]
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
23:00
DOY351
23:30
0:00
DOY352
0:30
DOY352
1:00
tstart=DOY351 22:29 from derivative=0
Event begins at 1.66 Solar Radii
radial acceleration= 0.0440 +/- 0.0156 [km/sec**2]



tstart=DOY351 22:29 from derivative=Ø

angular acceleration=-.134E-Ø7 +/-Ø.282E-Ø9 [rad/sec**2]


SMM C/P 1987 DOY351 56 +/- 6 degrees
height= h + vel*time + 1/2*accel*t
# data points = 4
Top of Cavity
SMM & MK3 - CORRECTED TIMES
radial velocity (km/sec)
420.
400.
380.
360.
340.
320.
300.
280.
260.
240.
220.
200.
180.
160.
140.
120.
100.
80.
23:00
DOY351
23:30
0:00
DOY352
0:30
1:00
tstart=DOY351 22:29 from derivative=0
Event begins at 1.66 Solar Radii
radial acceleration=0.440E-01 km/sec**2


SMM C/P 1987 DOY351 56 +/- 6 degrees
angle= initial angle + angular velocity*time +
1/2 angular acceleration*time**2
data points = 4
Top of Cavity
SMM & MK3 - CORRECTED TIMES
0.10E-04
0.80E-05
0.60E-05
0.40E-05
0.20E-05
0.00E+00
-0.20E-05
-0.40E-05
-0.60E-05
-0.80E-05
-0.10E-04
23:00
23:30
0:00
0:30
1:00
DOY351
DOY352
angular velocity [radians/sec]
tstart=DOY351 22:29 from derivative=0
angular acceleration=-.134E-07 +/-
0.282E-09 [rad/sec**2]

```
**********************
 This is a 1 order run
**********************

*******
 INPUT:
*******

                                    error in          error in
year doy    time      radii    radius     angle    angle    datatype
1987 351  23:13:22   1.90 +/- 0.10      50.0 +/-  0.5        SMM
1987 351  23:38: 7   2.20 +/- 0.10      55.0 +/-  0.5        SMM
1987 352   0:39:17   3.70 +/- 0.15      60.0 +/-  1.0        SMM
1987 352   0:47:33   3.80 +/- 0.15      60.0 +/-  1.0        SMM

**************************************
 Structure being measured:
Top of Cavity
**************************************

********
 OUTPUT:
********

START TIME:

 Event began at t = 0 + -0.249E+02 +/-  0.130E+01 [minutes]
 In more convenient units:
 Event began at DOY 351 22:37 +/-  0.130E+01 [minutes]

 Origin defined at DOY351 23: 0

RADIAL INFORMATION:

RADIAL VELOCITY =   245. +/-    18. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

 c(1) =    0.153E+01 +/-    0.949E-01 [solar radii]
 c(2) =    0.211E-01 +/-    0.153E-02 [radii/min]
 c(2) =    0.245E+03 +/-    0.177E+02 [km/sec]
 c(3) =    0.000E+00 +/-    0.000E+00 [radii/min**2]
 c(3) =    0.000E+00 +/-    0.000E+00 [km/sec**2]

 The computed ERRORS in coefficients [BEVINGTON] are:

                  error in c(1)=  0.11973E+00 [radii] see Bevington pg. 114
                  error in c(2)=  0.15770E-02 [radii/min] see Bevington pg. 114
ANGULAR INFORMATION:

ANGULAR VELOCITY =  0.3144E-04 +/-   0.5682E-05[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

 a(1) =  50. +/-   1. [degrees]
 a(2) =    0.108E+00 +/-    0.195E-01 [degrees/min]
 a(2) =    0.314E-04 +/-    0.568E-05 [rad/sec]
 a(3) =    0.000E+00 +/-    0.000E+00 [degrees/min**2]
 a(3) =    0.000E+00 +/-    0.000E+00 [rad/sec**2]

The RADIAL velocity at 23:13 =  245. km/sec

The RADIAL velocity at 23:38 =  245. km/sec

The RADIAL velocity at  0:39 =  245. km/sec
```

The RADIAL velocity at 0:47 = 245. km/sec

****
The following info is for estimating goodness of the fit
****

Fit is ok [ier=1]

Standard Deviation in the height = 0.99
Standard Deviation in start time measurement = 0.399E+02
Error in time = 0.84355E+01 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.130E-01
Reduced Chi Squared = 0.306E-01
Chi Squared = 0.611E-01
The probability for exceeding chi square = 0.987E+00

The correlation coefficient = 0.995E+00
The probability that no LINEAR correlation exists between the variables = 0.5242
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

```
**********************
 This is a 2 order run
**********************

*******
 INPUT:
*******

                                   error in          error in
year doy    time      radii   radius      angle    angle    datatype
1987 351  23:13:22   1.90 +/- 0.10      50.0 +/-  0.5        SMM
1987 351  23:38: 7   2.20 +/- 0.10      55.0 +/-  0.5        SMM
1987 352   0:39:17   3.70 +/- 0.15      60.0 +/-  1.0        SMM
1987 352   0:47:33   3.80 +/- 0.15      60.0 +/-  1.0        SMM

****************************************
 Structure being measured:
Top of Cavity
****************************************

********
 OUTPUT:
********

START TIME:

 tstart=DOY351 22:29 from derivative = 0
Event begins at   1.66 Solar Radii
 Origin defined at DOY351 23: 0

RADIAL INFORMATION:

RADIAL ACCELERATION =  0.440E-01 +/-  0.156E-01 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

 c(1) =    0.177E+01 +/-    0.103E+00 [solar radii]
 c(2) =    0.723E-02 +/-    0.499E-02 [radii/min]
 c(2) =    0.839E+02 +/-    0.579E+02 [km/sec]
 c(3) =    0.114E-03 +/-    0.404E-04 [radii/min**2]
 c(3) =    0.440E-01 +/-    0.156E-01 [km/sec**2]

 The computed ERRORS in coefficients [BEVINGTON] are:

    Approximate error in c(1) =  0.20989E+00 [radii] Bevington pg 154 (8-30)
          Exact error in c(1) =  0.20222E-01 [radii] Bevington pg 154 (8-28)
    Approximate error in c(2) =  0.10077E-01 [radii/min] Bevington pg 154 (8-30)
          Exact error in c(2) =  0.13179E-02 [radii/min] Bevington pg 154 (8-28)
    Approximate error in c(3) =  0.80370E-04 [radii/min**2] Bevington pg 154 (8-30)
          Exact error in c(3) =  0.13465E-04 [radii/min**2] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

ANGULAR ACCELERATION= -0.1341E-07 +/-   0.2113E-09[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

 a(1) =  47. +/-   0. [degrees]
 a(2) =    0.273E+00 +/-    0.265E-02 [degrees/min]
 a(2) =    0.794E-04 +/-    0.771E-06 [rad/sec]
 a(3) =   -0.138E-02 +/-    0.218E-04 [degrees/min**2]
 a(3) =   -0.134E-07 +/-    0.211E-09 [rad/sec**2]

The RADIAL velocity at 23:13 =  119. km/sec

The RADIAL velocity at 23:38 =  185. km/sec
```

The RADIAL velocity at 0:39 = 346. km/sec

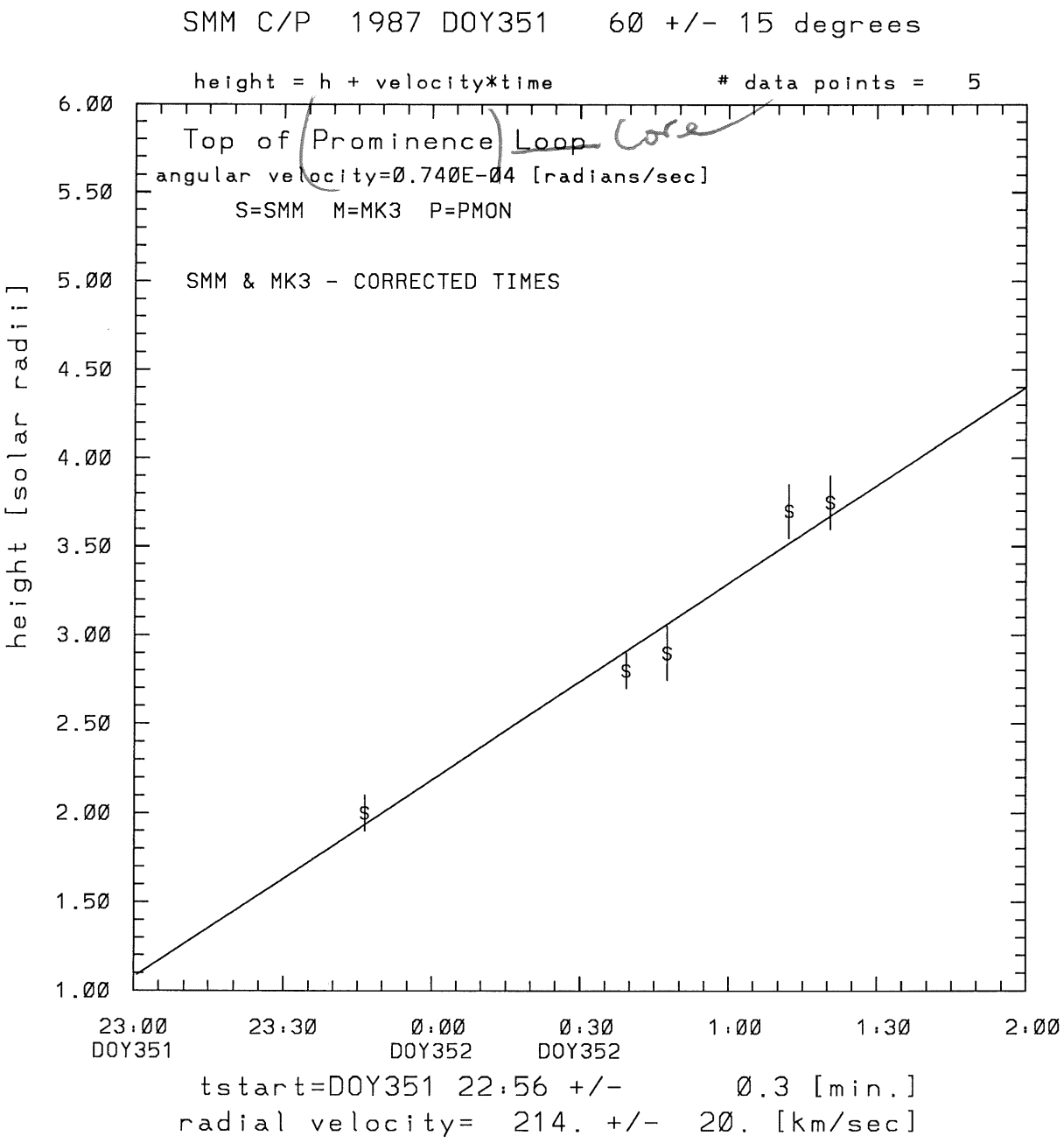
The RADIAL velocity at 0:47 = 368. km/sec

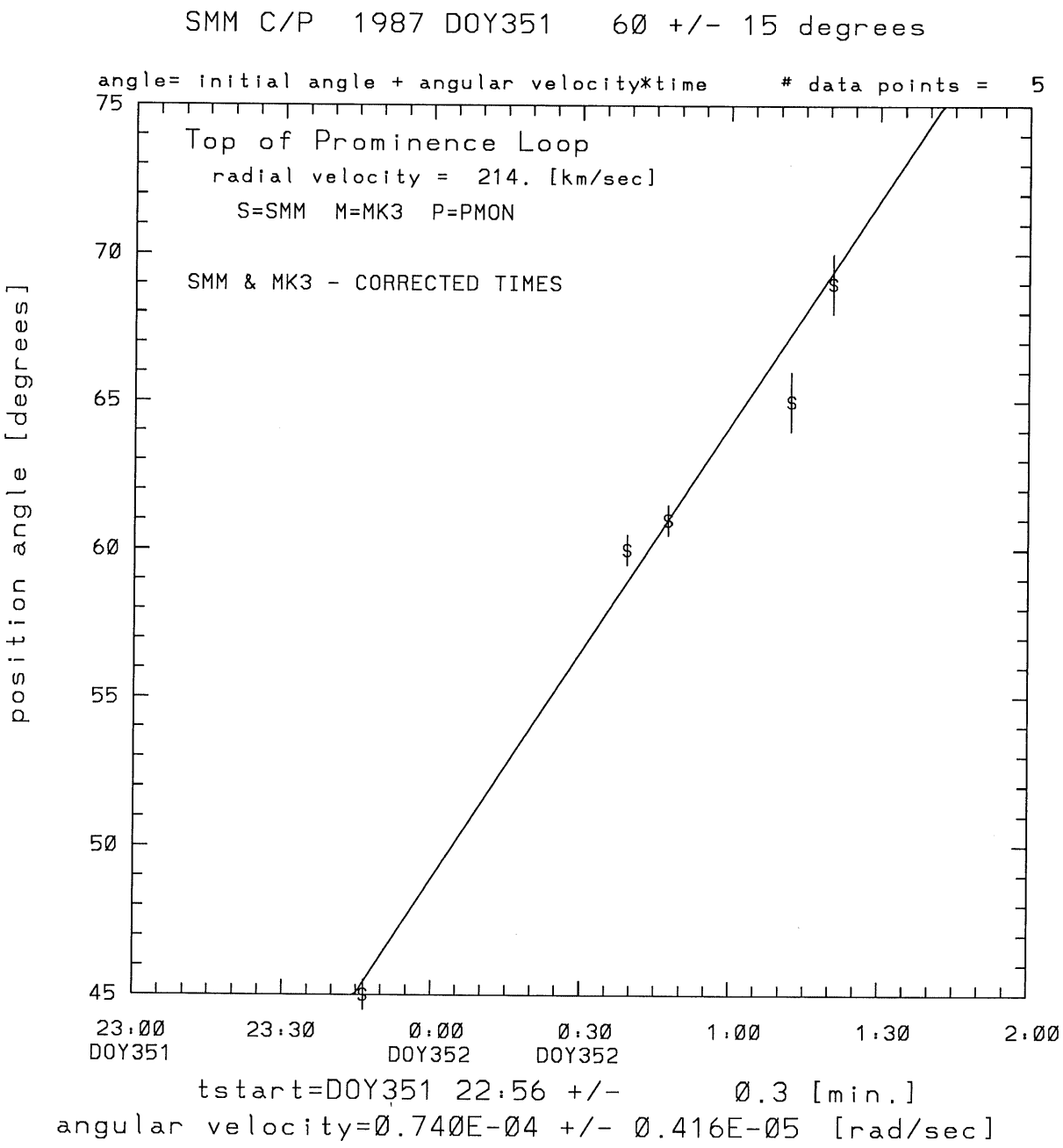
****
The following info is for estimating goodness of the fit
****

Fit is ok [ier=1]

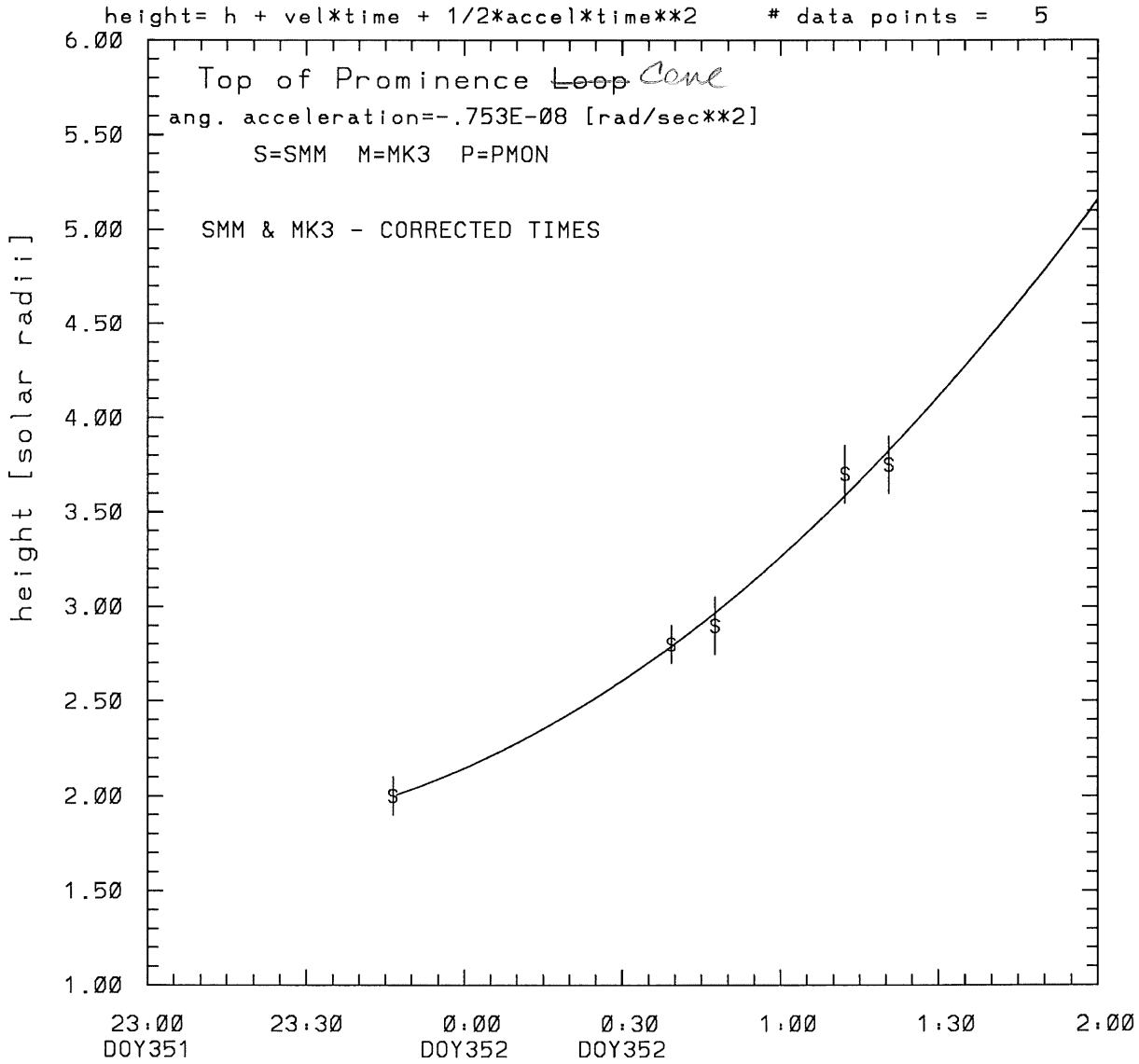
Standard Deviation in the height = 0.99
Standard Deviation in start time measurement = 0.399E+02
Value of reduced Chi Squared returned from nllst2 = 0.393E-02
Reduced Chi Squared = 0.415E-01
Chi Squared = 0.415E-01
The probability for exceeding chi square = 0.950E+00

For a second order fit 3 correlation coefficients are given:
(Using equation of motion: r = a + bt + at**2)
The correlation between the data and the term linear in time = 0.1001E+01
The correlation between the data and the time**2 term = 0.9960E+00
The correlation between the data and the complete equation of motion=0.9963E+00
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]


SMM C/P 1987 DOY351 60 +/- 15 degrees
height = h + velocity*time
# data points = 5
Top of Prominence Loop Core
angular velocity=0.740E-04 [radians/sec]
S=SMM M=MK3 P=PMON
SMM & MK3 - CORRECTED TIMES
height [solar radii]
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
23:00 DOY351
23:30
0:00 DOY352
0:30 DOY352
1:00
1:30
2:00
tstart=DOY351 22:56 +/- 0.3 [min.]
radial velocity= 214. +/- 20. [km/sec]


SMM C/P 1987 DOY351 60 +/- 15 degrees
angle= initial angle + angular velocity*time
# data points = 5
Top of Prominence Loop
radial velocity = 214. [km/sec]
S=SMM M=MK3 P=PMON
SMM & MK3 - CORRECTED TIMES
position angle [degrees]
75
70
65
60
55
50
45
23:00
DOY351
23:30
0:00
DOY352
0:30
DOY352
1:00
1:30
2:00
tstart=DOY351 22:56 +/- 0.3 [min.]
angular velocity=0.740E-04 +/- 0.416E-05 [rad/sec]

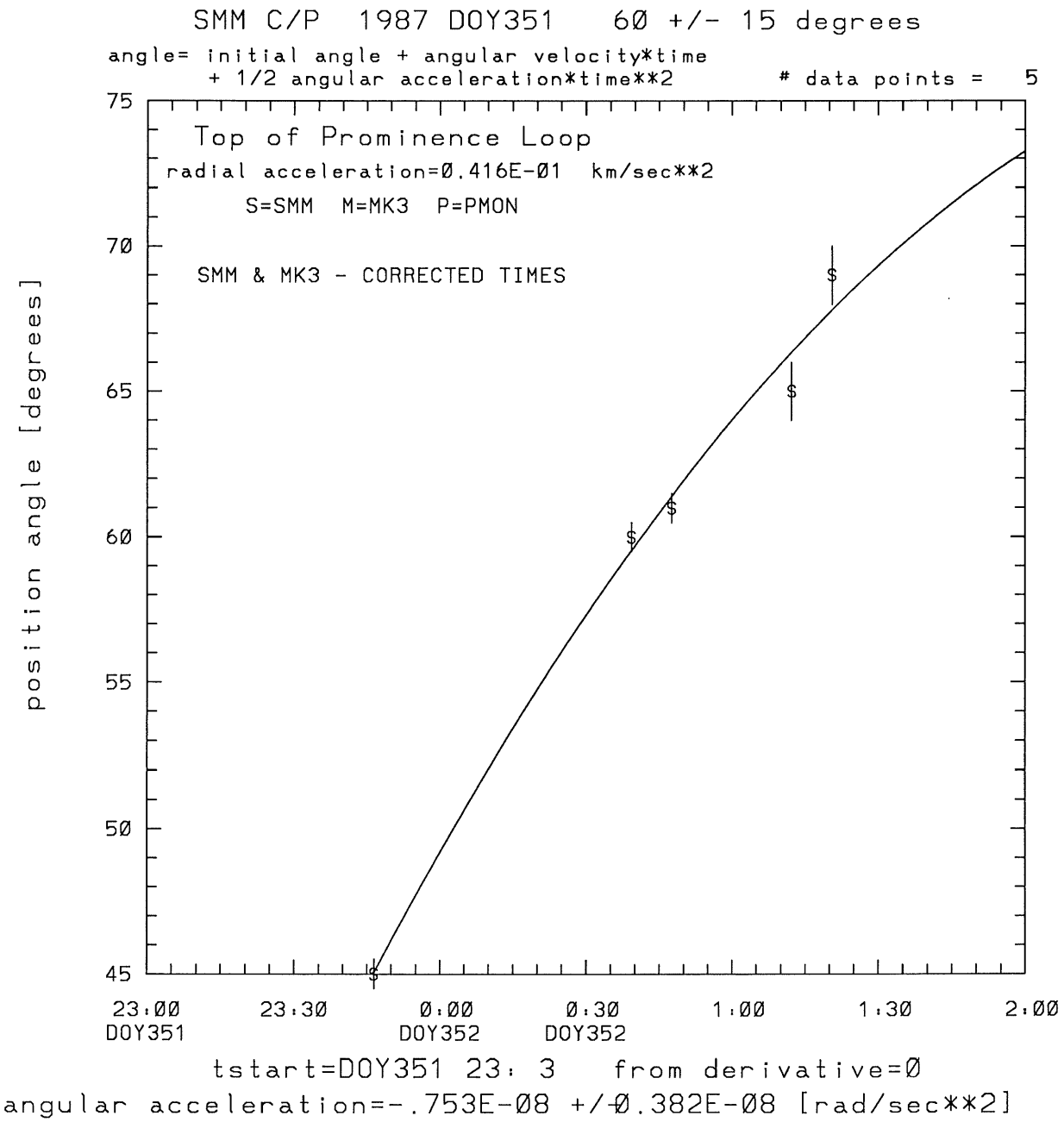
SMM C/P 1987 DOY351 60 +/- 15 degrees



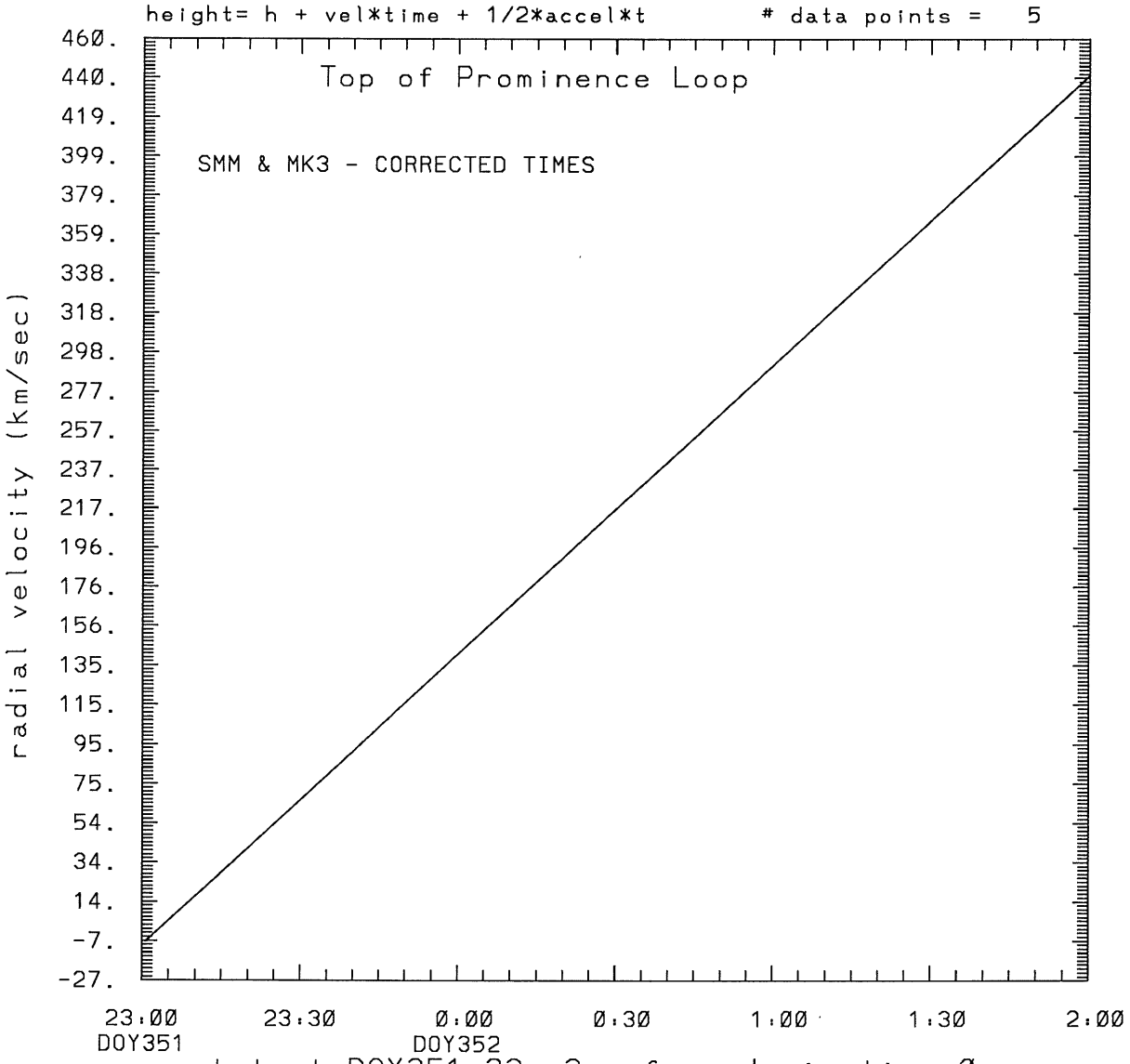
tstart=DOY351 23: 3 from derivative=0

Event begins at 1.80 Solar Radii

radial acceleration= 0.0416 +/- 0.0129 [km/sec**2]


SMM C/P 1987 DOY351 60 +/- 15 degrees
angle= initial angle + angular velocity*time
+ 1/2 angular acceleration*time**2
# data points = 5
Top of Prominence Loop
radial acceleration=0.416E-01 km/sec**2
S=SMM M=MK3 P=PMON
SMM & MK3 - CORRECTED TIMES
position angle [degrees]
75
70
65
60
55
50
45
23:00
DOY351
23:30
0:00
DOY352
0:30
DOY352
1:00
1:30
2:00
tstart=DOY351 23: 3 from derivative=0
angular acceleration=-.753E-08 +/-0.382E-08 [rad/sec**2]

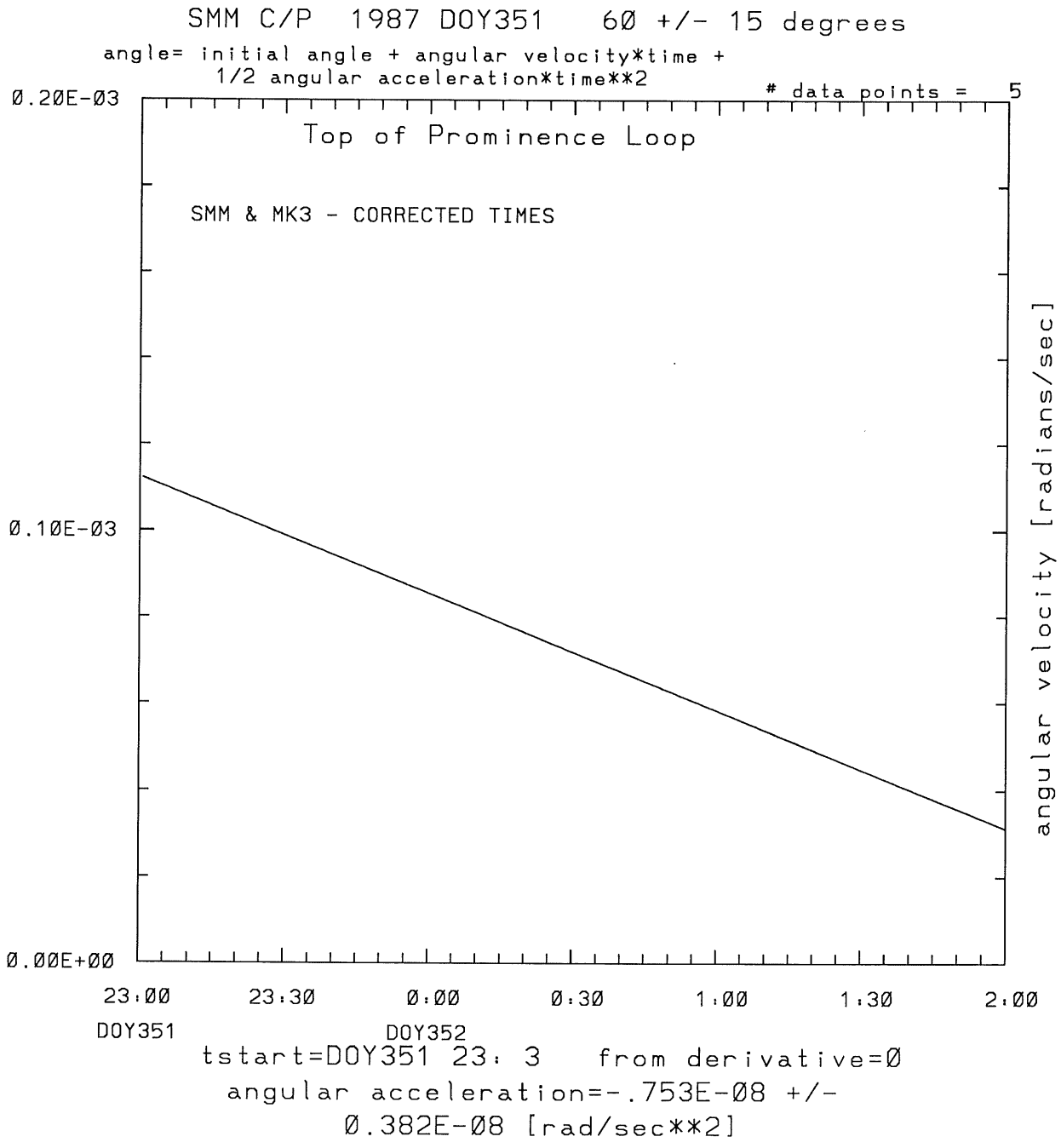
SMM C/P 1987 DOY351 6Ø +/- 15 degrees



tstart=DOY351 23: 3 from derivative=Ø

Event begins at 1.8Ø Solar Radii

radial acceleration=Ø.416E-Ø1 km/sec**2


SMM C/P 1987 DOY351 60 +/- 15 degrees
angle= initial angle + angular velocity*time +
1/2 angular acceleration*time**2
data points = 5
Top of Prominence Loop
SMM & MK3 - CORRECTED TIMES
0.20E-03
0.10E-03
0.00E+00
angular velocity [radians/sec]
23:00
23:30
0:00
0:30
1:00
1:30
2:00
DOY351
DOY352
tstart=DOY351 23: 3 from derivative=0
angular acceleration=-.753E-08 +/-
0.382E-08 [rad/sec**2]

```
**********************
 This is a 1 order run
**********************

*******
 INPUT:
*******

                                   error in          error in
year doy    time      radii   radius      angle    angle    datatype
1987 351  23:46:23   2.00 +/- 0.10      45.0 +/-  0.5        SMM
1987 352   0:39:17   2.80 +/- 0.10      60.0 +/-  0.5        SMM
1987 352   0:47:33   2.90 +/- 0.15      61.0 +/-  0.5        SMM
1987 352   1:12:17   3.70 +/- 0.15      65.0 +/-  1.0        SMM
1987 352   1:20:33   3.75 +/- 0.15      69.0 +/-  1.0        SMM

****************************************
 Structure being measured:
Top of (Prominence) Loop
****************************************

********
 OUTPUT:
********

START TIME:

 Event began at t = 0 + -0.422E+01 +/-  0.275E+00 [minutes]
 In more convenient units:
 Event began at DOY 351 22:56 +/-  0.275E+00 [minutes]

 Origin defined at DOY351 23: 0

RADIAL INFORMATION:

RADIAL VELOCITY =   214. +/-    20. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

 c(1) =    0.108E+01 +/-    0.170E+00 [solar radii]
 c(2) =    0.185E-01 +/-    0.169E-02 [radii/min]
 c(2) =    0.214E+03 +/-    0.196E+02 [km/sec]
 c(3) =    0.000E+00 +/-    0.000E+00 [radii/min**2]
 c(3) =    0.000E+00 +/-    0.000E+00 [km/sec**2]

 The computed ERRORS in coefficients [BEVINGTON] are:

                   error in c(1)=  0.24608E+00 [radii] see Bevington pg. 114
                   error in c(2)=  0.22310E-02 [radii/min] see Bevington pg. 114
ANGULAR INFORMATION:

ANGULAR VELOCITY =  0.7402E-04 +/-   0.4164E-05[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

 a(1) =  34. +/-   1. [degrees]
 a(2) =    0.254E+00 +/-    0.143E-01 [degrees/min]
 a(2) =    0.740E-04 +/-    0.416E-05 [rad/sec]
 a(3) =    0.000E+00 +/-    0.000E+00 [degrees/min**2]
 a(3) =    0.000E+00 +/-    0.000E+00 [rad/sec**2]

The RADIAL velocity at 23:46 =  214. km/sec

The RADIAL velocity at  0:39 =  214. km/sec

The RADIAL velocity at  0:47 =  214. km/sec
```

The RADIAL velocity at 1:12 = 214. km/sec

The RADIAL velocity at 1:20 = 214. km/sec

****
The following info is for estimating goodness of the fit
****

Fit is ok [ier=1]

Standard Deviation in the height = 0.72
Standard Deviation in start time measurement = 0.331E+02
Error in time = 0.15508E+02 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.171E-01
Reduced Chi Squared = 0.900E-01
Chi Squared = 0.270E+00
The probability for exceeding chi square = 0.997E+00

The correlation coefficient = 0.981E+00
The probability that no LINEAR correlation exists between the variables = 0.3094
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

****
This is a 2 order run
****

****
INPUT:
****

year	doy	time	radii	error in radius	angle	error in angle	datatype
1987	351	23:46:23	2.00	+/- 0.10	45.0	+/- 0.5	SMM
1987	352	0:39:17	2.80	+/- 0.10	60.0	+/- 0.5	SMM
1987	352	0:47:33	2.90	+/- 0.15	61.0	+/- 0.5	SMM
1987	352	1:12:17	3.70	+/- 0.15	65.0	+/- 1.0	SMM
1987	352	1:20:33	3.75	+/- 0.15	69.0	+/- 1.0	SMM

****
Structure being measured:
Top of (Prominence) ~~Loop~~ Core
****

****
OUTPUT:
****

START TIME:

tstart=DOY351 23: 3 from derivative = 0
Event begins at 1.80 Solar Radii
Origin defined at DOY351 23: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.416E-01 +/- 0.129E-01 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.180E+01 +/- 0.243E+00 [solar radii]
c(2) = -0.756E-03 +/- 0.603E-02 [radii/min]
c(2) = -0.877E+01 +/- 0.699E+02 [km/sec]
c(3) = 0.108E-03 +/- 0.334E-04 [radii/min**2]
c(3) = 0.416E-01 +/- 0.129E-01 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.39987E+00 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.60726E-01 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.94181E-02 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.18927E-02 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.50329E-04 [radii/min**2] Bevington pg 154 (8-30)
Exact error in c(3) = 0.12641E-04 [radii/min**2] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

ANGULAR ACCELERATION= -0.7533E-08 +/- 0.3818E-08[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 29. +/- 3. [degrees]
a(2) = 0.387E+00 +/- 0.680E-01 [degrees/min]
a(2) = 0.113E-03 +/- 0.198E-04 [rad/sec]
a(3) = -0.777E-03 +/- 0.394E-03 [degrees/min**2]
a(3) = -0.753E-08 +/- 0.382E-08 [rad/sec**2]

The RADIAL velocity at 23:46 = 107. km/sec

The RADIAL velocity at 0:39 = 239. km/sec

The RADIAL velocity at 0:47 = 260. km/sec

The RADIAL velocity at 1:12 = 322. km/sec

The RADIAL velocity at 1:20 = 342. km/sec

****
The following info is for estimating goodness of the fit
****

Fit is ok [ier=1]

Standard Deviation in the height = 0.72
Standard Deviation in start time measurement = 0.331E+02
Value of reduced Chi Squared returned from nllst2 = 0.510E-02
Reduced Chi Squared = 0.459E-01
Chi Squared = 0.919E-01
The probability for exceeding chi square = 0.995E+00

For a second order fit 3 correlation coefficients are given:
(Using equation of motion: r = a + bt + at**2)
The correlation between the data and the term linear in time = 0.1078E+01
The correlation between the data and the time**2 term = 0.1057E+01
The correlation between the data and the complete equation of motion=0.9948E+00
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]