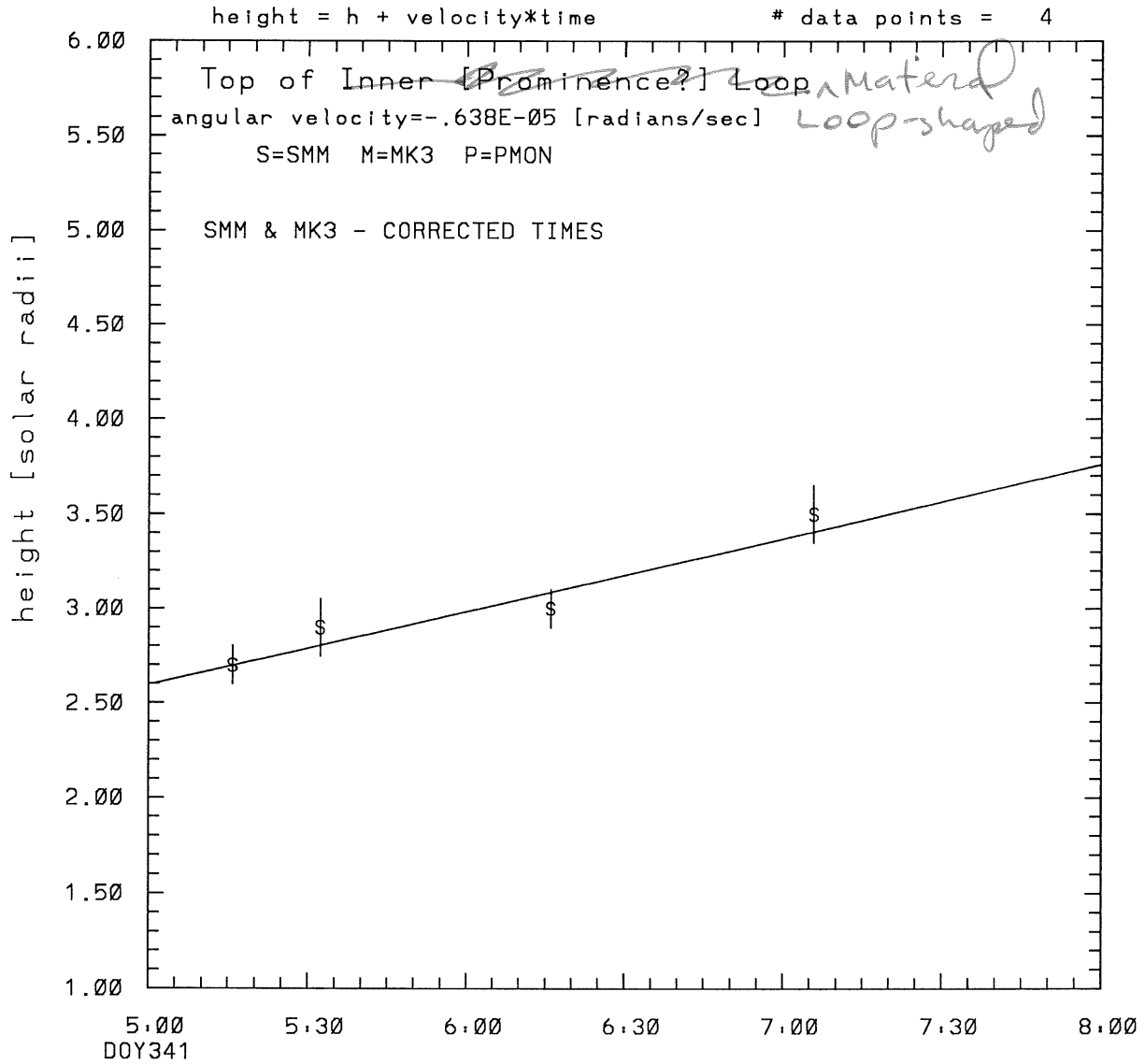


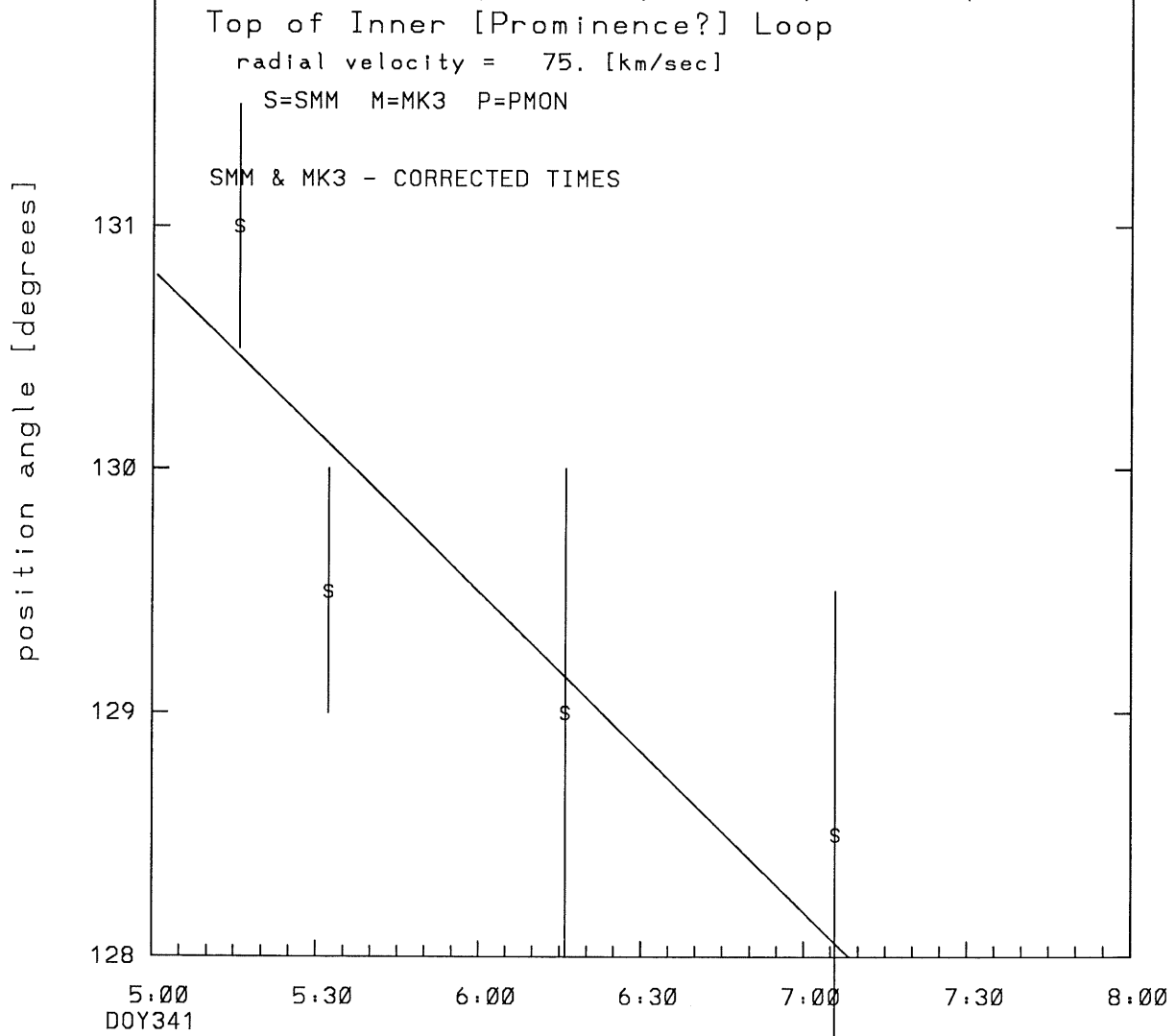
SMM C/P 1988 DOY341 129 +/- 2 degrees



tstart=DOY341 0:55 +/- 19.4 [min.]  
radial velocity= 75. +/- 12. [km/sec]

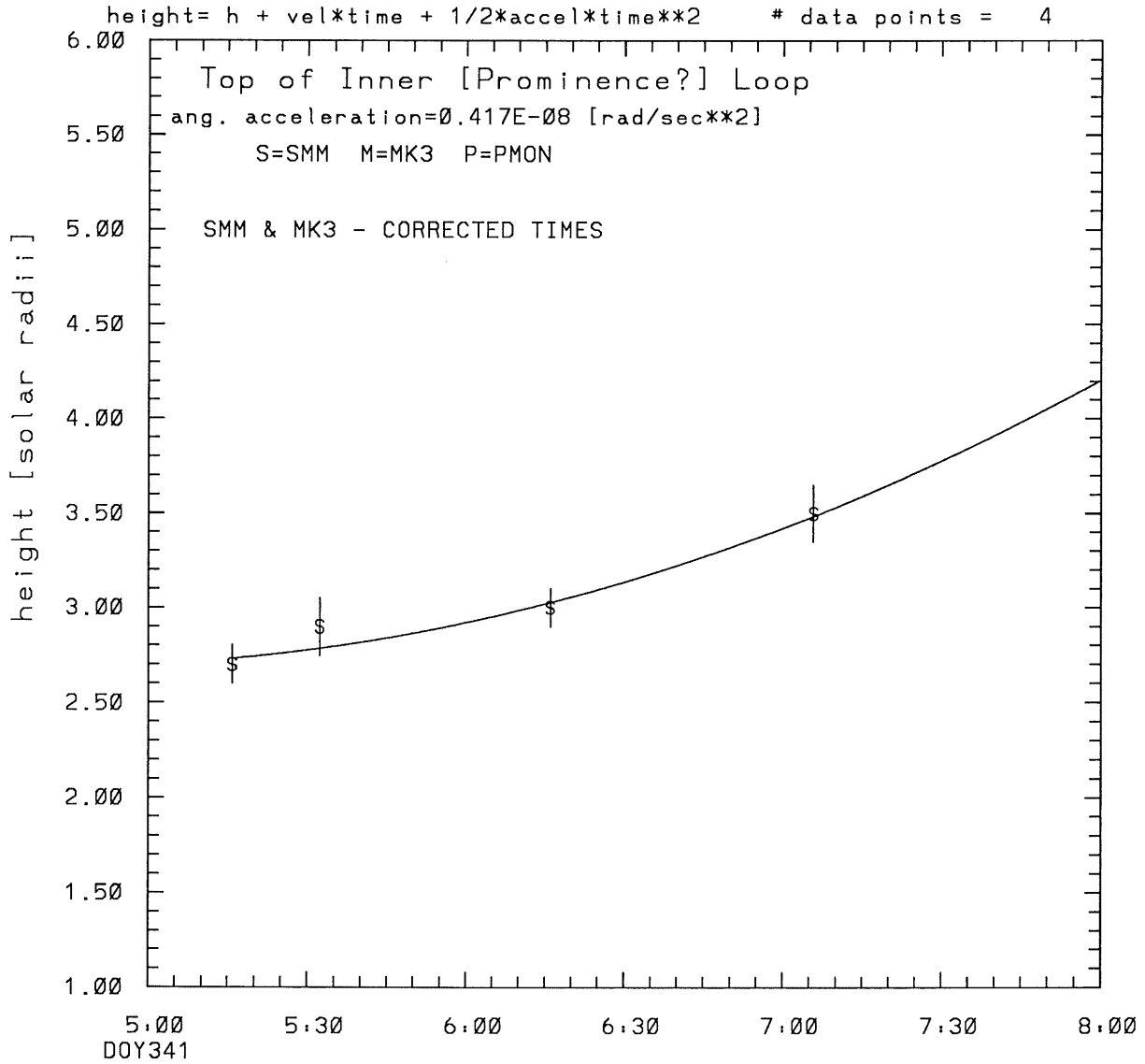
SMM C/P 1988 DOY341 129 +/- 2 degrees

angle = initial angle + angular velocity \* time # data points = 4



angular velocity =  $-.638E-05 \pm 0.266E-05$  [rad/sec]

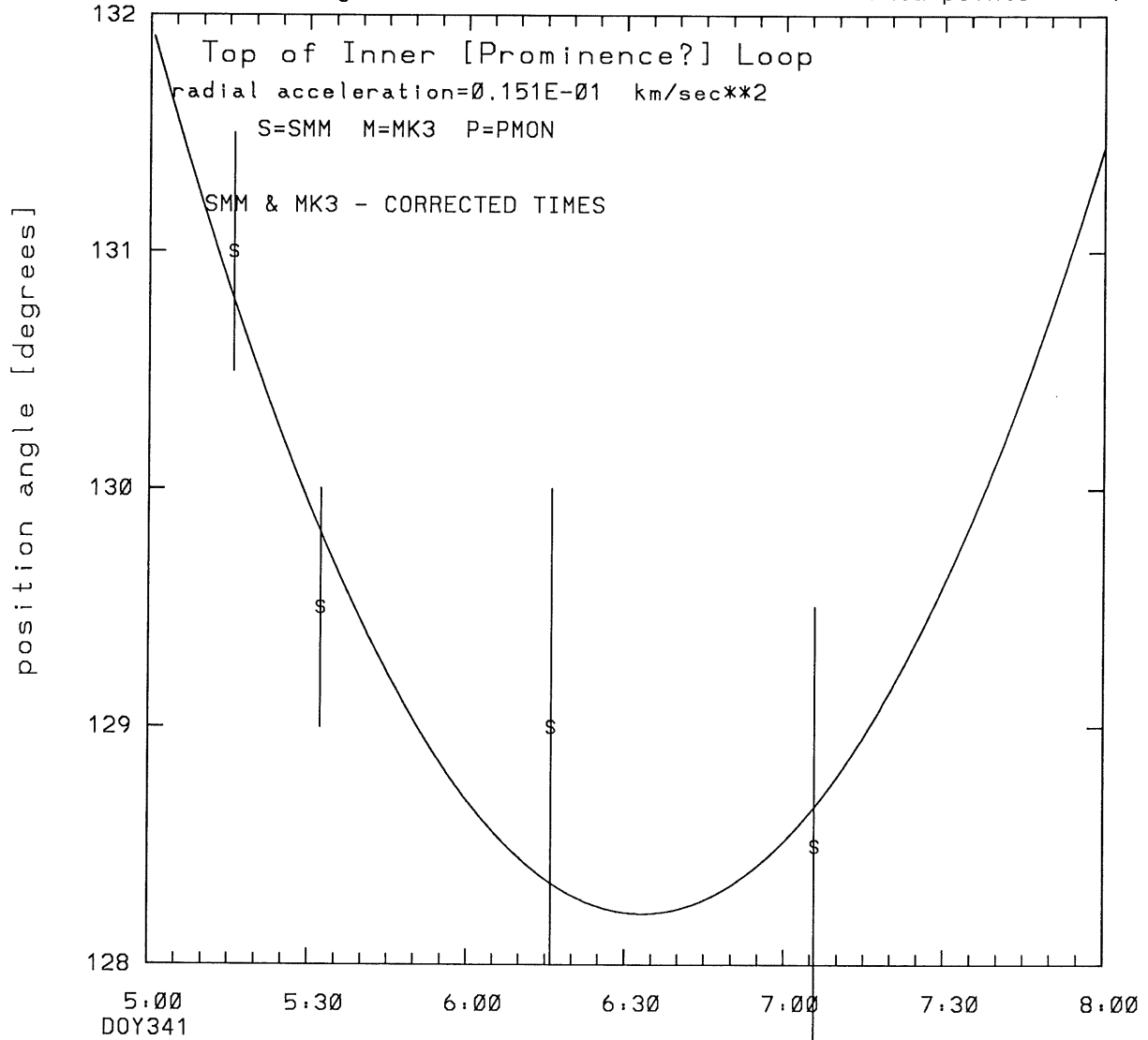
SMM C/P 1988 DOY341 129 +/- 2 degrees



tstart=DOY341 4:44 from derivative=0  
Event begins at 2.69 Solar Radii  
radial acceleration =  $0.0151 +/- 0.0108$  [km/sec\*\*2]

SMM C/P 1988 DOY341 129 +/- 2 degrees

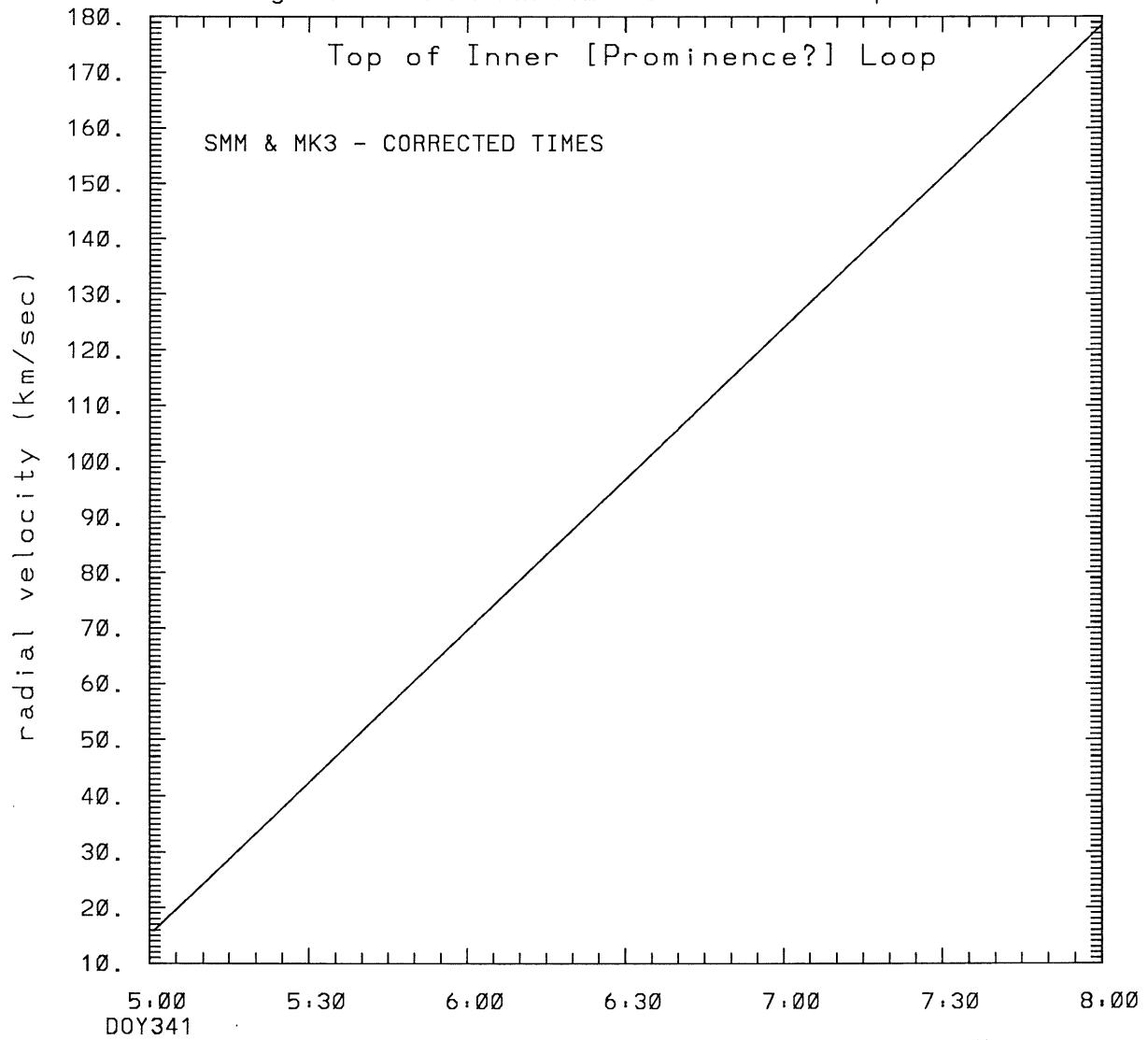
angle = initial angle + angular velocity\*time  
+ 1/2 angular acceleration\*time\*\*2 # data points = 4



Event begins at 2.69 Solar Radii  
angular acceleration=0.417E-08 +/- 0.222E-08 [rad/sec\*\*2]

SMM C/P 1988 DOY341 129 +/- 2 degrees

+ 1/2 angular acceleration\*time\*\*2 # data points = 4

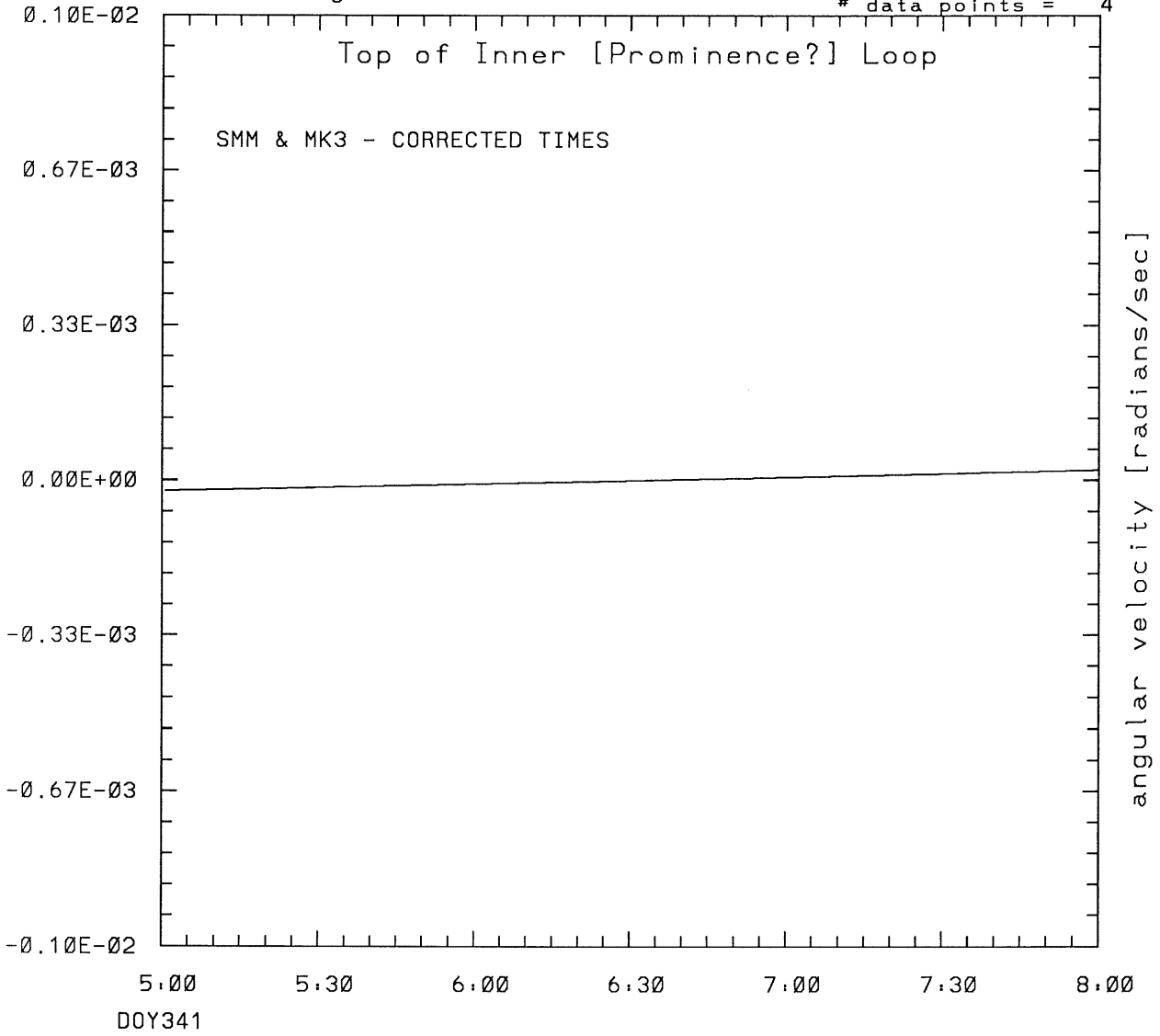


tstart=DOY341 4:44 from derivative=0  
Event begins at 2.69 Solar Radii  
radial acceleration=0.151E-01 km/sec\*\*2

SMM C/P 1988 DOY341 129 +/- 2 degrees

$$\text{angle} = \text{initial angle} + \text{angular velocity} * \text{time} + \frac{1}{2} \text{angular acceleration} * \text{time} ** 2$$

# data points = 4



angular acceleration =  $0.417E-08 \pm 0.222E-08$  [rad/sec\*\*2]

\*\*\*\*\*  
This is a 1 order run  
\*\*\*\*\*

\*\*\*\*\*  
INPUT:  
\*\*\*\*\*

year	day	time	radii	radius	error in angle	error in angle	datatype
1988	341	5:15:47	2.70 +/-	0.10	131.0 +/-	0.5	SMM
1988	341	5:32:17	2.90 +/-	0.15	129.5 +/-	0.5	SMM
1988	341	6:15:59	3.00 +/-	0.10	129.0 +/-	1.0	SMM
1988	341	7: 5:49	3.50 +/-	0.15	128.5 +/-	1.0	SMM

\*\*\*\*\*

Structure being measured:

Top of Inner ~~[prominence?] Loop~~

*Loop-shaped material*

\*\*\*\*\*

\*\*\*\*\*  
OUTPUT:  
\*\*\*\*\*

START TIME:

Event began at t = 0 + -0.247E+03 +/- 0.194E+02 [minutes]

In more convenient units:

Event began at DOY 341 0:55 +/- 0.194E+02 [minutes]

Origin defined at DOY341 5: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 75. +/- 12. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.260E+01 +/- 0.734E-01 [solar radii]  
c(2) = 0.646E-02 +/- 0.107E-02 [radii/min]  
c(2) = 0.750E+02 +/- 0.124E+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)= 0.99299E-01 [radii] see Bevington pg. 114

error in c(2)= 0.13125E-02 [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = -0.6378E-05 +/- 0.2661E-05[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 131. +/- 0. [degrees]  
a(2) = -0.219E-01 +/- 0.915E-02 [degrees/min]  
a(2) = -0.638E-05 +/- 0.266E-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 5:15 = 75. km/sec

The RADIAL velocity at 5:32 = 75. km/sec

The RADIAL velocity at 6:15 = 75. km/sec

The RADIAL velocity at 7: 5 = 75. km/sec

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

Fit is ok [ier=1]

Standard Deviation in the height = 0.34  
Standard Deviation in start time measurement = 0.427E+02  
Error in time = 0.24521E+02 using best fit method  
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.706E-02  
Reduced Chi Squared = 0.372E-01  
Chi Squared = 0.745E-01  
The probability for exceeding chi square = 0.993E+00

The correlation coefficient = 0.968E+00  
The probability that no LINEAR correlation exists between the variables = 0.32211  
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]



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

\*\*\*\*\*  
INPUT:  
\*\*\*\*\*

year	doy	time	radii	radius	error in angle	error in angle	datatype
1988	341	5:15:47	2.70 +/-	0.10	131.0 +/-	0.5	SMM
1988	341	5:32:17	2.90 +/-	0.15	129.5 +/-	0.5	SMM
1988	341	6:15:59	3.00 +/-	0.10	129.0 +/-	1.0	SMM
1988	341	7: 5:49	3.50 +/-	0.15	128.5 +/-	1.0	SMM

\*\*\*\*\*  
Structure being measured:  
Top of Inner [prominence?] Loop  
\*\*\*\*\*

\*\*\*\*\*  
OUTPUT:  
\*\*\*\*\*

START TIME:

tstart=DOY341 4:44 from derivative = 0  
Event begins at 2.69 Solar Radii  
Origin defined at DOY341 5: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.151E-01 +/- 0.108E-01 km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.270E+01 +/- 0.994E-01 [solar radii]  
c(2) = 0.131E-02 +/- 0.381E-02 [radii/min]  
c(2) = 0.152E+02 +/- 0.442E+02 [km/sec]  
c(3) = 0.391E-04 +/- 0.280E-04 [radii/min\*\*2]  
c(3) = 0.151E-01 +/- 0.108E-01 [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.19197E+00 [radii] Bevington pg 154 (8-30)  
Exact error in c(1) = 0.48823E-01 [radii] Bevington pg 154 (8-28)  
Approximate error in c(2) = 0.72178E-02 [radii/min] Bevington pg 154 (8-30)  
Exact error in c(2) = 0.15992E-02 [radii/min] Bevington pg 154 (8-28)  
Approximate error in c(3) = 0.49644E-04 [radii/min\*\*2] Bevington pg 154 (8-30)  
Exact error in c(3) = 0.10407E-04 [radii/min\*\*2] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

ANGULAR ACCELERATION= 0.4173E-08 +/- 0.2220E-08[radians/sec\*\*2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 132. +/- 1. [degrees]  
a(2) = -0.803E-01 +/- 0.318E-01 [degrees/min]  
a(2) = -0.234E-04 +/- 0.925E-05 [rad/sec]  
a(3) = 0.430E-03 +/- 0.229E-03 [degrees/min\*\*2]  
a(3) = 0.417E-08 +/- 0.222E-08 [rad/sec\*\*2]

The RADIAL velocity at 5:15 = 29. km/sec

The RADIAL velocity at 5:32 = 44. km/sec

The RADIAL velocity at 6:15 = 84. km/sec

The RADIAL velocity at 7: 5 = 129. km/sec

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

Fit is ok [ier=1]

Standard Deviation in the height = 0.34

Standard Deviation in start time measurement = 0.427E+02

Value of reduced Chi Squared returned from nllst2 = 0.537E-02

Reduced Chi Squared = 0.308E-01

Chi Squared = 0.308E-01

The probability for exceeding chi square = 0.942E+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 = 0.8916E+00

The correlation between the data and the time\*\*2 term = 0.8561E+00

The correlation between the data and the complete equation of motion=0.9471E+00

SEE BEVINGTON "Data Reduction and Error Analysis" [1969]