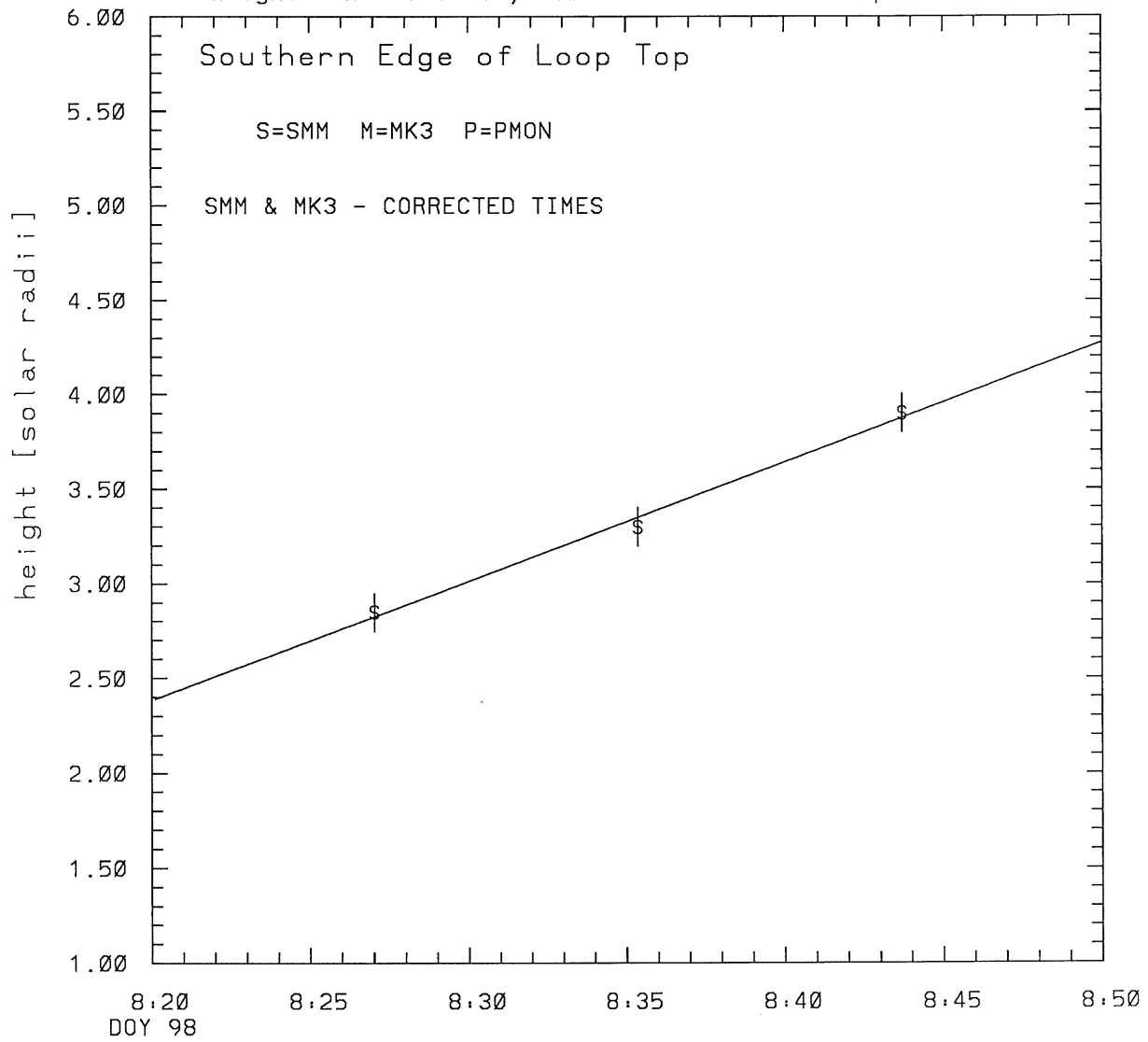


SMM C/P 1989 DOY 98 60 +/- 0 degrees

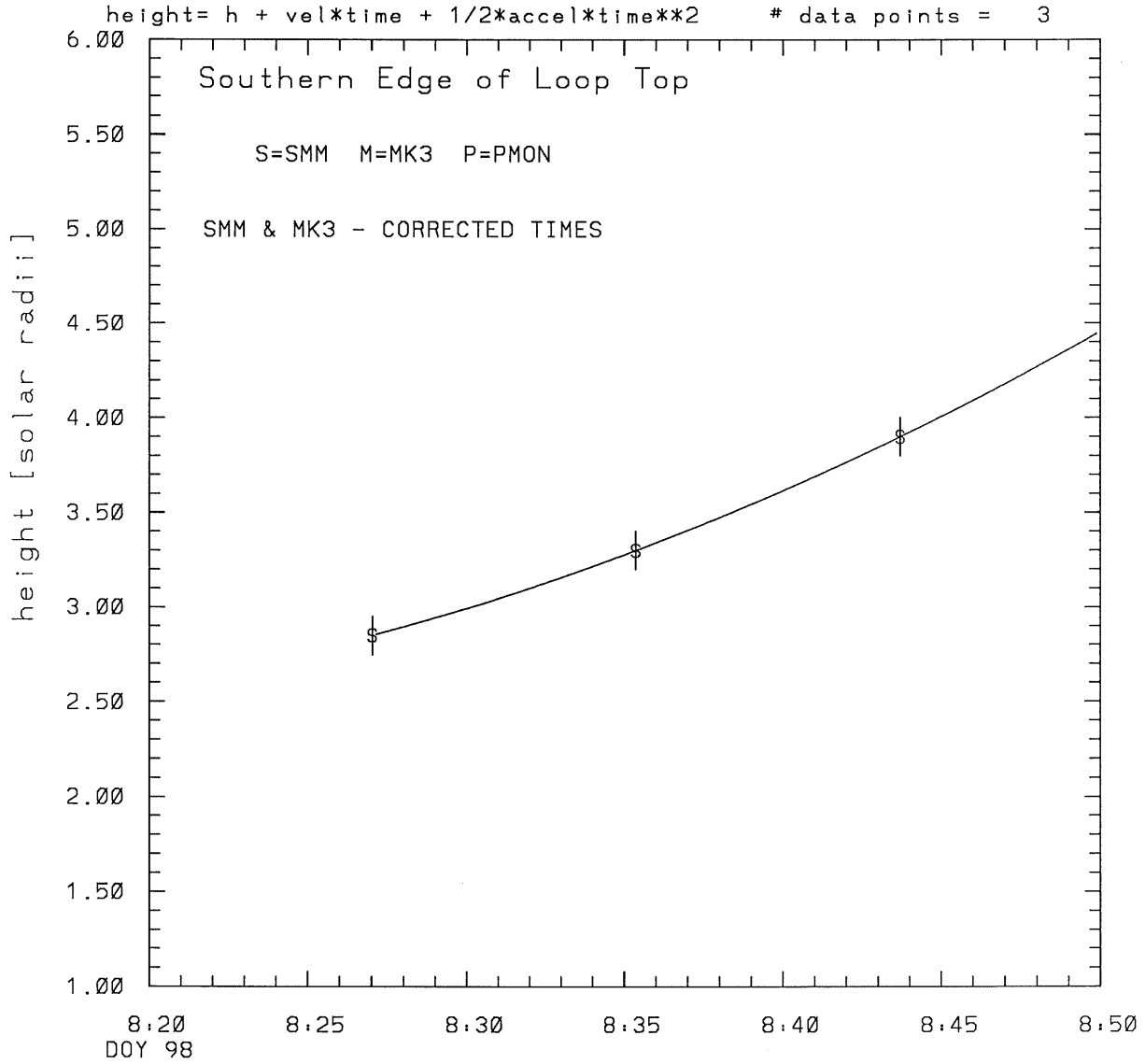
height = h + velocity*time

data points = 3



tstart=DOY 98 8: 0 +/- 0.8 [min.]
radial velocity= 730. +/- 43. [km/sec]

SMM C/P 1989 DOY 98 60 +/- 0 degrees

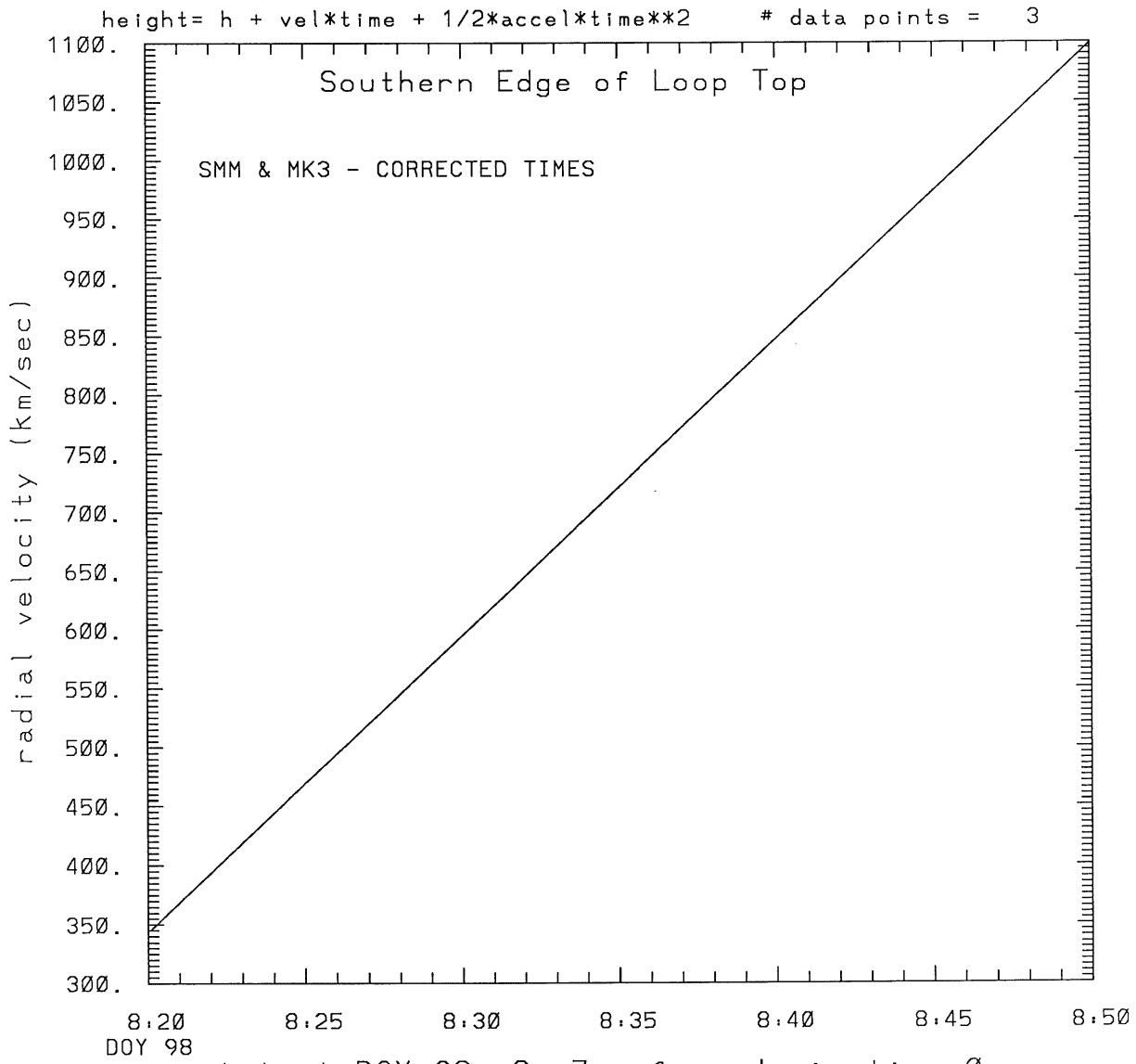


tstart=DOY 98 8: 7 from derivative=0

Event begins at 2.39 Solar Radii

radial acceleration = 0.4197 +/- 0.0000 [km/sec**2]

SMM C/P 1989 DOY 98 60 +/- 0 degrees



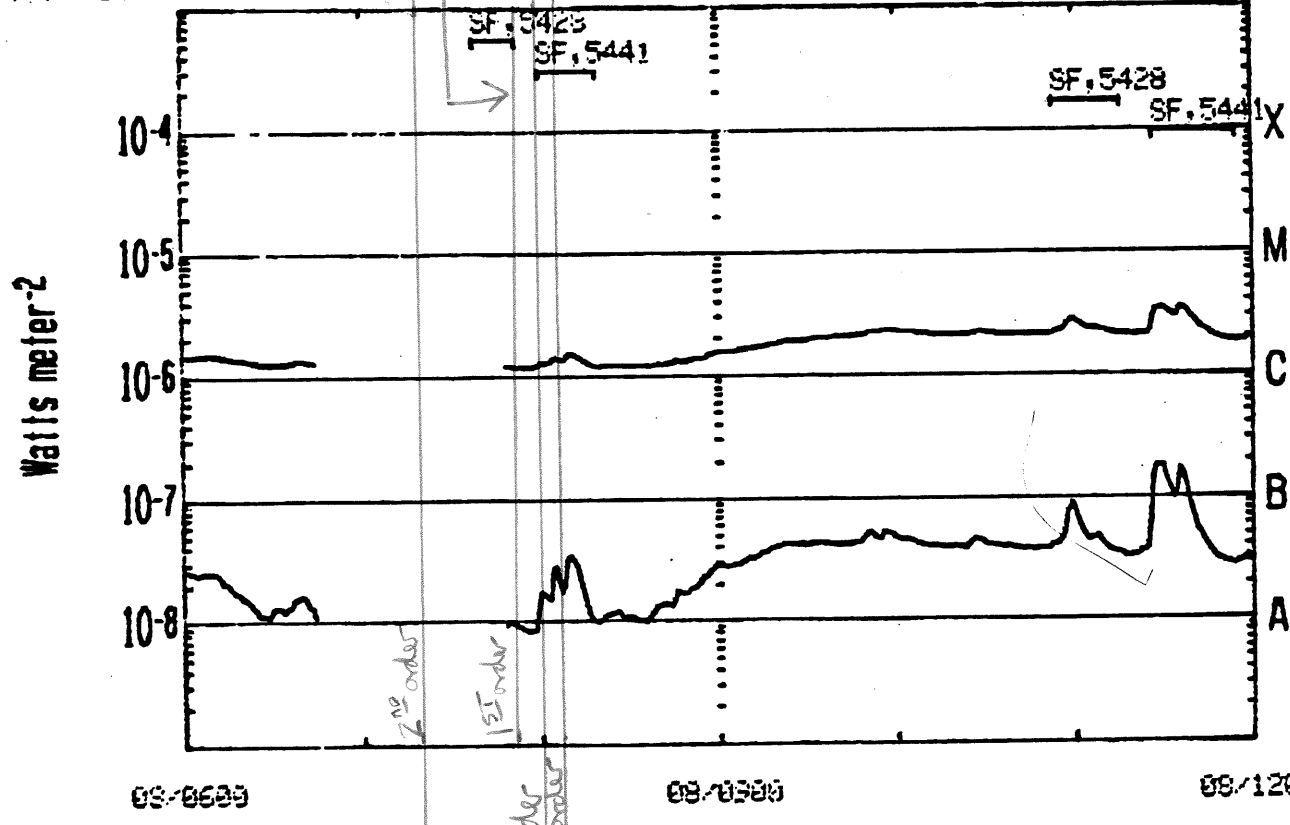
tstart=DOY 98 8.7 from derivative=0
Event begins at 2.39 Solar Radii
radial acceleration=0.420E+00 km/sec**2

1989 Day 098

[7:53]

Top of Prominence, 2nd order [7:18]
Top of Prominence [Southern Edge] [7:53]
Southern Edge of Loop Top, center = 55°
[8:00], 1st order, 2nd order [8:07]

NEAR AND OPTICAL DATA TOGETHER STOP Ret.. BEGIN: 08 APR 89



GOES 7 0.5-4.0A OPTICAL FLARES
GOES 7 1.0-8.0A

GOES-7 1 MIN DATA; OPTICAL FLARE DUR, IMP, REGION

SAA's NIGHT
RUN: 1718UT
9 APR 89

This is a 1 order run

INPUT:

year	doy	time	radii	error in radius	angle	error in angle	datatype
1989	98	8:27:1	2.85	+/- 0.10	60.0	+/- 1.0	SMM
1989	98	8:35:22	3.30	+/- 0.10	60.0	+/- 1.0	SMM
1989	98	8:43:42	3.90	+/- 0.10	60.0	+/- 1.0	SMM

Structure being measured:

Southern Edge of Loop Top

OUTPUT:

START TIME:

Event began at $t = 0 + -0.220E+02 +/- 0.819E+00$ [minutes]

In more convenient units:

Event began at DOY 98 8:00 +/- 0.819E+00 [minutes]

Event began at DOY 98 8:0 +/- 0.819E+00 [minutes]

Origin defined at DOY 98 8:20

RADIAL INFORMATION:

RADIAL VELOCITY = 730. +/- 43. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.238E+01 +/- 0.621E-01$ [solar radii]
 $c(2) = 0.629E-01 +/- 0.370E-02$ [radii/min]
 $c(2) = 0.730E+03 +/- 0.429E+02$ [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 $c(1) = 0.87836E-01$ [radii] see Bevington pg. 114

error in $c(2) = 0.52273E-02$ [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = 0.0000E+00 +/- 0.0000E+00 [radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 60. +/- 0. [degrees]
a(2) = 0.000E+00 +/- 0.000E+00 [degrees/min]
a(2) = 0.000E+00 +/- 0.000E+00 [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 TANGENTIAL AND TOTAL VELOCITIES AT EACH DATA POINT ARE:

The TANGENTIAL velocity at 8:27 = 0. km/sec

The TOTAL velocity at 8:27 = 730. km/sec

The TANGENTIAL velocity at 8:35 = 0. km/sec

The TOTAL velocity at 8:35 = 730. km/sec

The TANGENTIAL velocity at 8:43 = 0. km/sec

The TOTAL velocity at 8:43 = 730. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.53

Standard Deviation in start time measurement = 0.681E+01

Error in time = 0.97984E+00 using best fit method

See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.190E-02

Reduced Chi Squared = 0.761E-02

Chi Squared = 0.761E-02

The probability for exceeding chi square = 0.965E+00

The correlation coefficient = 0.997E+00

The probability that no LINEAR correlation exists between the variables = 0.5276E-01

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

This is a 2 order run

INPUT:

year	doy	time	radii	error in radius	error in angle	datatype
1989	98	8:27:1	2.85	+/- 0.10	60.0 +/- 1.0	SMM
1989	98	8:35:22	3.30	+/- 0.10	60.0 +/- 1.0	SMM
1989	98	8:43:42	3.90	+/- 0.10	60.0 +/- 1.0	SMM

Structure being measured:
Southern Edge of Loop Top

OUTPUT:

START TIME:

tstart=DOY 98 8: 7 from derivative = 0
Event begins at 2.39 Solar Radii
Origin defined at DOY 98 8:20

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.420E+00 +/- 0.795E-05 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.259E+01 +/- 0.424E-05 [solar radii]
c(2) = 0.296E-01 +/- 0.639E-06 [radii/min]
c(2) = 0.343E+03 +/- 0.741E-02 [km/sec]
c(3) = 0.109E-02 +/- 0.206E-07 [radii/min**2]
c(3) = 0.420E+00 +/- 0.795E-05 [km/sec**2]

ANGULAR INFORMATION:

ANGULAR ACCELERATION= 0.0000E+00 +/- 0.0000E+00[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 60. +/- 0. [degrees]
a(2) = 0.000E+00 +/- 0.000E+00 [degrees/min]
a(2) = 0.000E+00 +/- 0.000E+00 [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 TANGENTIAL AND TOTAL VELOCITIES AT EACH DATA POINT ARE:

The TANGENTIAL velocity at 8:27 = 0. km/sec

The TOTAL velocity at 8:27 = 520. km/sec

The TANGENTIAL velocity at 8:35 = 0. km/sec

The TOTAL velocity at 8:35 = 730. km/sec

The TANGENTIAL velocity at 8:43 = 0. km/sec

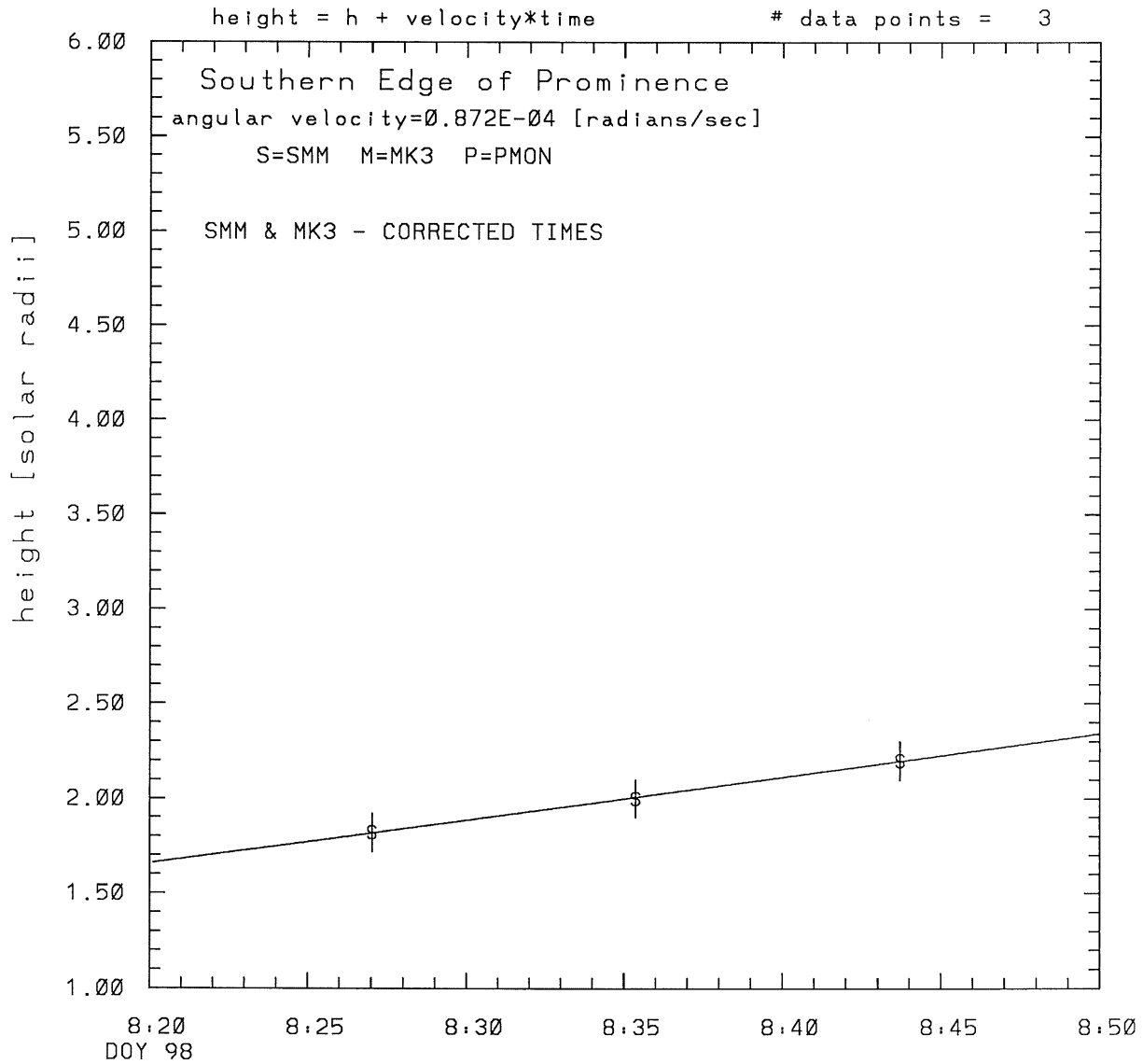
The TOTAL velocity at 8:43 = 940. km/sec

The following info is for estimating goodness of the fit

Number data points = number of coefficients. No error analysis is possible.

Correlation coefficient is not computable!

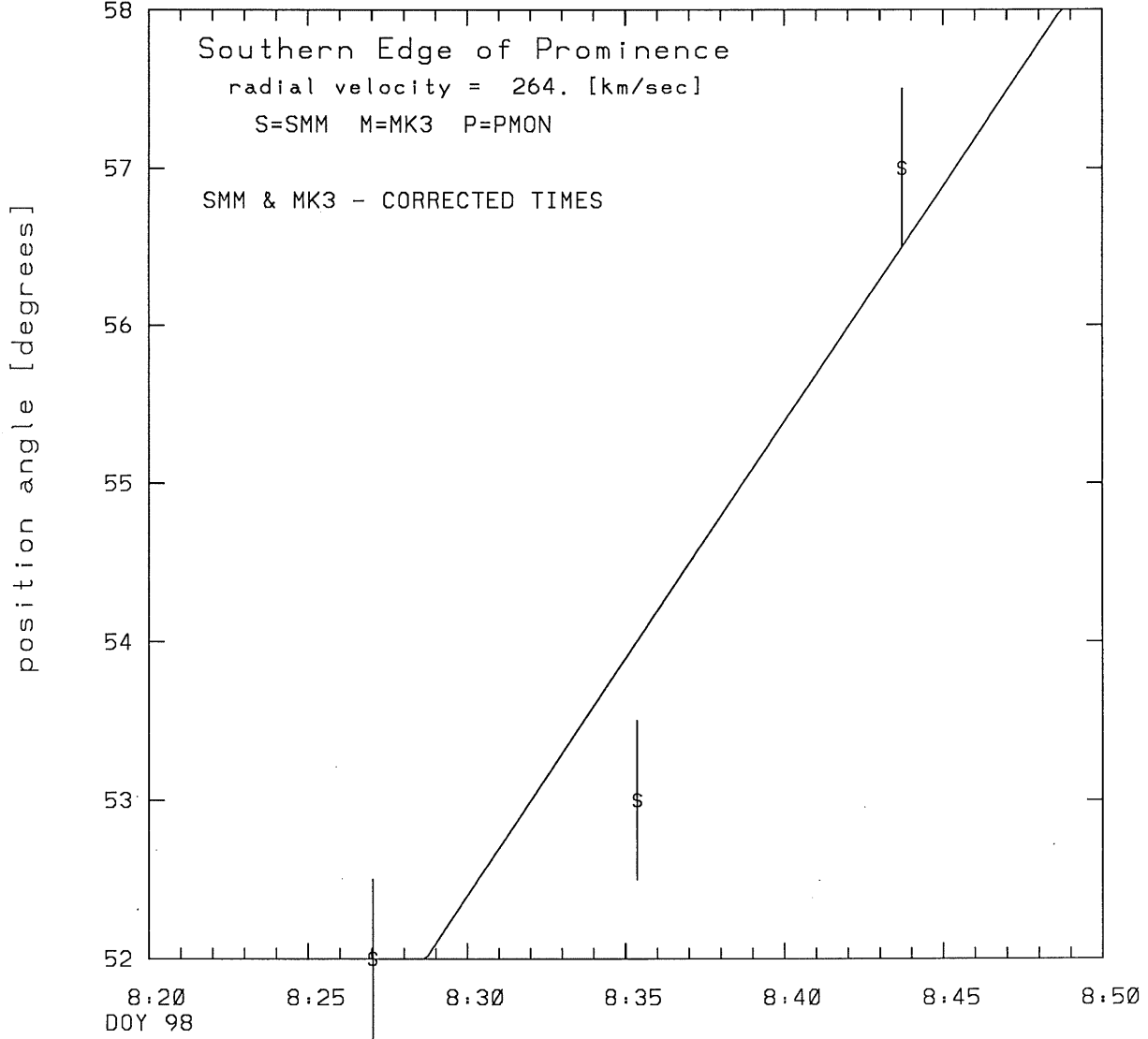
SMM C/P 1989 DOY 98 54 +/- 3 degrees



tstart=DOY 98 7:53 +/- 0.4 [min.]
radial velocity= 264. +/- 6. [km/sec]

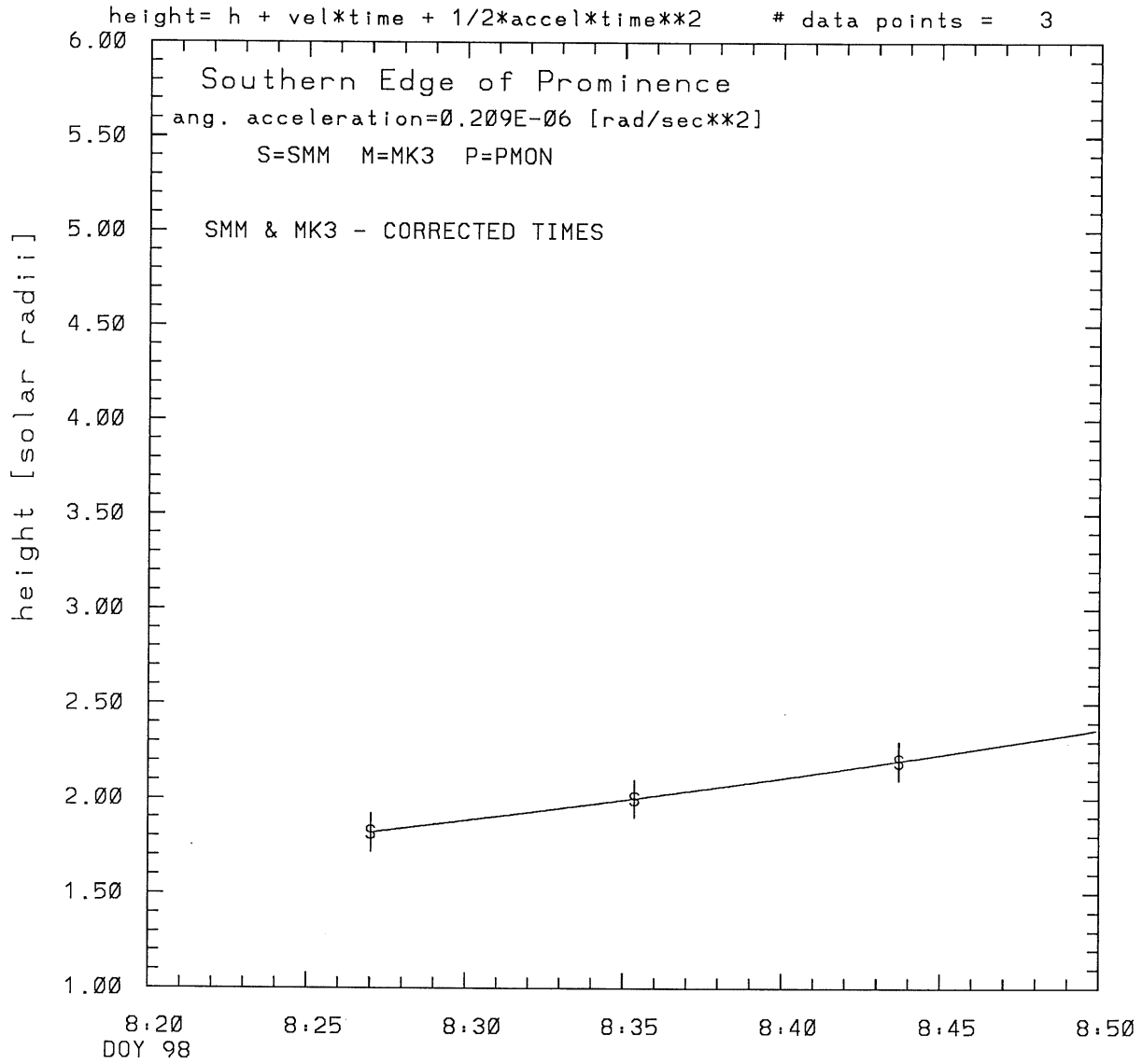
SMM C/P 1989 DOY 98 54 +/- 3 degrees

angle= initial angle + angular velocity*time # data points = 3



angular velocity=0.872E-04 +/- 0.214E-04 [rad/sec]

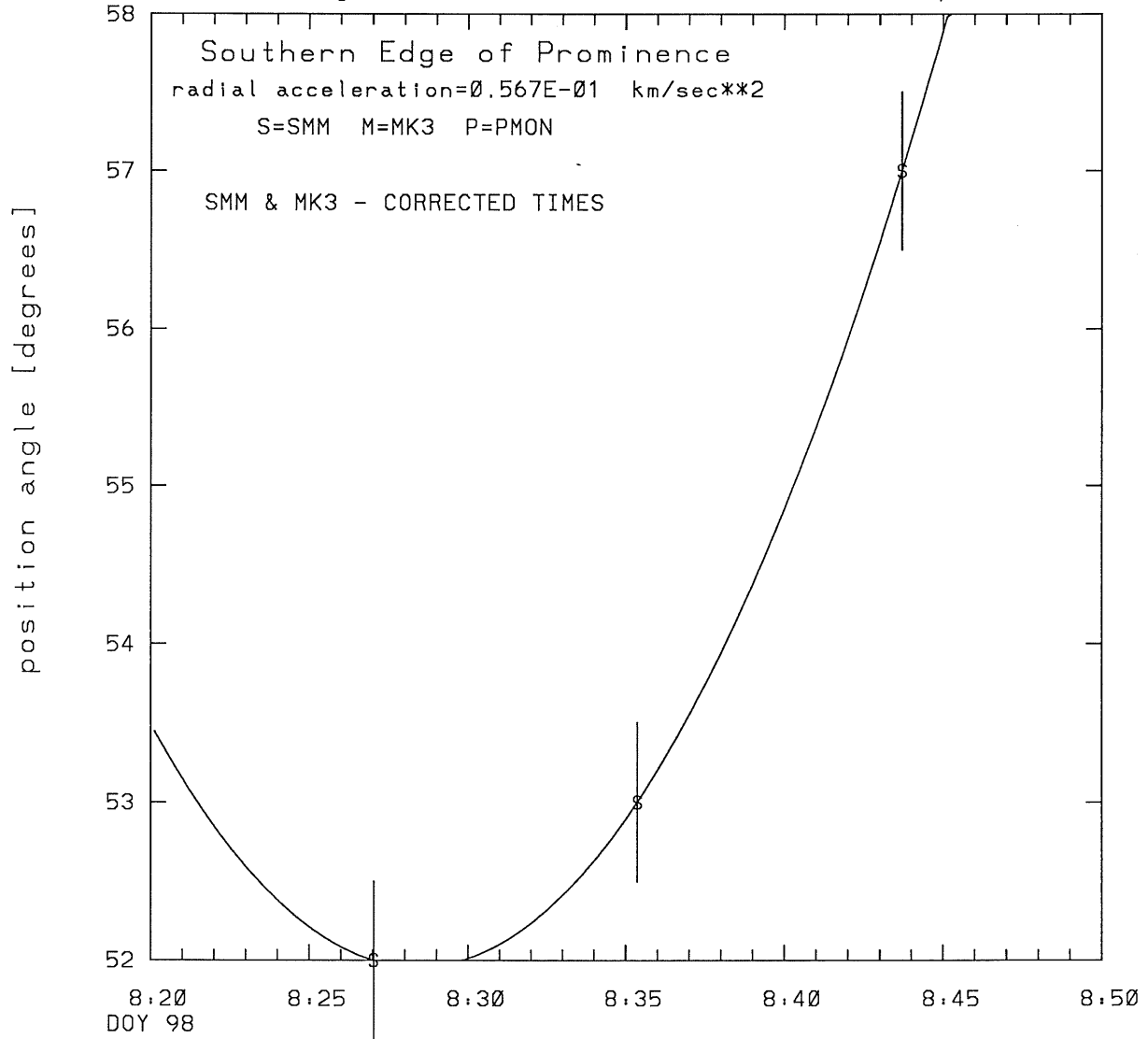
SMM C/P 1989 DOY 98 54 +/- 3 degrees



tstart=DOY 98 7.18 from derivative=0
Event begins at 1.12 Solar Radii
radial acceleration = 0.0567 ± 0.0001 [km/sec**2]

SMM C/P 1989 DOY 98 54 +/- 3 degrees

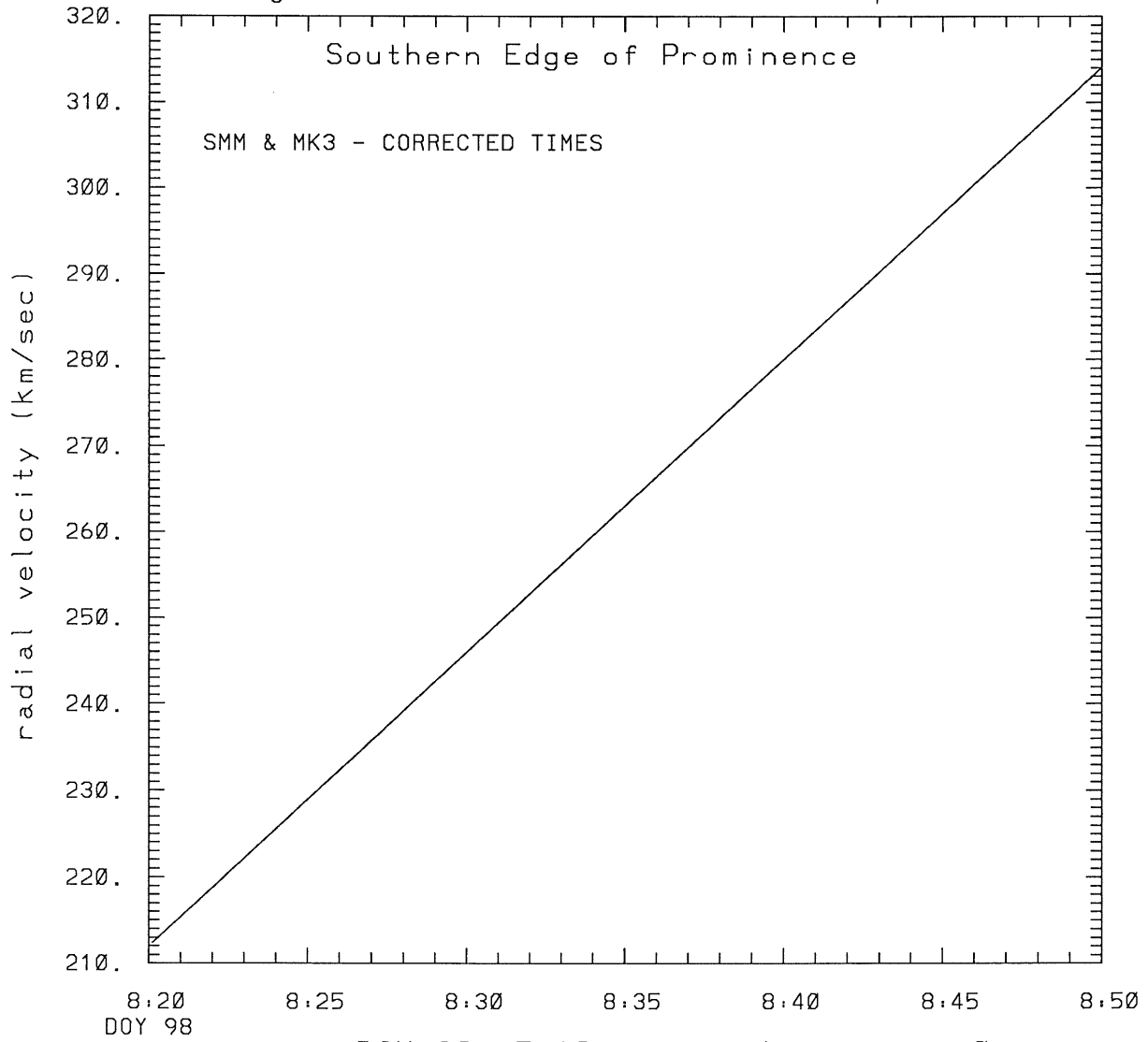
angle= initial angle + angular velocity*time
+ 1/2 angular acceleration*time**2 # data points = 3



Event begins at 1.12 Solar Radii
angular acceleration=0.209E-06 +/- 0.921E-12 [rad/sec**2]

SMM C/P 1989 DOY 98 54 +/- 3 degrees

+ 1/2 angular acceleration*time**2 # data points = 3

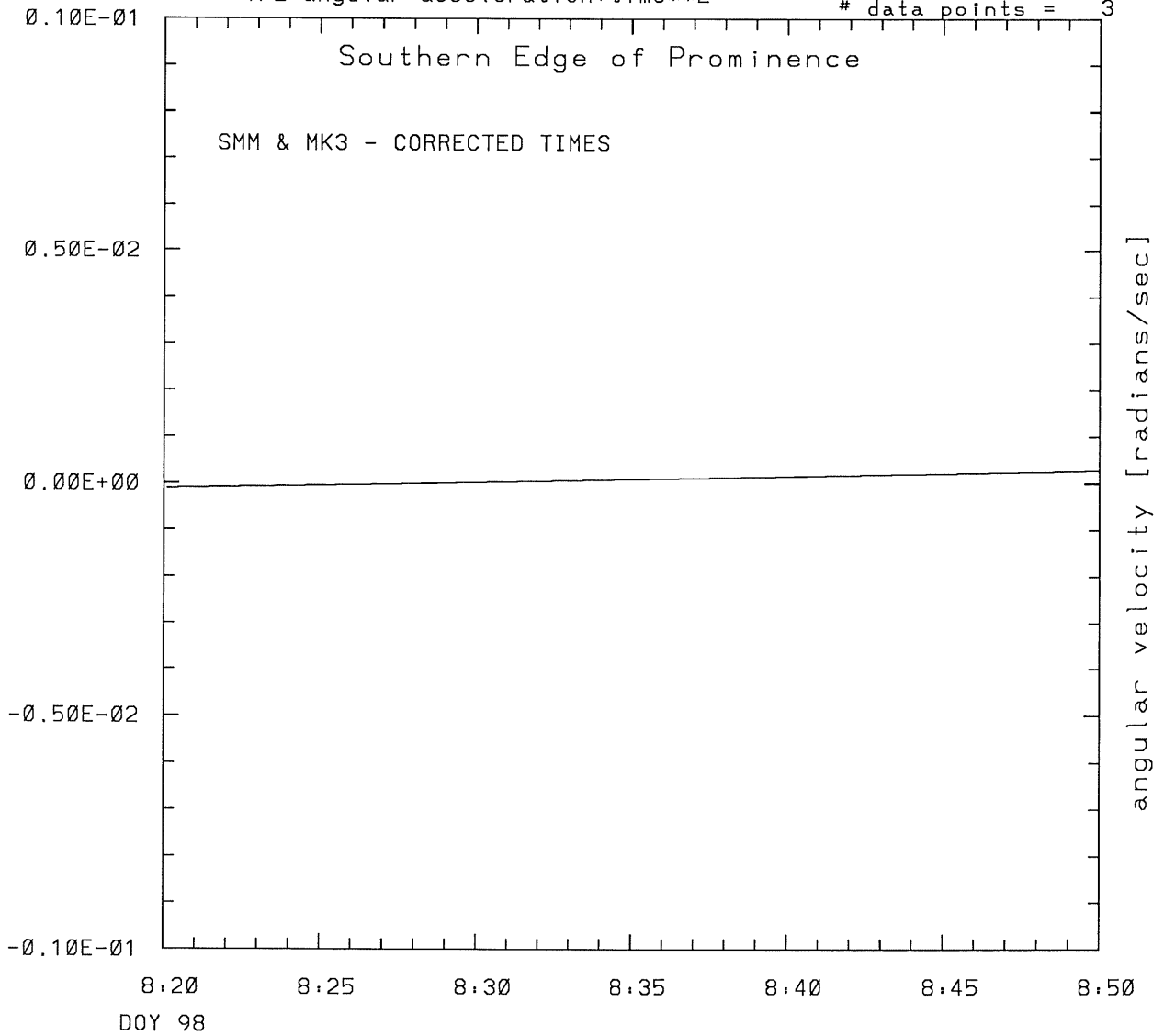


tstart=DOY 98 7:18 from derivative=0
Event begins at 1.12 Solar Radii
radial acceleration=0.567E-01 km/sec**2

SMM C/P 1989 DOY 98 54 +/- 3 degrees

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

data points = 3



angular acceleration = $0.209E-06$ +/- $0.921E-12$ [rad/sec**2]

This is a 1 order run

INPUT:

year	day	time	radii	radius	error in angle	error in angle	datatype
1989	98	8:27: 1	1.82 +/-	0.10	52.0 +/-	0.5	SMM
1989	98	8:35:22	2.00 +/-	0.10	53.0 +/-	0.5	SMM
1989	98	8:43:42	2.20 +/-	0.10	57.0 +/-	0.5	SMM

Structure being measured:
Southern edge of Prominence

OUTPUT:

START TIME:

Event began at t = 0 + -0.288E+02 +/- 0.375E+00 [minutes]
In more convenient units:
Event began at DOY 98 7:53 +/- 0.375E+00 [minutes]

Origin defined at DOY 98 8:20

RADIAL INFORMATION:

RADIAL VELOCITY = 264. +/- 6. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.166E+01 +/- 0.838E-02 [solar radii]
c(2) = 0.228E-01 +/- 0.499E-03 [radii/min]
c(2) = 0.264E+03 +/- 0.578E+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) = 0.11851E-01 [radii] see Bevington pg. 114
error in c(2) = 0.70527E-03 [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = 0.8716E-04 +/- 0.2139E-04 [radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 49. +/- 1. [degrees]
a(2) = 0.300E+00 +/- 0.735E-01 [degrees/min]
a(2) = 0.872E-04 +/- 0.214E-04 [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 TANGENTIAL, RADIAL AND TOTAL SPEEDS AT EACH DATA POINT ARE:

The TANGENTIAL velocity at 8:27 = 110. km/sec

The RADIAL velocity at 8:27 = 264. km/sec

The TOTAL velocity at 8:27 = 286. km/sec

The TANGENTIAL velocity at 8:35 = 121. km /sec

The RADIAL velocity at 8:35 = 264. km/sec

The TOTAL velocity at 8:35 = 291. km/sec

The TANGENTIAL velocity at 8:43 = 133. km /sec

The RADIAL velocity at 8:43 = 264. km/sec

The TOTAL velocity at 8:43 = 296. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.19

Standard Deviation in start time measurement = 0.681E+01

Error in time = 0.36528E+00 using best fit method

See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.346E-04

Reduced Chi Squared = 0.138E-03

Chi Squared = 0.138E-03

The probability for exceeding chi square = 0.995E+00

The correlation coefficient = 0.100E+01

The probability that no LINEAR correlation exists between the variables = 0.19361

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

This is a 2 order run

INPUT:

year	day	time	radii	radius	error in angle	error in angle	datatype
1989	98	8:27: 1	1.82 +/-	0.10	52.0 +/-	0.5	SMM
1989	98	8:35:22	2.00 +/-	0.10	53.0 +/-	0.5	SMM
1989	98	8:43:42	2.20 +/-	0.10	57.0 +/-	0.5	SMM

Structure being measured:
Southern edge of Prominence

OUTPUT:

START TIME:

tstart=DOY 98 7:18 from derivative = 0
Event begins at 1.12 Solar Radii
Origin defined at DOY 98 8:20

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.567E-01 +/- 0.683E-04 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.168E+01 +/- 0.364E-04 [solar radii]
c(2) = 0.183E-01 +/- 0.549E-05 [radii/min]
c(2) = 0.212E+03 +/- 0.637E-01 [km/sec]
c(3) = 0.147E-03 +/- 0.177E-06 [radii/min**2]
c(3) = 0.567E-01 +/- 0.683E-04 [km/sec**2]

ANGULAR INFORMATION:

ANGULAR ACCELERATION= 0.2094E-06 +/- 0.9207E-12[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 53. +/- 0. [degrees]
a(2) = -0.364E+00 +/- 0.295E-05 [degrees/min]
a(2) = -0.106E-03 +/- 0.859E-09 [rad/sec]
a(3) = 0.216E-01 +/- 0.950E-07 [degrees/min**2]
a(3) = 0.209E-06 +/- 0.921E-12 [rad/sec**2]

THE TANGENTIAL, RADIAL AND TOTAL SPEEDS AT EACH DATA POINT ARE:

The TANGENTIAL velocity at 8:27 = -22. km/sec
The RADIAL velocity at 8:27 = 236. km/sec

The TOTAL velocity at 8:27 = 237. km/sec

The TANGENTIAL velocity at 8:35 = 121. km/sec
The RADIAL velocity at 8:35 = 264. km/sec

The TOTAL velocity at 8:35 = 291. km/sec

The TANGENTIAL velocity at 8:43 = 294. km/sec

The RADIAL velocity at 8:43 = 293. km/sec

The TOTAL velocity at 8:43 = 414. km/sec

The following info is for estimating goodness of the fit

Number data points = number of coefficients. No error analysis is possible.

Correlation coefficient is not computable!