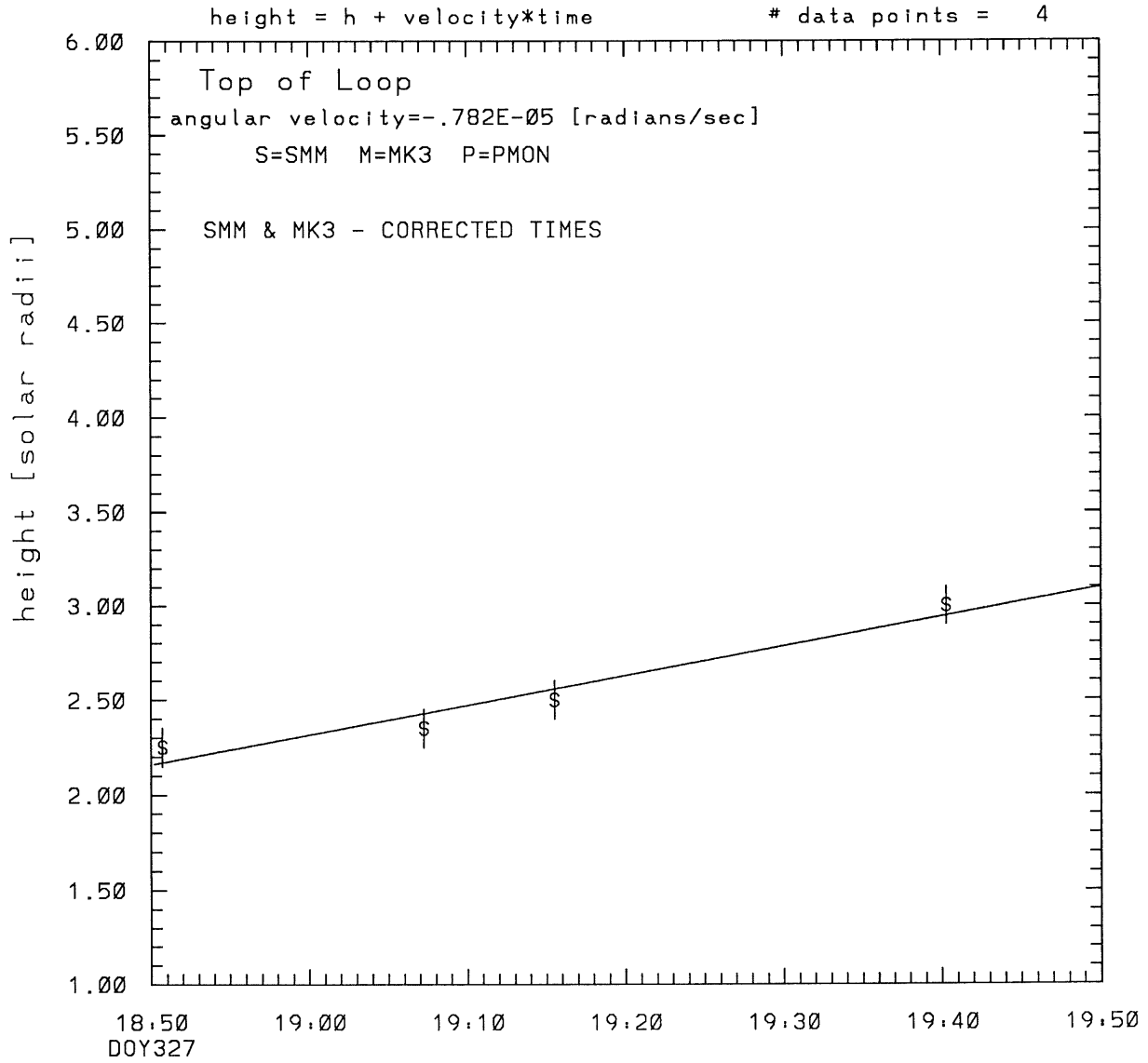


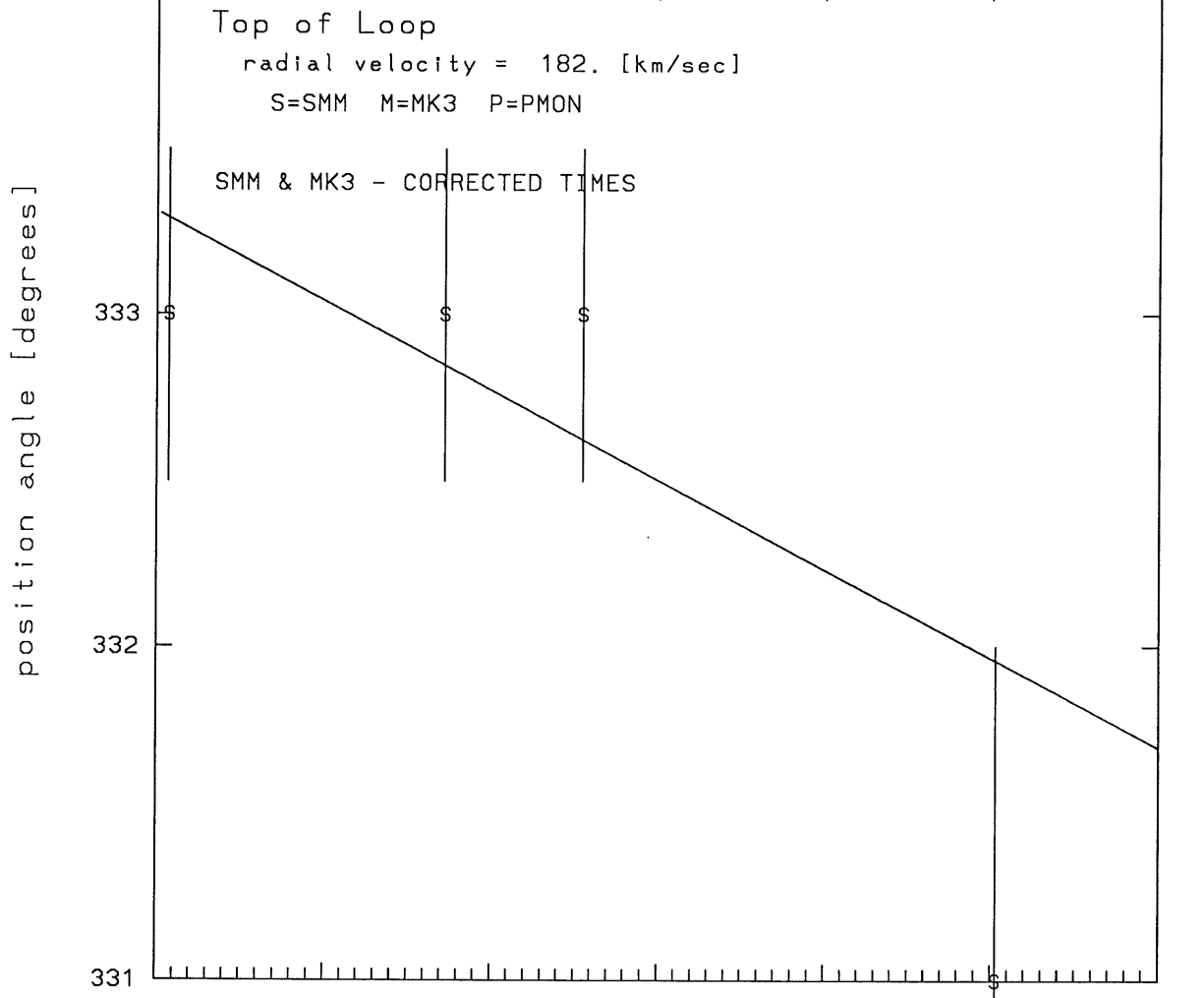
SMM C/P 1988 DOY327 332 +/- 1 degrees



tstart=DOY327 17:38 +/- 6.3 [min.]
radial velocity= 182. +/- 26. [km/sec]

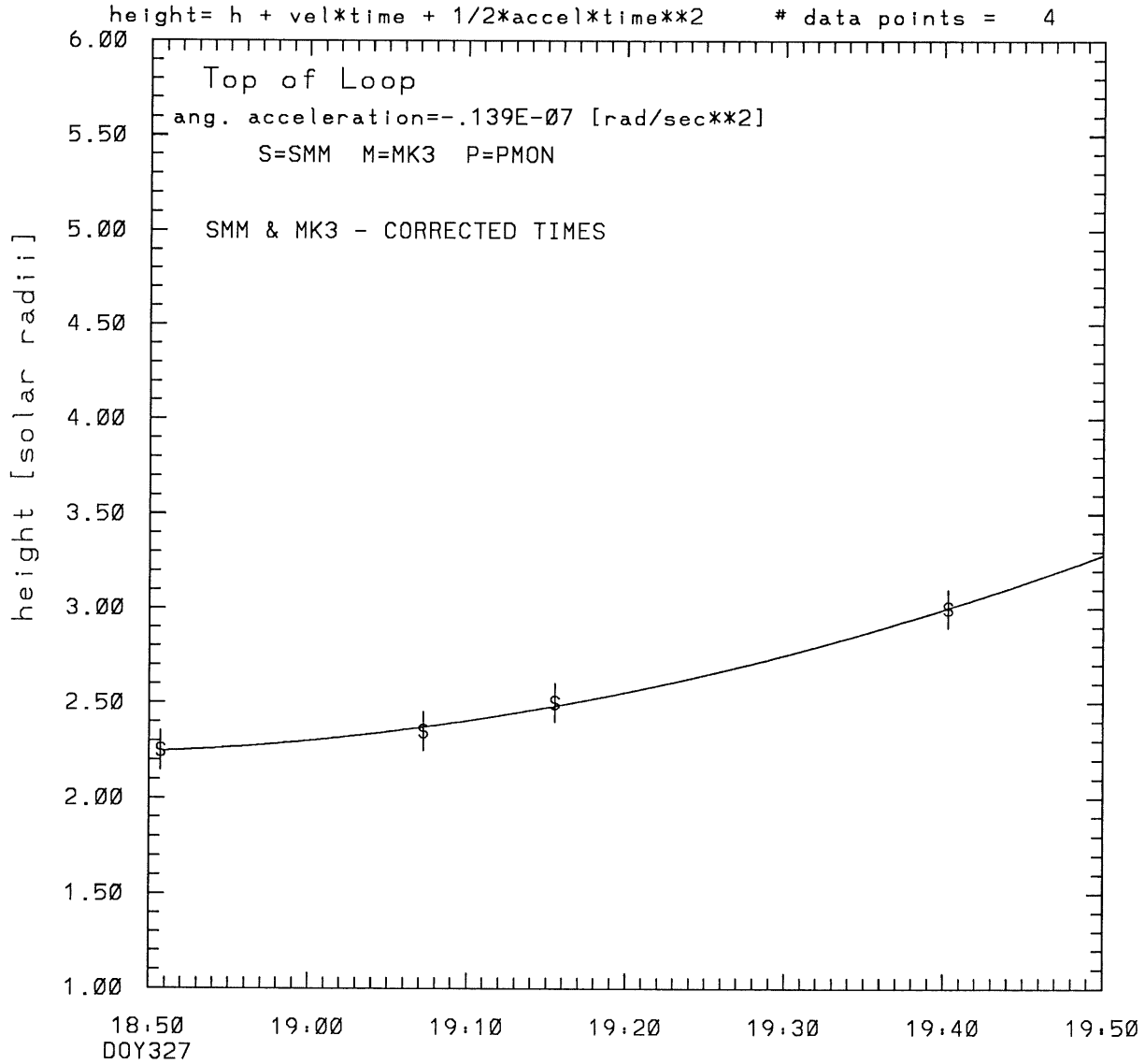
SMM C/P 1988 DOY327 332 +/- 1 degrees

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



18.50 19.00 19.10 19.20 19.30 19.40 19.50
DOY327
angular velocity = $-.782E-05 \pm 0.469E-05$ [rad/sec]

SMM C/P 1988 DOY327 332 +/- 1 degrees

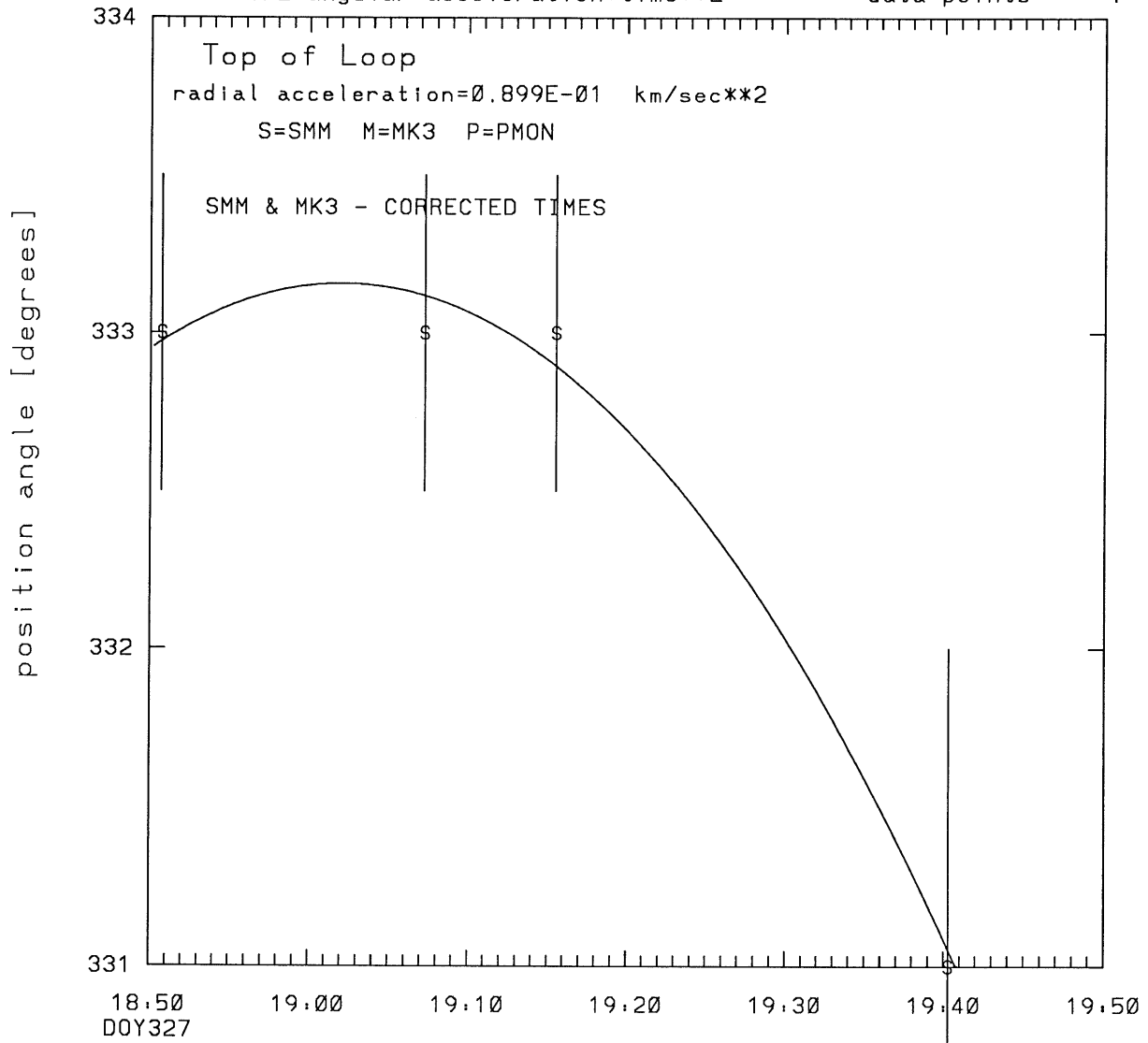


tstart=DOY327 18:43 from derivative=0
Event begins at 2.23 Solar Radii
radial acceleration = $0.0899 +/- 0.0134$ [km/sec**2]

SMM C/P 1988 DOY327 332 +/- 1 degrees

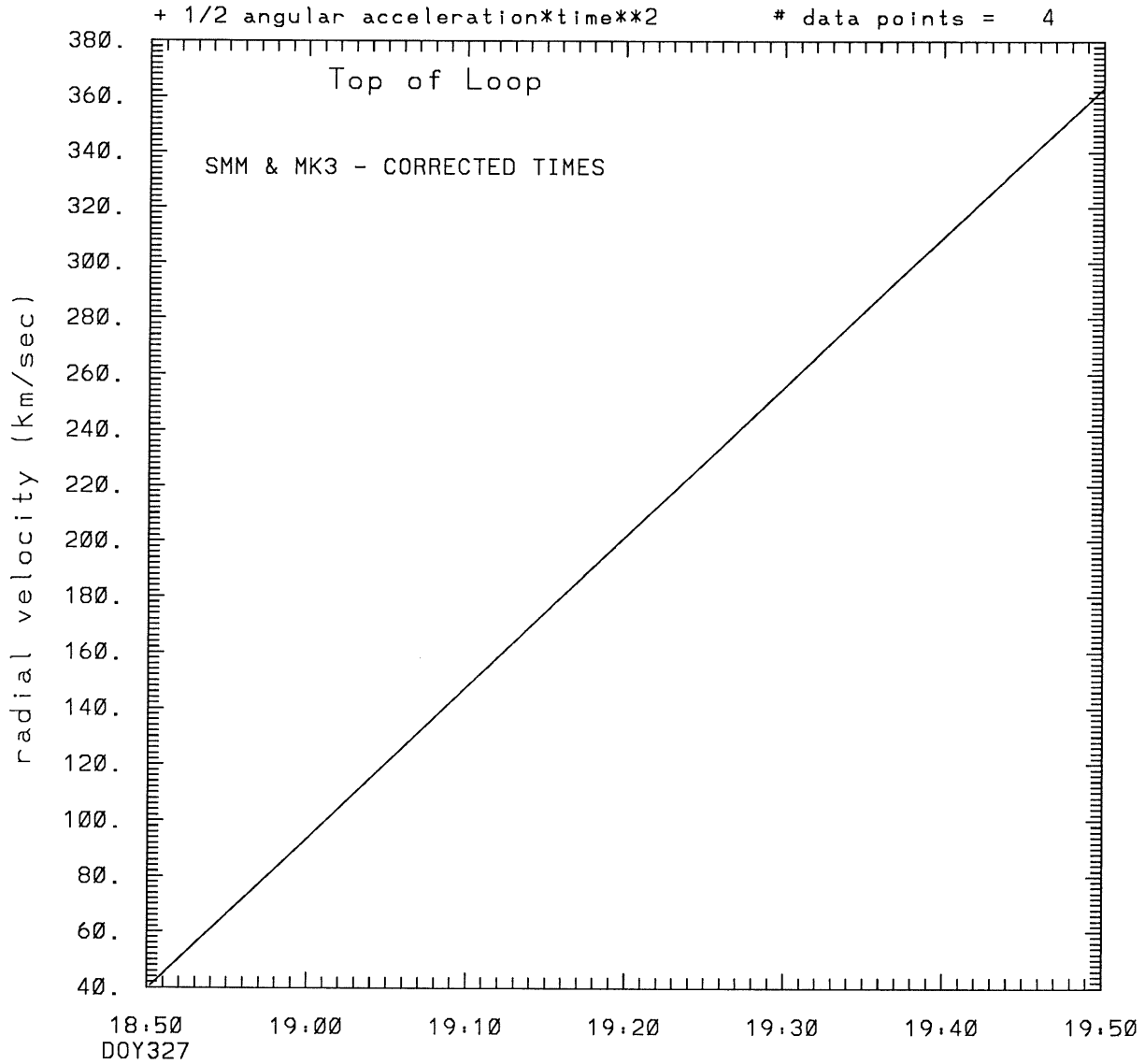
angle= initial angle + angular velocity*time
+ 1/2 angular acceleration*time**2

data points = 4



Event begins at 2.23 Solar Radii
angular acceleration=-.139E-07 +/-0.238E-08 [rad/sec**2]

SMM C/P 1988 DOY327 332 +/- 1 degrees

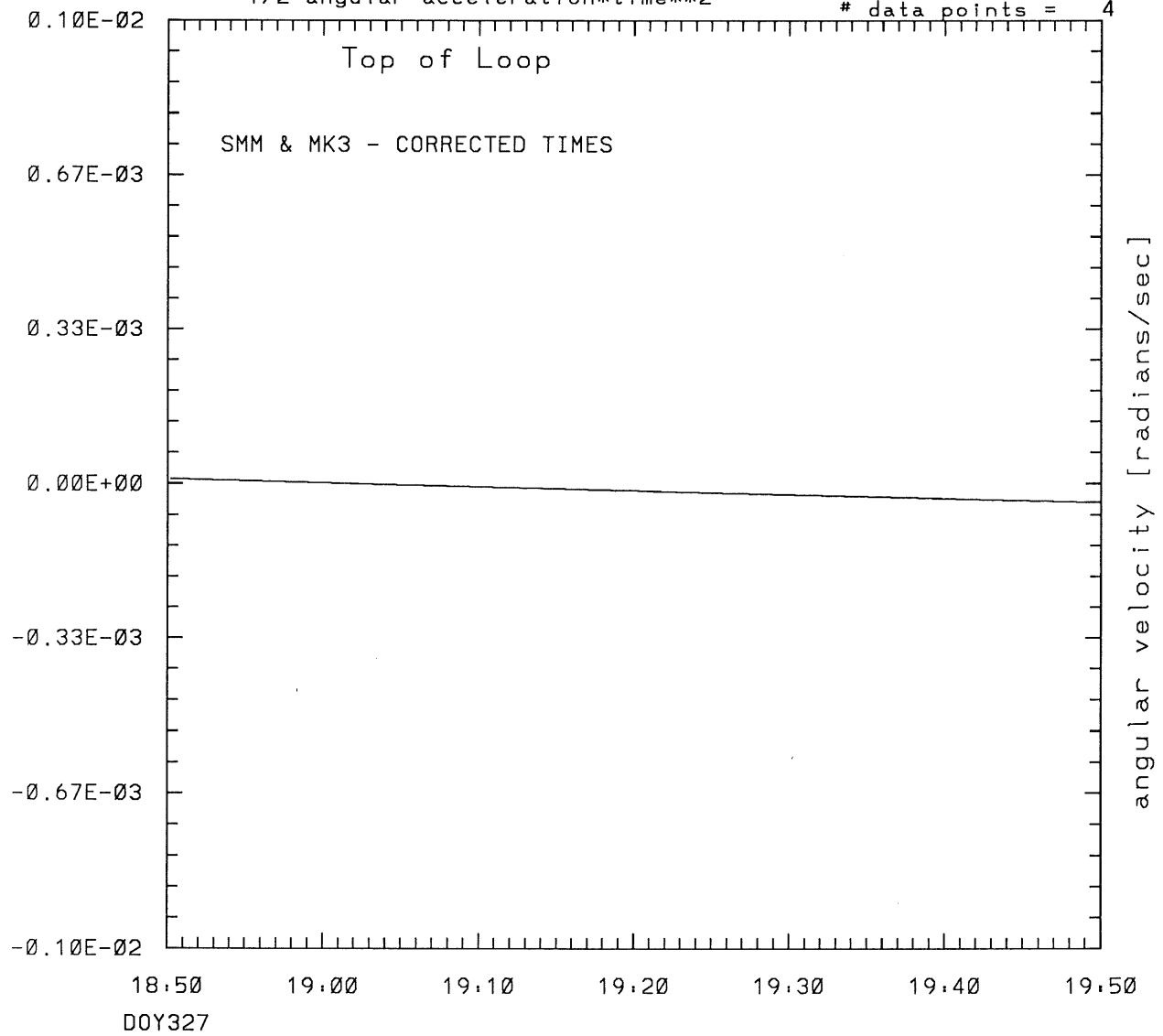


tstart=DOY327 18:43 from derivative=0
Event begins at 2.23 Solar Radii
radial acceleration=0.899E-01 km/sec**2

SMM C/P 1988 DOY327 332 +/- 1 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 = $-0.139E-07 \pm 0.238E-08$ [rad/sec**2]

This is a 1 order run

INPUT:

year	day	time	radii	radius	error in angle	error in angle	datatype
1988	327	18:50:44	2.25 +/- 0.10	333.0 +/- 0.5		SMM	
1988	327	19: 7:15	2.35 +/- 0.10	333.0 +/- 0.5		SMM	
1988	327	19:15:32	2.50 +/- 0.10	333.0 +/- 0.5		SMM	
1988	327	19:40:17	3.00 +/- 0.10	331.0 +/- 1.0		SMM	

Structure being measured:
Top of Loop

OUTPUT:

START TIME:

Event began at t = 0 + -0.739E+02 +/- 0.628E+01 [minutes]
In more convenient units:
Event began at DOY 327 17:38 +/- 0.628E+01 [minutes]

Origin defined at DOY327 18:50

RADIAL INFORMATION:

RADIAL VELOCITY = 182. +/- 26. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.216E+01 +/- 0.655E-01 [solar radii]
c(2) = 0.157E-01 +/- 0.222E-02 [radii/min]
c(2) = 0.182E+03 +/- 0.258E+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)= 0.80187E-01 [radii] see Bevington pg. 114
error in c(2)= 0.27192E-02 [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = -0.7821E-05 +/- 0.4691E-05[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 333. +/- 0. [degrees]
a(2) = -0.269E-01 +/- 0.161E-01 [degrees/min]
a(2) = -0.782E-05 +/- 0.469E-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 18:50 = 182. km/sec

The RADIAL velocity at 19: 7 = 182. km/sec

The RADIAL velocity at 19:15 = 182. km/sec

The RADIAL velocity at 19:40 = 182. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.33
Standard Deviation in start time measurement = 0.179E+02
Error in time = 0.87820E+01 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.630E-02
Reduced Chi Squared = 0.203E-01
Chi Squared = 0.406E-01
The probability for exceeding chi square = 0.994E+00

The correlation coefficient = 0.971E+00
The probability that no LINEAR correlation exists between the variables = 0.28851
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	327	18:50:44	2.25 +/- 0.10	333.0 +/- 0.5			SMM
1988	327	19: 7:15	2.35 +/- 0.10	333.0 +/- 0.5			SMM
1988	327	19:15:32	2.50 +/- 0.10	333.0 +/- 0.5			SMM
1988	327	19:40:17	3.00 +/- 0.10	331.0 +/- 1.0			SMM

Structure being measured:
Top of Loop

OUTPUT:

START TIME:

tstart=DOY327 18:43 from derivative = 0
Event begins at 2.23 Solar Radii
Origin defined at DOY327 18:50

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.899E-01 +/- 0.134E-01 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.224E+01 +/- 0.208E-01 [solar radii]
c(2) = 0.341E-02 +/- 0.191E-02 [radii/min]
c(2) = 0.396E+02 +/- 0.221E+02 [km/sec]
c(3) = 0.233E-03 +/- 0.346E-04 [radii/min**2]
c(3) = 0.899E-01 +/- 0.134E-01 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.29418E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.49433E-02 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.26967E-02 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.12498E-02 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.48949E-04 [radii/min**2] Bevington pg 154 (8-30)
Exact error in c(3) = 0.24137E-04 [radii/min**2] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

ANGULAR ACCELERATION= -0.1395E-07 +/- 0.2379E-08[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 333. +/- 0. [degrees]
a(2) = 0.346E-01 +/- 0.115E-01 [degrees/min]
a(2) = 0.101E-04 +/- 0.333E-05 [rad/sec]
a(3) = -0.144E-02 +/- 0.245E-03 [degrees/min**2]
a(3) = -0.139E-07 +/- 0.238E-08 [rad/sec**2]

The RADIAL velocity at 18:50 = 44. km/sec

The RADIAL velocity at 19: 7 = 133. km/sec

The RADIAL velocity at 19:15 = 177. km/sec

The RADIAL velocity at 19:40 = 311. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.33
Standard Deviation in start time measurement = 0.179E+02
Value of reduced Chi Squared returned from nllst2 = 0.401E-03
Reduced Chi Squared = 0.194E-02
Chi Squared = 0.194E-02
The probability for exceeding chi square = 0.984E+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 = 0.9711E+00
The correlation between the data and the time**2 term = 0.9969E+00
The correlation between the data and the complete equation of motion=0.9976E+00
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]