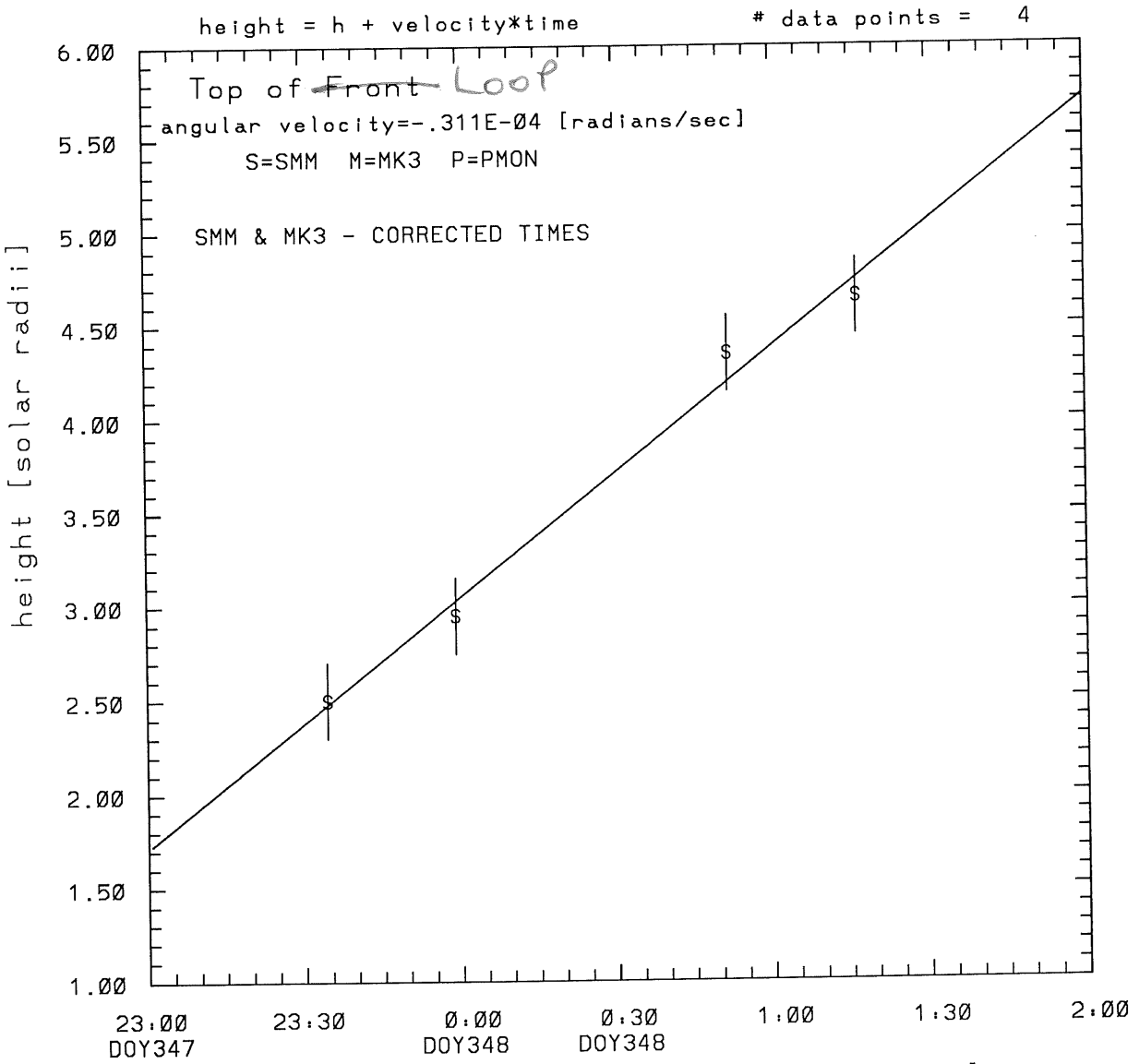


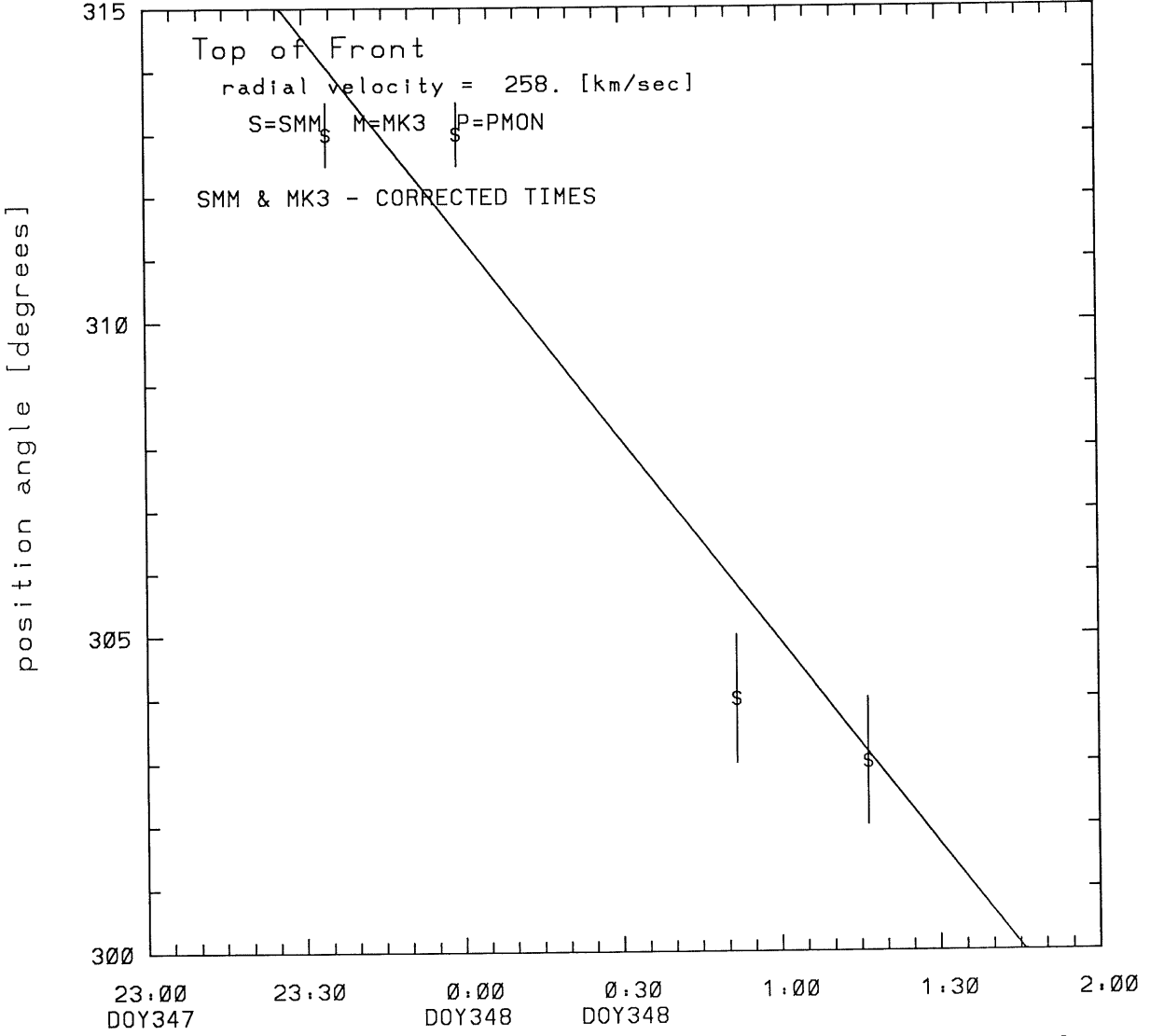
SMM C/P 1988 DOY347 308 +/- 5 degrees



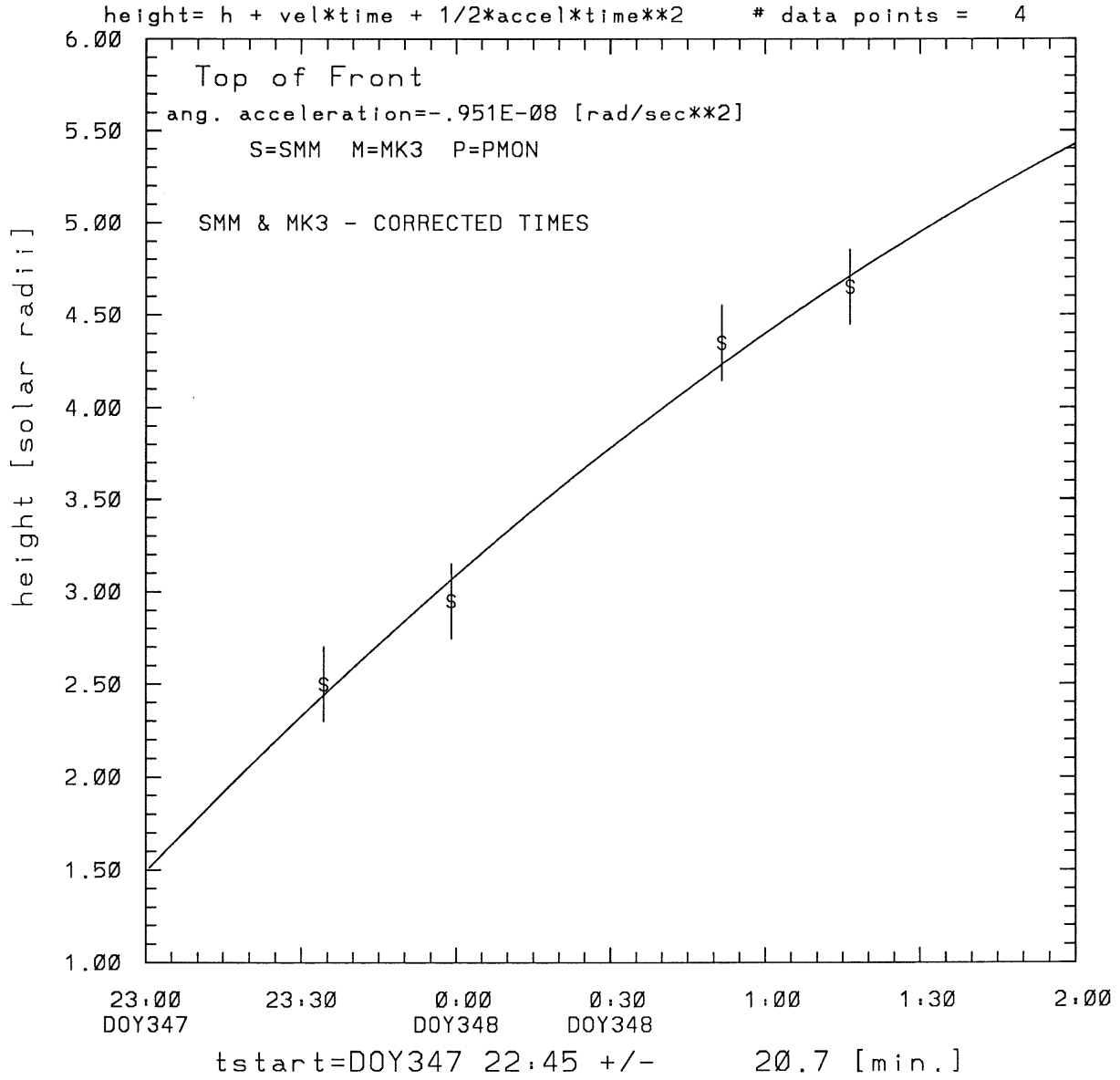
tstart=DOY347 22:28 +/- 1.0 [min.]
radial velocity= 258. +/- 16. [km/sec]

SMM C/P 1988 DOY347 308 +/- 5 degrees

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



SMM C/P 1988 DOY347 308 +/- 5 degrees

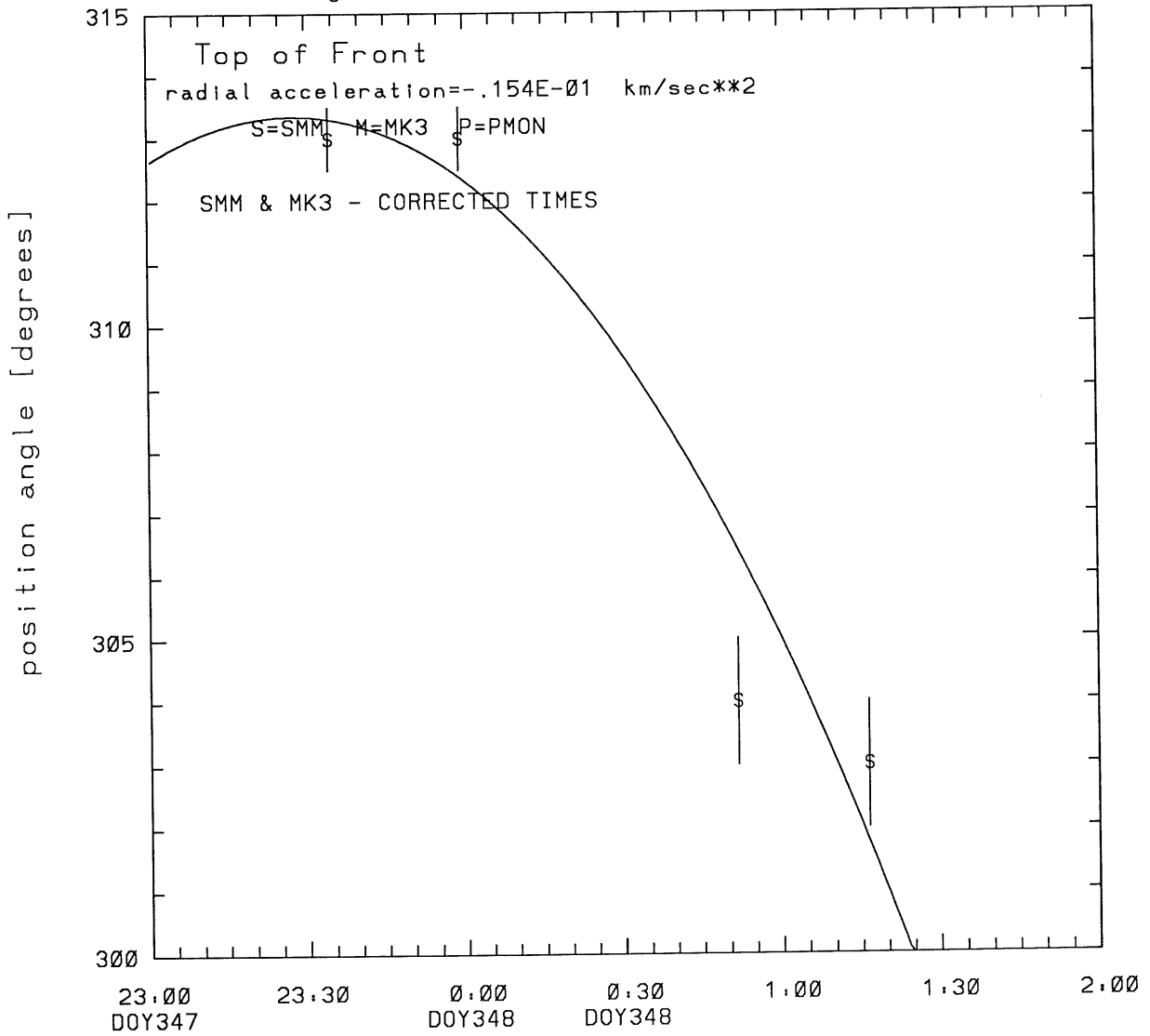


radial acceleration = $-0.0154 +/- 0.0263$ [km/sec**2]

SMM C/P 1988 DOY347 308 +/- 5 degrees

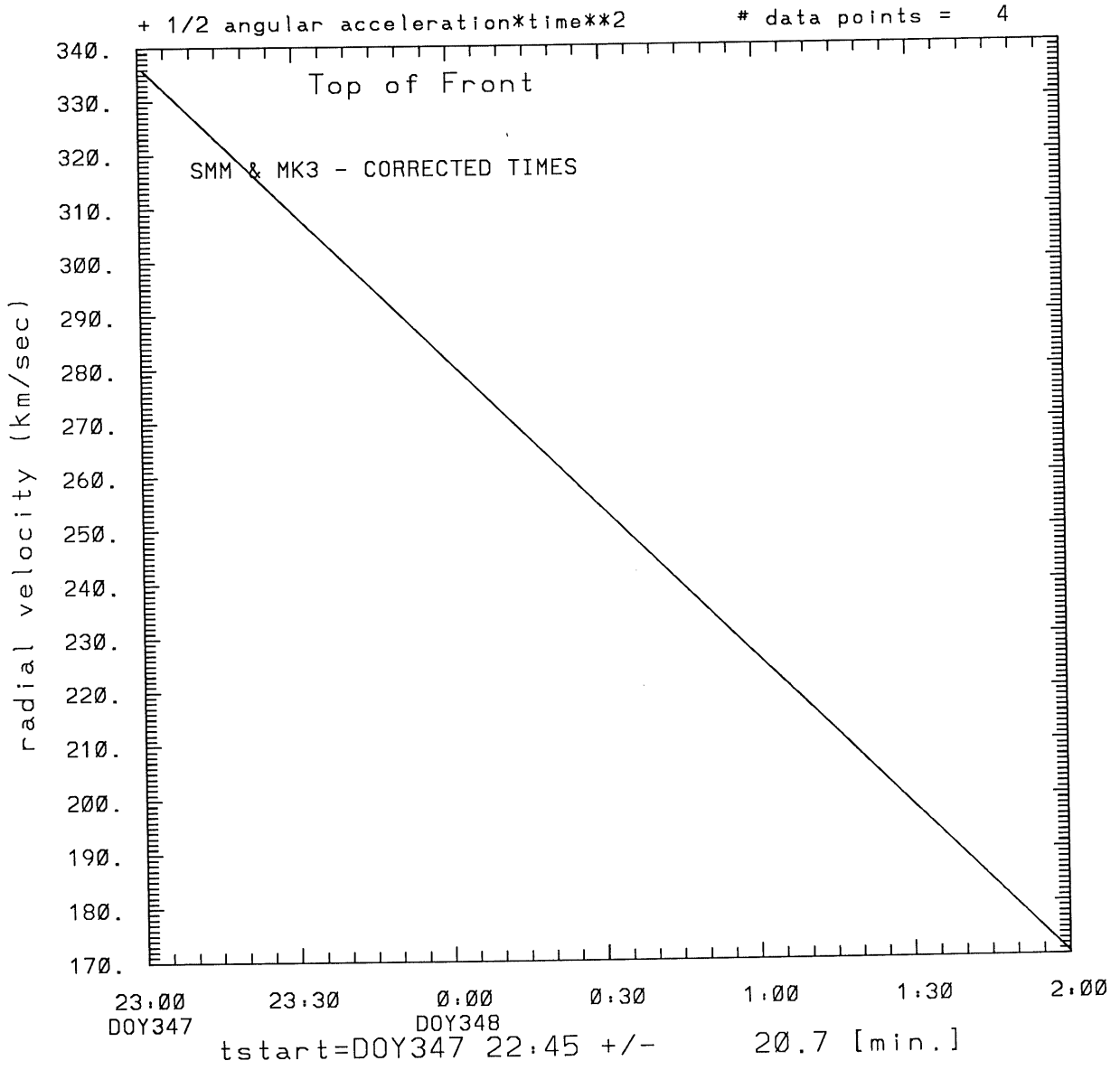
angle = initial angle + angular velocity*time
+ 1/2 angular acceleration*time**2

data points = 4



angular acceleration = $-.951E-08$ +/- $0.713E-08$ [rad/sec**2]

SMM C/P 1988 DOY347 308 +/- 5 degrees



23.00
DOY347

23.30

0.00
DOY348

0.30

1.00

1.30

2.00

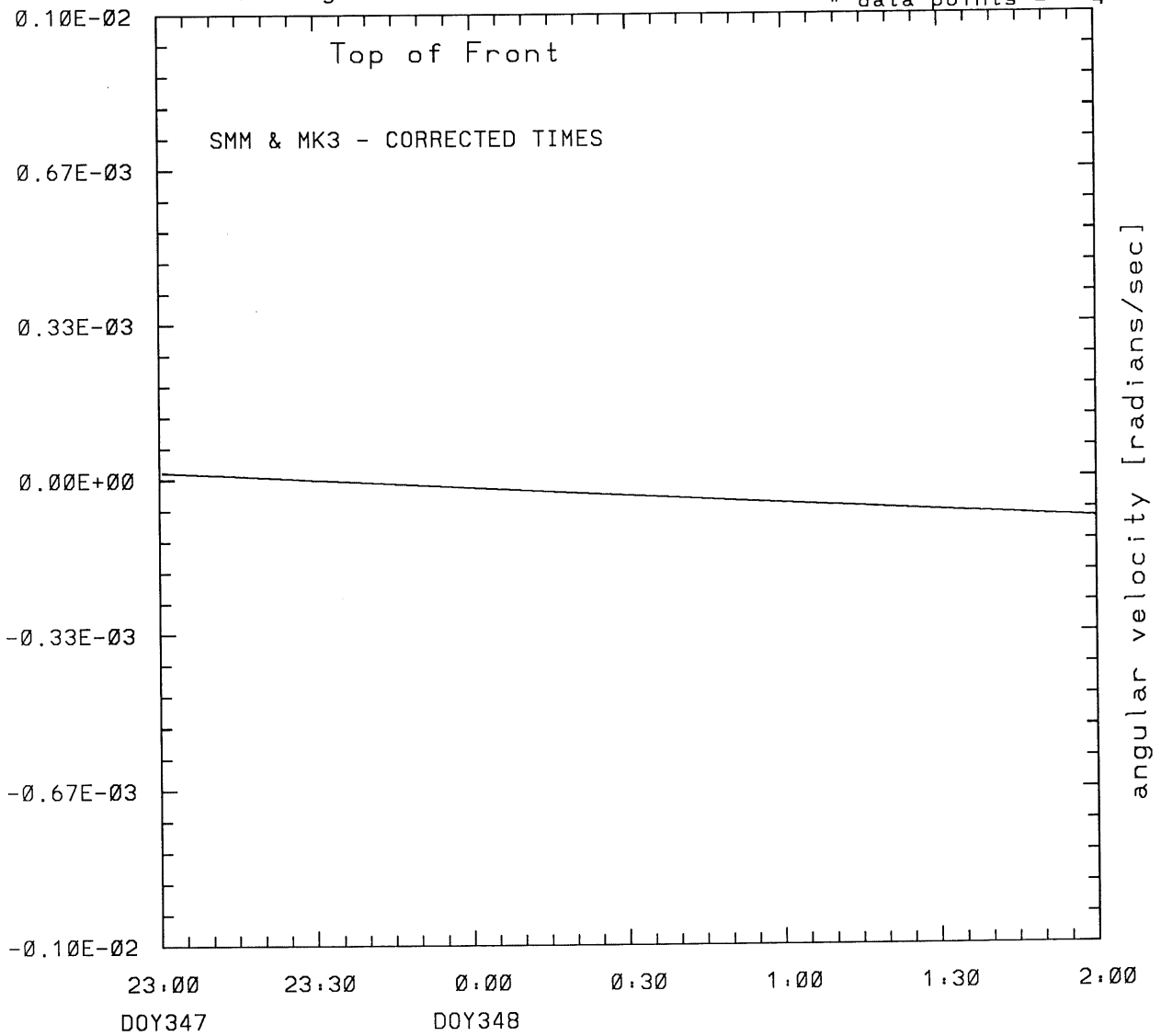
tstart=DOY347 22:45 +/- 20.7 [min.]

radial acceleration=-.154E-01 km/sec**2

SMM C/P 1988 DOY347 308 +/- 5 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 = $-.951E-08 \pm 0.713E-08$ [rad/sec**2]

This is a 1 order run

INPUT:

year	day	time	radii	radius	error in angle	error in angle	datatype
1988	347	23:34:21	2.50 +/- 0.20	313.0 +/- 0.5		SMM	
1988	347	23:59: 4	2.95 +/- 0.20	313.0 +/- 0.5		SMM	
1988	348	0:51:38	4.35 +/- 0.20	304.0 +/- 1.0		SMM	
1988	348	1:16:26	4.65 +/- 0.20	303.0 +/- 1.0		SMM	

Structure being measured:
Top of ~~Front~~ Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.322E+02 \pm 0.105E+01$ [minutes]
In more convenient units:
Event began at DOY 347 22:28 $\pm 0.105E+01$ [minutes]

Origin defined at DOY347 23: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 258. +/- 16. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.171E+01 \pm 0.134E+00$ [solar radii]
 $c(2) = 0.222E-01 \pm 0.142E-02$ [radii/min]
 $c(2) = 0.258E+03 \pm 0.164E+02$ [km/sec]
 $c(3) = 0.000E+00 \pm 0.000E+00$ [radii/min**2]
 $c(3) = 0.000E+00 \pm 0.000E+00$ [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

error in $c(1) = 0.16397E+00$ [radii] see Bevington pg. 114
error in $c(2) = 0.17345E-02$ [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = $-0.3114E-04 \pm 0.6719E-05$ [radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

$a(1) = 318. \pm 2.$ [degrees]
 $a(2) = -0.107E+00 \pm 0.231E-01$ [degrees/min]
 $a(2) = -0.311E-04 \pm 0.672E-05$ [rad/sec]
 $a(3) = 0.000E+00 \pm 0.000E+00$ [degrees/min**2]
 $a(3) = 0.000E+00 \pm 0.000E+00$ [rad/sec**2]

The RADIAL velocity at 23:34 = 258. km/sec

The RADIAL velocity at 23:59 = 258. km/sec

The RADIAL velocity at 0:51 = 258. km/sec

The RADIAL velocity at 1:16 = 258. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 1.05
Standard Deviation in start time measurement = 0.406E+02
Error in time = 0.89598E+01 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.132E-01
Reduced Chi Squared = 0.608E-01
Chi Squared = 0.122E+00
The probability for exceeding chi square = 0.987E+00

The correlation coefficient = 0.994E+00
The probability that no LINEAR correlation exists between the variables = 0.6034]
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
1988	347	23:34:21	2.50 +/- 0.20	313.0 +/- 0.5		SMM	
1988	347	23:59: 4	2.95 +/- 0.20	313.0 +/- 0.5		SMM	
1988	348	0:51:38	4.35 +/- 0.20	304.0 +/- 1.0		SMM	
1988	348	1:16:26	4.65 +/- 0.20	303.0 +/- 1.0		SMM	

Structure being measured:
Top of Front

OUTPUT:

START TIME:

Event began at t = 0 + -0.165E+02 +/- 0.207E+02 [minutes]
In more convenient units:
Event began at DOY 347 22:45 +/- 0.207E+02 [minutes]

Origin defined at DOY347 23: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = -0.154E-01 +/- 0.263E-01 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.149E+01 +/- 0.412E+00 [solar radii]
c(2) = 0.290E-01 +/- 0.117E-01 [radii/min]
c(2) = 0.337E+03 +/- 0.136E+03 [km/sec]
c(3) = -0.398E-04 +/- 0.680E-04 [radii/min**2]
c(3) = -0.154E-01 +/- 0.263E-01 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.58319E+00 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.25670E+00 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.16570E-01 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.82476E-02 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.96116E-04 [radii/min**2] Bevington pg 154 (8-30)
Exact error in c(3) = 0.48059E-04 [radii/min**2] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

ANGULAR ACCELERATION= -0.9510E-08 +/- 0.7128E-08[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 313. +/- 4. [degrees]
a(2) = 0.542E-01 +/- 0.123E+00 [degrees/min]
a(2) = 0.158E-04 +/- 0.357E-04 [rad/sec]
a(3) = -0.981E-03 +/- 0.735E-03 [degrees/min**2]
a(3) = -0.951E-08 +/- 0.713E-08 [rad/sec**2]

The RADIAL velocity at 23:34 = 305. km/sec

The RADIAL velocity at 23:59 = 282. km/sec

The RADIAL velocity at 0:51 = 234. km/sec

The RADIAL velocity at 1:16 = 211. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 1.05
Standard Deviation in start time measurement = 0.406E+02
Value of reduced Chi Squared returned from nllst2 = 0.169E-01
Reduced Chi Squared = 0.846E-01
Chi Squared = 0.846E-01
The probability for exceeding chi square = 0.896E+00

For a second order fit 3 correlation coefficients are given:

(Using equation of motion: $r = a + bt + at^2$)

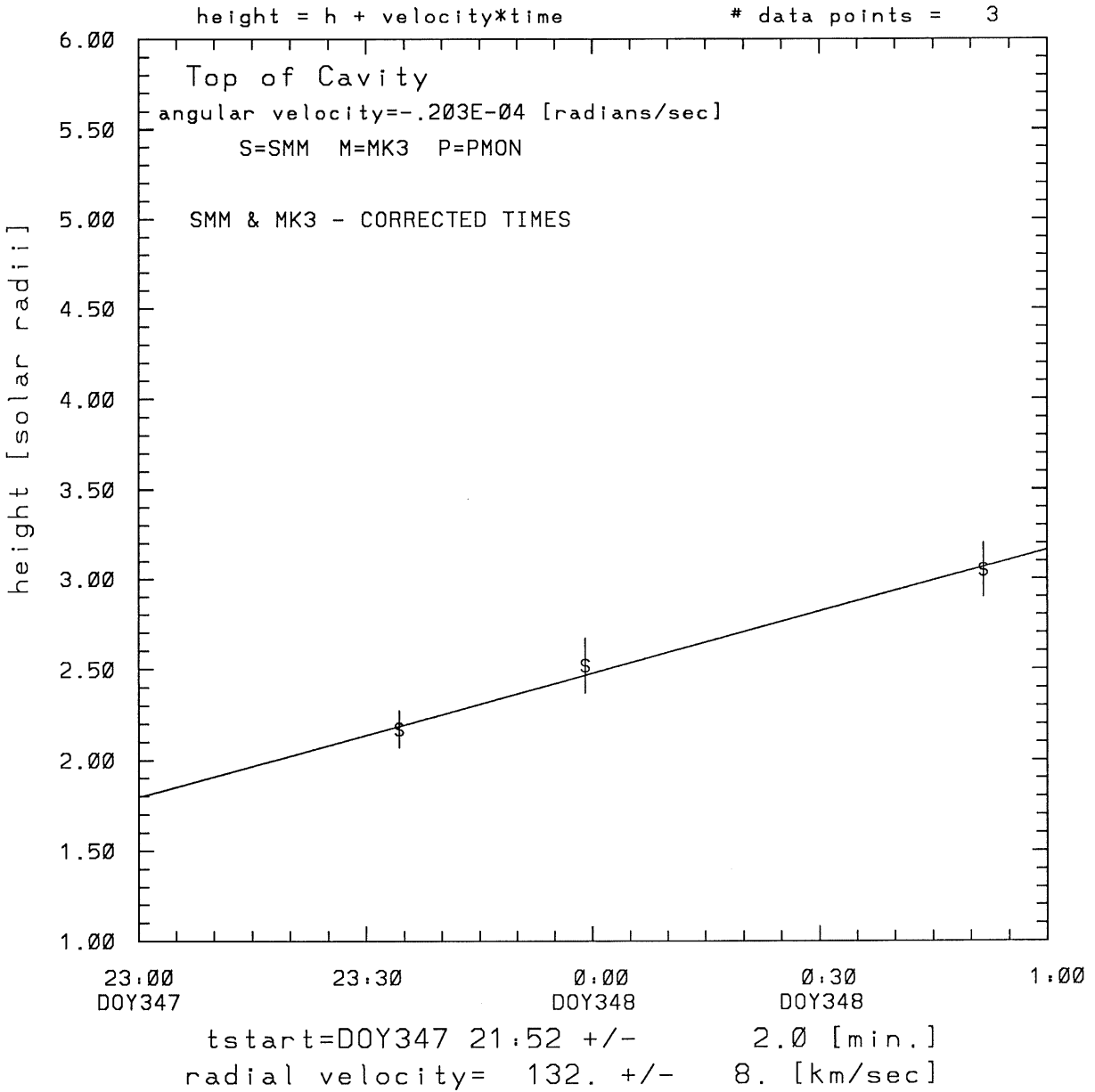
The correlation between the data and the term linear in time = 0.9940E+00

The correlation between the data and the time**2 term = 0.9789E+00

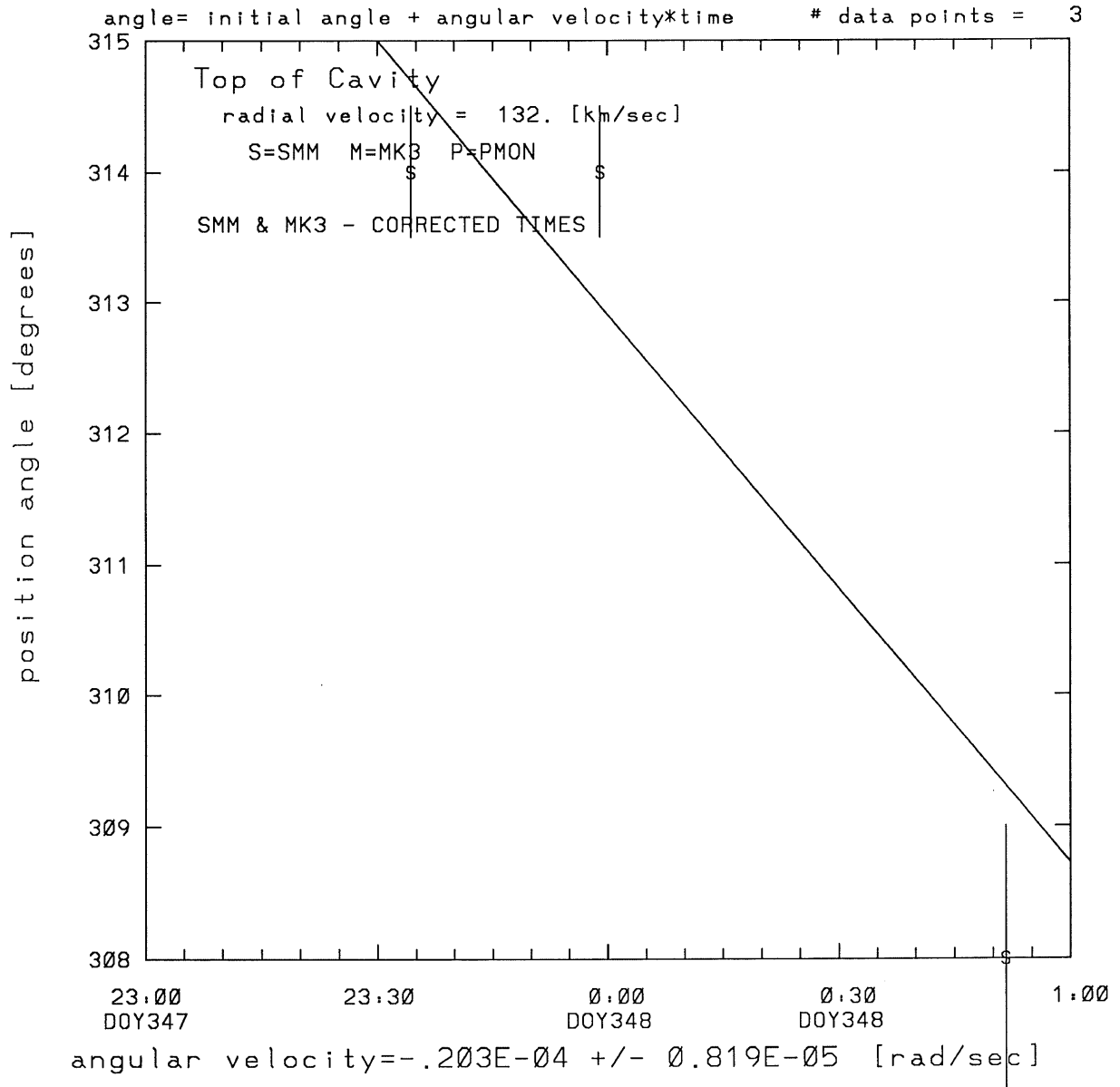
The correlation between the data and the complete equation of motion=0.9897E+00

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

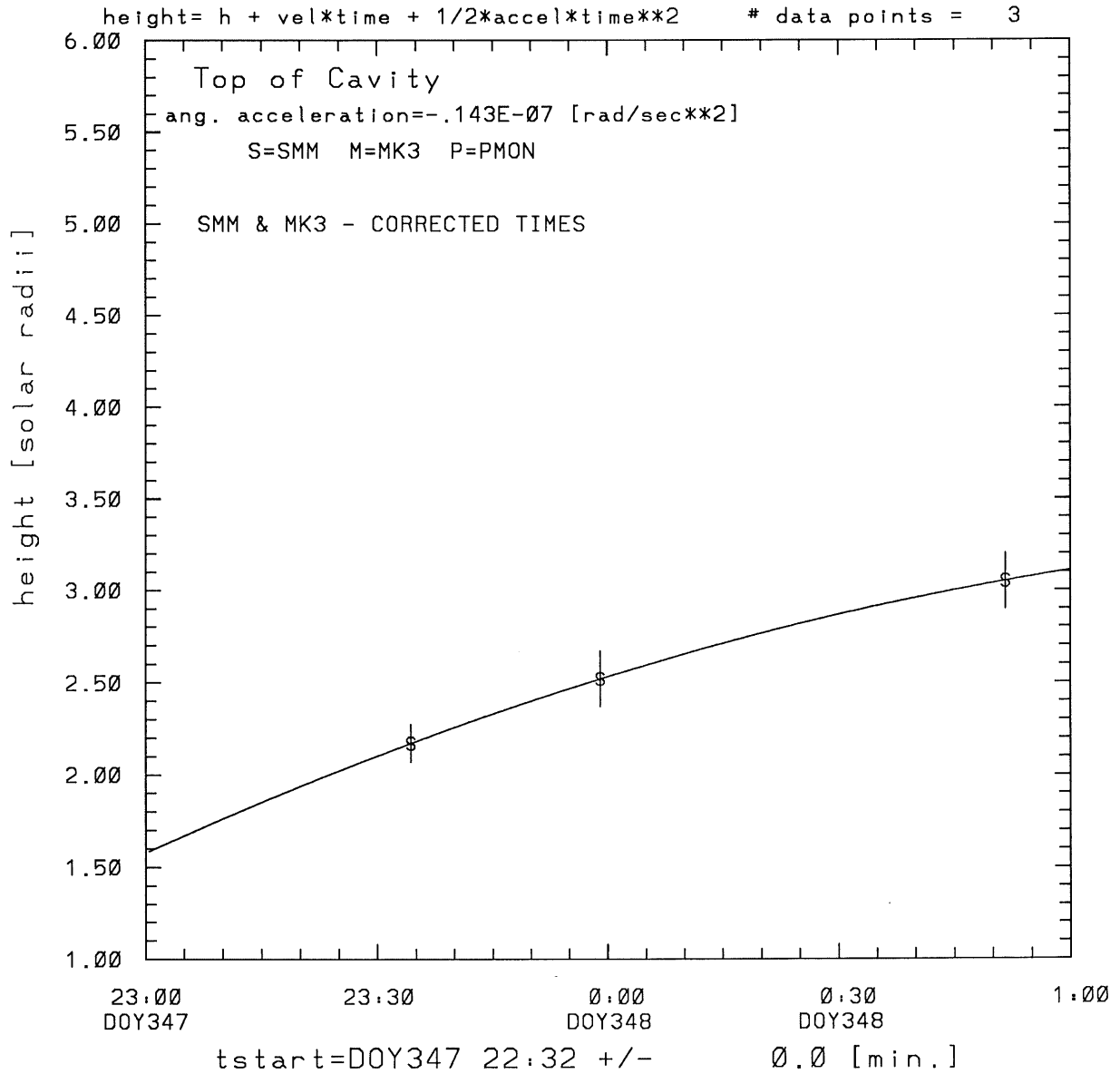
SMM C/P 1988 DOY347 312 +/- 4 degrees



SMM C/P 1988 DOY347 312 +/- 4 degrees



SMM C/P 1988 DOY347 312 +/- 4 degrees

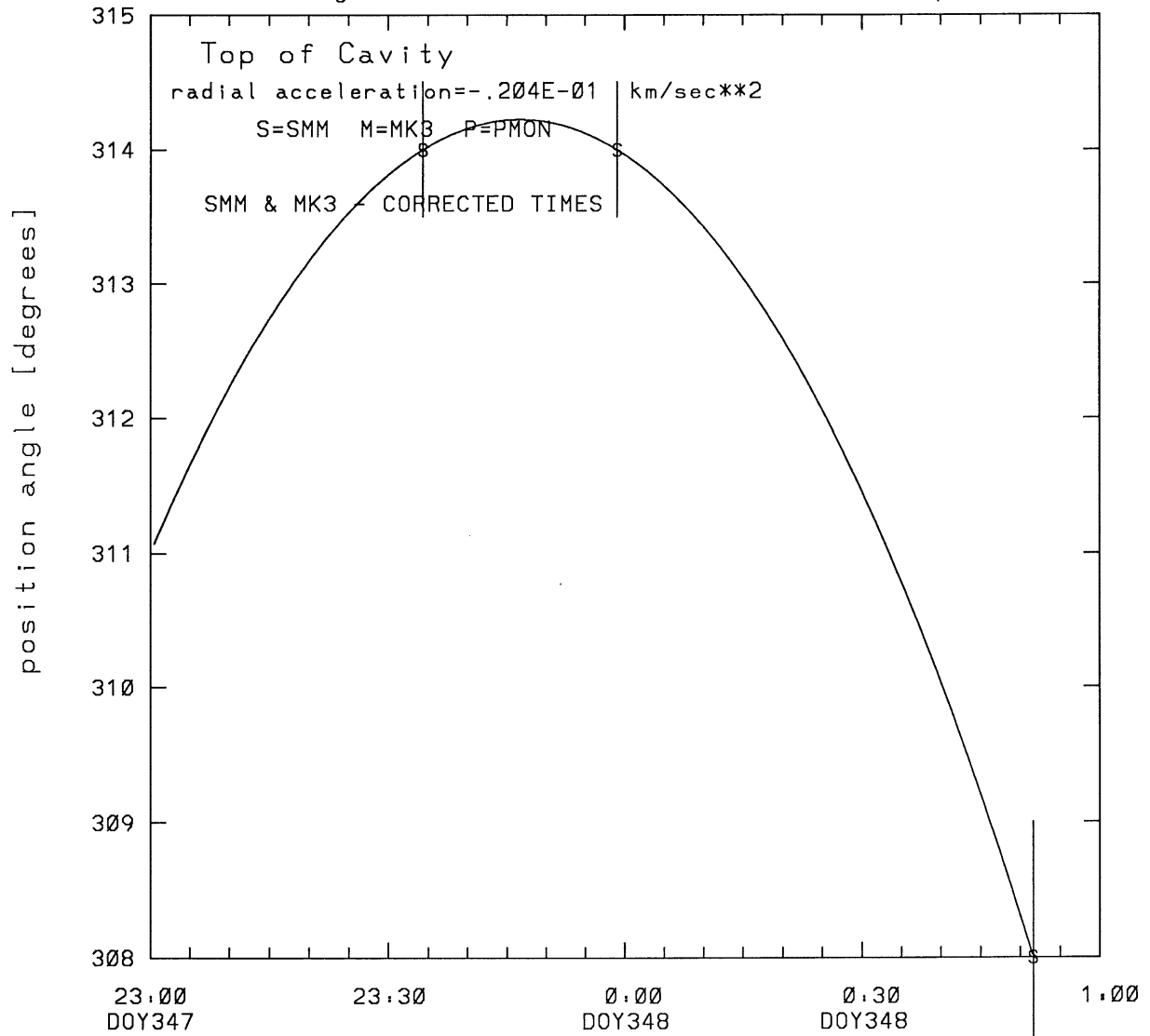


radial acceleration = $-0.0204 +/- 0.0000$ [km/sec**2]

SMM C/P 1988 DOY347 312 +/- 4 degrees

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

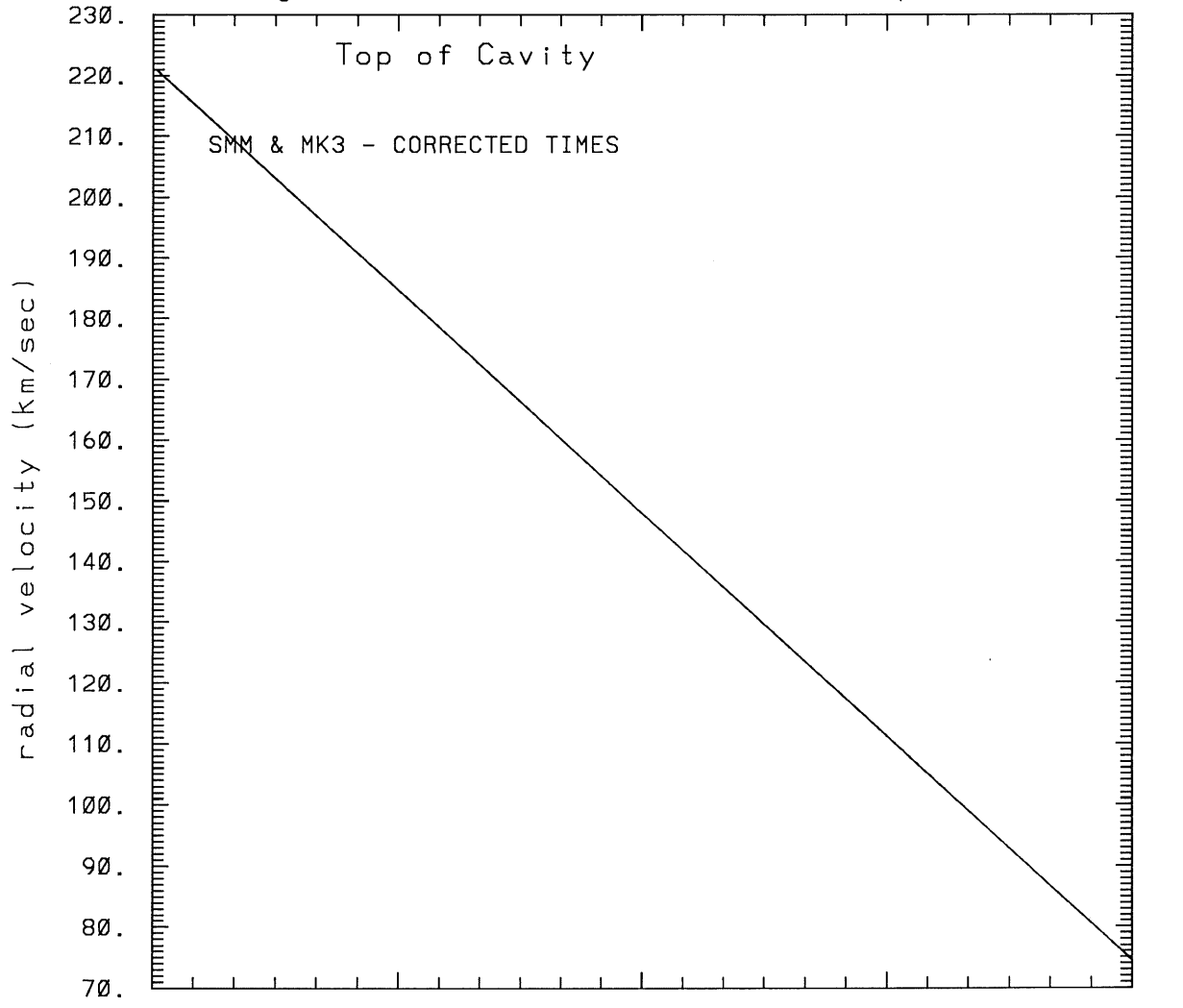
data points = 3



angular acceleration = $-.143E-07 \pm 0.270E-12$ [rad/sec**2]

SMM C/P 1988 DOY347 312 +/- 4 degrees

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



23:00
DOY347

23:30

0:00
DOY348

0:30

1:00

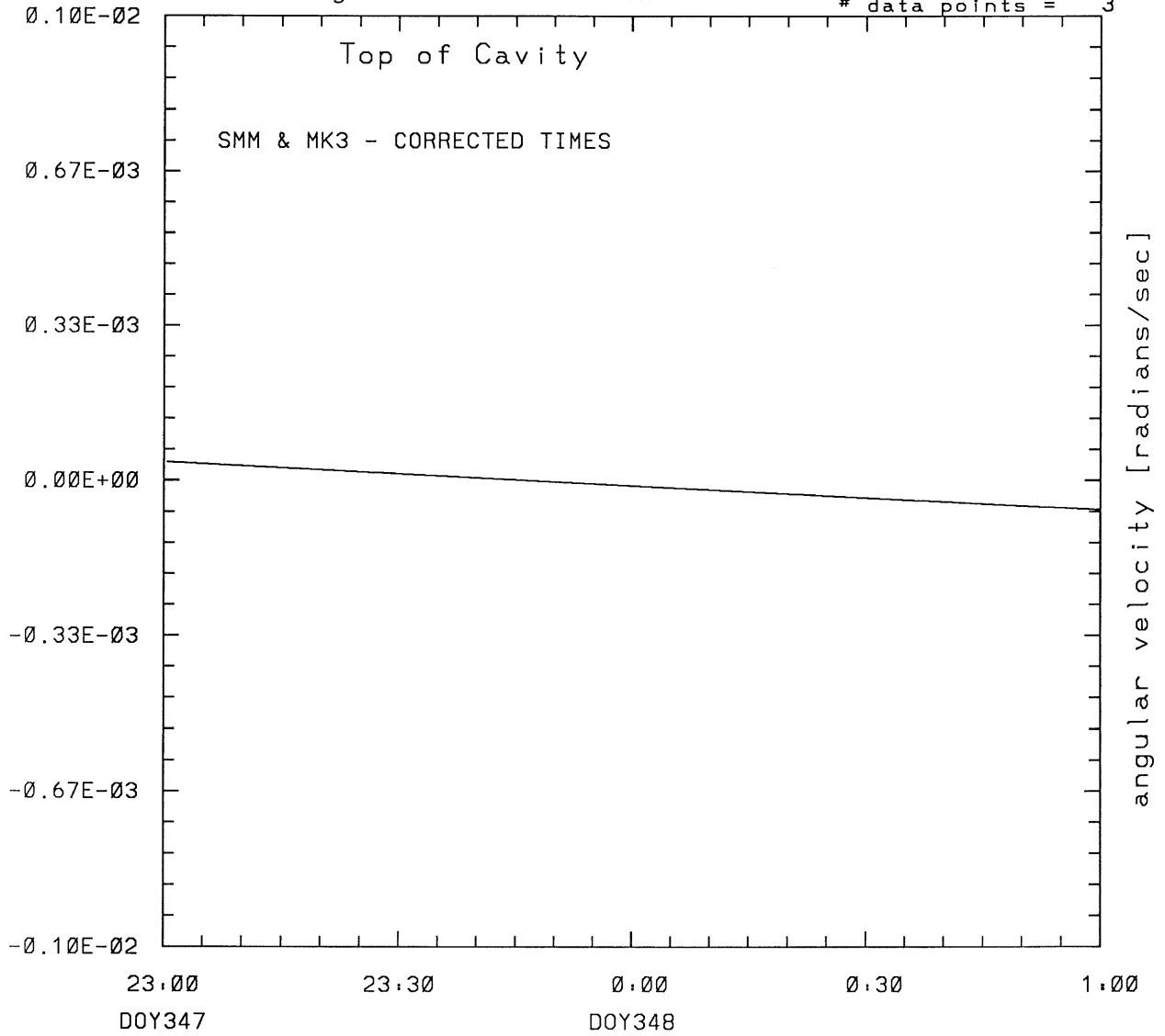
tstart=DOY347 22:32 +/- 0.0 [min.]

radial acceleration=-.204E-01 km/sec**2

SMM C/P 1988 DOY347 312 +/- 4 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 = $-.143E-07 \pm 0.270E-12$ [rad/sec**2]

This is a 1 order run

INPUT:

year	day	time	radii	radius	error in angle	error in angle	datatype
1988	347	23:34:21	2.17 +/- 0.10	314.0 +/- 0.5			SMM
1988	347	23:59: 4	2.52 +/- 0.15	314.0 +/- 0.5			SMM
1988	348	0:51:38	3.05 +/- 0.15	308.0 +/- 1.0			SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

Event began at t = 0 + -0.697E+02 +/- 0.204E+01 [minutes]
In more convenient units:
Event began at DOY 347 21:52 +/- 0.204E+01 [minutes]

Origin defined at DOY347 23: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 132. +/- 8. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.179E+01 +/- 0.436E-01 [solar radii]
c(2) = 0.114E-01 +/- 0.659E-03 [radii/min]
c(2) = 0.132E+03 +/- 0.765E+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)= 0.77533E-01 [radii] see Bevington pg. 114
error in c(2)= 0.10260E-02 [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = -0.2027E-04 +/- 0.8185E-05[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 317. +/- 2. [degrees]
a(2) = -0.697E-01 +/- 0.281E-01 [degrees/min]
a(2) = -0.203E-04 +/- 0.819E-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 23:34 = 132. km/sec

The RADIAL velocity at 23:59 = 132. km/sec

The RADIAL velocity at 0:51 = 132. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.44
Standard Deviation in start time measurement = 0.322E+02
Error in time = 0.50244E+01 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.127E-02
Reduced Chi Squared = 0.659E-02
Chi Squared = 0.659E-02
The probability for exceeding chi square = 0.972E+00

The correlation coefficient = 0.996E+00
The probability that no LINEAR correlation exists between the variables = 0.55781
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
1988	347	23:34:21	2.17 +/-	0.10	314.0 +/-	0.5	SMM
1988	347	23:59: 4	2.52 +/-	0.15	314.0 +/-	0.5	SMM
1988	348	0:51:38	3.05 +/-	0.15	308.0 +/-	1.0	SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

Event began at t = 0 + -0.280E+02 +/- 0.000E+00 [minutes]
In more convenient units:
Event began at DOY 347 22:32 +/- 0.000E+00 [minutes]
Origin defined at DOY347 23: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = -0.204E-01 +/- 0.000E+00 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.158E+01 +/- 0.000E+00 [solar radii]
c(2) = 0.191E-01 +/- 0.000E+00 [radii/min]
c(2) = 0.221E+03 +/- 0.000E+00 [km/sec]
c(3) = -0.528E-04 +/- 0.000E+00 [radii/min**2]
c(3) = -0.204E-01 +/- 0.000E+00 [km/sec**2]

ANGULAR INFORMATION:

ANGULAR ACCELERATION= -0.1432E-07 +/- 0.2698E-12[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 311. +/- 0. [degrees]
a(2) = 0.138E+00 +/- 0.398E-05 [degrees/min]
a(2) = 0.401E-04 +/- 0.116E-08 [rad/sec]
a(3) = -0.148E-02 +/- 0.278E-07 [degrees/min**2]
a(3) = -0.143E-07 +/- 0.270E-12 [rad/sec**2]

The RADIAL velocity at 23:34 = 179. km/sec

The RADIAL velocity at 23:59 = 149. km/sec

The RADIAL velocity at 0:51 = 85. 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!