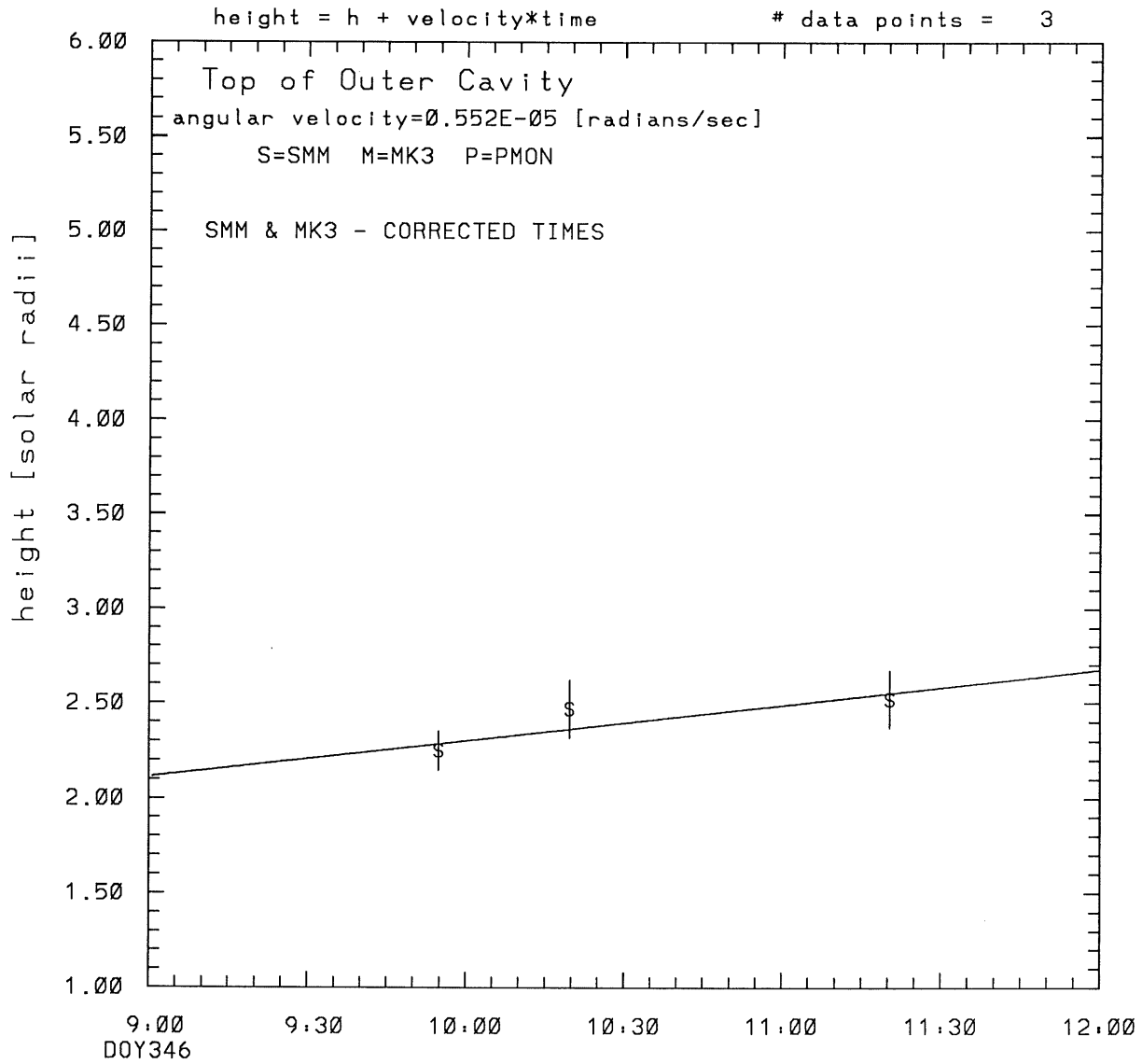


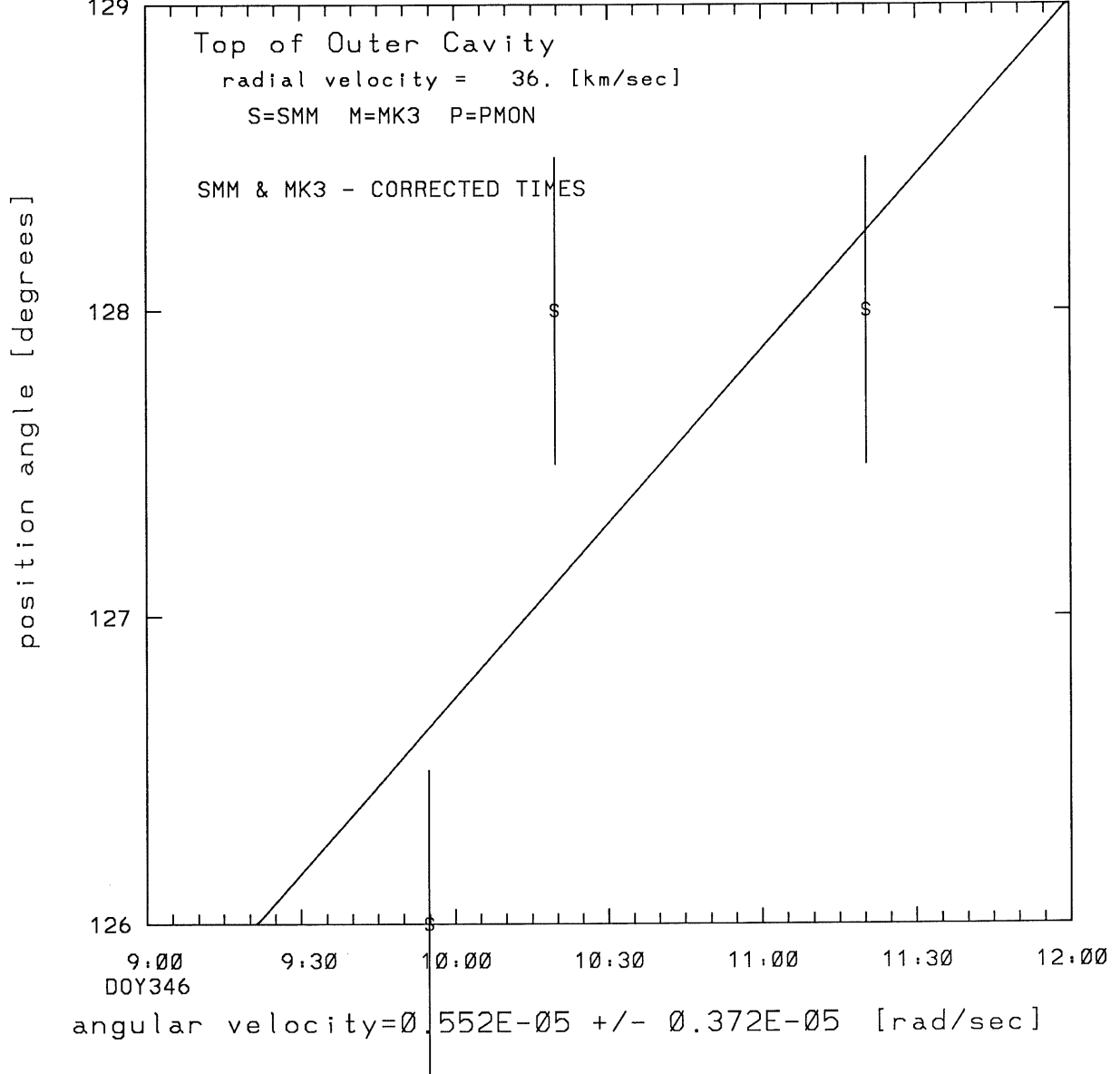
SMM C/P 1988 DOY346 127 +/- 1 degrees



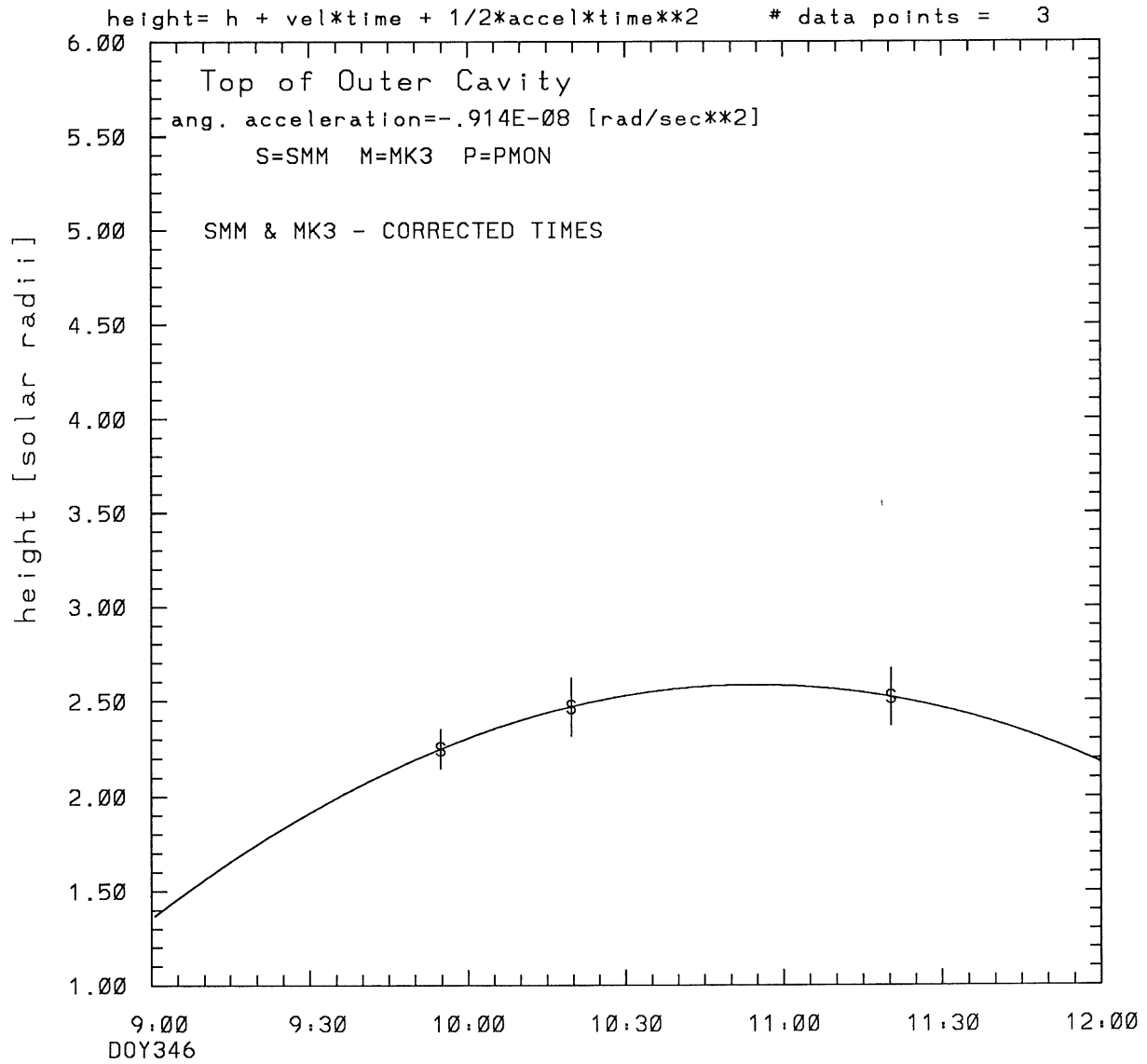
tstart=DOY346 3: 4 +/- 62.3 [min.]
radial velocity= 36. +/- 14. [km/sec]

SMM C/P 1988 DOY346 127 +/- 1 degrees

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



SMM C/P 1988 DOY346 127 +/- 1 degrees



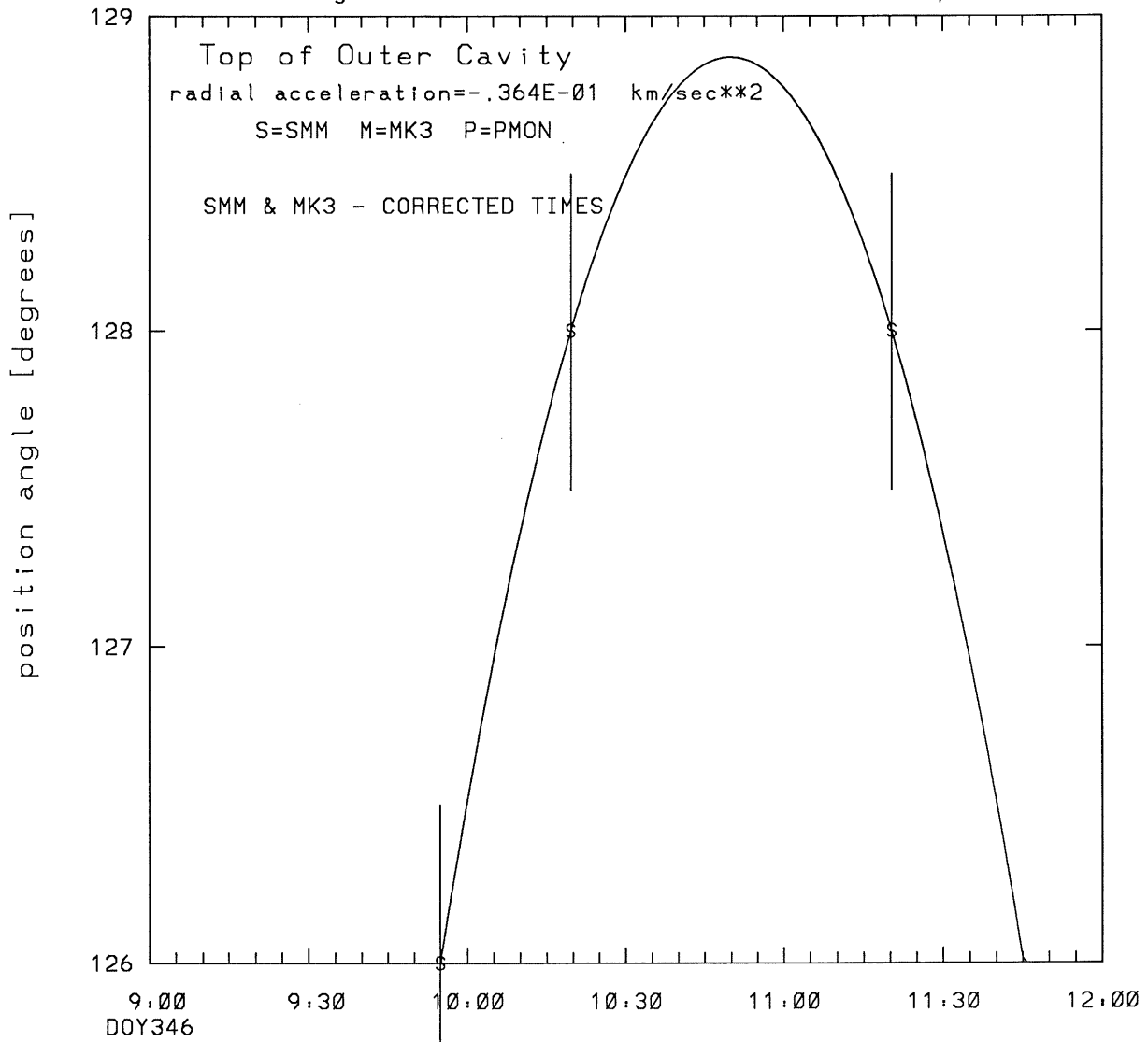
tstart=DOY346 8.45 +/- 0.0 [min.]

radial acceleration = $-0.0364 +/- 0.0000$ [km/sec**2]

SMM C/P 1988 DOY346 127 +/- 1 degrees

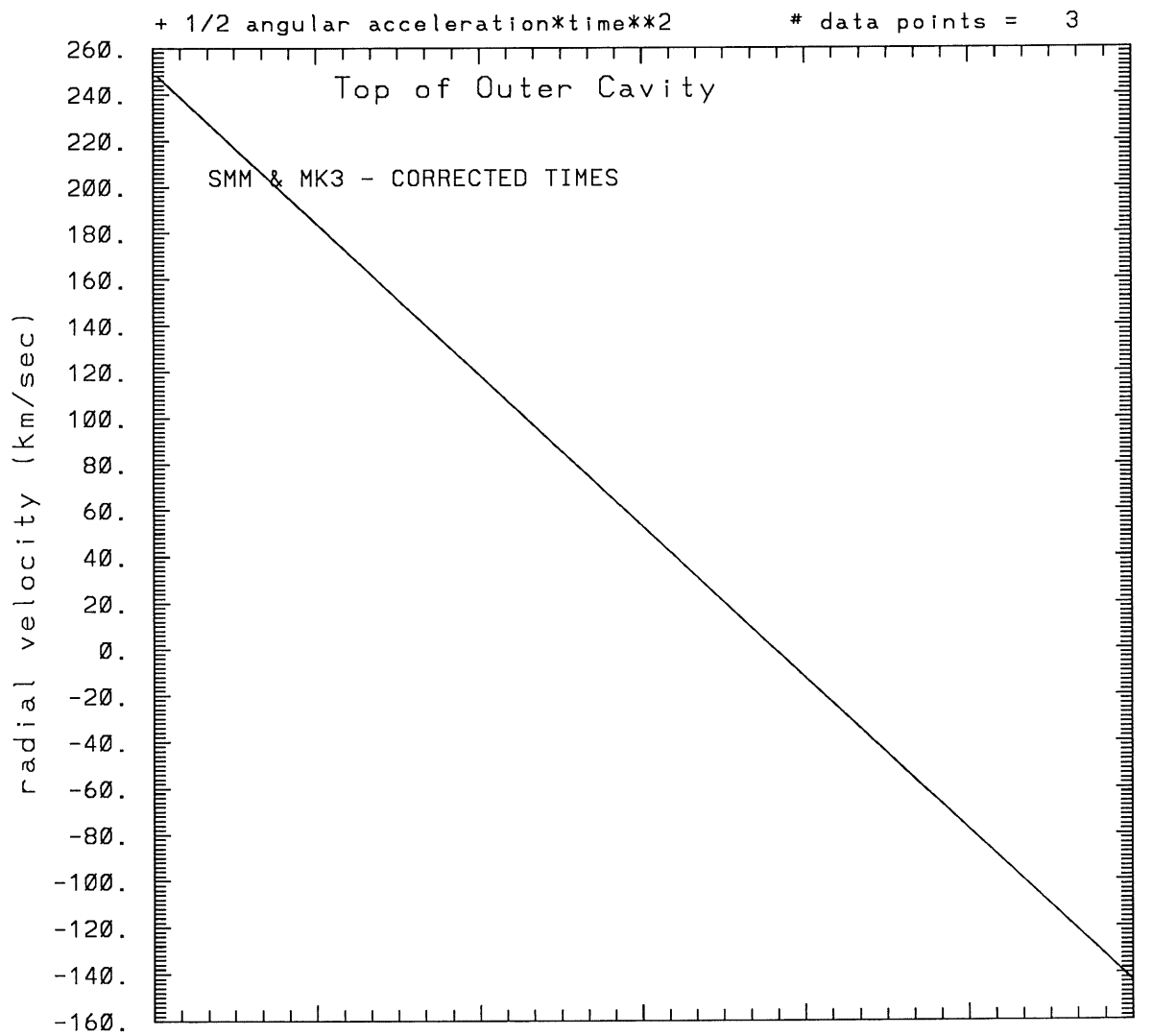
angle= initial angle + angular velocity*time
+ 1/2 angular acceleration*time**2

data points = 3



angular acceleration=-.914E-08 +/-0.619E-13 [rad/sec**2]

SMM C/P 1988 DOY346 127 +/- 1 degrees



DOY346

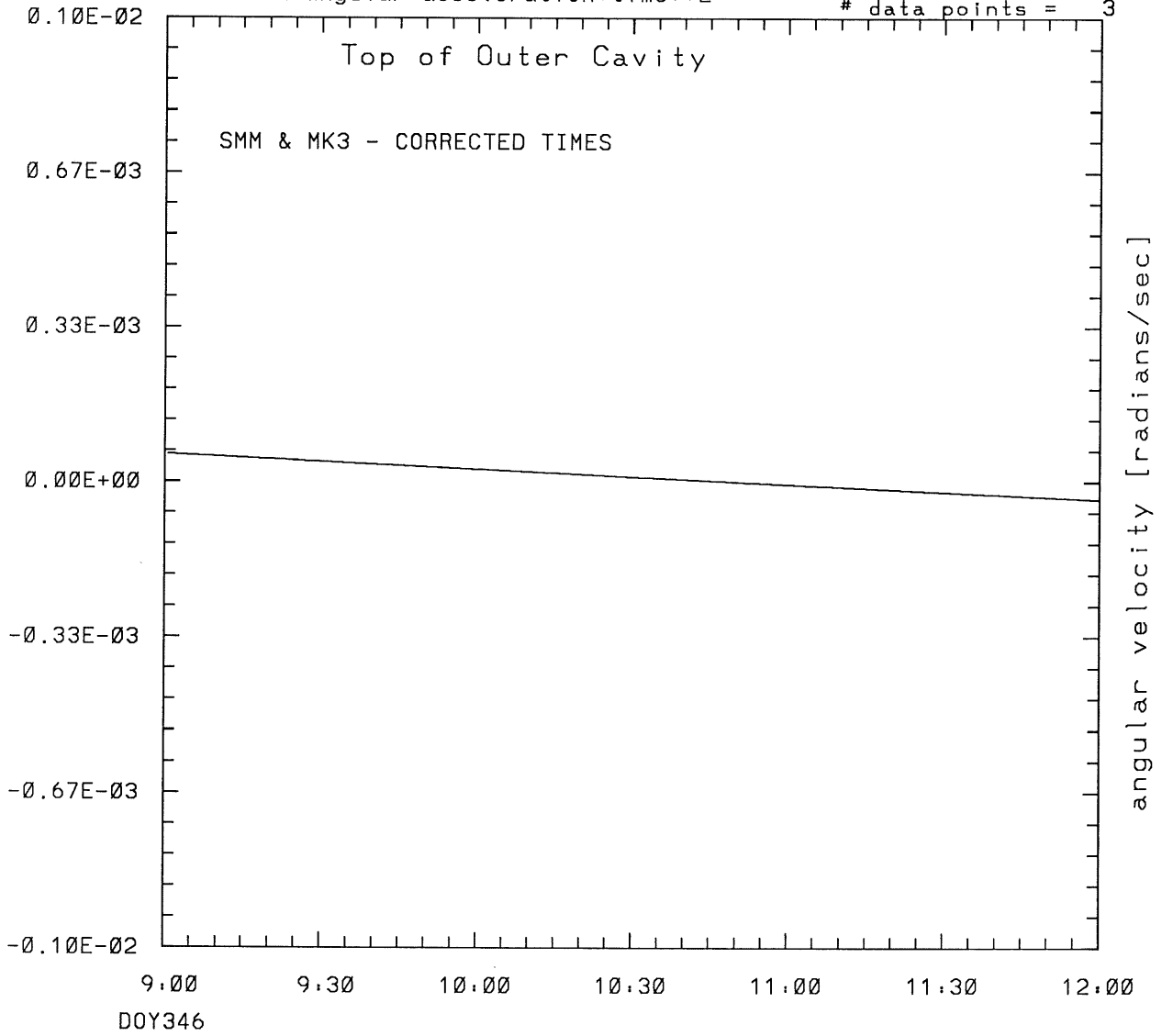
tstart=DOY346 8:45 +/- 0.0 [min.]

radial acceleration=-.364E-01 km/sec**2

SMM C/P 1988 DOY346 127 +/- 1 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 = $-0.914E-08$ +/- $0.619E-13$ [rad/sec**2]

This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in angle	error in angle	datatype
1988	346	9:54:49	2.25 +/-	0.10	126.0 +/-	0.5	SMM
1988	346	10:19:37	2.47 +/-	0.15	128.0 +/-	0.5	SMM
1988	346	11:20:21	2.52 +/-	0.15	128.0 +/-	0.5	SMM

Structure being measured:
Top of Outer Cavity

OUTPUT:

START TIME:

Event began at t = 0 + -0.356E+03 +/- 0.623E+02 [minutes]
In more convenient units:
Event began at DOY 346 3: 4 +/- 0.623E+02 [minutes]

Origin defined at DOY346 9: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 36. +/- 14. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

- c(1) = 0.211E+01 +/- 0.108E+00 [solar radii]
- c(2) = 0.312E-02 +/- 0.123E-02 [radii/min]
- c(2) = 0.362E+02 +/- 0.143E+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)= 0.18633E+00 [radii] see Bevington pg. 114
- error in c(2)= 0.18938E-02 [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = 0.5524E-05 +/- 0.3724E-05[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

- a(1) = 126. +/- 1. [degrees]
- a(2) = 0.190E-01 +/- 0.128E-01 [degrees/min]
- a(2) = 0.552E-05 +/- 0.372E-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 9:54 = 36. km/sec
The RADIAL velocity at 10:19 = 36. km/sec
The RADIAL velocity at 11:20 = 36. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.14
Standard Deviation in start time measurement = 0.359E+02
Error in time = 0.37725E+02 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.542E-02
Reduced Chi Squared = 0.276E-01
Chi Squared = 0.276E-01
The probability for exceeding chi square = 0.941E+00

The correlation coefficient = 0.833E+00
The probability that no LINEAR correlation exists between the variables = 0.3735]
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	346	9:54:49	2.25 +/-	0.10	126.0 +/-	0.5	SMM
1988	346	10:19:37	2.47 +/-	0.15	128.0 +/-	0.5	SMM
1988	346	11:20:21	2.52 +/-	0.15	128.0 +/-	0.5	SMM

Structure being measured:
Top of Outer Cavity

OUTPUT:

START TIME:

Event began at t = 0 + -0.154E+02 +/- 0.000E+00 [minutes]
In more convenient units:
Event began at DOY 346 8:45 +/- 0.000E+00 [minutes]

Origin defined at DOY346 9: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = -0.364E-01 +/- 0.000E+00 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.135E+01 +/- 0.000E+00 [solar radii]
c(2) = 0.215E-01 +/- 0.000E+00 [radii/min]
c(2) = 0.250E+03 +/- 0.000E+00 [km/sec]
c(3) = -0.941E-04 +/- 0.000E+00 [radii/min**2]
c(3) = -0.364E-01 +/- 0.000E+00 [km/sec**2]

ANGULAR INFORMATION:

ANGULAR ACCELERATION= -0.9142E-08 +/- 0.6190E-13[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 117. +/- 0. [degrees]
a(2) = 0.207E+00 +/- 0.128E-05 [degrees/min]
a(2) = 0.603E-04 +/- 0.373E-09 [rad/sec]
a(3) = -0.943E-03 +/- 0.638E-08 [degrees/min**2]
a(3) = -0.914E-08 +/- 0.619E-13 [rad/sec**2]

The RADIAL velocity at 9:54 = 130. km/sec

The RADIAL velocity at 10:19 = 76. km/sec

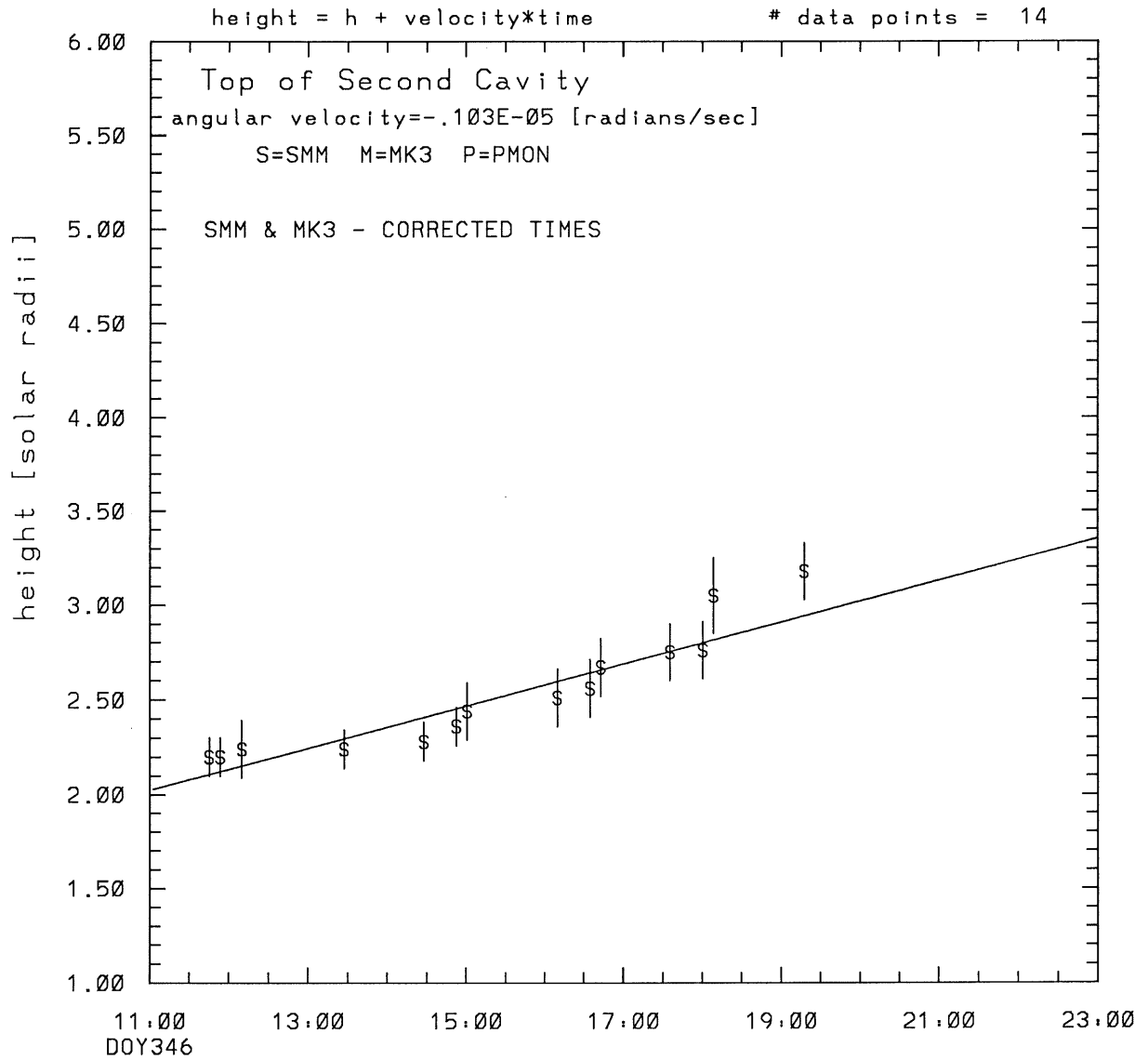
The RADIAL velocity at 11:20 = -57. km/sec

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!

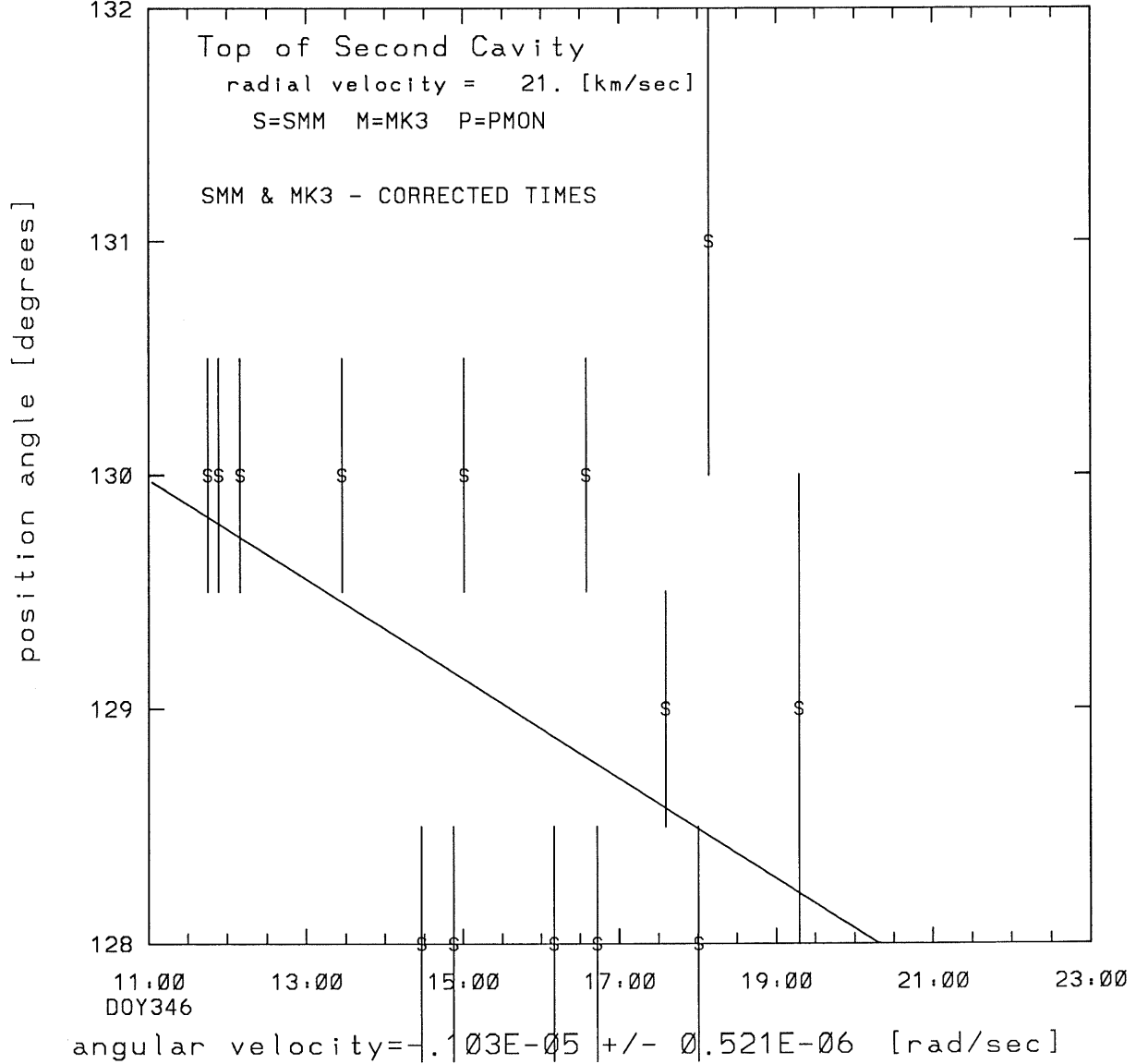
SMM C/P 1988 DOY346 129 +/- 2 degrees



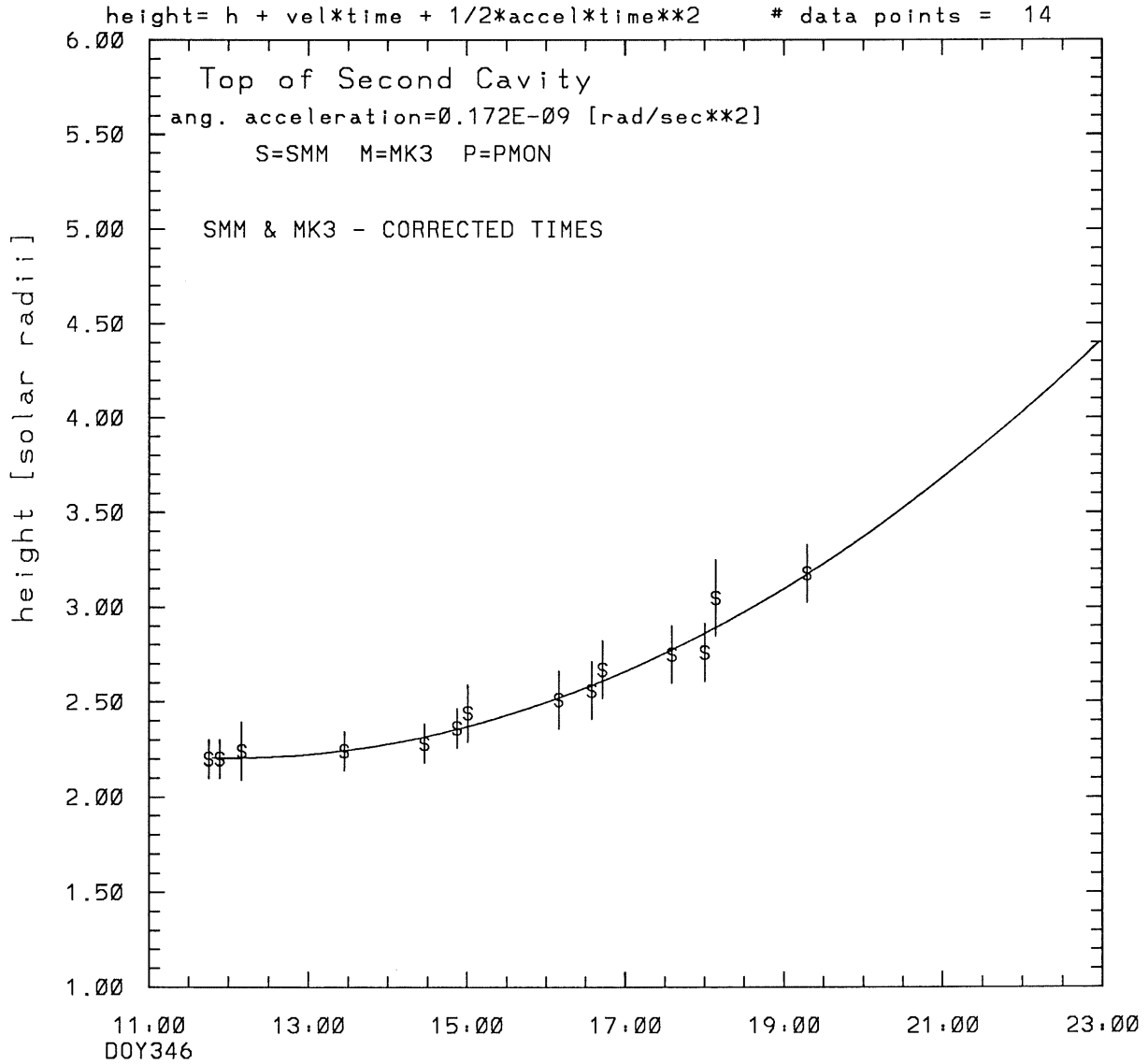
tstart=DOY346 1.47 +/- 8.6 [min.]
radial velocity= 21. +/- 2. [km/sec]

SMM C/P 1988 DOY346 129 +/- 2 degrees

angle = initial angle + angular velocity * time # data points = 14



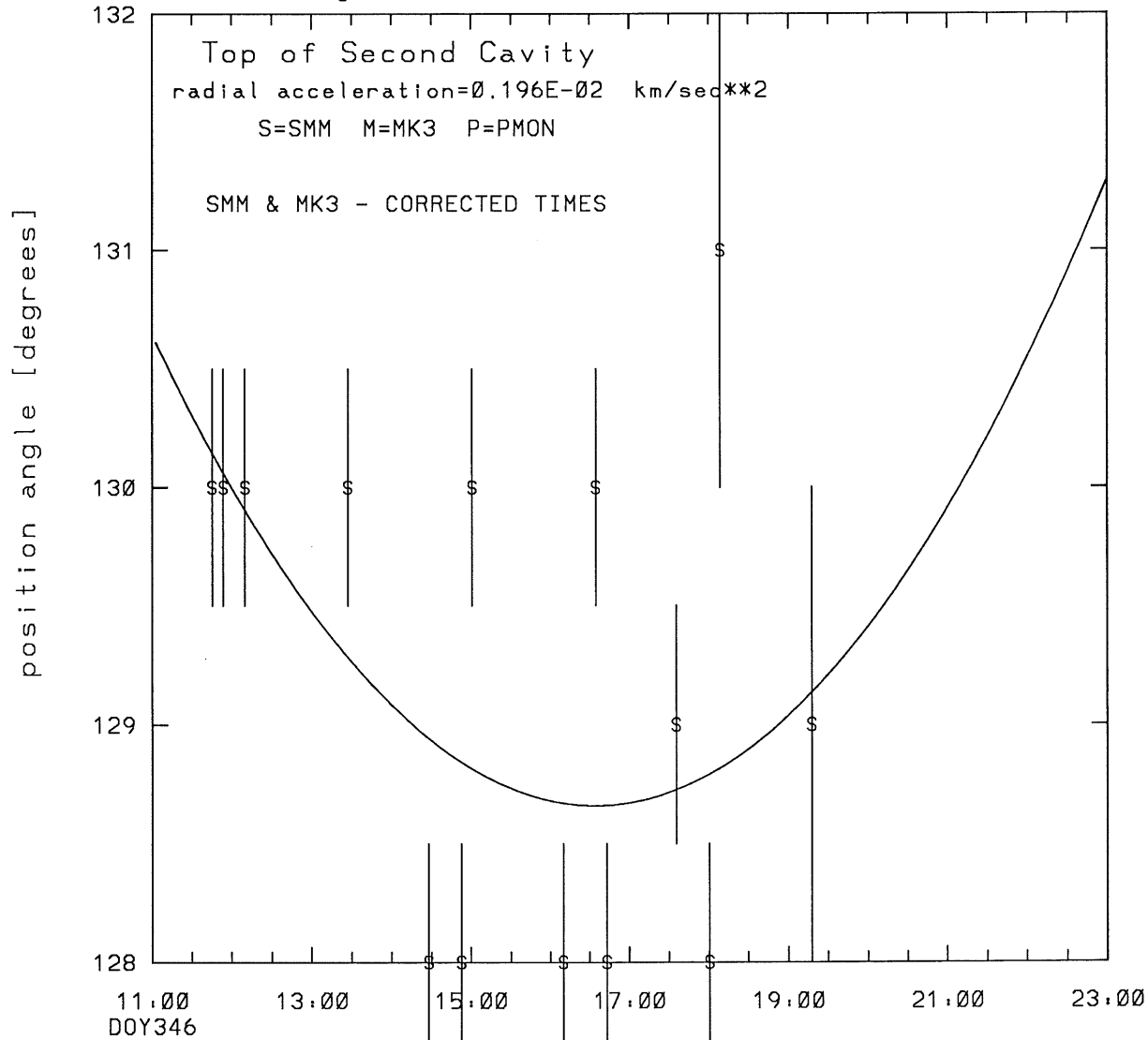
SMM C/P 1988 DOY346 129 +/- 2 degrees



tstart = DOY346 12: 0 from derivative = 0
Event begins at 2.20 Solar Radii
radial acceleration = 0.0020 ± 0.0003 [km/sec**2]

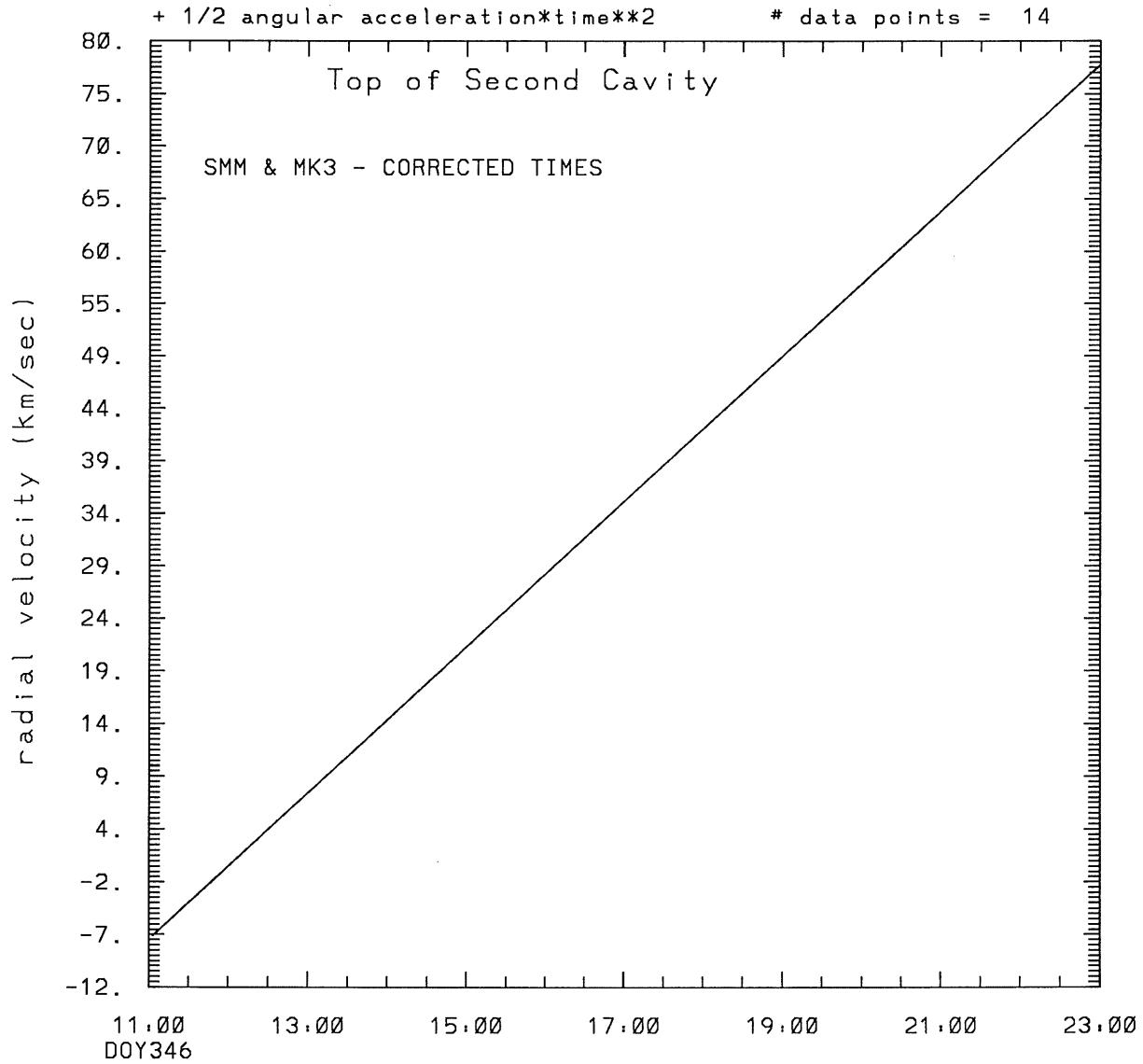
SMM C/P 1988 DOY346 129 +/- 2 degrees

angle= initial angle + angular velocity*time
+ 1/2 angular acceleration*time**2 # data points = 14



Event begins at 2.20 Solar Radii
angular acceleration=0.172E-09 +/- 0.145E-09 [rad/sec**2]

SMM C/P 1988 DOY346 129 +/- 2 degrees

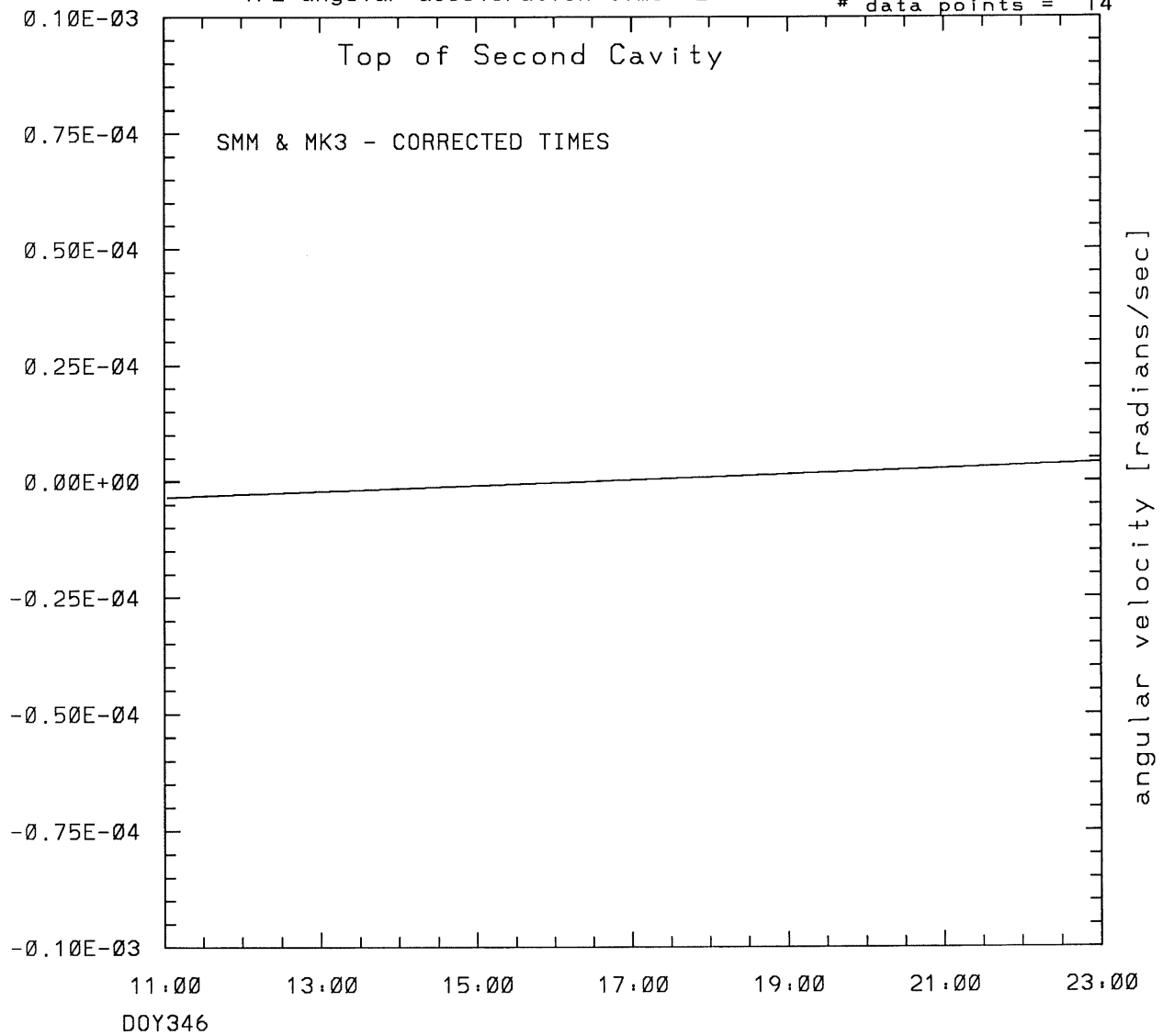


DOY346 tstart=DOY346 12: 0 from derivative=0
Event begins at 2.20 Solar Radii
radial acceleration=0.196E-02 km/sec**2

SMM C/P 1988 DOY346 129 +/- 2 degrees

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

data points = 14



angular acceleration = $0.172E-09$ +/- $0.145E-09$ [rad/sec**2]

This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in angle	error in angle	datatype
1988	346	11:45: 7	2.20 +/- 0.10	130.0 +/- 0.5		SMM	
1988	346	11:53:21	2.20 +/- 0.10	130.0 +/- 0.5		SMM	
1988	346	12: 9:52	2.24 +/- 0.15	130.0 +/- 0.5		SMM	
1988	346	13:27:15	2.24 +/- 0.10	130.0 +/- 0.5		SMM	
1988	346	14:27:58	2.28 +/- 0.10	128.0 +/- 0.5		SMM	
1988	346	14:52:44	2.36 +/- 0.10	128.0 +/- 0.5		SMM	
1988	346	15: 0:57	2.44 +/- 0.15	130.0 +/- 0.5		SMM	
1988	346	16:10: 3	2.51 +/- 0.15	128.0 +/- 0.5		SMM	
1988	346	16:34:50	2.56 +/- 0.15	130.0 +/- 0.5		SMM	
1988	346	16:43: 5	2.67 +/- 0.15	128.0 +/- 0.5		SMM	
1988	346	17:35:34	2.75 +/- 0.15	129.0 +/- 0.5		SMM	
1988	346	18: 0:20	2.76 +/- 0.15	128.0 +/- 0.5		SMM	
1988	346	18: 8:33	3.05 +/- 0.20	131.0 +/- 1.0		SMM	
1988	346	19:17:38	3.18 +/- 0.15	129.0 +/- 1.0		SMM	

Structure being measured:
Top of Second Cavity

OUTPUT:

START TIME:

Event began at t = 0 + -0.555E+03 +/- 0.861E+01 [minutes]
In more convenient units:
Event began at DOY 346 1:47 +/- 0.861E+01 [minutes]

Origin defined at DOY346 11: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 21. +/- 2. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.202E+01 +/- 0.539E-01 [solar radii]
c(2) = 0.185E-02 +/- 0.206E-03 [radii/min]
c(2) = 0.214E+02 +/- 0.239E+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)= 0.69125E-01 [radii] see Bevington pg. 114
error in c(2)= 0.22885E-03 [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = -0.1030E-05 +/- 0.5207E-06[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 130. +/- 0. [degrees]
a(2) = -0.354E-02 +/- 0.179E-02 [degrees/min]

a(2) = -0.103E-05 +/- 0.521E-06 [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 11:45 = 21. km/sec
The RADIAL velocity at 11:53 = 21. km/sec
The RADIAL velocity at 12: 9 = 21. km/sec
The RADIAL velocity at 13:27 = 21. km/sec
The RADIAL velocity at 14:27 = 21. km/sec
The RADIAL velocity at 14:52 = 21. km/sec
The RADIAL velocity at 15: 0 = 21. km/sec
The RADIAL velocity at 16:10 = 21. km/sec
The RADIAL velocity at 16:34 = 21. km/sec
The RADIAL velocity at 16:43 = 21. km/sec
The RADIAL velocity at 17:35 = 21. km/sec
The RADIAL velocity at 18: 0 = 21. km/sec
The RADIAL velocity at 18: 8 = 21. km/sec
The RADIAL velocity at 19:17 = 21. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.32
Standard Deviation in start time measurement = 0.143E+03
Error in time = 0.22932E+03 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.113E-01
Reduced Chi Squared = 0.154E+00
Chi Squared = 0.185E+01
The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.933E+00
The probability that no LINEAR correlation exists between the variables = 0.10591
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

This is a 2 order run

INPUT:

year	doy	time	radii	radius	angle	error in angle	error in angle	datatype
1988	346	11:45: 7	2.20 +/- 0.10	2.20 +/- 0.10	130.0 +/- 0.5	0.5		SMM
1988	346	11:53:21	2.20 +/- 0.10	2.20 +/- 0.10	130.0 +/- 0.5	0.5		SMM
1988	346	12: 9:52	2.24 +/- 0.15	2.24 +/- 0.15	130.0 +/- 0.5	0.5		SMM
1988	346	13:27:15	2.24 +/- 0.10	2.24 +/- 0.10	130.0 +/- 0.5	0.5		SMM
1988	346	14:27:58	2.28 +/- 0.10	2.28 +/- 0.10	128.0 +/- 0.5	0.5		SMM
1988	346	14:52:44	2.36 +/- 0.10	2.36 +/- 0.10	128.0 +/- 0.5	0.5		SMM
1988	346	15: 0:57	2.44 +/- 0.15	2.44 +/- 0.15	130.0 +/- 0.5	0.5		SMM
1988	346	16:10: 3	2.51 +/- 0.15	2.51 +/- 0.15	128.0 +/- 0.5	0.5		SMM
1988	346	16:34:50	2.56 +/- 0.15	2.56 +/- 0.15	130.0 +/- 0.5	0.5		SMM
1988	346	16:43: 5	2.67 +/- 0.15	2.67 +/- 0.15	128.0 +/- 0.5	0.5		SMM
1988	346	17:35:34	2.75 +/- 0.15	2.75 +/- 0.15	129.0 +/- 0.5	0.5		SMM
1988	346	18: 0:20	2.76 +/- 0.15	2.76 +/- 0.15	128.0 +/- 0.5	0.5		SMM
1988	346	18: 8:33	3.05 +/- 0.20	3.05 +/- 0.20	131.0 +/- 1.0	1.0		SMM
1988	346	19:17:38	3.18 +/- 0.15	3.18 +/- 0.15	129.0 +/- 1.0	1.0		SMM

Structure being measured:
Top of Second Cavity

OUTPUT:

START TIME:

tstart=DOY346 12: 0 from derivative = 0
Event begins at 2.20 Solar Radii
Origin defined at DOY346 11: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.196E-02 +/- 0.270E-03 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.222E+01 +/- 0.365E-01 [solar radii]
c(2) = -0.613E-03 +/- 0.351E-03 [radii/min]
c(2) = -0.711E+01 +/- 0.407E+01 [km/sec]
c(3) = 0.508E-05 +/- 0.698E-06 [radii/min**2]
c(3) = 0.196E-02 +/- 0.270E-03 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.56788E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.16065E-02 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.50712E-03 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.15682E-04 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.96586E-06 [radii/min**2] Bevington pg 154 (8-30)
Exact error in c(3) = 0.27827E-07 [radii/min**2] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

ANGULAR ACCELERATION= 0.1720E-09 +/- 0.1454E-09[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 131. +/- 1. [degrees]
a(2) = -0.119E-01 +/- 0.725E-02 [degrees/min]
a(2) = -0.345E-05 +/- 0.211E-05 [rad/sec]
a(3) = 0.177E-04 +/- 0.150E-04 [degrees/min**2]
a(3) = 0.172E-09 +/- 0.145E-09 [rad/sec**2]

The RADIAL velocity at 11:45 = -2. km/sec
The RADIAL velocity at 11:53 = -1. km/sec
The RADIAL velocity at 12: 9 = 1. km/sec
The RADIAL velocity at 13:27 = 10. km/sec
The RADIAL velocity at 14:27 = 17. km/sec
The RADIAL velocity at 14:52 = 20. km/sec
The RADIAL velocity at 15: 0 = 21. km/sec
The RADIAL velocity at 16:10 = 29. km/sec
The RADIAL velocity at 16:34 = 32. km/sec
The RADIAL velocity at 16:43 = 33. km/sec
The RADIAL velocity at 17:35 = 39. km/sec
The RADIAL velocity at 18: 0 = 42. km/sec
The RADIAL velocity at 18: 8 = 43. km/sec
The RADIAL velocity at 19:17 = 52. km/sec

The following info is for estimating goodness of the fit

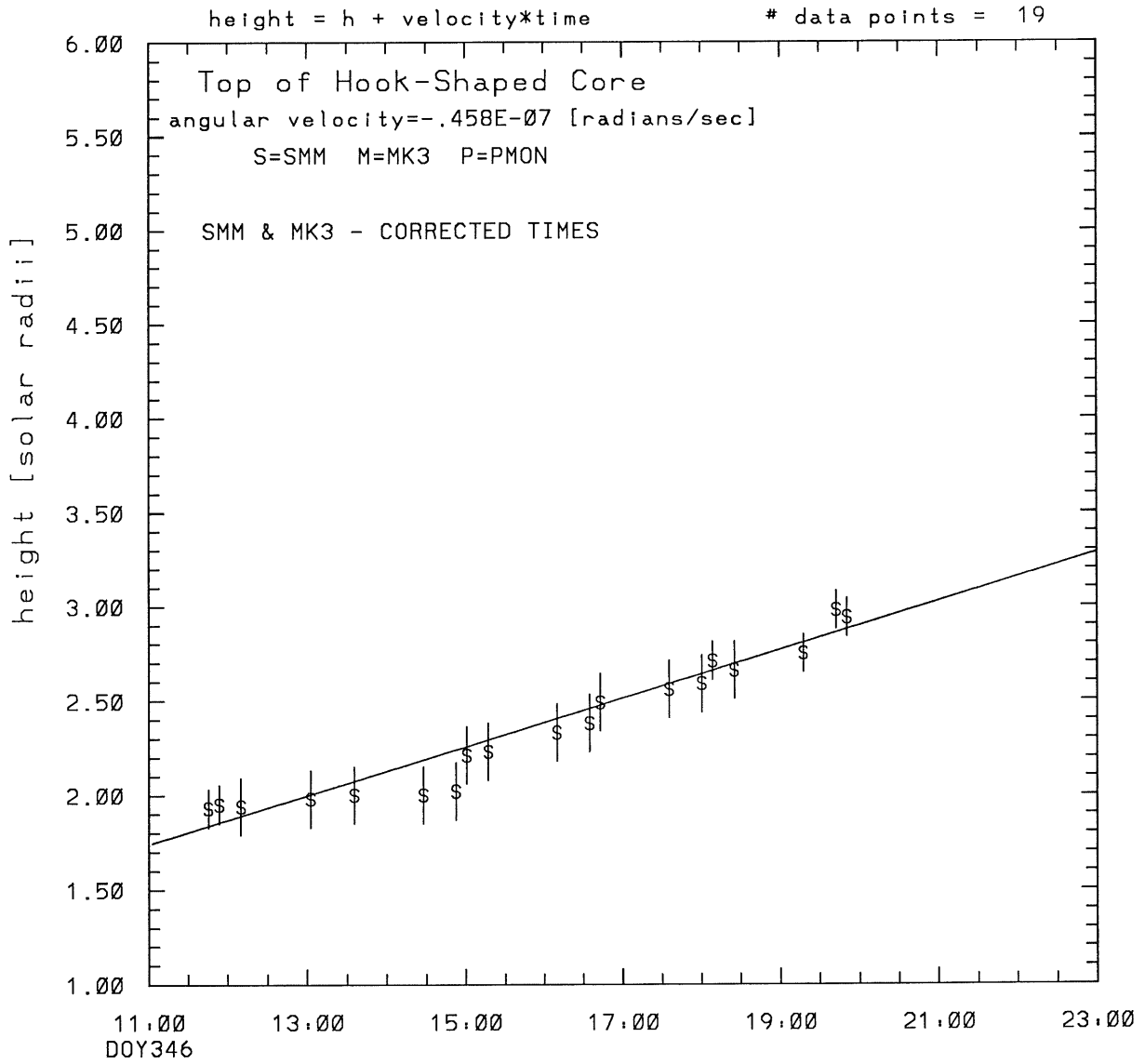
Fit is ok [ier=1]

Standard Deviation in the height = 0.32
Standard Deviation in start time measurement = 0.143E+03
Value of reduced Chi Squared returned from nllst2 = 0.227E-02
Reduced Chi Squared = 0.493E-01
Chi Squared = 0.543E+00
The probability for exceeding chi square = 0.100E+01

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 = 0.9474E+00
The correlation between the data and the time**2 term = 0.9582E+00
The correlation between the data and the complete equation of motion=0.9670E+00
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

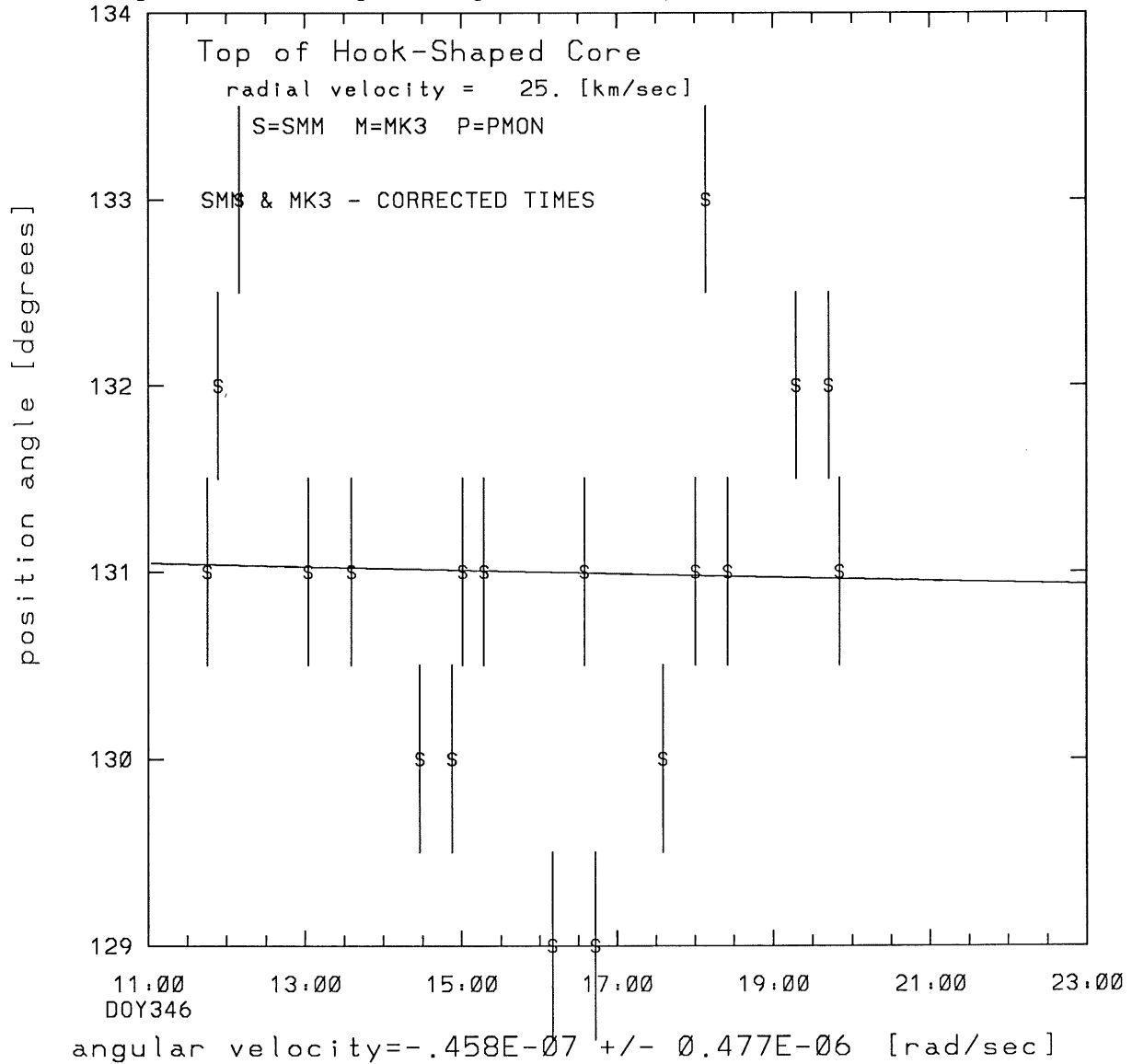
SMM C/P 1988 DOY346 131 +/- 2 degrees



tstart=DOY346 5:16 +/- 3.2 [min.]
radial velocity= 25. +/- 1. [km/sec]

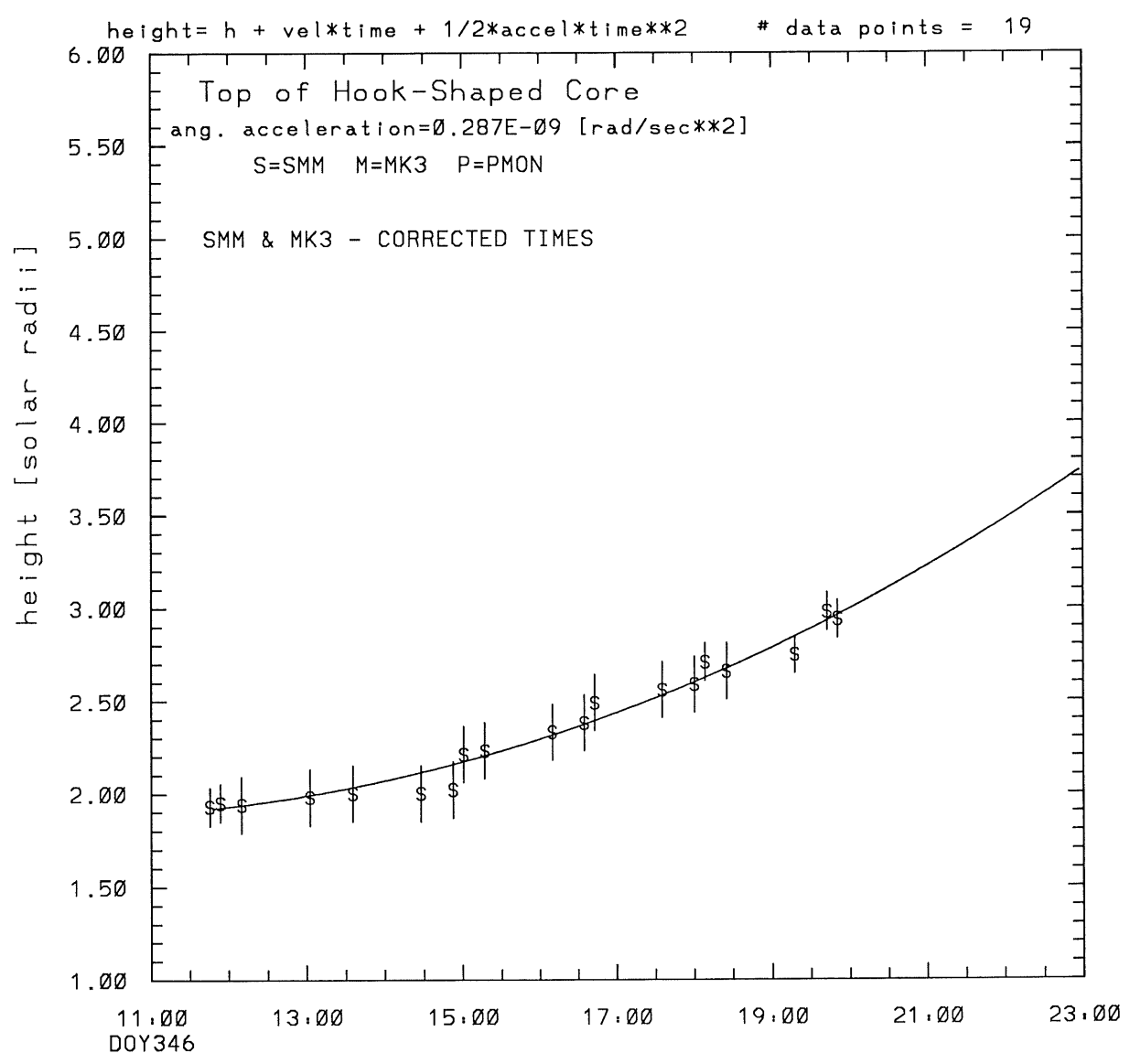
SMM C/P 1988 DOY346 131 +/- 2 degrees

angle = initial angle + angular velocity * time # data points = 19





SMM C/P 1988 DOY346 131 +/- 2 degrees

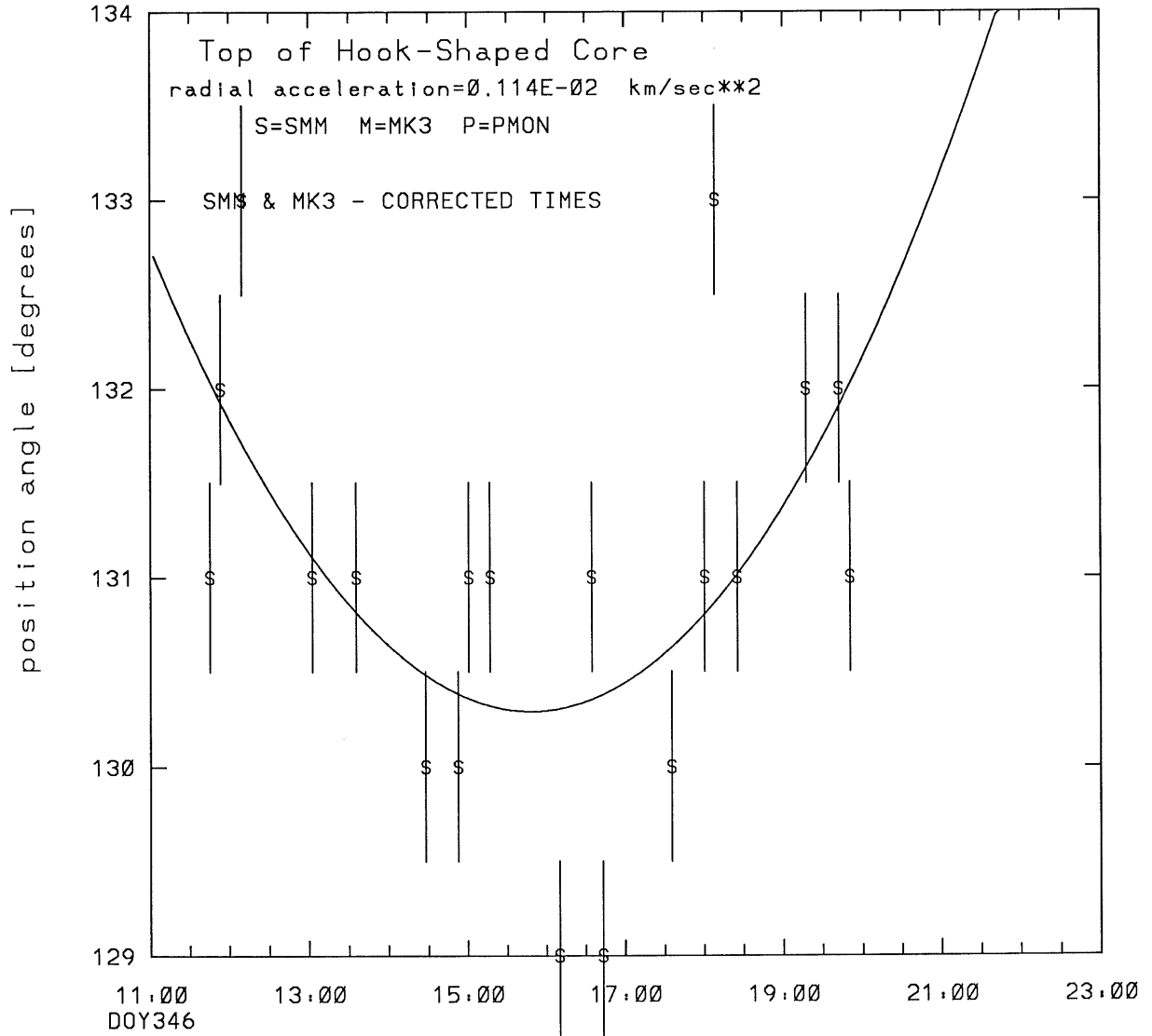


tstart=DOY346 9:45 from derivative=0
Event begins at 1.88 Solar Radii
radial acceleration = $0.0011 +/- 0.0002$ [km/sec**2]

SMM C/P 1988 DOY346 131 +/- 2 degrees

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

data points = 19

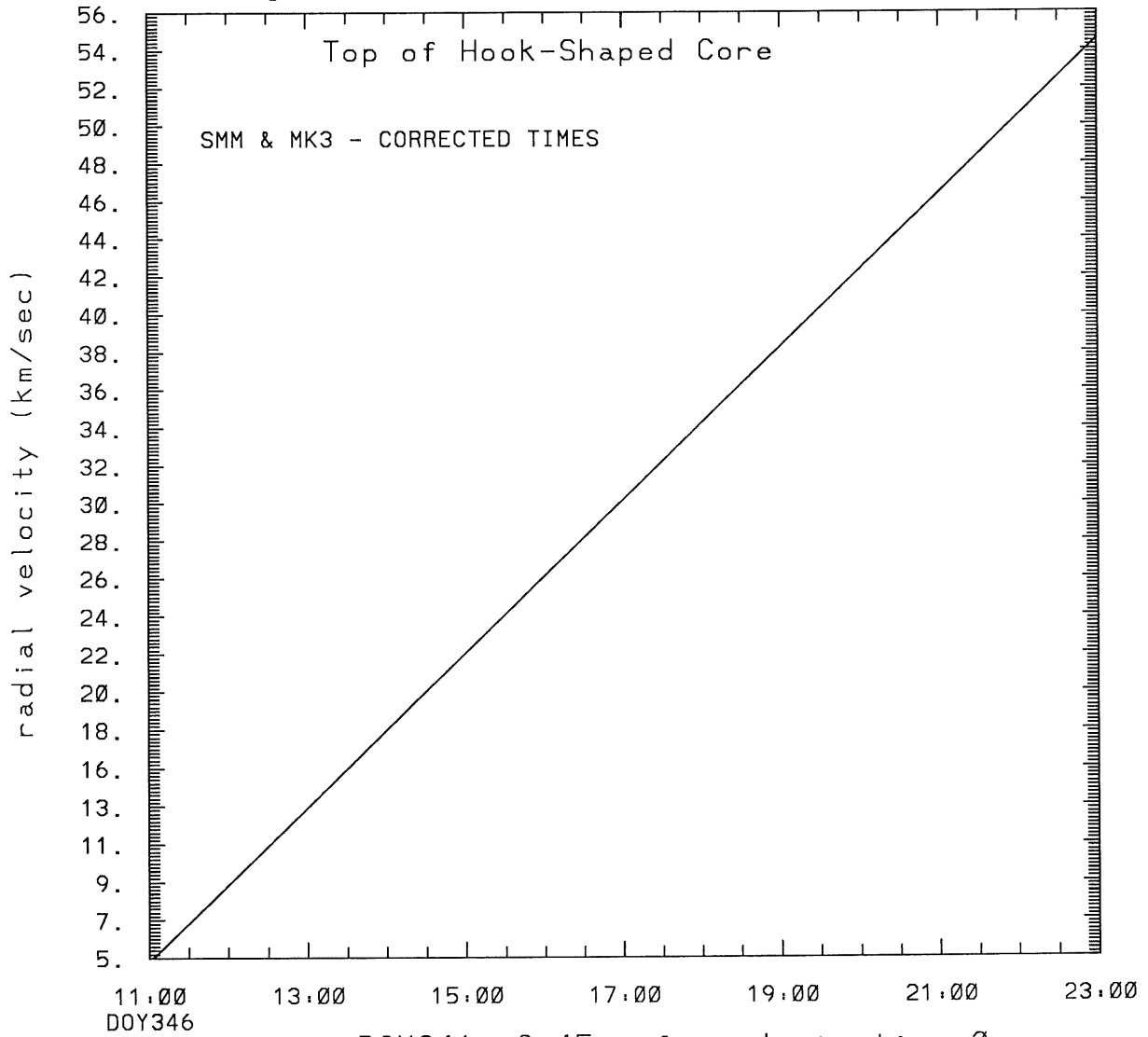


Event begins at 1.88 Solar Radii

angular acceleration=0.287E-09 +/- 0.948E-10 [rad/sec**2]

SMM C/P 1988 DOY346 131 +/- 2 degrees

+ 1/2 angular acceleration*time**2 # data points = 19

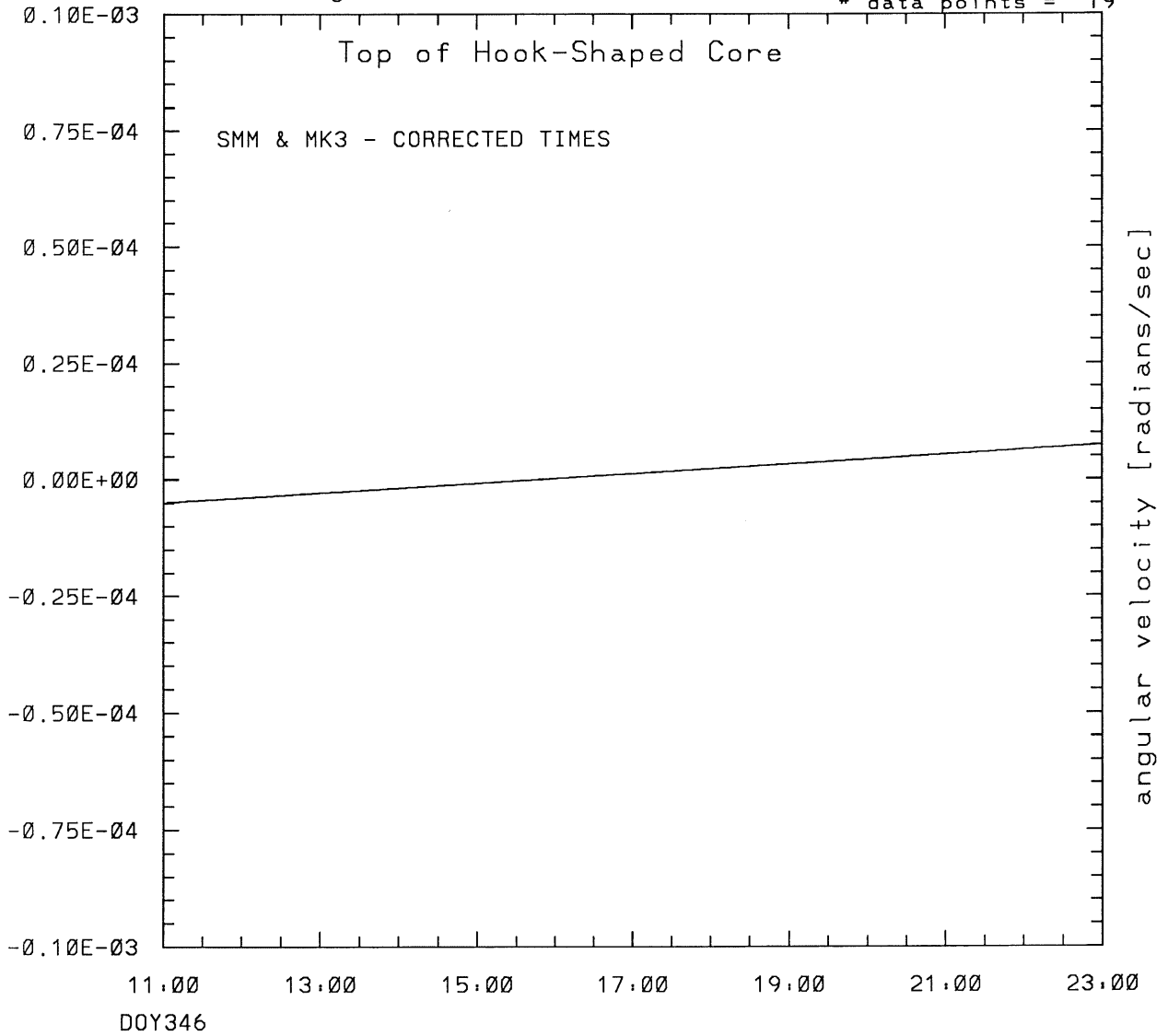


DOY346 tstart=DOY346 9:45 from derivative=0
Event begins at 1.88 Solar Radii
radial acceleration=0.114E-02 km/sec**2

SMM C/P 1988 DOY346 131 +/- 2 degrees

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

data points = 19



angular acceleration = $0.287E-09$ +/- $0.948E-10$ [rad/sec**2]

This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in angle	error in angle	datatype
1988	346	11:45: 7	1.93 +/- 0.10		131.0 +/- 0.5		SMM
1988	346	11:53:21	1.95 +/- 0.10		132.0 +/- 0.5		SMM
1988	346	12: 9:52	1.94 +/- 0.15		133.0 +/- 0.5		SMM
1988	346	13: 2:27	1.98 +/- 0.15		131.0 +/- 0.5		SMM
1988	346	13:35:29	2.00 +/- 0.15		131.0 +/- 0.5		SMM
1988	346	14:27:58	2.00 +/- 0.15		130.0 +/- 0.5		SMM
1988	346	14:52:44	2.02 +/- 0.15		130.0 +/- 0.5		SMM
1988	346	15: 0:57	2.21 +/- 0.15		131.0 +/- 0.5		SMM
1988	346	15:17:29	2.23 +/- 0.15		131.0 +/- 0.5		SMM
1988	346	16:10: 3	2.33 +/- 0.15		129.0 +/- 0.5		SMM
1988	346	16:34:50	2.38 +/- 0.15		131.0 +/- 0.5		SMM
1988	346	16:43: 5	2.49 +/- 0.15		129.0 +/- 0.5		SMM
1988	346	17:35:34	2.56 +/- 0.15		130.0 +/- 0.5		SMM
1988	346	18: 0:20	2.59 +/- 0.15		131.0 +/- 0.5		SMM
1988	346	18: 8:33	2.71 +/- 0.10		133.0 +/- 0.5		SMM
1988	346	18:25: 5	2.66 +/- 0.15		131.0 +/- 0.5		SMM
1988	346	19:17:38	2.75 +/- 0.10		132.0 +/- 0.5		SMM
1988	346	19:42:26	2.98 +/- 0.10		132.0 +/- 0.5		SMM
1988	346	19:50:41	2.94 +/- 0.10		131.0 +/- 0.5		SMM

Structure being measured:
Top of Hook-Shaped Core

OUTPUT:

START TIME:

Event began at t = 0 + -0.346E+03 +/- 0.317E+01 [minutes]
In more convenient units:
Event began at DOY 346 5:16 +/- 0.317E+01 [minutes]

Origin defined at DOY346 11: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 25. +/- 1. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.174E+01 +/- 0.425E-01 [solar radii]
c(2) = 0.214E-02 +/- 0.120E-03 [radii/min]
c(2) = 0.249E+02 +/- 0.139E+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)= 0.47321E-01 [radii] see Bevington pg. 114
error in c(2)= 0.14187E-03 [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = -0.4581E-07 +/- 0.4765E-06[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 131. +/- 1. [degrees]
a(2) = -0.157E-03 +/- 0.164E-02 [degrees/min]
a(2) = -0.458E-07 +/- 0.477E-06 [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 11:45 = 25. km/sec
The RADIAL velocity at 11:53 = 25. km/sec
The RADIAL velocity at 12: 9 = 25. km/sec
The RADIAL velocity at 13: 2 = 25. km/sec
The RADIAL velocity at 13:35 = 25. km/sec
The RADIAL velocity at 14:27 = 25. km/sec
The RADIAL velocity at 14:52 = 25. km/sec
The RADIAL velocity at 15: 0 = 25. km/sec
The RADIAL velocity at 15:17 = 25. km/sec
The RADIAL velocity at 16:10 = 25. km/sec
The RADIAL velocity at 16:34 = 25. km/sec
The RADIAL velocity at 16:43 = 25. km/sec
The RADIAL velocity at 17:35 = 25. km/sec
The RADIAL velocity at 18: 0 = 25. km/sec
The RADIAL velocity at 18: 8 = 25. km/sec
The RADIAL velocity at 18:25 = 25. km/sec
The RADIAL velocity at 19:17 = 25. km/sec
The RADIAL velocity at 19:42 = 25. km/sec
The RADIAL velocity at 19:50 = 25. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.36
Standard Deviation in start time measurement = 0.155E+03
Error in time = 0.18421E+03 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.828E-02
Reduced Chi Squared = 0.754E-01
Chi Squared = 0.128E+01
The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.968E+00
The probability that no LINEAR correlation exists between the variables = -0.86761

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	346	11:45: 7	1.93 +/-	0.10	131.0 +/-	0.5	SMM
1988	346	11:53:21	1.95 +/-	0.10	132.0 +/-	0.5	SMM
1988	346	12: 9:52	1.94 +/-	0.15	133.0 +/-	0.5	SMM
1988	346	13: 2:27	1.98 +/-	0.15	131.0 +/-	0.5	SMM
1988	346	13:35:29	2.00 +/-	0.15	131.0 +/-	0.5	SMM
1988	346	14:27:58	2.00 +/-	0.15	130.0 +/-	0.5	SMM
1988	346	14:52:44	2.02 +/-	0.15	130.0 +/-	0.5	SMM
1988	346	15: 0:57	2.21 +/-	0.15	131.0 +/-	0.5	SMM
1988	346	15:17:29	2.23 +/-	0.15	131.0 +/-	0.5	SMM
1988	346	16:10: 3	2.33 +/-	0.15	129.0 +/-	0.5	SMM
1988	346	16:34:50	2.38 +/-	0.15	131.0 +/-	0.5	SMM
1988	346	16:43: 5	2.49 +/-	0.15	129.0 +/-	0.5	SMM
1988	346	17:35:34	2.56 +/-	0.15	130.0 +/-	0.5	SMM
1988	346	18: 0:20	2.59 +/-	0.15	131.0 +/-	0.5	SMM
1988	346	18: 8:33	2.71 +/-	0.10	133.0 +/-	0.5	SMM
1988	346	18:25: 5	2.66 +/-	0.15	131.0 +/-	0.5	SMM
1988	346	19:17:38	2.75 +/-	0.10	132.0 +/-	0.5	SMM
1988	346	19:42:26	2.98 +/-	0.10	132.0 +/-	0.5	SMM
1988	346	19:50:41	2.94 +/-	0.10	131.0 +/-	0.5	SMM

Structure being measured:
Top of Hook-Shaped Core

OUTPUT:

START TIME:

tstart=DOY346 9:45 from derivative = 0
Event begins at 1.88 Solar Radii
Origin defined at DOY346 11: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.114E-02 +/- 0.242E-03 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.189E+01 +/- 0.432E-01 [solar radii]
c(2) = 0.448E-03 +/- 0.369E-03 [radii/min]
c(2) = 0.519E+01 +/- 0.428E+01 [km/sec]
c(3) = 0.295E-05 +/- 0.627E-06 [radii/min**2]
c(3) = 0.114E-02 +/- 0.242E-03 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.50511E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.15473E-02 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.40142E-03 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.24119E-04 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.68192E-06 [radii/min**2] Bevington pg 154 (8-30)
Exact error in c(3) = 0.51388E-07 [radii/min**2] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

ANGULAR ACCELERATION= 0.2867E-09 +/- 0.9476E-10[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

- a(1) = 133. +/- 1. [degrees]
- a(2) = -0.171E-01 +/- 0.575E-02 [degrees/min]
- a(2) = -0.497E-05 +/- 0.167E-05 [rad/sec]
- a(3) = 0.296E-04 +/- 0.977E-05 [degrees/min**2]
- a(3) = 0.287E-09 +/- 0.948E-10 [rad/sec**2]

- The RADIAL velocity at 11:45 = 8. km/sec
- The RADIAL velocity at 11:53 = 9. km/sec
- The RADIAL velocity at 12: 9 = 10. km/sec
- The RADIAL velocity at 13: 2 = 14. km/sec
- The RADIAL velocity at 13:35 = 16. km/sec
- The RADIAL velocity at 14:27 = 19. km/sec
- The RADIAL velocity at 14:52 = 21. km/sec
- The RADIAL velocity at 15: 0 = 22. km/sec
- The RADIAL velocity at 15:17 = 23. km/sec
- The RADIAL velocity at 16:10 = 26. km/sec
- The RADIAL velocity at 16:34 = 28. km/sec
- The RADIAL velocity at 16:43 = 29. km/sec
- The RADIAL velocity at 17:35 = 32. km/sec
- The RADIAL velocity at 18: 0 = 34. km/sec
- The RADIAL velocity at 18: 8 = 35. km/sec
- The RADIAL velocity at 18:25 = 36. km/sec
- The RADIAL velocity at 19:17 = 39. km/sec
- The RADIAL velocity at 19:42 = 41. km/sec
- The RADIAL velocity at 19:50 = 42. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.36
Standard Deviation in start time measurement = 0.155E+03
Value of reduced Chi Squared returned from nllst2 = 0.380E-02
Reduced Chi Squared = 0.423E-01
Chi Squared = 0.677E+00
The probability for exceeding chi square = 0.100E+01

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 = 0.1100E+01
The correlation between the data and the time**2 term = 0.1126E+01
The correlation between the data and the complete equation of motion=0.9762E+00
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]