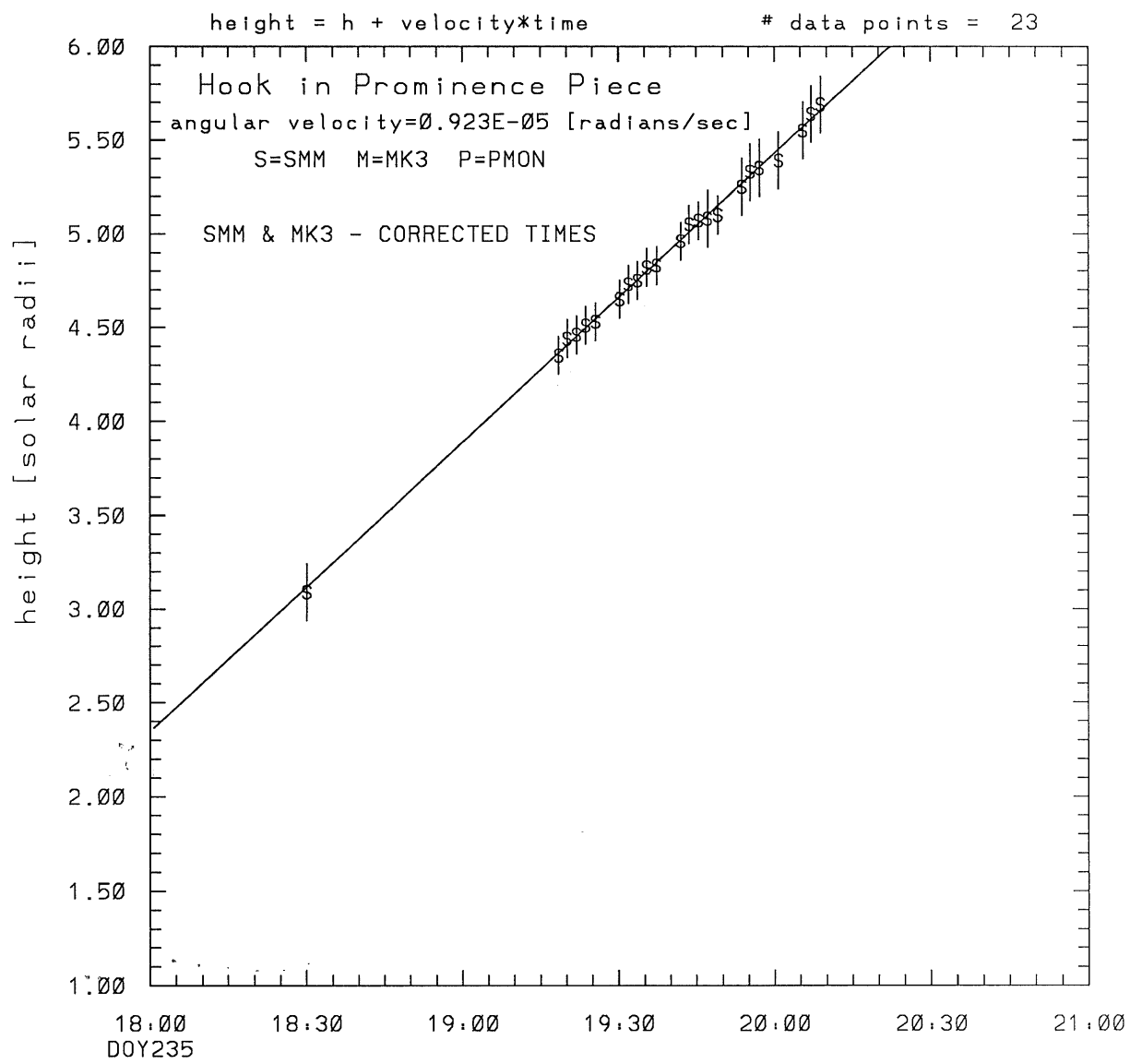


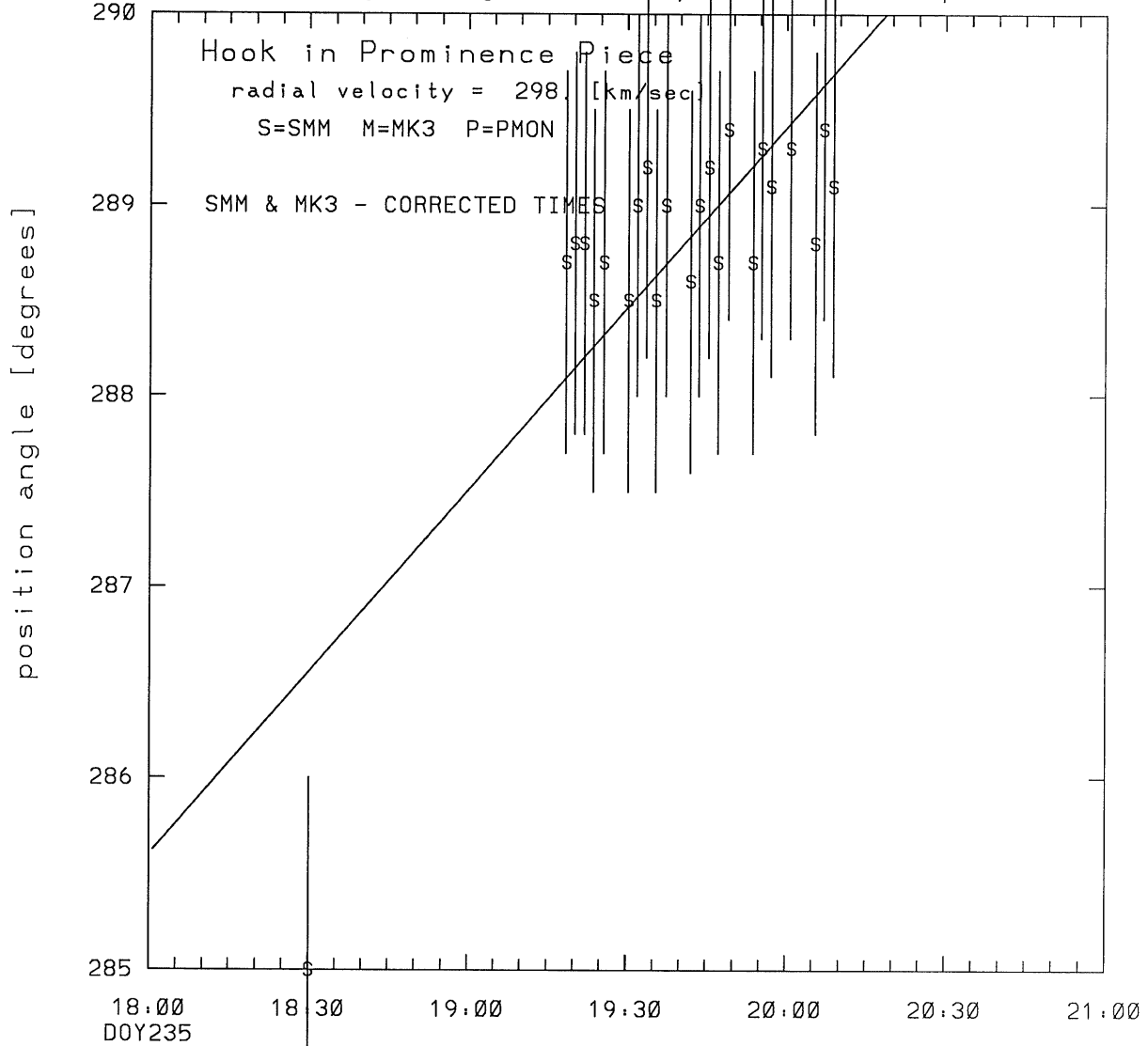
SMM C/P 1980 DOY235 288 +/- 3 degrees



tstart=DOY235 17: 8 +/- 0.1 [min.]
radial velocity= 298. +/- 4. [km/sec]

SMM C/P 1980 D0Y235 288 +/- 3 degrees

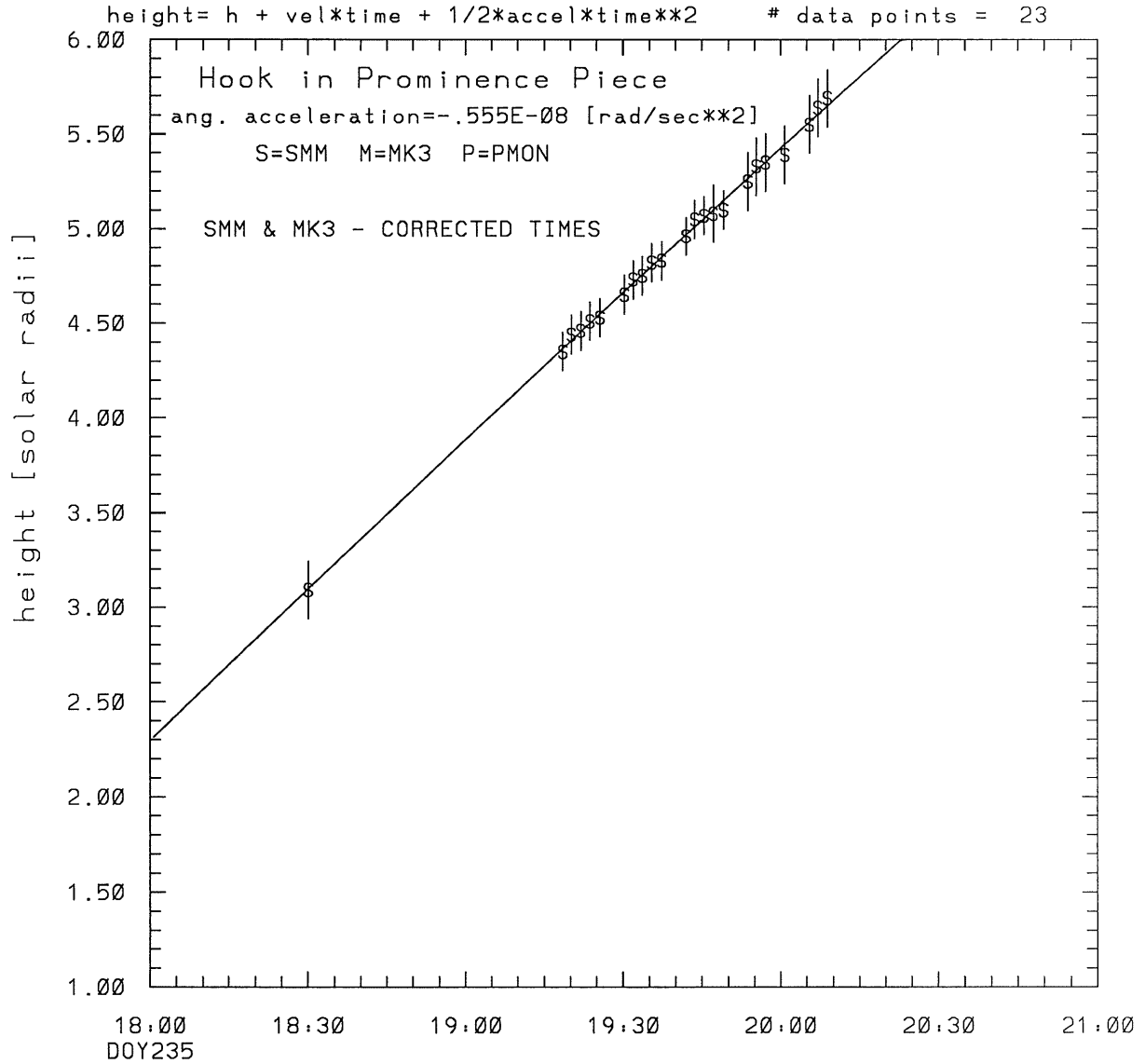
angle = initial angle + angular velocity * time # data points = 23



tstart=D0Y235 17: 8 +/- 0.1 [min.]

angular velocity= $0.923E-05$ +/- $0.152E-05$ [rad/sec]

SMM C/P 1980 DOY235 288 +/- 3 degrees

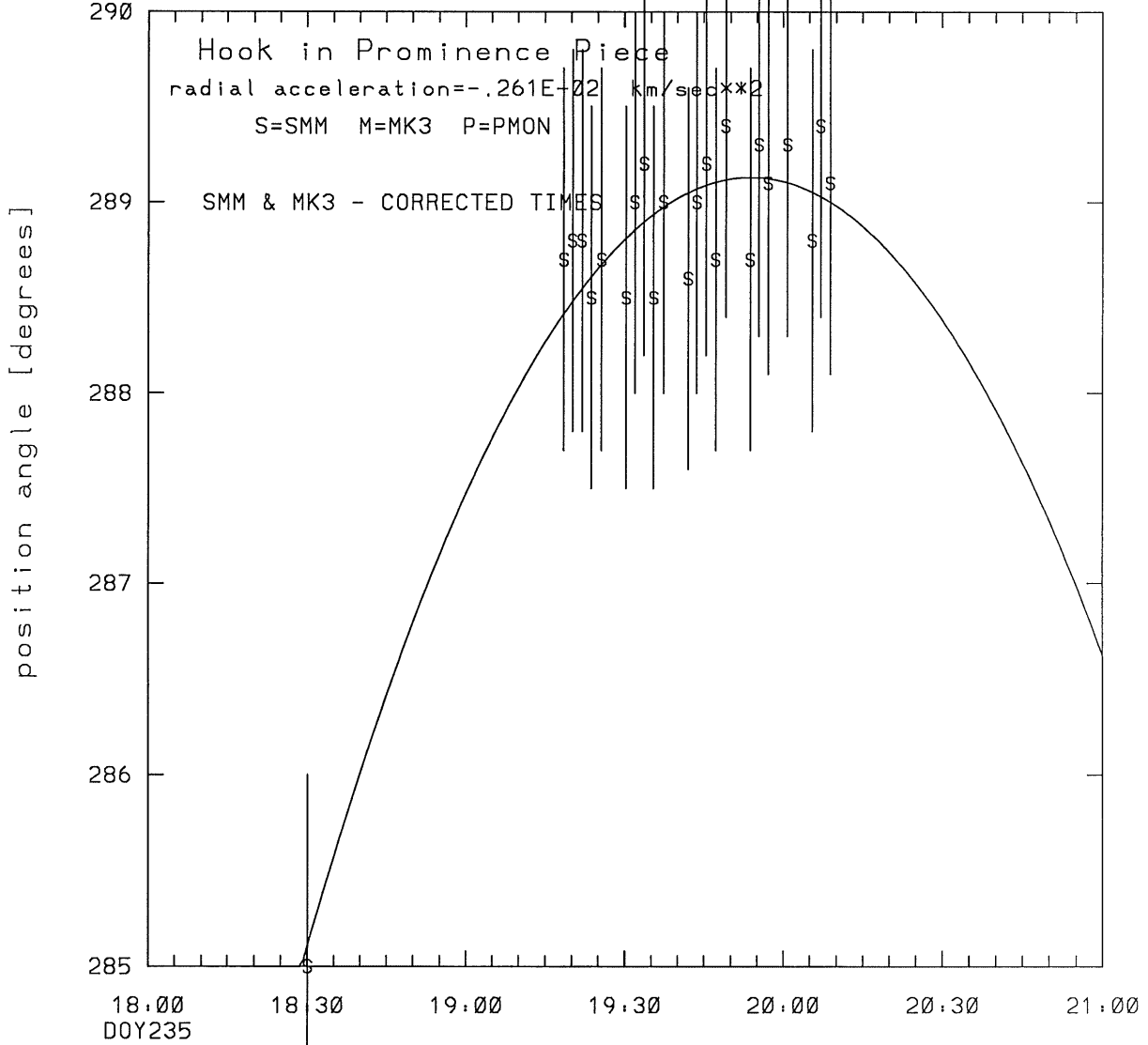


tstart = DOY235 17:14 +/- 3.9 [min.]

radial acceleration = $-0.0026 +/- 0.0033$ [km/sec**2]

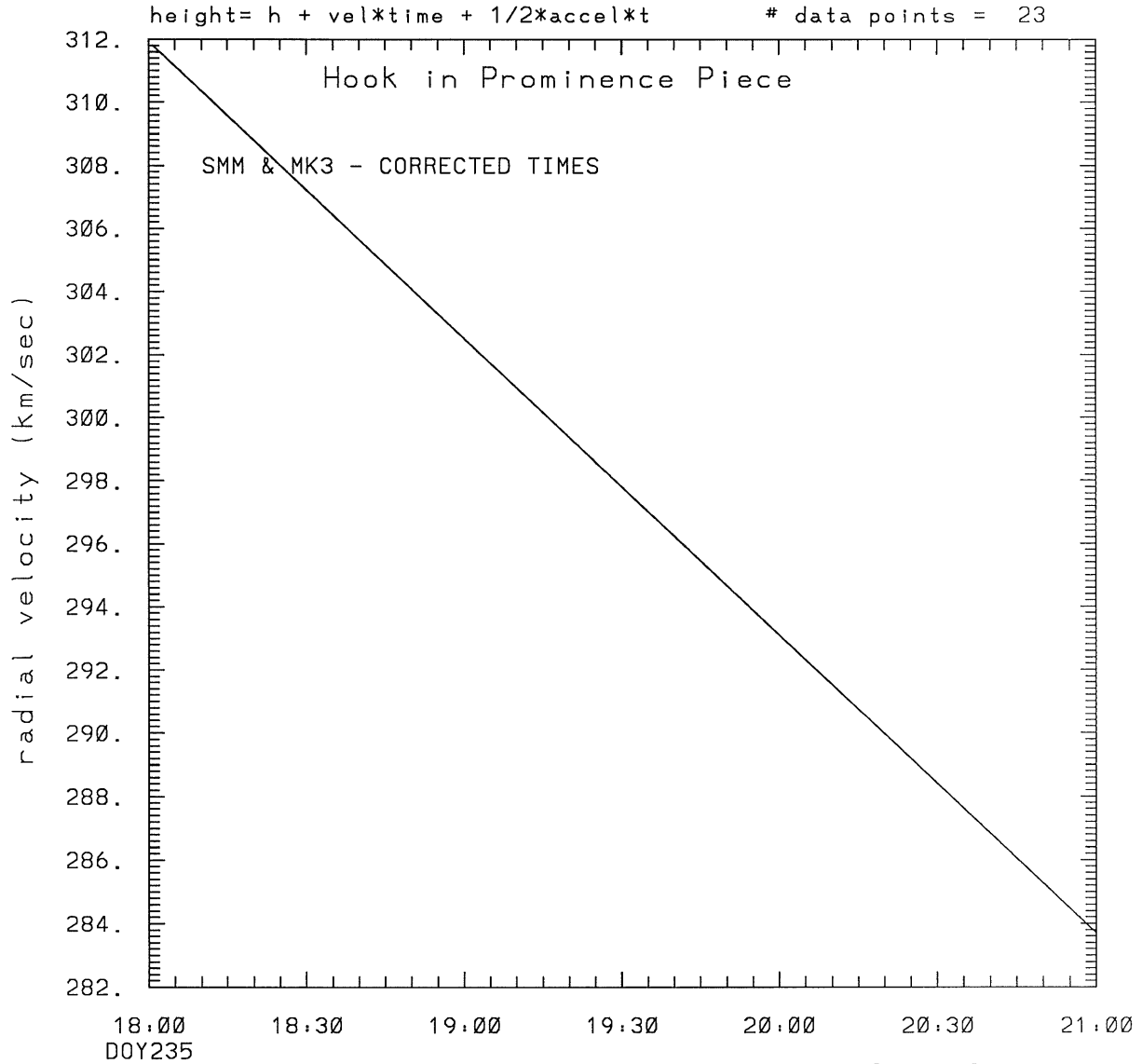
SMM C/P 1980 DOY235 288 +/- 3 degrees

angle = initial angle + angular velocity*time
+ 1/2 angular acceleration*time**2 # data points = 23



tstart = DOY235 17:14 +/- 3.9 [min.]
angular acceleration = $-.555E-08$ +/- $0.715E-09$ [rad/sec**2]

SMM C/P 1980 DOY235 288 +/- 3 degrees



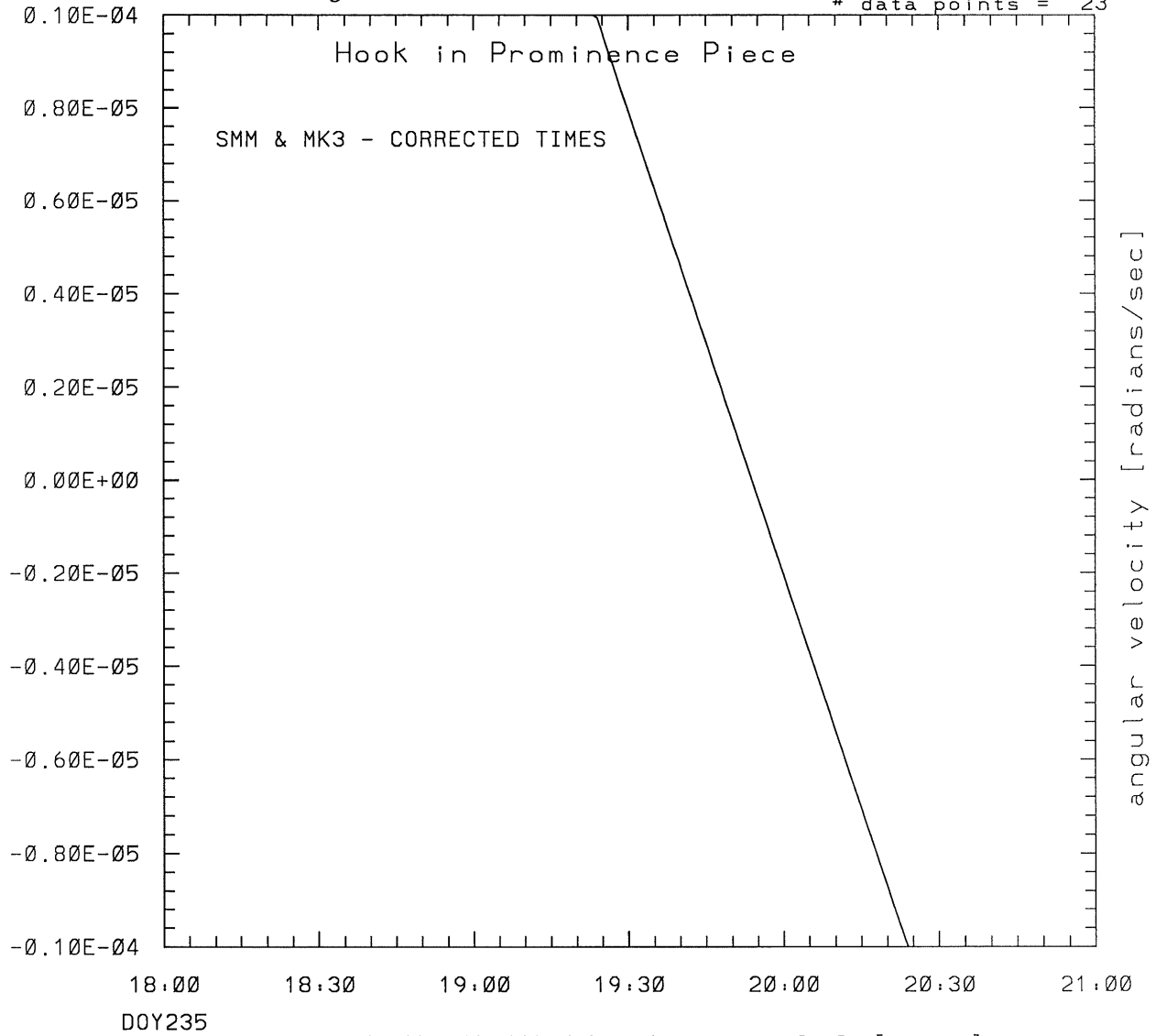
tstart=DOY235 17:14 +/- 3.9 [min.]

radial acceleration = $-.261E-02$ km/sec**2

SMM C/P 1980 DOY235 288 +/- 3 degrees

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

data points = 23



tstart=DOY235 17:14 +/- 3.9 [min.]

angular acceleration=-.555E-08 +/-

0.715E-09 [rad/sec**2]

This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in angle	error in angle	datatype
1980	235	18:30: 3	3.09 +/- 0.15	285.0 +/- 1.0		SMM	
1980	235	19:18:36	4.35 +/- 0.10	288.7 +/- 1.0		SMM	
1980	235	19:20:12	4.44 +/- 0.10	288.8 +/- 1.0		SMM	
1980	235	19:21:59	4.46 +/- 0.10	288.8 +/- 1.0		SMM	
1980	235	19:23:45	4.51 +/- 0.10	288.5 +/- 1.0		SMM	
1980	235	19:25:40	4.53 +/- 0.10	288.7 +/- 1.0		SMM	
1980	235	19:30:19	4.65 +/- 0.10	288.5 +/- 1.0		SMM	
1980	235	19:31:56	4.73 +/- 0.10	289.0 +/- 1.0		SMM	
1980	235	19:33:42	4.75 +/- 0.10	289.2 +/- 1.0		SMM	
1980	235	19:35:29	4.82 +/- 0.10	288.5 +/- 1.0		SMM	
1980	235	19:37:23	4.83 +/- 0.10	289.0 +/- 1.0		SMM	
1980	235	19:42: 3	4.96 +/- 0.10	288.6 +/- 1.0		SMM	
1980	235	19:43:39	5.05 +/- 0.10	289.0 +/- 1.0		SMM	
1980	235	19:45:26	5.07 +/- 0.10	289.2 +/- 1.0		SMM	
1980	235	19:47:12	5.08 +/- 0.15	288.7 +/- 1.0		SMM	
1980	235	19:49: 7	5.10 +/- 0.10	289.4 +/- 1.0		SMM	
1980	235	19:53:46	5.25 +/- 0.15	288.7 +/- 1.0		SMM	
1980	235	19:55:23	5.33 +/- 0.15	289.3 +/- 1.0		SMM	
1980	235	19:57: 9	5.35 +/- 0.15	289.1 +/- 1.0		SMM	
1980	235	20: 0:50	5.39 +/- 0.15	289.3 +/- 1.0		SMM	
1980	235	20: 5:30	5.55 +/- 0.15	288.8 +/- 1.0		SMM	
1980	235	20: 7: 6	5.64 +/- 0.15	289.4 +/- 1.0		SMM	
1980	235	20: 8:53	5.69 +/- 0.15	289.1 +/- 1.0		SMM	

Structure being measured:
Hook in Prominence Piece

OUTPUT:

START TIME:

Event began at t = 0 + -0.524E+02 +/- 0.111E+00 [minutes]
In more convenient units:
Event began at DOY 235 17: 8 +/- 0.111E+00 [minutes]

Origin defined at DOY235 18: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 298. +/- 4. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.235E+01 +/- 0.301E-01 [solar radii]
c(2) = 0.257E-01 +/- 0.306E-03 [radii/min]
c(2) = 0.298E+03 +/- 0.355E+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)= 0.27341E-01 [radii] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = 0.9232E-05 +/- 0.1520E-05[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

- a(1) = 286. +/- 1. [degrees]
- a(2) = 0.317E-01 +/- 0.523E-02 [degrees/min]
- a(2) = 0.923E-05 +/- 0.152E-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 18:30 = 298. km/sec
- The RADIAL velocity at 19:18 = 298. km/sec
- The RADIAL velocity at 19:20 = 298. km/sec
- The RADIAL velocity at 19:21 = 298. km/sec
- The RADIAL velocity at 19:23 = 298. km/sec
- The RADIAL velocity at 19:25 = 298. km/sec
- The RADIAL velocity at 19:30 = 298. km/sec
- The RADIAL velocity at 19:31 = 298. km/sec
- The RADIAL velocity at 19:33 = 298. km/sec
- The RADIAL velocity at 19:35 = 298. km/sec
- The RADIAL velocity at 19:37 = 298. km/sec
- The RADIAL velocity at 19:42 = 298. km/sec
- The RADIAL velocity at 19:43 = 298. km/sec
- The RADIAL velocity at 19:45 = 298. km/sec
- The RADIAL velocity at 19:47 = 298. km/sec
- The RADIAL velocity at 19:49 = 298. km/sec
- The RADIAL velocity at 19:53 = 298. km/sec
- The RADIAL velocity at 19:55 = 298. km/sec
- The RADIAL velocity at 19:57 = 298. km/sec
- The RADIAL velocity at 20: 0 = 298. km/sec
- The RADIAL velocity at 20: 5 = 298. km/sec
- The RADIAL velocity at 20: 7 = 298. km/sec
- The RADIAL velocity at 20: 8 = 298. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.56
Standard Deviation in start time measurement = 0.212E+02
Error in time = 0.48734E+01 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.657E-03
Reduced Chi Squared = 0.109E-01
Chi Squared = 0.230E+00
The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.999E+00
The probability that no LINEAR correlation exists between the variables = -0.51511
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
1980	235	18:30: 3	3.09 +/- 0.15	285.0 +/- 1.0		SMM	
1980	235	19:18:36	4.35 +/- 0.10	288.7 +/- 1.0		SMM	
1980	235	19:20:12	4.44 +/- 0.10	288.8 +/- 1.0		SMM	
1980	235	19:21:59	4.46 +/- 0.10	288.8 +/- 1.0		SMM	
1980	235	19:23:45	4.51 +/- 0.10	288.5 +/- 1.0		SMM	
1980	235	19:25:40	4.53 +/- 0.10	288.7 +/- 1.0		SMM	
1980	235	19:30:19	4.65 +/- 0.10	288.5 +/- 1.0		SMM	
1980	235	19:31:56	4.73 +/- 0.10	289.0 +/- 1.0		SMM	
1980	235	19:33:42	4.75 +/- 0.10	289.2 +/- 1.0		SMM	
1980	235	19:35:29	4.82 +/- 0.10	288.5 +/- 1.0		SMM	
1980	235	19:37:23	4.83 +/- 0.10	289.0 +/- 1.0		SMM	
1980	235	19:42: 3	4.96 +/- 0.10	288.6 +/- 1.0		SMM	
1980	235	19:43:39	5.05 +/- 0.10	289.0 +/- 1.0		SMM	
1980	235	19:45:26	5.07 +/- 0.10	289.2 +/- 1.0		SMM	
1980	235	19:47:12	5.08 +/- 0.15	288.7 +/- 1.0		SMM	
1980	235	19:49: 7	5.10 +/- 0.10	289.4 +/- 1.0		SMM	
1980	235	19:53:46	5.25 +/- 0.15	288.7 +/- 1.0		SMM	
1980	235	19:55:23	5.33 +/- 0.15	289.3 +/- 1.0		SMM	
1980	235	19:57: 9	5.35 +/- 0.15	289.1 +/- 1.0		SMM	
1980	235	20: 0:50	5.39 +/- 0.15	289.3 +/- 1.0		SMM	
1980	235	20: 5:30	5.55 +/- 0.15	288.8 +/- 1.0		SMM	
1980	235	20: 7: 6	5.64 +/- 0.15	289.4 +/- 1.0		SMM	
1980	235	20: 8:53	5.69 +/- 0.15	289.1 +/- 1.0		SMM	

Structure being measured:
Hook in Prominence Piece

OUTPUT:

START TIME:

Event began at t = 0 + -0.476E+02 +/- 0.394E+01 [minutes]
In more convenient units:
Event began at DOY 235 17:14 +/- 0.394E+01 [minutes]

Origin defined at DOY235 18: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = -0.261E-02 +/- 0.326E-02 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.229E+01 +/- 0.696E-01 [solar radii]
c(2) = 0.269E-01 +/- 0.152E-02 [radii/min]
c(2) = 0.312E+03 +/- 0.176E+02 [km/sec]
c(3) = -0.676E-05 +/- 0.842E-05 [radii/min**2]
c(3) = -0.261E-02 +/- 0.326E-02 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.57089E-01 [radii] Bevington pg 154 (8-30)

Exact error in c(1) = 0.35257E-02 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.12959E-02 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.91509E-04 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.73556E-05 [radii/min**2] Bevington pg 154 (8-30)
Exact error in c(3) = 0.55907E-06 [radii/min**2] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

ANGULAR ACCELERATION= -0.5549E-08 +/- 0.7145E-09[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 282. +/- 1. [degrees]
a(2) = 0.130E+00 +/- 0.130E-01 [degrees/min]
a(2) = 0.379E-04 +/- 0.378E-05 [rad/sec]
a(3) = -0.572E-03 +/- 0.737E-04 [degrees/min**2]
a(3) = -0.555E-08 +/- 0.715E-09 [rad/sec**2]

The RADIAL velocity at 18:30 = 307. km/sec
The RADIAL velocity at 19:18 = 300. km/sec
The RADIAL velocity at 19:20 = 299. km/sec
The RADIAL velocity at 19:21 = 299. km/sec
The RADIAL velocity at 19:23 = 299. km/sec
The RADIAL velocity at 19:25 = 298. km/sec
The RADIAL velocity at 19:30 = 298. km/sec
The RADIAL velocity at 19:31 = 298. km/sec
The RADIAL velocity at 19:33 = 297. km/sec
The RADIAL velocity at 19:35 = 297. km/sec
The RADIAL velocity at 19:37 = 297. km/sec
The RADIAL velocity at 19:42 = 296. km/sec
The RADIAL velocity at 19:43 = 296. km/sec
The RADIAL velocity at 19:45 = 295. km/sec
The RADIAL velocity at 19:47 = 295. km/sec
The RADIAL velocity at 19:49 = 295. km/sec
The RADIAL velocity at 19:53 = 294. km/sec
The RADIAL velocity at 19:55 = 294. km/sec
The RADIAL velocity at 19:57 = 294. km/sec
The RADIAL velocity at 20: 0 = 293. km/sec
The RADIAL velocity at 20: 5 = 292. km/sec
The RADIAL velocity at 20: 7 = 292. km/sec
The RADIAL velocity at 20: 8 = 292. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.56

Standard Deviation in start time measurement = 0.212E+02

Value of reduced Chi Squared returned from nllst2 = 0.668E-03

Reduced Chi Squared = 0.119E-01

Chi Squared = 0.238E+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 = 0.8336E+00

The correlation between the data and the time**2 term = 0.8428E+00

The correlation between the data and the complete equation of motion=0.9972E+00

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