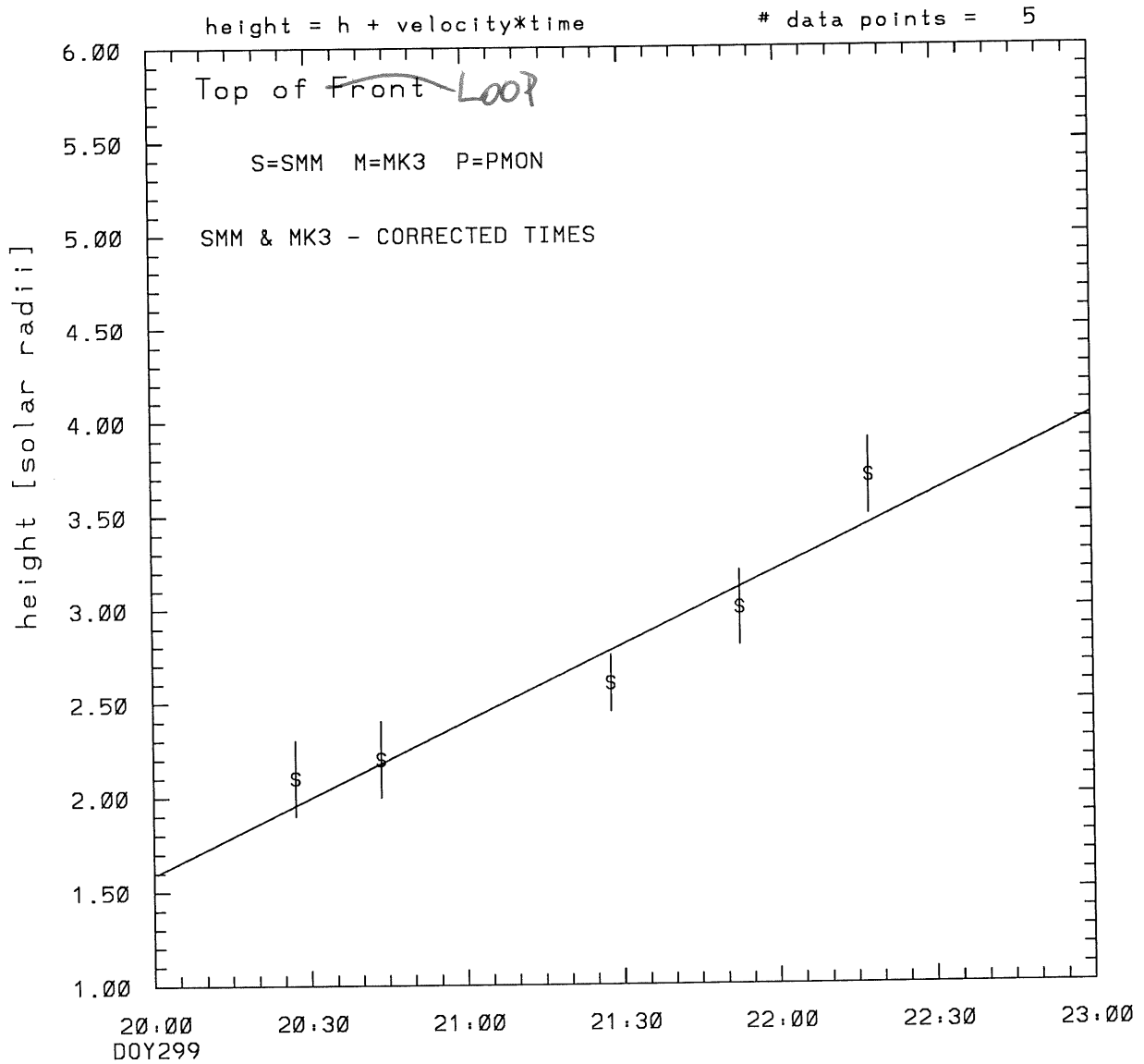
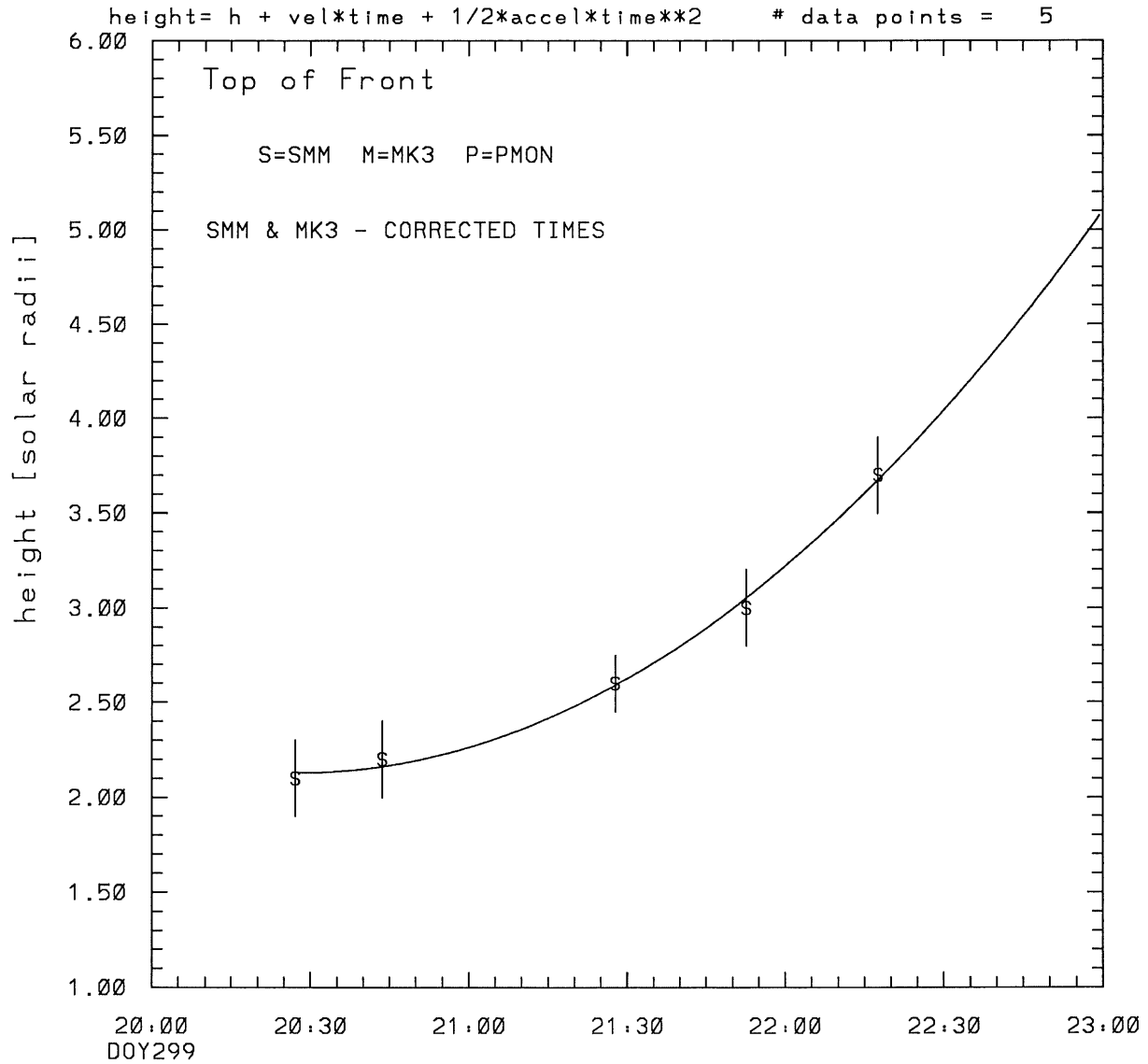


SMM C/P 1987 DOY299 125 +/- 0 degrees



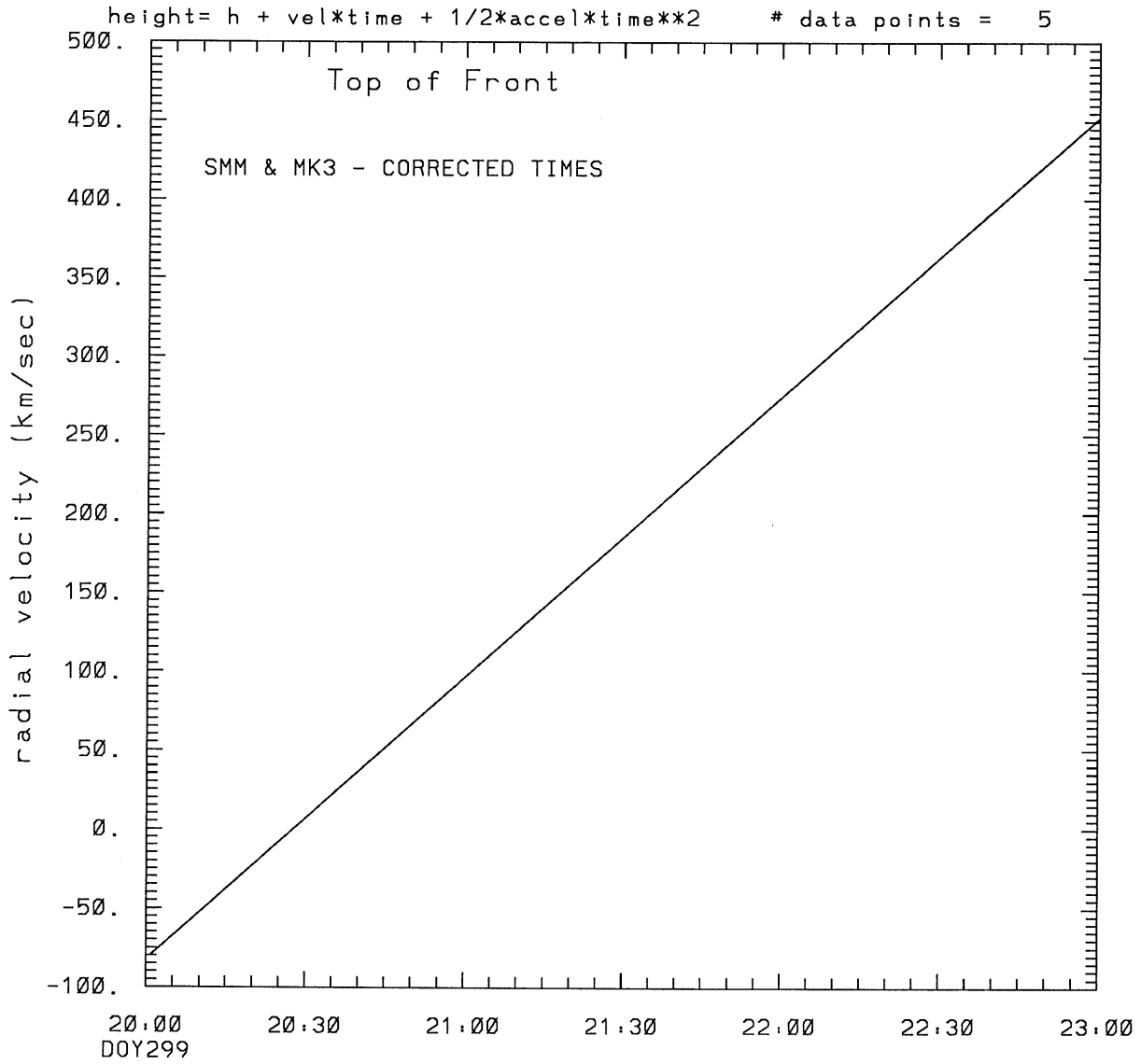
tstart=DOY299 19:18 +/- 2.7 [min.]  
radial velocity= 157. +/- 24. [km/sec]

SMM C/P 1987 DOY299 125 +/- 0 degrees



tstart=DOY299 20:27 from derivative=0  
Event begins at 2.13 Solar Radii  
radial acceleration = 0.0495 +/- 0.0058 [km/sec\*\*2]

SMM C/P 1987 DOY299 125 +/- 0 degrees



tstart=DOY299 20:27 from derivative=0  
Event begins at 2.13 Solar Radii  
radial acceleration=0.495E-01 km/sec\*\*2

\*\*\*\*\*

This is a 1 order run

\*\*\*\*\*

\*\*\*\*\*

INPUT:

\*\*\*\*\*

year	doy	time	radii	radius	error in	angle	angle	error in	datatype
1987	299	20:27: 7	2.10	+/- 0.20	125.0	+/- 0.5			SMM
1987	299	20:43:37	2.20	+/- 0.20	125.0	+/- 0.5			SMM
1987	299	21:27:45	2.60	+/- 0.15	125.0	+/- 0.5			SMM
1987	299	21:52:40	3.00	+/- 0.20	125.0	+/- 1.0			SMM
1987	299	22:17:35	3.70	+/- 0.20	125.0	+/- 1.0			SMM

\*\*\*\*\*

Structure being measured:

Top of Front

\*\*\*\*\*

\*\*\*\*\*

OUTPUT:

\*\*\*\*\*

START TIME:

Event began at  $t = 0 + -0.435E+02 +/- 0.266E+01$  [minutes]

In more convenient units:

Event began at DOY 299 19:18 +/- 0.266E+01 [minutes]

Origin defined at DOY299 20: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 157. +/- 24. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.159E+01 +/- 0.191E+00 [solar radii]  
c(2) = 0.135E-01 +/- 0.210E-02 [radii/min]  
c(2) = 0.157E+03 +/- 0.244E+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)= 0.20462E+00 [radii] see Bevington pg. 114

error in c(2)= 0.22336E-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) = 125. +/- 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 20:27 = 0.000E+00 km/sec  
The TOTAL velocity at 20:27 = 157. km/sec

The TANGENTIAL velocity at 20:43 = 0.000E+00 km/sec  
The TOTAL velocity at 20:43 = 157. km/sec

The TANGENTIAL velocity at 21:27 = 0.000E+00 km/sec  
The TOTAL velocity at 21:27 = 157. km/sec

The TANGENTIAL velocity at 21:52 = 0.000E+00 km/sec  
The TOTAL velocity at 21:52 = 157. km/sec

The TANGENTIAL velocity at 22:17 = 0.000E+00 km/sec  
The TOTAL velocity at 22:17 = 157. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.65  
Standard Deviation in start time measurement = 0.413E+02  
Error in time = 0.26463E+02 using best fit method  
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.328E-01

Reduced Chi Squared = 0.160E+00

Chi Squared = 0.481E+00

The probability for exceeding chi square = 0.992E+00

The correlation coefficient = 0.963E+00

The probability that no LINEAR correlation exists between the variables = 0.8511E-02

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

\*\*\*\*\*

This is a 2 order run

\*\*\*\*\*

\*\*\*\*\*

INPUT:

\*\*\*\*\*

year	doy	time	radii	radius	error in	angle	angle	error in	datatype
1987	299	20:27:7	2.10	+/- 0.20	125.0	+/- 0.5			SMM
1987	299	20:43:37	2.20	+/- 0.20	125.0	+/- 0.5			SMM
1987	299	21:27:45	2.60	+/- 0.15	125.0	+/- 0.5			SMM
1987	299	21:52:40	3.00	+/- 0.20	125.0	+/- 1.0			SMM
1987	299	22:17:35	3.70	+/- 0.20	125.0	+/- 1.0			SMM

\*\*\*\*\*

Structure being measured:

Top of Front

\*\*\*\*\*

\*\*\*\*\*

OUTPUT:

\*\*\*\*\*

START TIME:

tstart=DOY299 20:27 from derivative = 0

Event begins at 2.13 Solar Radii

Origin defined at DOY299 20: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.495E-01 +/- 0.578E-02 km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.223E+01 +/- 0.866E-01 [solar radii]  
c(2) = -0.710E-02 +/- 0.246E-02 [radii/min]  
c(2) = -0.824E+02 +/- 0.285E+02 [km/sec]  
c(3) = 0.128E-03 +/- 0.150E-04 [radii/min\*\*2]  
c(3) = 0.495E-01 +/- 0.578E-02 [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.11259E+00 [radii] Bevington pg 154 (8-30)  
Exact error in c(1) = 0.36104E-01 [radii] Bevington pg 154 (8-28)  
Approximate error in c(2) = 0.33635E-02 [radii/min] Bevington pg 154 (8-30)  
Exact error in c(2) = 0.84390E-03 [radii/min] Bevington pg 154 (8-28)  
Approximate error in c(3) = 0.20472E-04 [radii/min\*\*] Bevington pg 154 (8-30)  
Exact error in c(3) = 0.49752E-05 [radii/min\*\*] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

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

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 125. +/- 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 20:27 = 0.000E+00 km/sec

The TOTAL velocity at 20:27 = -2. km/sec

The TANGENTIAL velocity at 20:43 = 0.000E+00 km/sec

The TOTAL velocity at 20:43 = 47. km/sec

The TANGENTIAL velocity at 21:27 = 0.000E+00 km/sec

The TOTAL velocity at 21:27 = 178. km/sec

The TANGENTIAL velocity at 21:52 = 0.000E+00 km/sec

The TOTAL velocity at 21:52 = 252. km/sec

The TANGENTIAL velocity at 22:17 = 0.000E+00 km/sec

The TOTAL velocity at 22:17 = 326. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.65

Standard Deviation in start time measurement = 0.413E+02

Value of reduced Chi Squared returned from nllst2 = 0.172E-02

Reduced Chi Squared = 0.928E-02

Chi Squared = 0.186E-01

The probability for exceeding chi square = 0.998E+00

For a second order fit 3 correlation coefficients are given:

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

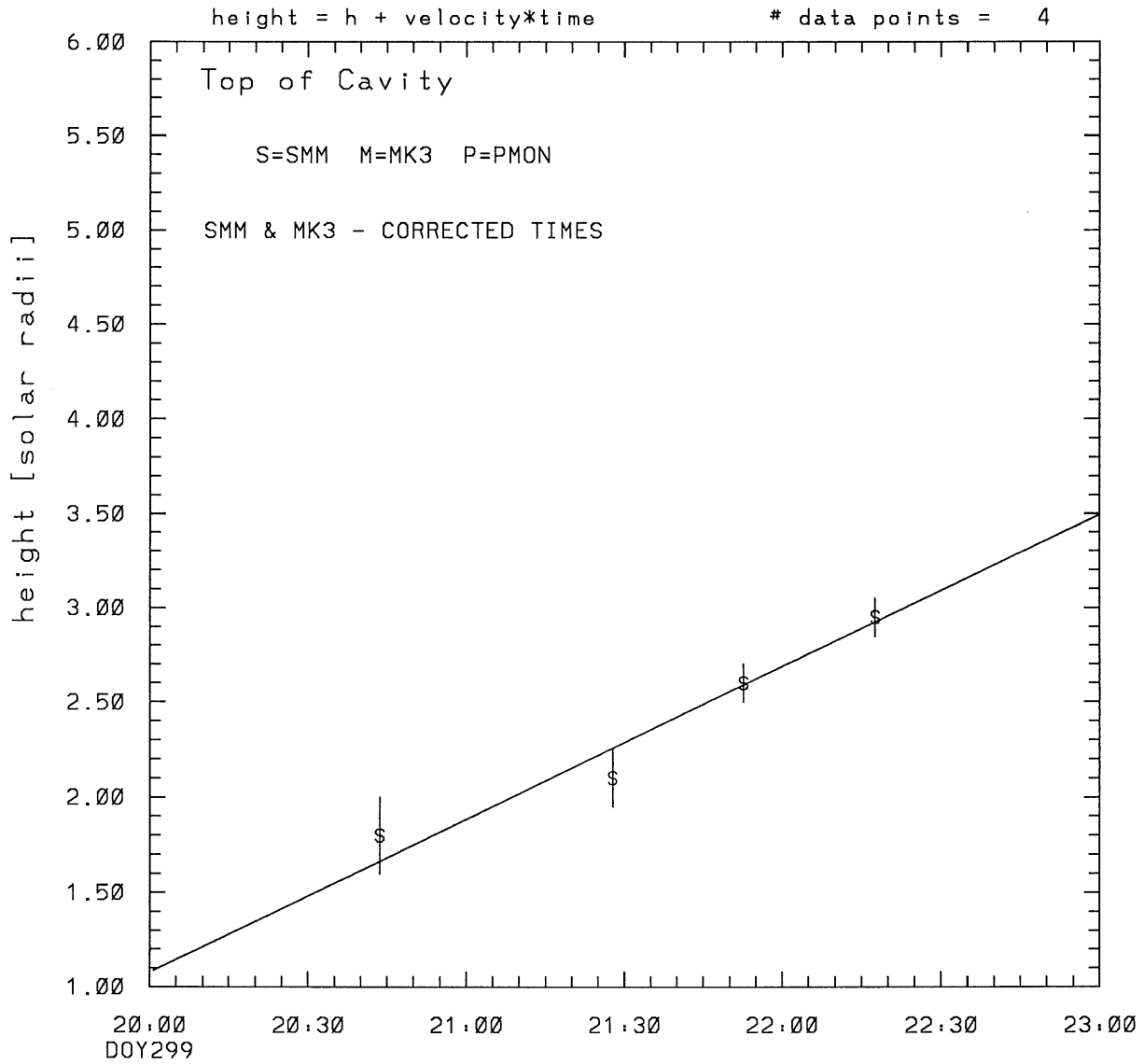
The correlation between the data and the term linear in time = 0.8886E+00

The correlation between the data and the time\*\*2 term = 0.9248E+00

The correlation between the data and the complete equation of motion = 0.9966E+00

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

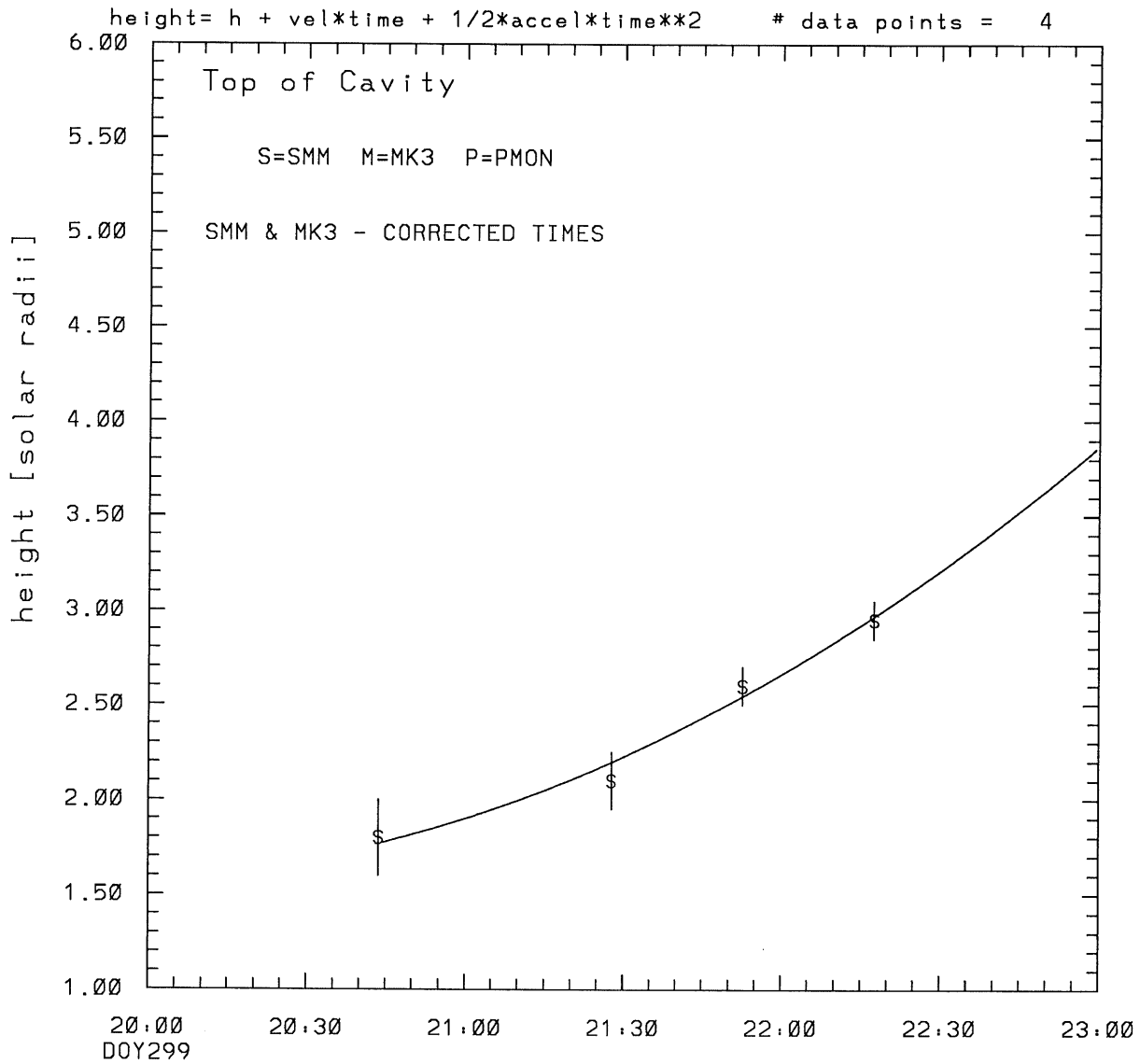
SMM C/P 1987 DOY299 120 +/- 0 degrees



tstart=DOY299 19:56 +/- 0.5 [min.]  
radial velocity= 156. +/- 19. [km/sec]



SMM C/P 1987 DOY299 120 +/- 0 degrees

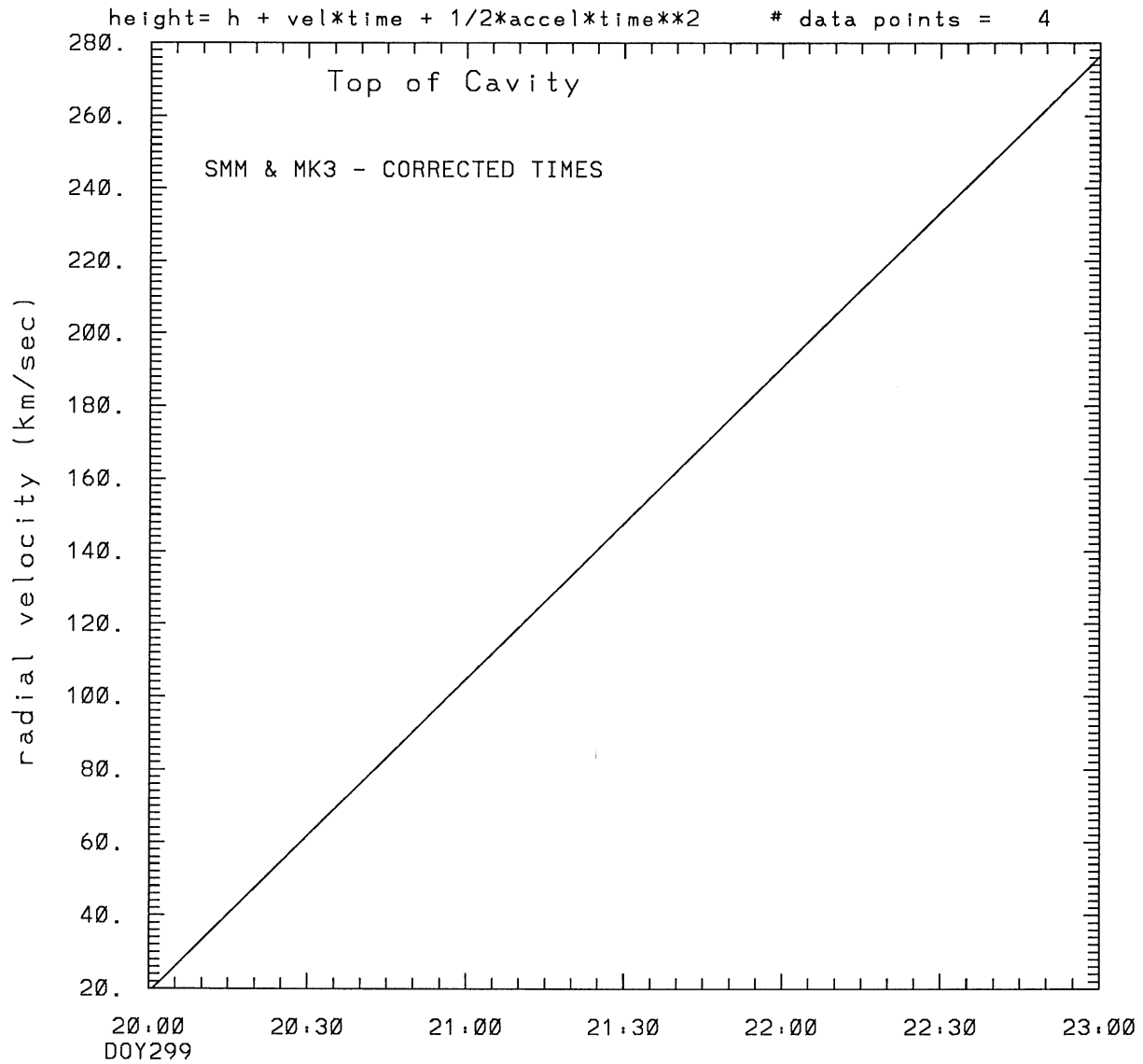


tstart=DOY299 19:47 from derivative=0

Event begins at 1.57 Solar Radii

radial acceleration = 0.0238 +/- 0.0163 [km/sec\*\*2]

SMM C/P 1987 DOY299 120 +/- 0 degrees



tstart=DOY299 19:47 from derivative=0  
Event begins at 1.57 Solar Radii  
radial acceleration=0.238E-01 km/sec\*\*2

\*\*\*\*\*  
This is a 1 order run  
\*\*\*\*\*

\*\*\*\*\*  
INPUT:  
\*\*\*\*\*

year	doy	time	radii	radius	error in	angle	angle	datatype
1987	299	20:43:37	1.80	+/- 0.20	120.0	+/- 0.5	SMM	
1987	299	21:27:45	2.10	+/- 0.15	120.0	+/- 0.5	SMM	
1987	299	21:52:40	2.60	+/- 0.10	120.0	+/- 0.5	SMM	
1987	299	22:17:35	2.95	+/- 0.10	120.0	+/- 0.5	SMM	

\*\*\*\*\*  
Structure being measured:  
Top of Cavity  
\*\*\*\*\*

\*\*\*\*\*  
OUTPUT:  
\*\*\*\*\*

START TIME:

Event began at  $t = 0 + -0.582E+01 +/- 0.501E+00$  [minutes]  
In more convenient units:  
Event began at DOY 299 19:56 +/- 0.501E+00 [minutes]

Origin defined at DOY299 20: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 156. +/- 19. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.108E+01 +/- 0.185E+00$  [solar radii]  
 $c(2) = 0.134E-01 +/- 0.161E-02$  [radii/min]  
 $c(2) = 0.156E+03 +/- 0.187E+02$  [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  $c(1) = 0.21609E+00$  [radii] see Bevington pg. 114  
error in  $c(2) = 0.21286E-02$  [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) = 120. +/- 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 20:43 = 0.000E+00 km/sec

The TOTAL velocity at 20:43 = 156. km/sec

The TANGENTIAL velocity at 21:27 = 0.000E+00 km/sec

The TOTAL velocity at 21:27 = 156. km/sec

The TANGENTIAL velocity at 21:52 = 0.000E+00 km/sec

The TOTAL velocity at 21:52 = 156. km/sec

The TANGENTIAL velocity at 22:17 = 0.000E+00 km/sec

The TOTAL velocity at 22:17 = 156. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.51

Standard Deviation in start time measurement = 0.347E+02

Error in time = 0.15567E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.801E-02

Reduced Chi Squared = 0.350E-01

Chi Squared = 0.701E-01

The probability for exceeding chi square = 0.992E+00

The correlation coefficient = 0.975E+00

The probability that no LINEAR correlation exists between the variables = 0.2518E-01

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

\*\*\*\*\*

This is a 2 order run

\*\*\*\*\*

\*\*\*\*\*

INPUT:

\*\*\*\*\*

year	day	time	radii	radius	error in	angle	angle	datatype
1987	299	20:43:37	1.80	+/- 0.20	120.0	+/- 0.5	SMM	
1987	299	21:27:45	2.10	+/- 0.15	120.0	+/- 0.5	SMM	
1987	299	21:52:40	2.60	+/- 0.10	120.0	+/- 0.5	SMM	
1987	299	22:17:35	2.95	+/- 0.10	120.0	+/- 0.5	SMM	

\*\*\*\*\*

Structure being measured:

Top of Cavity

\*\*\*\*\*

\*\*\*\*\*

OUTPUT:

\*\*\*\*\*

START TIME:

tstart=DOY299 19:47 from derivative = 0  
Event begins at 1.57 Solar Radii  
Origin defined at DOY299 20: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.238E-01 +/- 0.163E-01 km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.158E+01 +/- 0.377E+00 [solar radii]  
c(2) = 0.163E-02 +/- 0.819E-02 [radii/min]  
c(2) = 0.190E+02 +/- 0.950E+02 [km/sec]  
c(3) = 0.616E-04 +/- 0.422E-04 [radii/min\*\*2]  
c(3) = 0.238E-01 +/- 0.163E-01 [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.43491E+00 [radii] Bevington pg 154 (8-30)  
Exact error in c(1) = 0.17954E+00 [radii] Bevington pg 154 (8-28)  
Approximate error in c(2) = 0.10737E-01 [radii/min] Bevington pg 154 (8-30)  
Exact error in c(2) = 0.50125E-02 [radii/min] Bevington pg 154 (8-28)  
Approximate error in c(3) = 0.59388E-04 [radii/min\*\*] Bevington pg 154 (8-30)  
Exact error in c(3) = 0.27451E-04 [radii/min\*\*] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

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

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 120. +/- 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 20:43 = 0.000E+00 km/sec

The TOTAL velocity at 20:43 = 81. km/sec

The TANGENTIAL velocity at 21:27 = 0.000E+00 km/sec

The TOTAL velocity at 21:27 = 144. km/sec

The TANGENTIAL velocity at 21:52 = 0.000E+00 km/sec

The TOTAL velocity at 21:52 = 180. km/sec

The TANGENTIAL velocity at 22:17 = 0.000E+00 km/sec

The TOTAL velocity at 22:17 = 216. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.51

Standard Deviation in start time measurement = 0.347E+02

Value of reduced Chi Squared returned from nllst2 = 0.582E-02

Reduced Chi Squared = 0.304E-01

Chi Squared = 0.304E-01

The probability for exceeding chi square = 0.939E+00

For a second order fit 3 correlation coefficients are given:

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

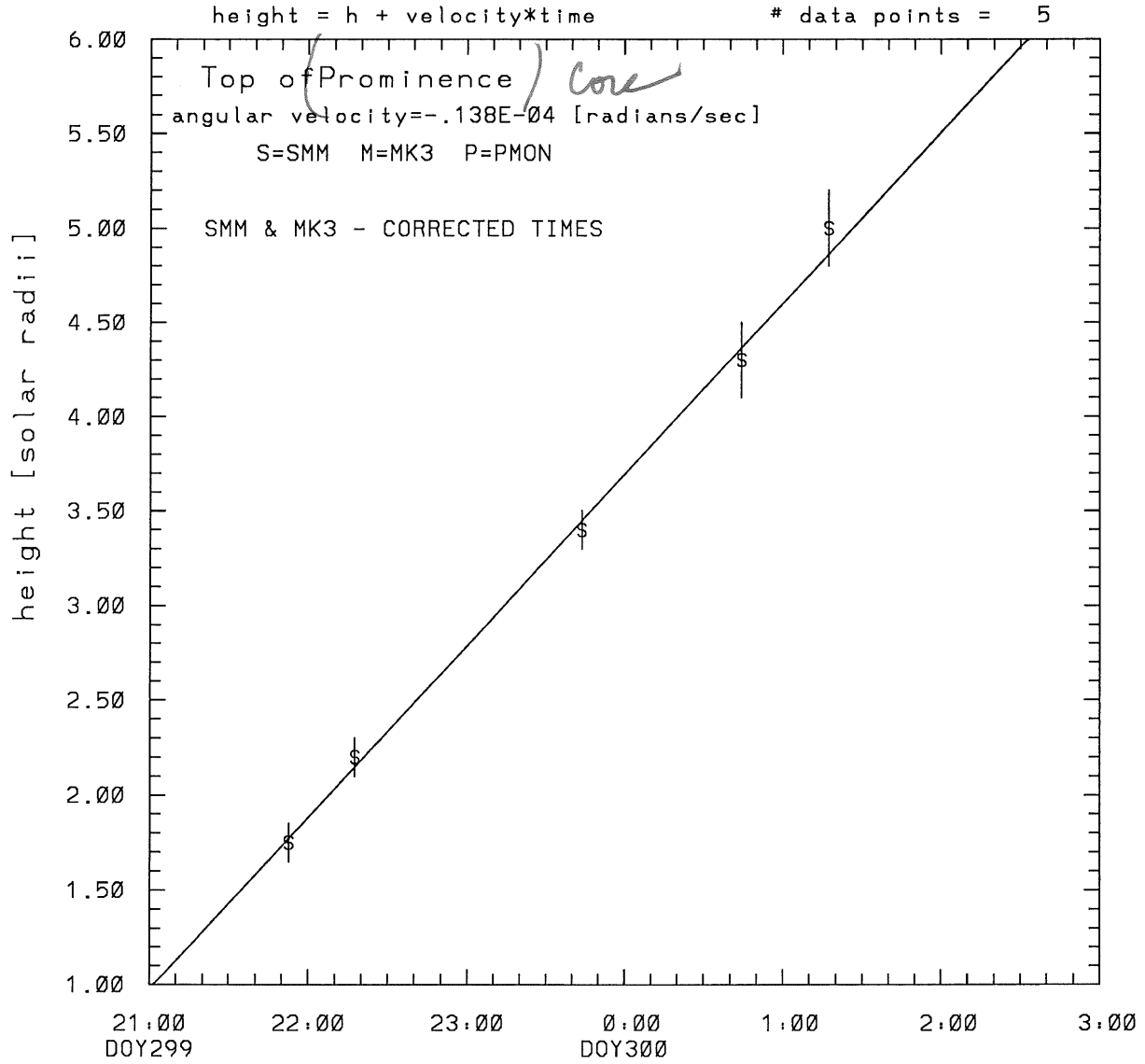
The correlation between the data and the term linear in time = 0.9097E+00

The correlation between the data and the time\*\*2 term = 0.9666E+00

The correlation between the data and the complete equation of motion = 0.9766E+00

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

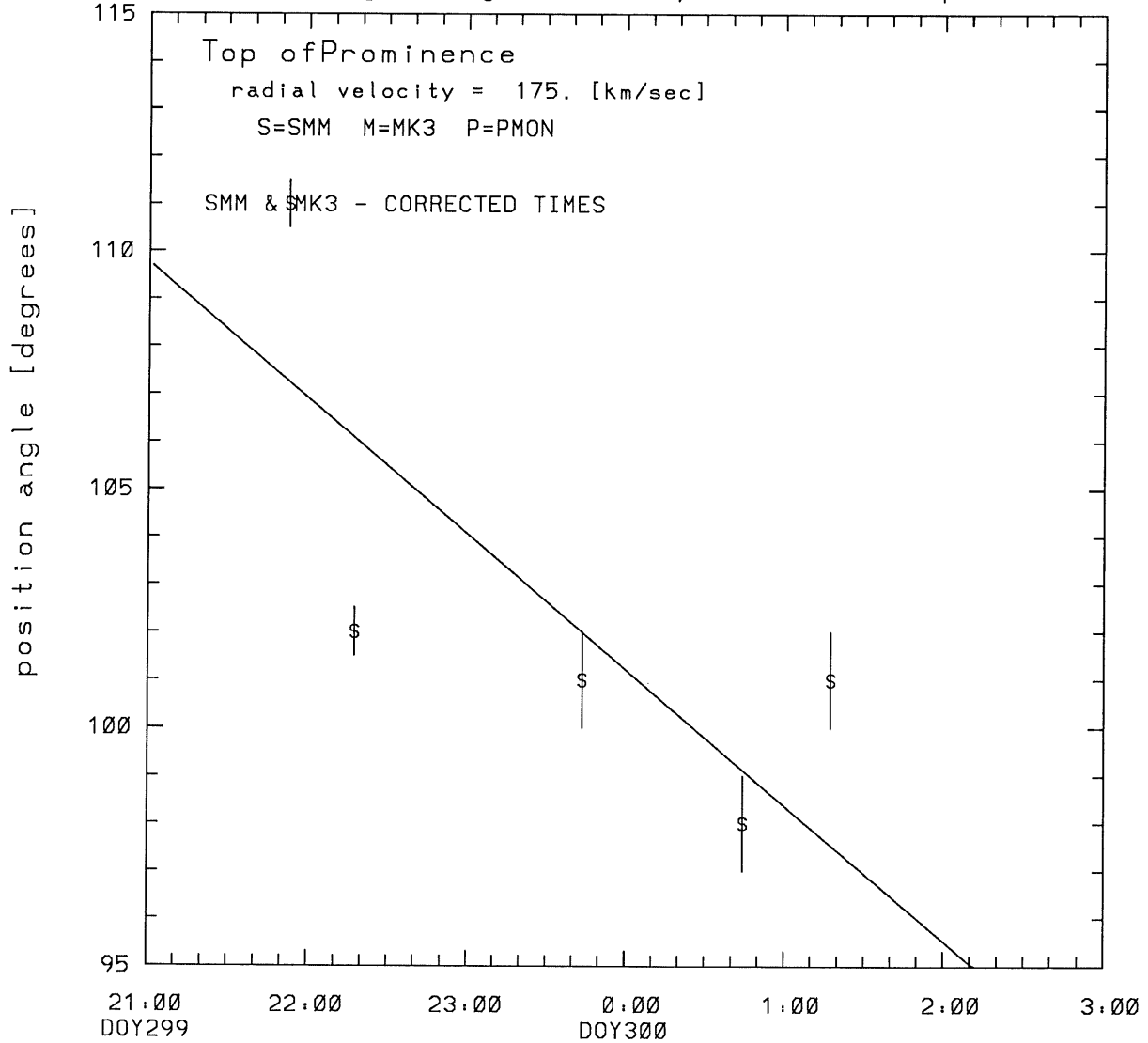
SMM C/P 1987 DOY299 102 +/- 9 degrees



tstart=DOY299 21: 2 +/- 0.0 [min.]  
radial velocity= 175. +/- 5. [km/sec]

SMM C/P 1987 DOY299 102 +/- 9 degrees

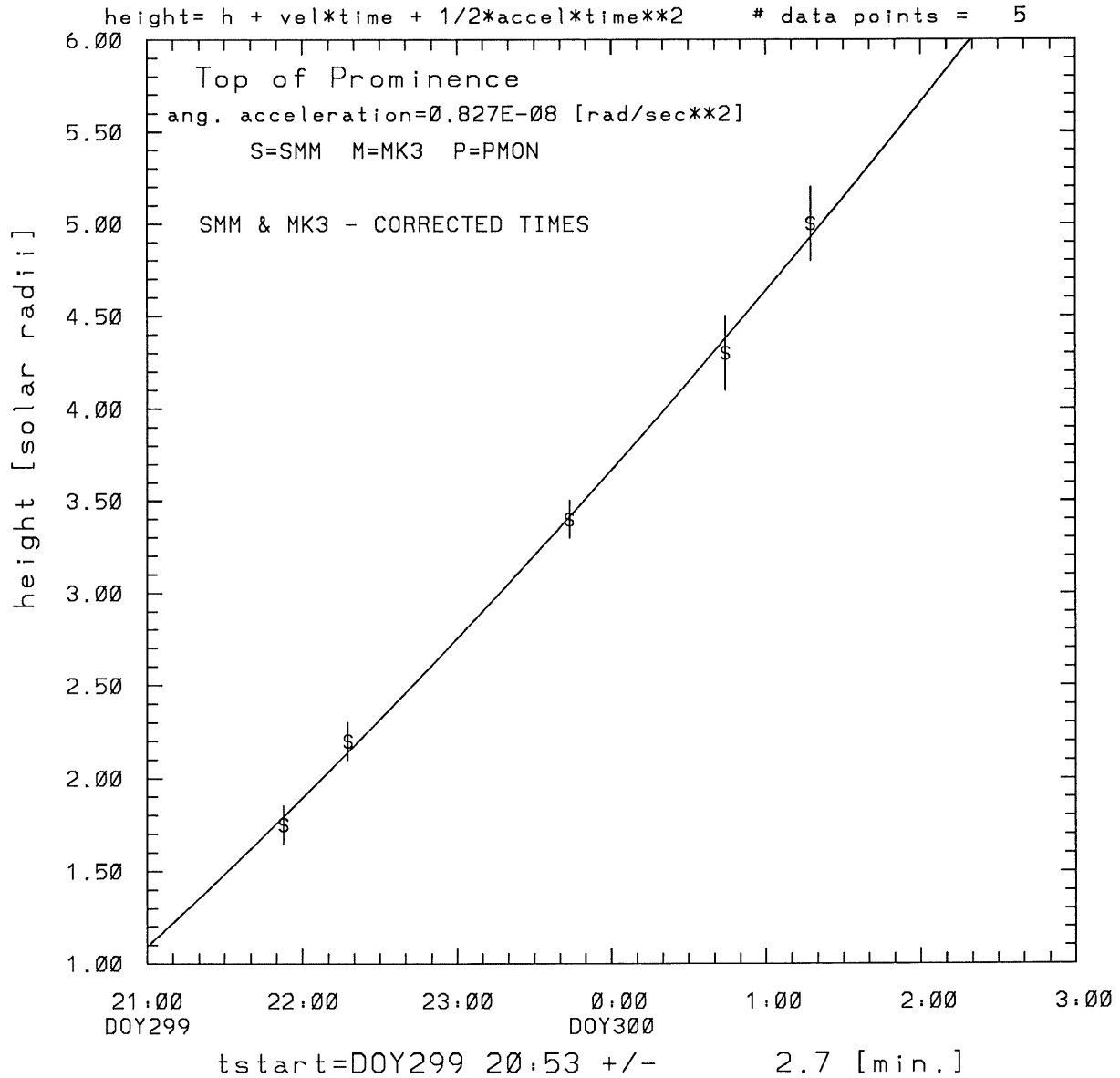
angle = initial angle + angular velocity \* time # data points = 5



tstart = DOY299 21: 2 +/- 0.0 [min.]  
angular velocity =  $-.138E-04$  +/-  $0.725E-05$  [rad/sec]



SMM C/P 1987 DOY299 102 +/- 9 degrees

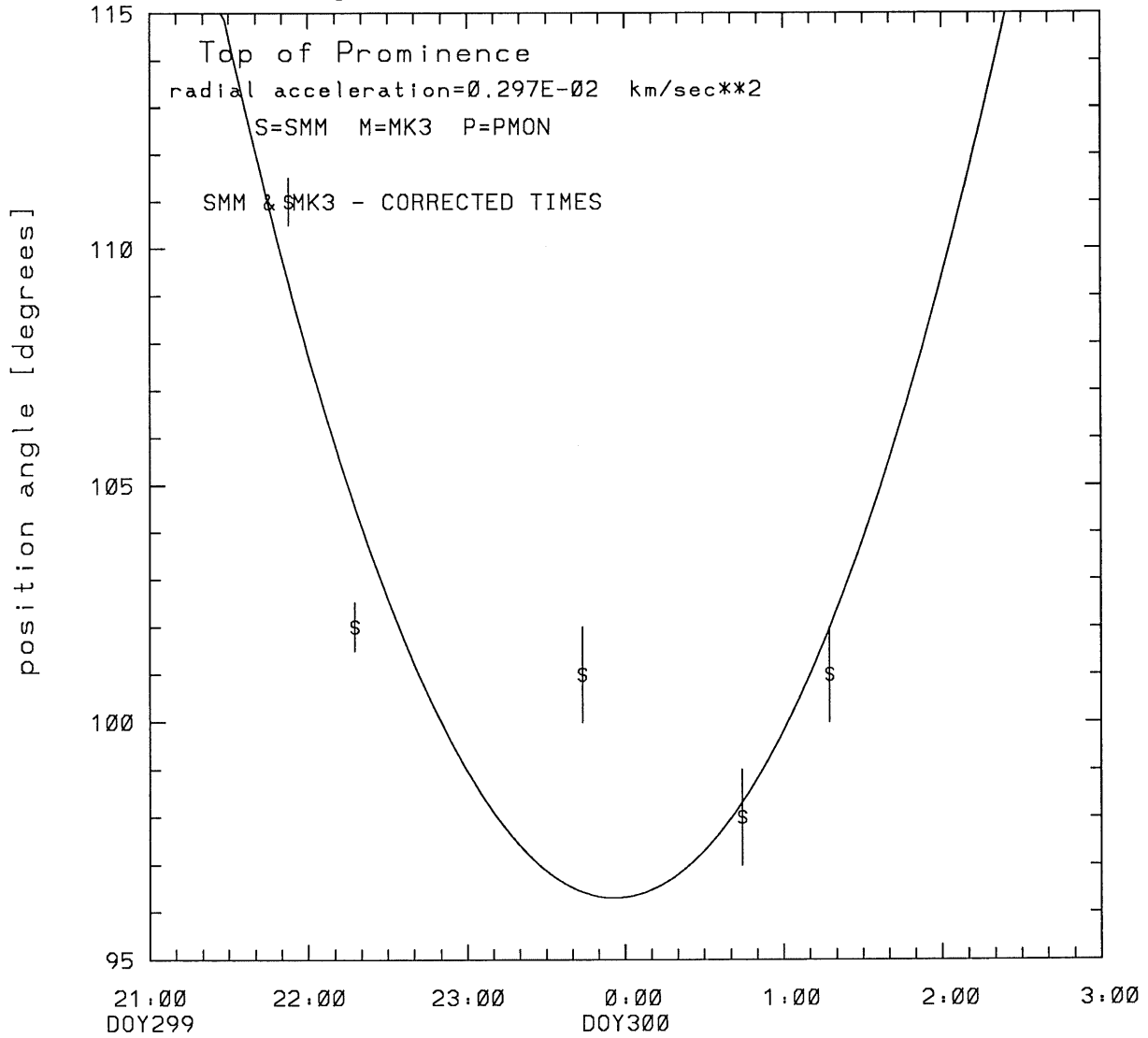


radial acceleration =  $0.0030 \pm 0.0030$  [km/sec\*\*2]

SMM C/P 1987 DOY299 102 +/- 9 degrees

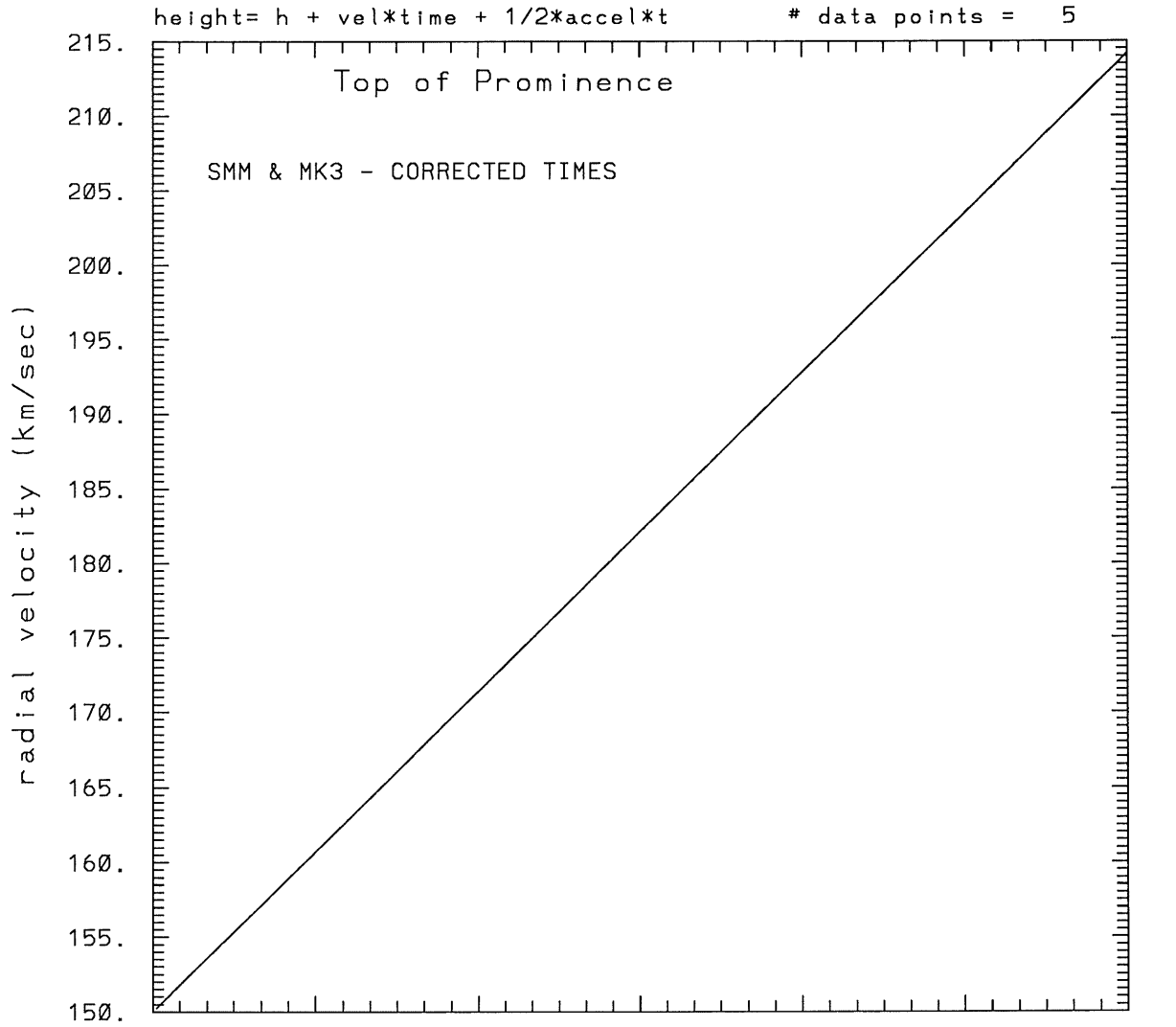
angle = initial angle + angular velocity\*time  
+ 1/2 angular acceleration\*time\*\*2

# data points = 5



tstart=DOY299 20:53 +/- 2.7 [min.]  
angular acceleration=0.827E-08 +/- 0.423E-08 [rad/sec\*\*2]

SMM C/P 1987 DOY299 102 +/- 9 degrees



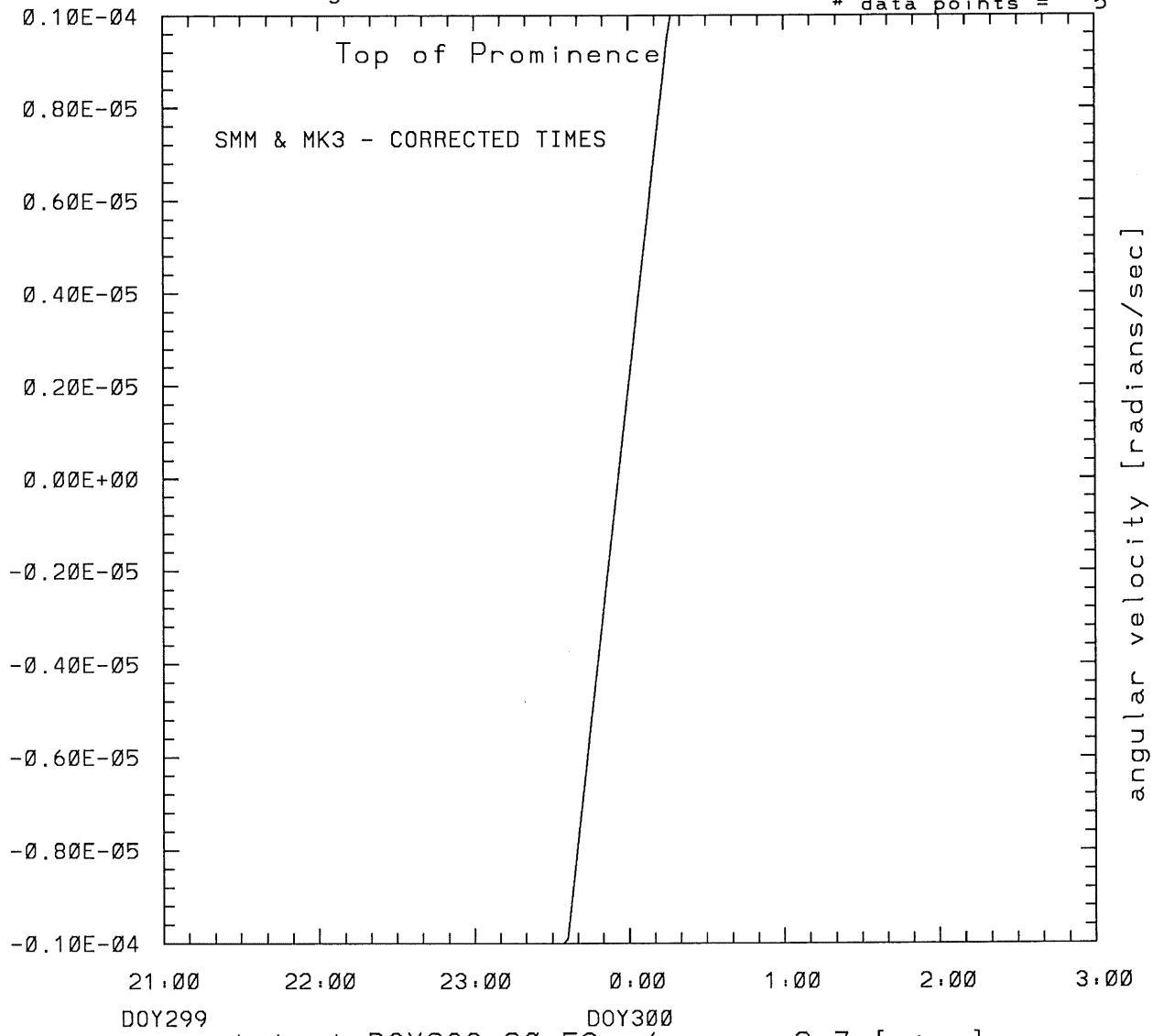
tstart=DOY299 20:53 +/- 2.7 [min.]

radial acceleration= $0.297E-02$  km/sec\*\*2

SMM C/P 1987 DOY299 102 +/- 9 degrees

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

# data points = 5



tstart=DOY299 20:53 +/- 2.7 [min.]  
angular acceleration=0.827E-08 +/-  
0.423E-08 [rad/sec\*\*2]

\*\*\*\*\*  
This is a 1 order run  
\*\*\*\*\*

\*\*\*\*\*  
INPUT:  
\*\*\*\*\*

year	day	time	radii	radius	error in angle	error in angle	datatype
1987	299	21:52:40	1.75 +/-	0.10	111.0 +/-	0.5	SMM
1987	299	22:17:35	2.20 +/-	0.10	102.0 +/-	0.5	SMM
1987	299	23:43:49	3.40 +/-	0.10	101.0 +/-	1.0	SMM
1987	300	0:44:29	4.30 +/-	0.20	98.0 +/-	1.0	SMM
1987	300	1:17:29	5.00 +/-	0.20	101.0 +/-	1.0	SMM

\*\*\*\*\*  
Structure being measured:  
Top of (Prominence) Core  
\*\*\*\*\*

\*\*\*\*\*  
OUTPUT:  
\*\*\*\*\*

START TIME:

Event began at t = 0 + 0.160E+01 +/- 0.345E-01 [minutes]  
In more convenient units:  
Event began at DOY 299 21: 2 +/- 0.345E-01 [minutes]

Origin defined at DOY299 21: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 175. +/- 5. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.976E+00 +/- 0.579E-01 [solar radii]  
c(2) = 0.151E-01 +/- 0.426E-03 [radii/min]  
c(2) = 0.175E+03 +/- 0.494E+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)= 0.95325E-01 [radii] see Bevington pg. 114  
error in c(2)= 0.54616E-03 [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = -0.1380E-04 +/- 0.7253E-05[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 110. +/- 3. [degrees]  
a(2) = -0.474E-01 +/- 0.249E-01 [degrees/min]  
a(2) = -0.138E-04 +/- 0.725E-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 21:52 = 175. km/sec

The RADIAL velocity at 22:17 = 175. km/sec

The RADIAL velocity at 23:43 = 175. km/sec

The RADIAL velocity at 0:44 = 175. km/sec

The RADIAL velocity at 1:17 = 175. km/sec

\*\*\*\*\*  
The following info is for estimating goodness of the fit  
\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 1.37

Standard Deviation in start time measurement = 0.798E+02

Error in time = 0.11185E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.406E-02

Reduced Chi Squared = 0.411E-01

Chi Squared = 0.123E+00

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.998E+00

The probability that no LINEAR correlation exists between the variables = 0.8851]

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

\*\*\*\*\*  
This is a 2 order run  
\*\*\*\*\*

\*\*\*\*\*  
INPUT:  
\*\*\*\*\*

year	doj	time	radii	radius	error in angle	error in angle	datatype
1987	299	21:52:40	1.75 +/-	0.10	111.0 +/-	0.5	SMM
1987	299	22:17:35	2.20 +/-	0.10	102.0 +/-	0.5	SMM
1987	299	23:43:49	3.40 +/-	0.10	101.0 +/-	1.0	SMM
1987	300	0:44:29	4.30 +/-	0.20	98.0 +/-	1.0	SMM
1987	300	1:17:29	5.00 +/-	0.20	101.0 +/-	1.0	SMM

\*\*\*\*\*  
Structure being measured:  
Top of (Prominence) Core  
\*\*\*\*\*

\*\*\*\*\*  
OUTPUT:  
\*\*\*\*\*

START TIME:

Event began at t = 0 + -0.702E+01 +/- 0.274E+01 [minutes]  
In more convenient units:  
Event began at DOY 299 20:53 +/- 0.274E+01 [minutes]

Origin defined at DOY299 21: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.297E-02 +/- 0.297E-02 km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.109E+01 +/- 0.128E+00 [solar radii]  
c(2) = 0.129E-01 +/- 0.221E-02 [radii/min]  
c(2) = 0.150E+03 +/- 0.256E+02 [km/sec]  
c(3) = 0.768E-05 +/- 0.768E-05 [radii/min\*\*2]  
c(3) = 0.297E-02 +/- 0.297E-02 [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.20255E+00 [radii] Bevington pg 154 (8-30)  
Exact error in c(1) = 0.58040E-01 [radii] Bevington pg 154 (8-28)  
Approximate error in c(2) = 0.32988E-02 [radii/min] Bevington pg 154 (8-30)  
Exact error in c(2) = 0.81788E-03 [radii/min] Bevington pg 154 (8-28)  
Approximate error in c(3) = 0.10649E-04 [radii/min\*\*2] Bevington pg 154 (8-30)  
Exact error in c(3) = 0.29291E-05 [radii/min\*\*2] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

ANGULAR ACCELERATION= 0.8270E-08 +/- 0.4231E-08 [radians/sec\*\*2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 123. +/- 7. [degrees]  
a(2) = -0.300E+00 +/- 0.131E+00 [degrees/min]  
a(2) = -0.873E-04 +/- 0.380E-04 [rad/sec]  
a(3) = 0.853E-03 +/- 0.436E-03 [degrees/min\*\*2]  
a(3) = 0.827E-08 +/- 0.423E-08 [rad/sec\*\*2]

The RADIAL velocity at 21:52 = 159. km/sec  
The RADIAL velocity at 22:17 = 164. km/sec  
The RADIAL velocity at 23:43 = 179. km/sec  
The RADIAL velocity at 0:44 = 190. km/sec  
The RADIAL velocity at 1:17 = 196. km/sec

\*\*\*\*\*  
The following info is for estimating goodness of the fit  
\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 1.37  
Standard Deviation in start time measurement = 0.798E+02  
Value of reduced Chi Squared returned from nllst2 = 0.406E-02  
Reduced Chi Squared = 0.303E-01  
Chi Squared = 0.605E-01  
The probability for exceeding chi square = 0.996E+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 = 0.9557E+00  
The correlation between the data and the time\*\*2 term = 0.9052E+00  
The correlation between the data and the complete equation of motion=0.9988E+00  
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]