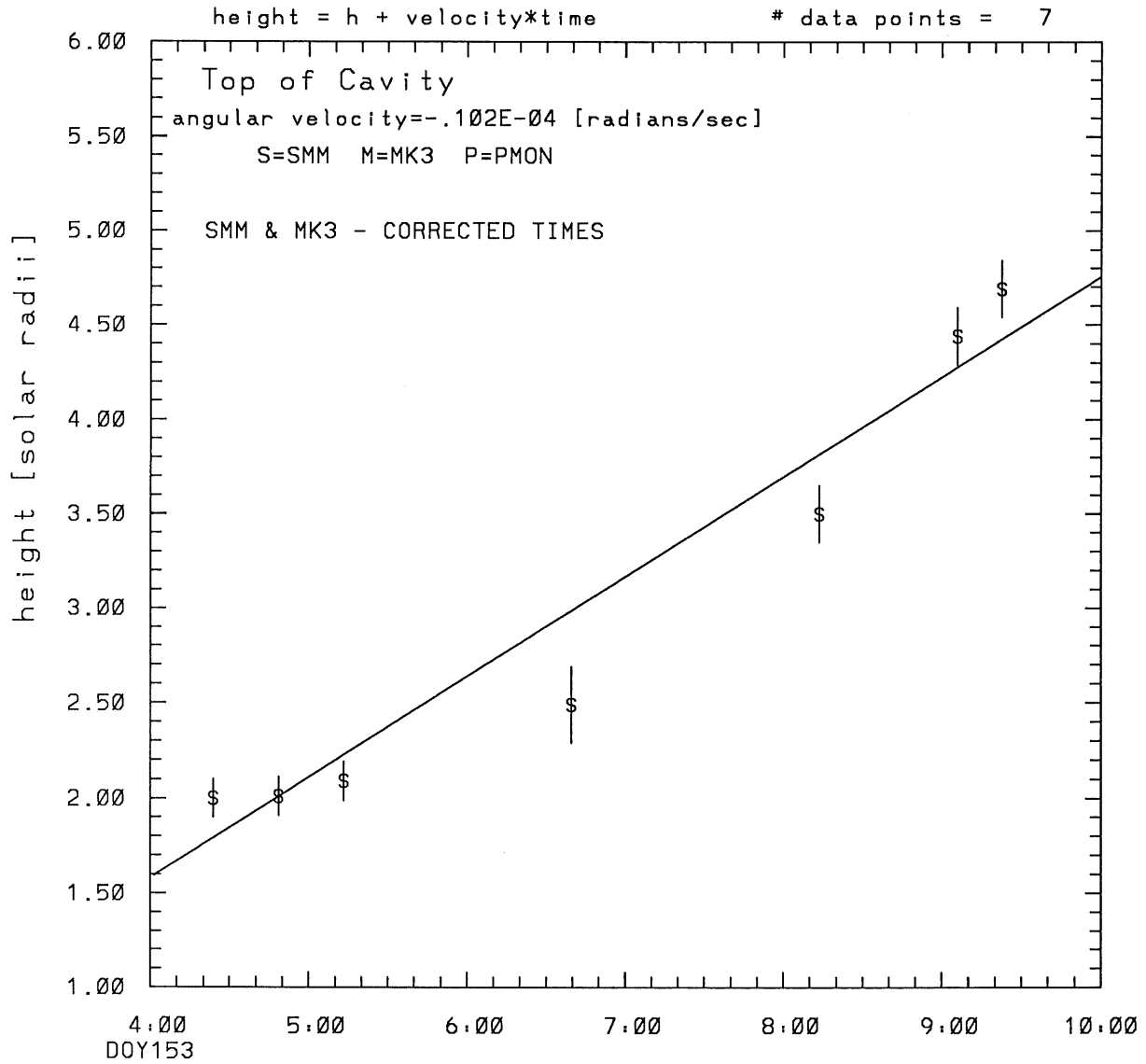


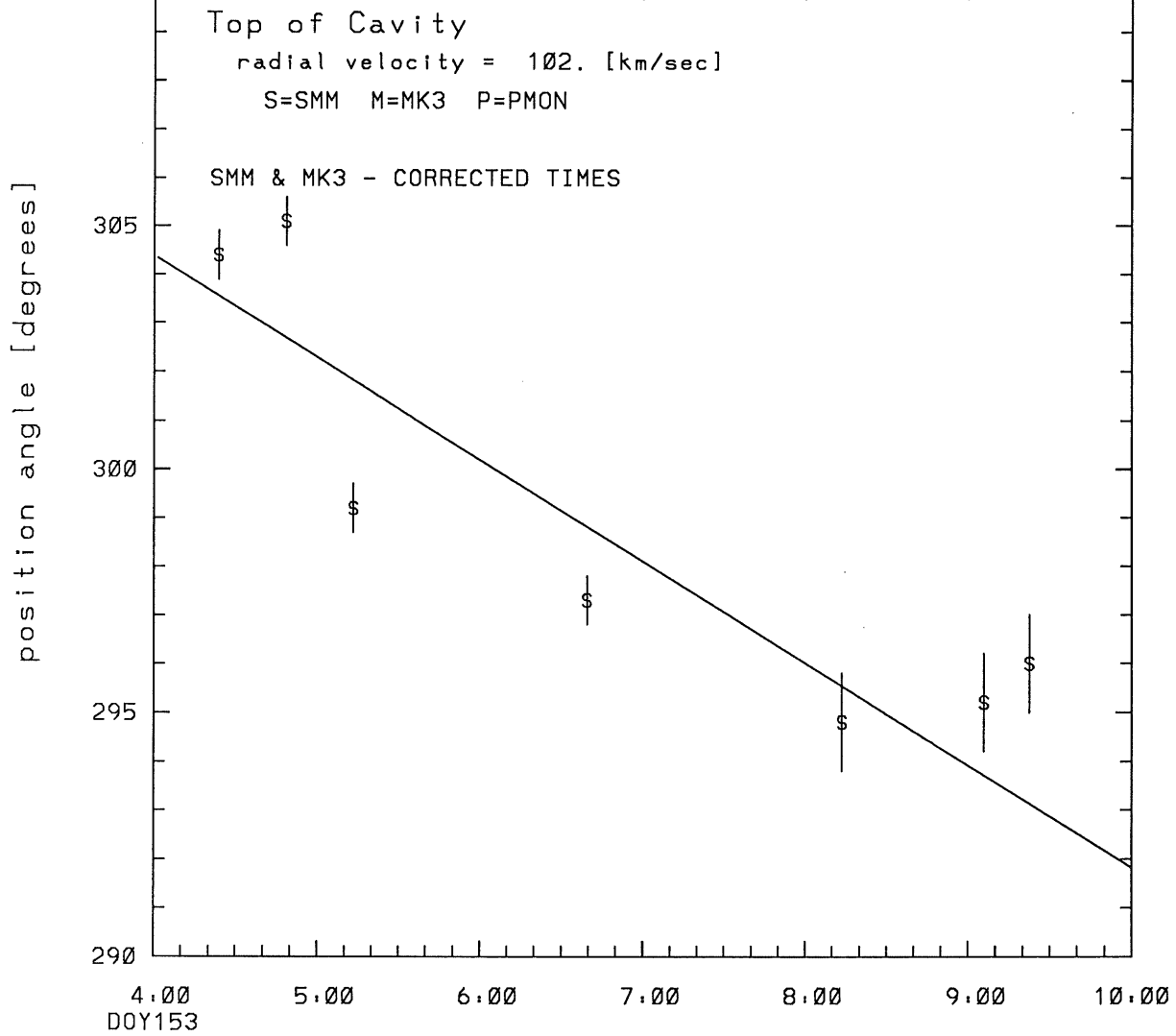
SMM C/P 1988 DOY153 298 +/- 7 degrees



tstart=DOY153 2:54 +/- 1.7 [min.]
radial velocity= 102. +/- 9. [km/sec]

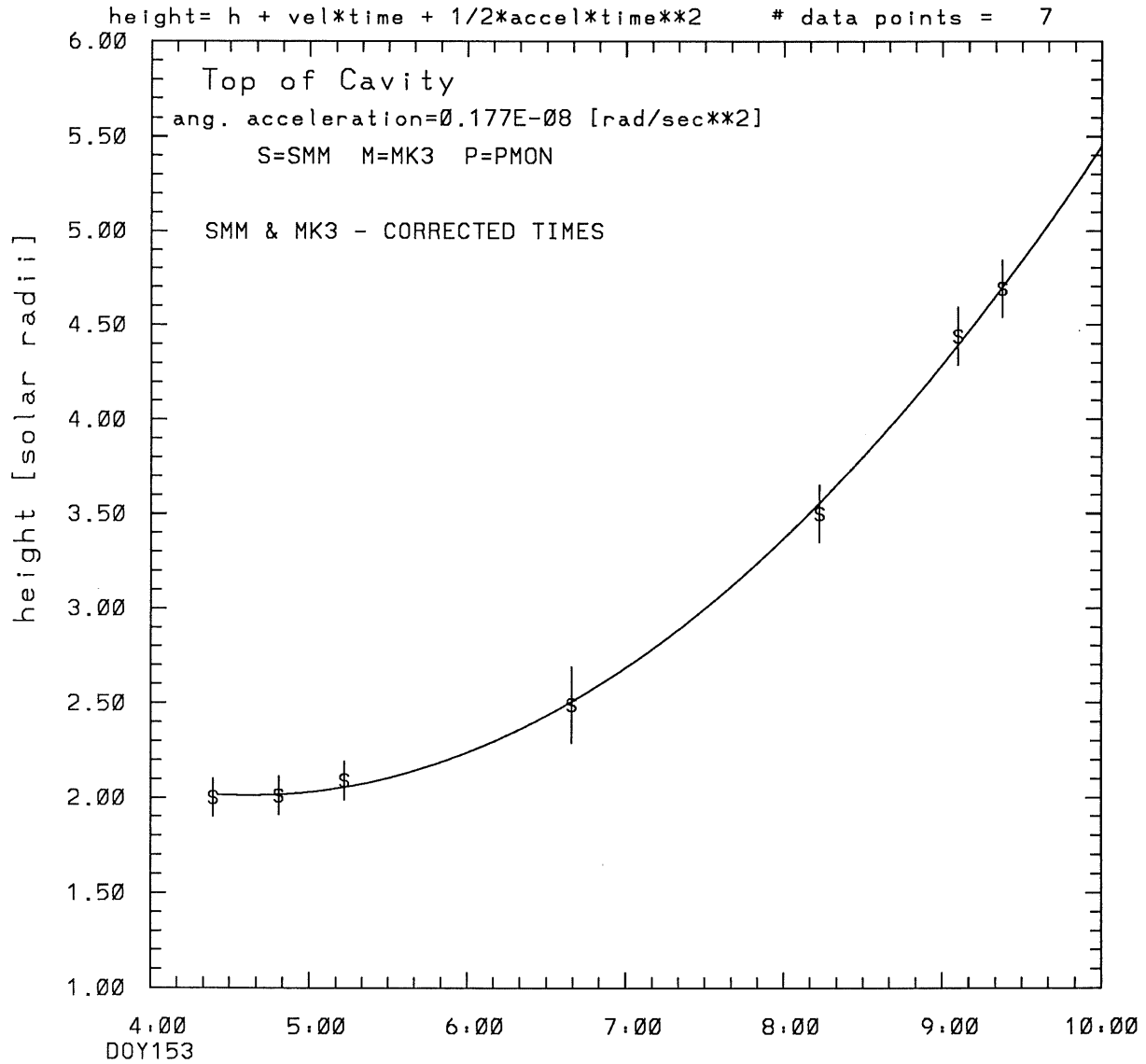
SMM C/P 1988 DOY153 298 +/- 7 degrees

angle = initial angle + angular velocity * time # data points = 7



angular velocity = $-.102E-04 \pm 0.252E-05$ [rad/sec]

SMM C/P 1988 DOY153 298 +/- 7 degrees

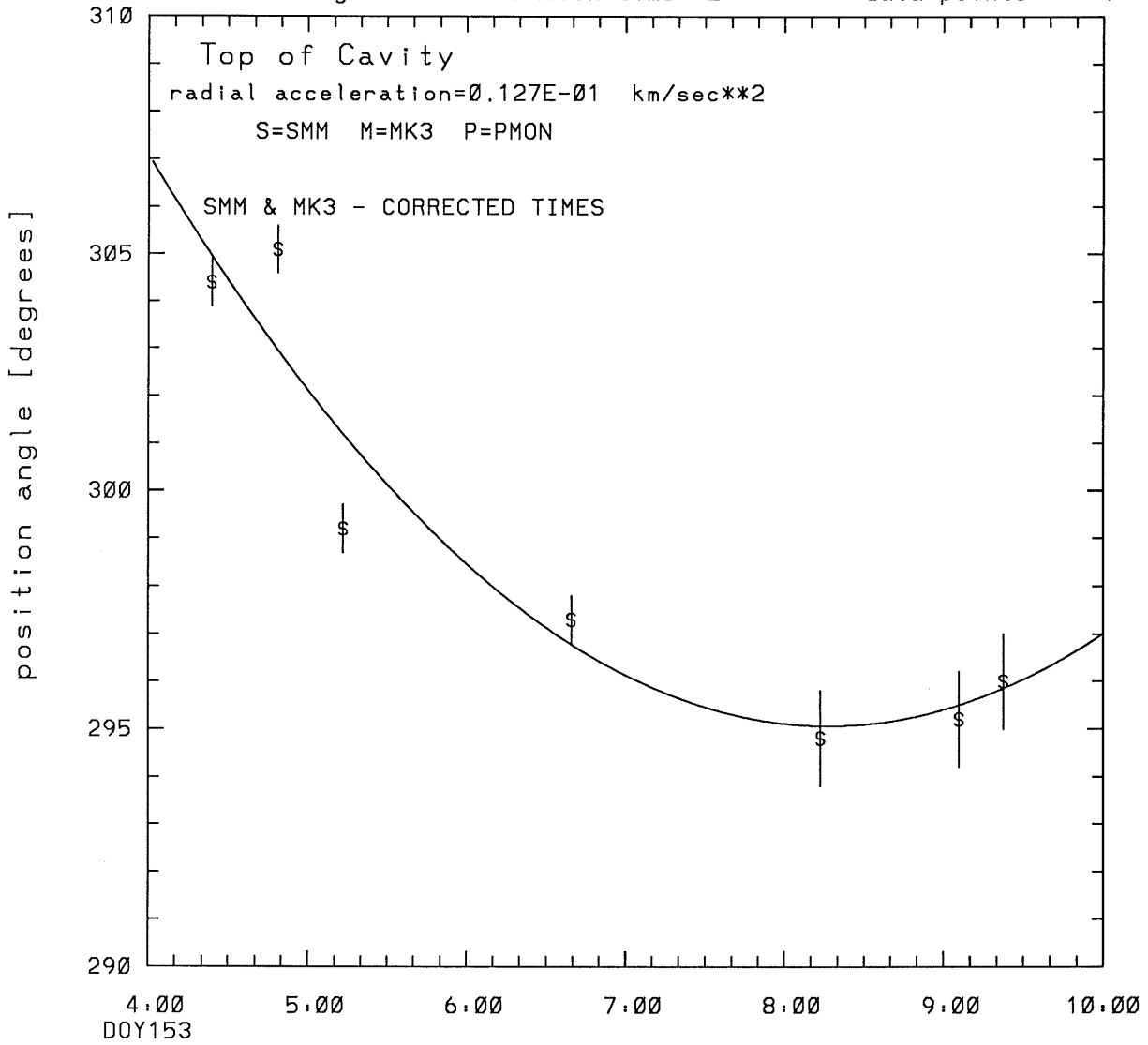


tstart=DOY153 4.37 from derivative=0
Event begins at 2.01 Solar Radii
radial acceleration = $0.0127 +/- 0.0008$ [km/sec**2]

SMM C/P 1988 DOY153 298 +/- 7 degrees

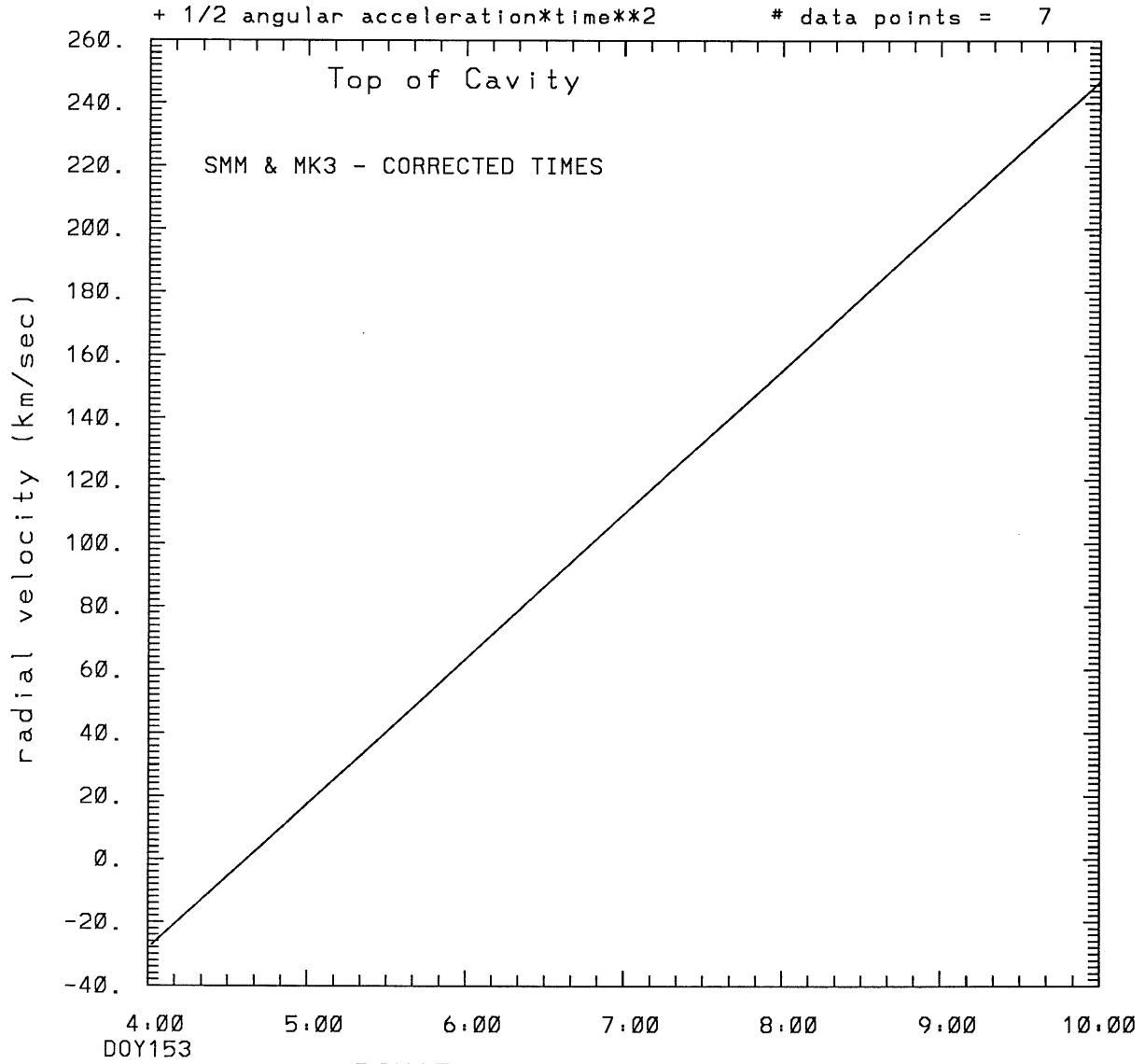
angle = initial angle + angular velocity*time
+ 1/2 angular acceleration*time**2

data points = 7



Event begins at 2.01 Solar Radii
angular acceleration=0.177E-08 +/- 0.786E-09 [rad/sec**2]

SMM C/P 1988 DOY153 298 +/- 7 degrees

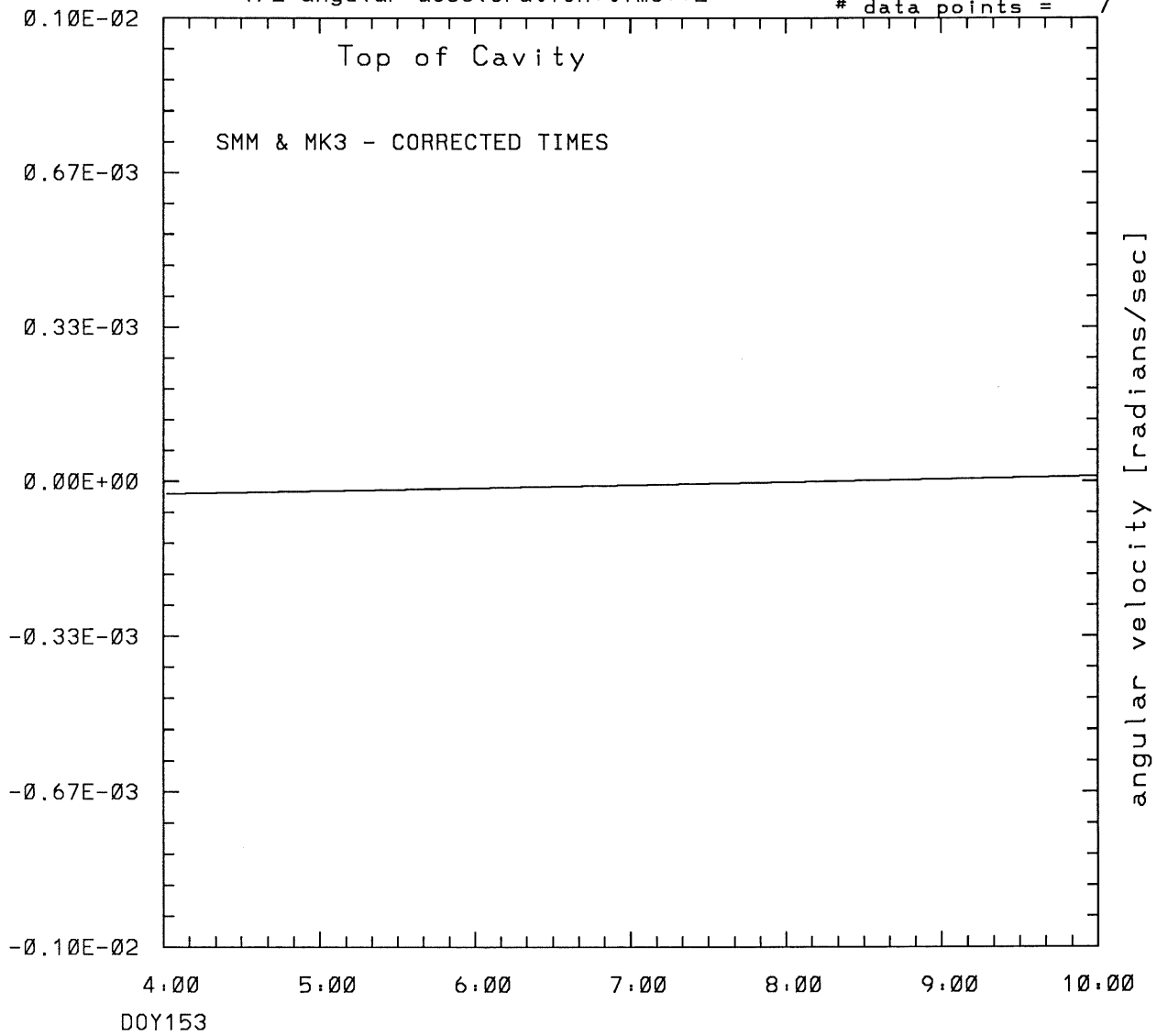


tstart=DOY153 4.37 from derivative=0
Event begins at 2.01 Solar Radii
radial acceleration=0.127E-01 km/sec**2

SMM C/P 1988 DOY153 298 +/- 7 degrees

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

data points = 7



angular acceleration = $0.177E-08$ +/- $0.786E-09$ [rad/sec**2]

This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in angle	error in angle	datatype
1988	153	4:23:42	2.00 +/- 0.10	304.4 +/- 0.5			SMM
1988	153	4:48:30	2.01 +/- 0.10	305.1 +/- 0.5			SMM
1988	153	5:13:16	2.09 +/- 0.10	299.2 +/- 0.5			SMM
1988	153	6:39:32	2.49 +/- 0.20	297.3 +/- 0.5			SMM
1988	153	8:13:36	3.50 +/- 0.15	294.8 +/- 1.0			SMM
1988	153	9: 5:49	4.44 +/- 0.15	295.2 +/- 1.0			SMM
1988	153	9:22:30	4.69 +/- 0.15	296.0 +/- 1.0			SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

Event began at t = 0 + -0.660E+02 +/- 0.173E+01 [minutes]
In more convenient units:
Event began at DOY 153 2:54 +/- 0.173E+01 [minutes]

Origin defined at DOY153 4: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 102. +/- 9. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.158E+01 +/- 0.132E+00 [solar radii]
c(2) = 0.881E-02 +/- 0.779E-03 [radii/min]
c(2) = 0.102E+03 +/- 0.904E+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)= 0.21326E+00 [radii] see Bevington pg. 114
error in c(2)= 0.10378E-02 [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = -0.1015E-04 +/- 0.2518E-05 [radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 304. +/- 1. [degrees]
a(2) = -0.349E-01 +/- 0.866E-02 [degrees/min]
a(2) = -0.102E-04 +/- 0.252E-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 4:23 = 102. km/sec

The RADIAL velocity at 4:48 = 102. km/sec

The RADIAL velocity at 5:13 = 102. km/sec
The RADIAL velocity at 6:39 = 102. km/sec
The RADIAL velocity at 8:13 = 102. km/sec
The RADIAL velocity at 9: 5 = 102. km/sec
The RADIAL velocity at 9:22 = 102. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 1.17
Standard Deviation in start time measurement = 0.116E+03
Error in time = 0.80886E+02 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.541E-01
Reduced Chi Squared = 0.450E+00
Chi Squared = 0.225E+01
The probability for exceeding chi square = 0.998E+00

The correlation coefficient = 0.970E+00
The probability that no LINEAR correlation exists between the variables = 0.2963
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	153	4:23:42	2.00 +/-	0.10	304.4 +/-	0.5	SMM
1988	153	4:48:30	2.01 +/-	0.10	305.1 +/-	0.5	SMM
1988	153	5:13:16	2.09 +/-	0.10	299.2 +/-	0.5	SMM
1988	153	6:39:32	2.49 +/-	0.20	297.3 +/-	0.5	SMM
1988	153	8:13:36	3.50 +/-	0.15	294.8 +/-	1.0	SMM
1988	153	9: 5:49	4.44 +/-	0.15	295.2 +/-	1.0	SMM
1988	153	9:22:30	4.69 +/-	0.15	296.0 +/-	1.0	SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

tstart=DOY153 4:37 from derivative = 0
Event begins at 2.01 Solar Radii
Origin defined at DOY153 4: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.127E-01 +/- 0.802E-03 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.206E+01 +/- 0.360E-01 [solar radii]
c(2) = -0.244E-02 +/- 0.718E-03 [radii/min]
c(2) = -0.283E+02 +/- 0.833E+01 [km/sec]
c(3) = 0.330E-04 +/- 0.207E-05 [radii/min**2]
c(3) = 0.127E-01 +/- 0.802E-03 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.45986E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.73070E-02 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.75113E-03 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.15251E-03 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.21146E-05 [radii/min**2] Bevington pg 154 (8-30)
Exact error in c(3) = 0.41484E-06 [radii/min**2] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

ANGULAR ACCELERATION= 0.1769E-08 +/- 0.7858E-09[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 307. +/- 2. [degrees]
a(2) = -0.936E-01 +/- 0.269E-01 [degrees/min]
a(2) = -0.272E-04 +/- 0.783E-05 [rad/sec]
a(3) = 0.182E-03 +/- 0.810E-04 [degrees/min**2]
a(3) = 0.177E-08 +/- 0.786E-09 [rad/sec**2]

The RADIAL velocity at 4:23 = -10. km/sec
The RADIAL velocity at 4:48 = 9. km/sec
The RADIAL velocity at 5:13 = 28. km/sec
The RADIAL velocity at 6:39 = 94. km/sec
The RADIAL velocity at 8:13 = 166. km/sec
The RADIAL velocity at 9: 5 = 206. km/sec
The RADIAL velocity at 9:22 = 218. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

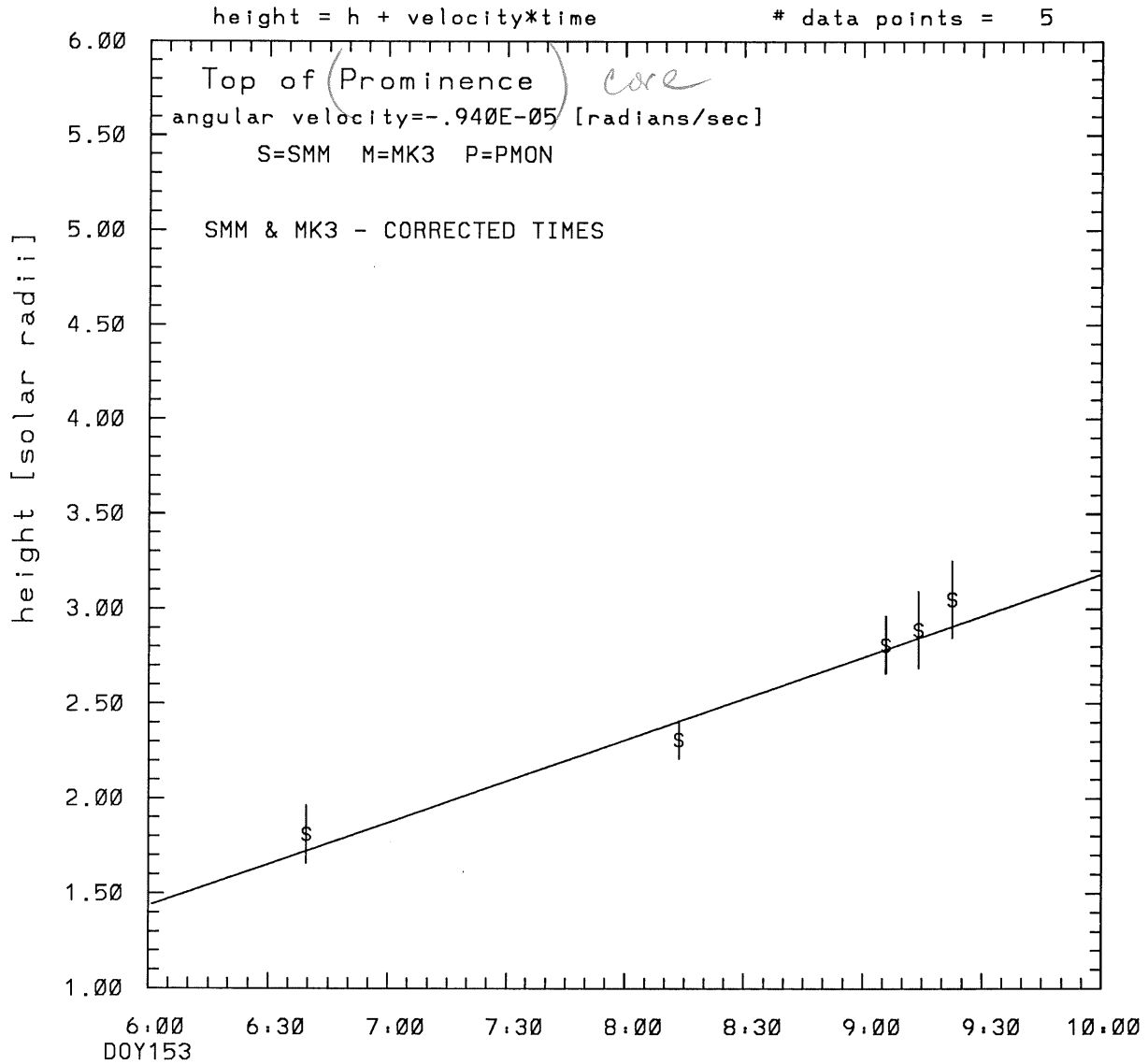
Standard Deviation in the height = 1.17
Standard Deviation in start time measurement = 0.116E+03
Value of reduced Chi Squared returned from nllst2 = 0.126E-02
Reduced Chi Squared = 0.885E-02
Chi Squared = 0.354E-01
The probability for exceeding chi square = 0.100E+01

For a second order fit 3 correlation coefficients are given:

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

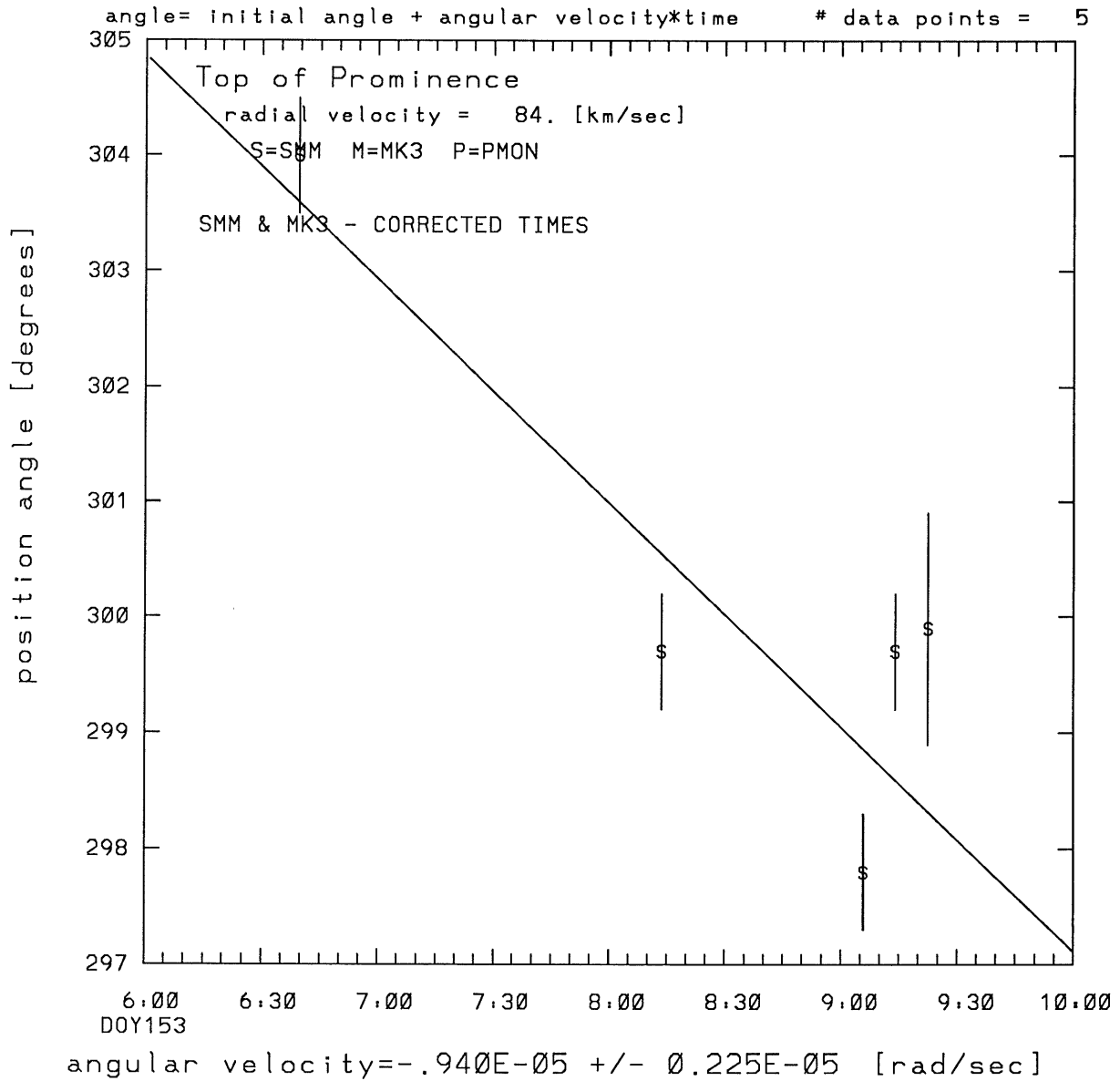
The correlation between the data and the term linear in time = 0.1020E+01
The correlation between the data and the time**2 term = 0.1001E+01
The correlation between the data and the complete equation of motion=0.1000E+01
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

SMM C/P 1988 DOY153 300 +/- 4 degrees

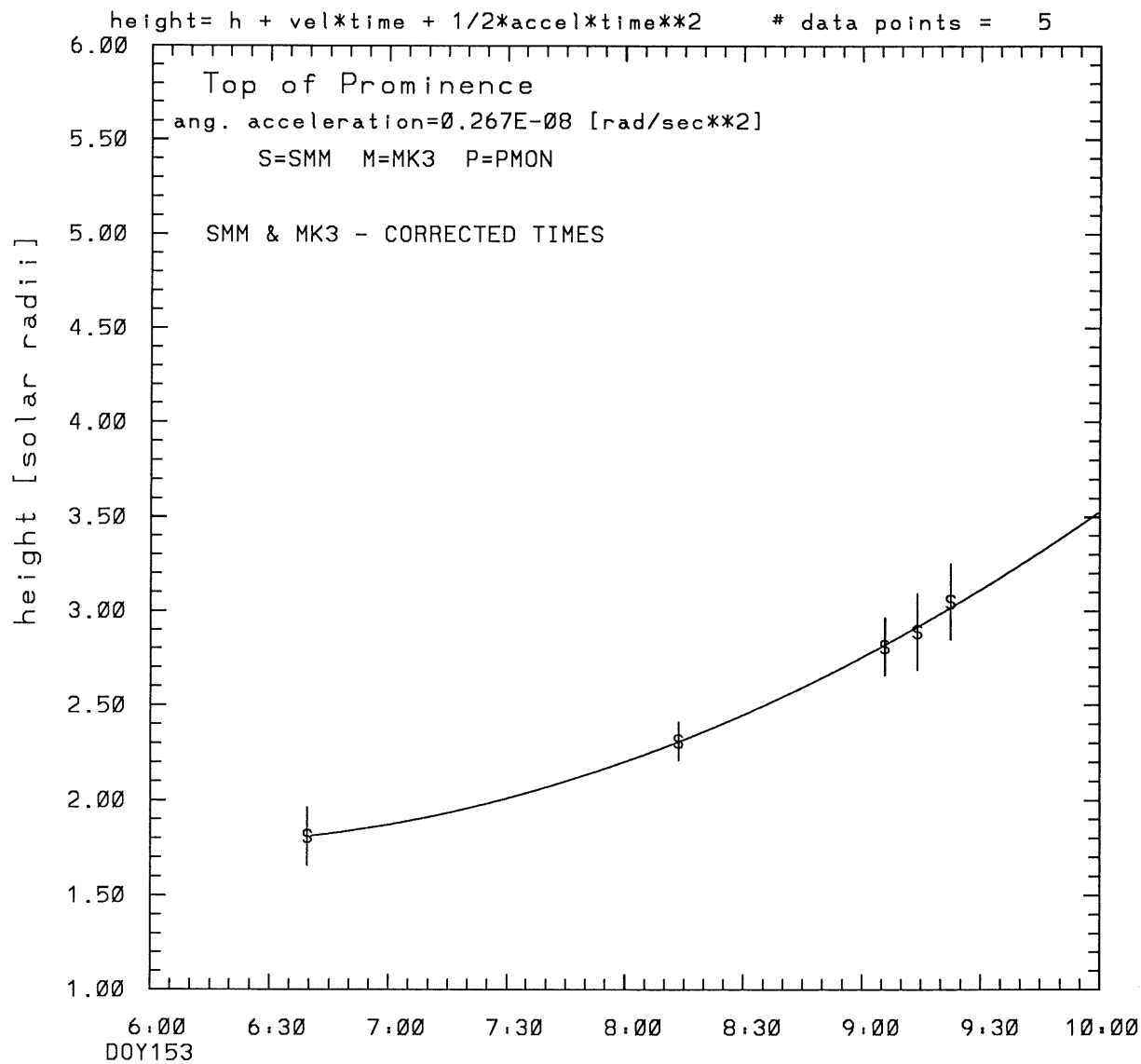


tstart=DOY153 5: 2 +/- 3.7 [min.]
radial velocity= 84. +/- 9. [km/sec]

SMM C/P 1988 DOY153 300 +/- 4 degrees



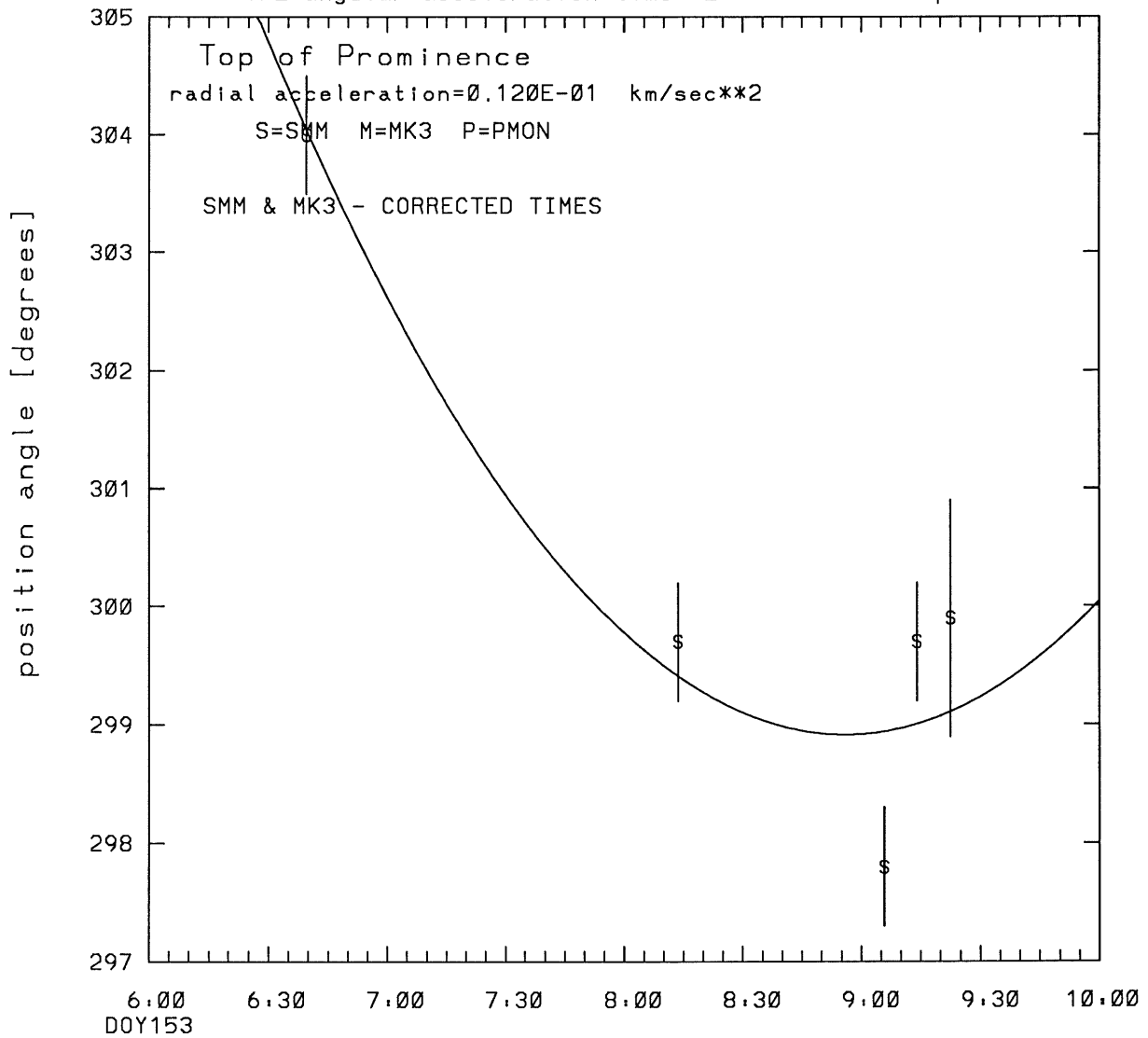
SMM C/P 1988 DOY153 300 +/- 4 degrees



tstart=DOY153 6: 1 from derivative=0
Event begins at 1.77 Solar Radii
radial acceleration = 0.0120 ± 0.0011 [km/sec**2]

SMM C/P 1988 DOY153 300 +/- 4 degrees

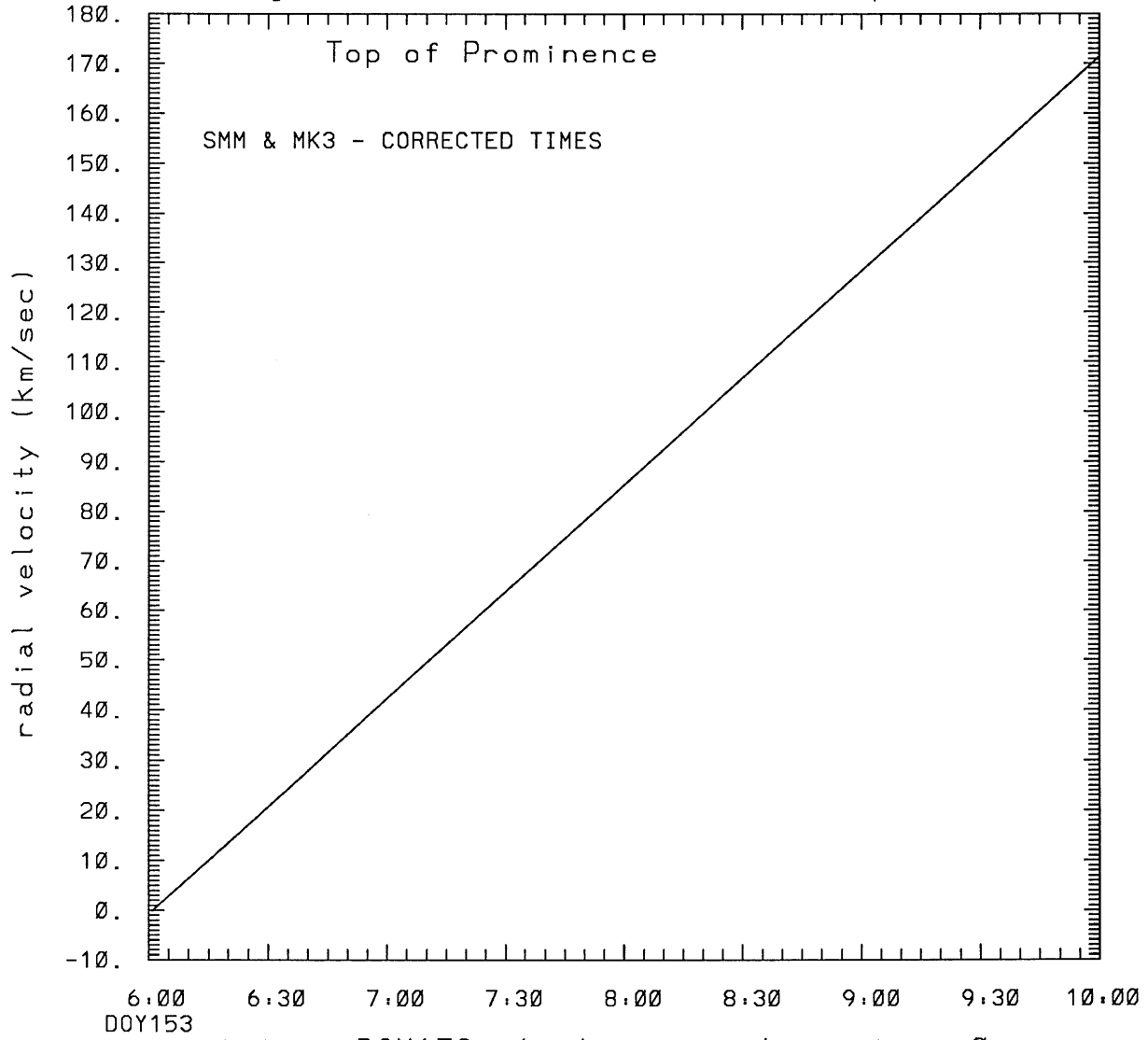
angle= initial angle + angular velocity*time
+ 1/2 angular acceleration*time**2 # data points = 5



Event begins at 1.77 Solar Radii
angular acceleration=0.267E-08 +/- 0.162E-08 [rad/sec**2]

SMM C/P 1988 DOY153 300 +/- 4 degrees

+ 1/2 angular acceleration*time**2 # data points = 5

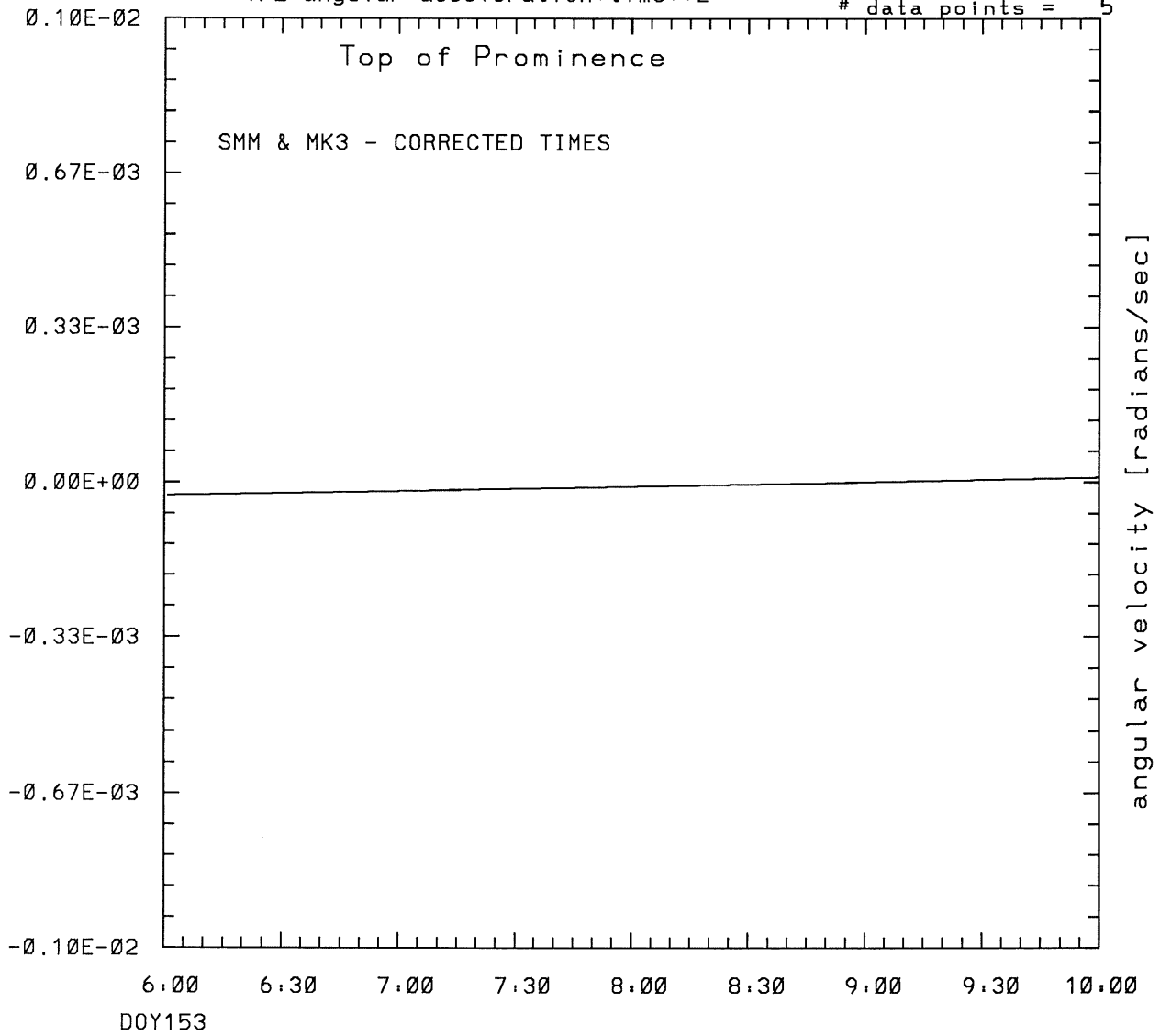


tstart=DOY153 6: 1 from derivative=0
Event begins at 1.77 Solar Radii
radial acceleration=0.120E-01 km/sec**2

SMM C/P 1988 DOY153 300 +/- 4 degrees

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

data points = 5



angular acceleration = $0.267E-08 \pm 0.162E-08$ [rad/sec**2]

This is a 1 order run

INPUT:

year	day	time	radii	radius	error in angle	error in angle	datatype
1988	153	6:39:32	1.81 +/-	0.15	304.0 +/-	0.5	SMM
1988	153	8:13:36	2.31 +/-	0.10	299.7 +/-	0.5	SMM
1988	153	9: 5:49	2.81 +/-	0.15	297.8 +/-	0.5	SMM
1988	153	9:14: 5	2.89 +/-	0.20	299.7 +/-	0.5	SMM
1988	153	9:22:30	3.05 +/-	0.20	299.9 +/-	1.0	SMM

Structure being measured:
Top of Prominence) *core*

OUTPUT:

START TIME:

Event began at t = 0 + -0.598E+02 +/- 0.374E+01 [minutes]
In more convenient units:
Event began at DOY 153 5: 2 +/- 0.374E+01 [minutes]

Origin defined at DOY153 6: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 84. +/- 9. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.143E+01 +/- 0.120E+00 [solar radii]
c(2) = 0.727E-02 +/- 0.804E-03 [radii/min]
c(2) = 0.844E+02 +/- 0.932E+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)= 0.13814E+00 [radii] see Bevington pg. 114
error in c(2)= 0.84819E-03 [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = -0.9402E-05 +/- 0.2251E-05 [radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 305. +/- 1. [degrees]
a(2) = -0.323E-01 +/- 0.774E-02 [degrees/min]
a(2) = -0.940E-05 +/- 0.225E-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 6:39 = 84. km/sec

The RADIAL velocity at 8:13 = 84. km/sec

The RADIAL velocity at 9: 5 = 84. km/sec

The RADIAL velocity at 9:14 = 84. km/sec

The RADIAL velocity at 9:22 = 84. 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 = 0.607E+02
Error in time = 0.27435E+02 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.969E-02
Reduced Chi Squared = 0.458E-01
Chi Squared = 0.137E+00
The probability for exceeding chi square = 0.999E+00

The correlation coefficient = 0.985E+00
The probability that no LINEAR correlation exists between the variables = 0.22681
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

This is a 2 order run

INPUT:

year	day	time	radii	radius	angle	error in angle	datatype
1988	153	6:39:32	1.81 +/- 0.15	304.0 +/- 0.5			SMM
1988	153	8:13:36	2.31 +/- 0.10	299.7 +/- 0.5			SMM
1988	153	9: 5:49	2.81 +/- 0.15	297.8 +/- 0.5			SMM
1988	153	9:14: 5	2.89 +/- 0.20	299.7 +/- 0.5			SMM
1988	153	9:22:30	3.05 +/- 0.20	299.9 +/- 1.0			SMM

Structure being measured:
Top of Prominence

OUTPUT:

START TIME:

tstart=DOY153 6: 1 from derivative = 0
Event begins at 1.77 Solar Radii
Origin defined at DOY153 6: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.120E-01 +/- 0.110E-02 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.177E+01 +/- 0.376E-01 [solar radii]
c(2) = -0.796E-04 +/- 0.694E-03 [radii/min]
c(2) = -0.924E+00 +/- 0.805E+01 [km/sec]
c(3) = 0.309E-04 +/- 0.285E-05 [radii/min**2]
c(3) = 0.120E-01 +/- 0.110E-02 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.64988E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.48669E-02 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.13493E-02 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.15142E-03 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.55349E-05 [radii/min**2] Bevington pg 154 (8-30)
Exact error in c(3) = 0.80818E-06 [radii/min**2] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

ANGULAR ACCELERATION= 0.2669E-08 +/- 0.1622E-08[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 307. +/- 2. [degrees]
a(2) = -0.969E-01 +/- 0.398E-01 [degrees/min]
a(2) = -0.282E-04 +/- 0.116E-04 [rad/sec]
a(3) = 0.275E-03 +/- 0.167E-03 [degrees/min**2]
a(3) = 0.267E-08 +/- 0.162E-08 [rad/sec**2]

The RADIAL velocity at 6:39 = 27. km/sec

The RADIAL velocity at 8:13 = 95. km/sec

The RADIAL velocity at 9: 5 = 132. km/sec

The RADIAL velocity at 9:14 = 138. km/sec

The RADIAL velocity at 9:22 = 144. 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 = 0.607E+02
Value of reduced Chi Squared returned from nllst2 = 0.322E-03
Reduced Chi Squared = 0.398E-02
Chi Squared = 0.796E-02
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 = 0.8984E+00

The correlation between the data and the time² term = 0.9408E+00

The correlation between the data and the complete equation of motion=0.9990E+00

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