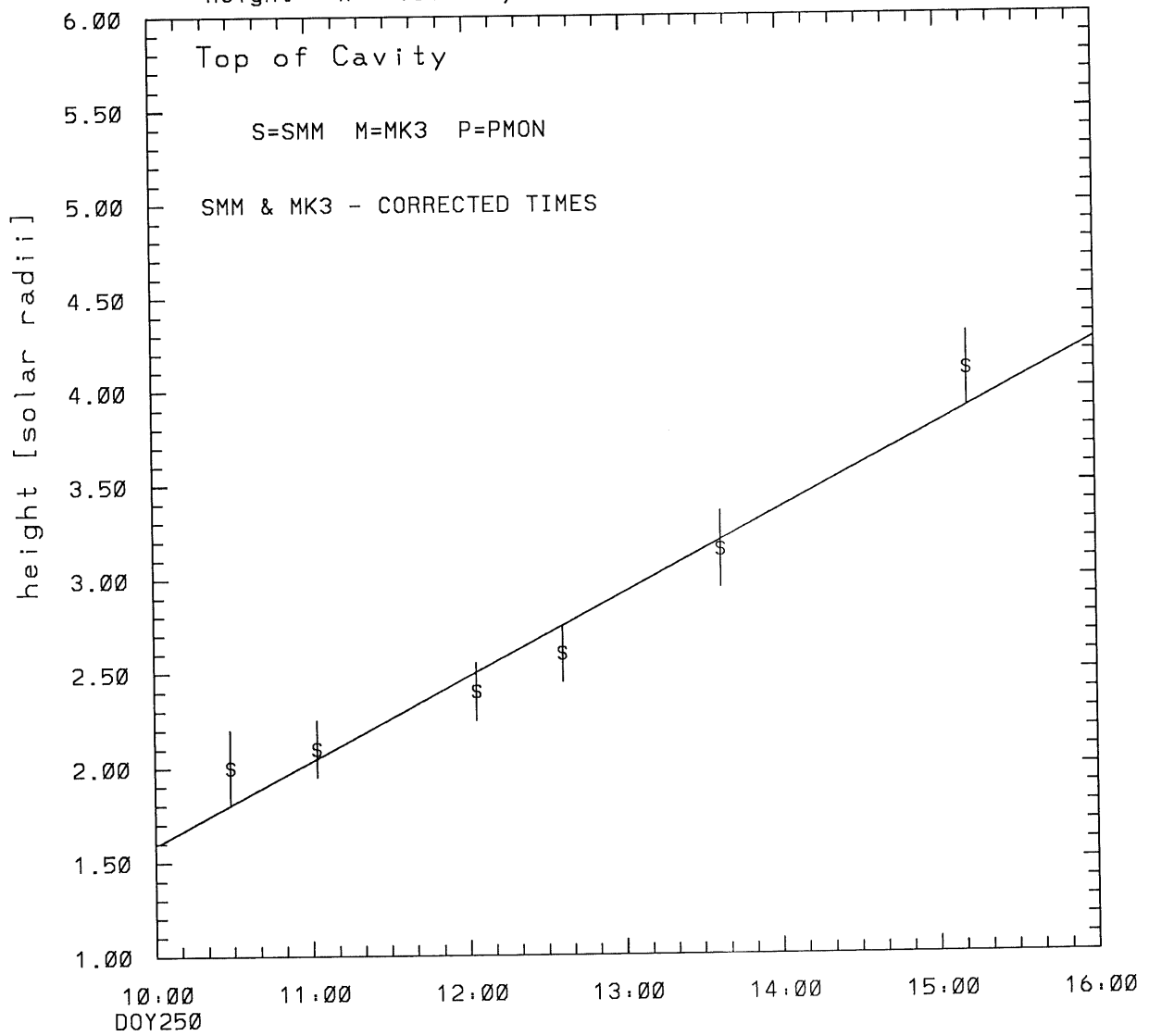


SMM C/P 1987 DOY250 115 +/- 0 degrees

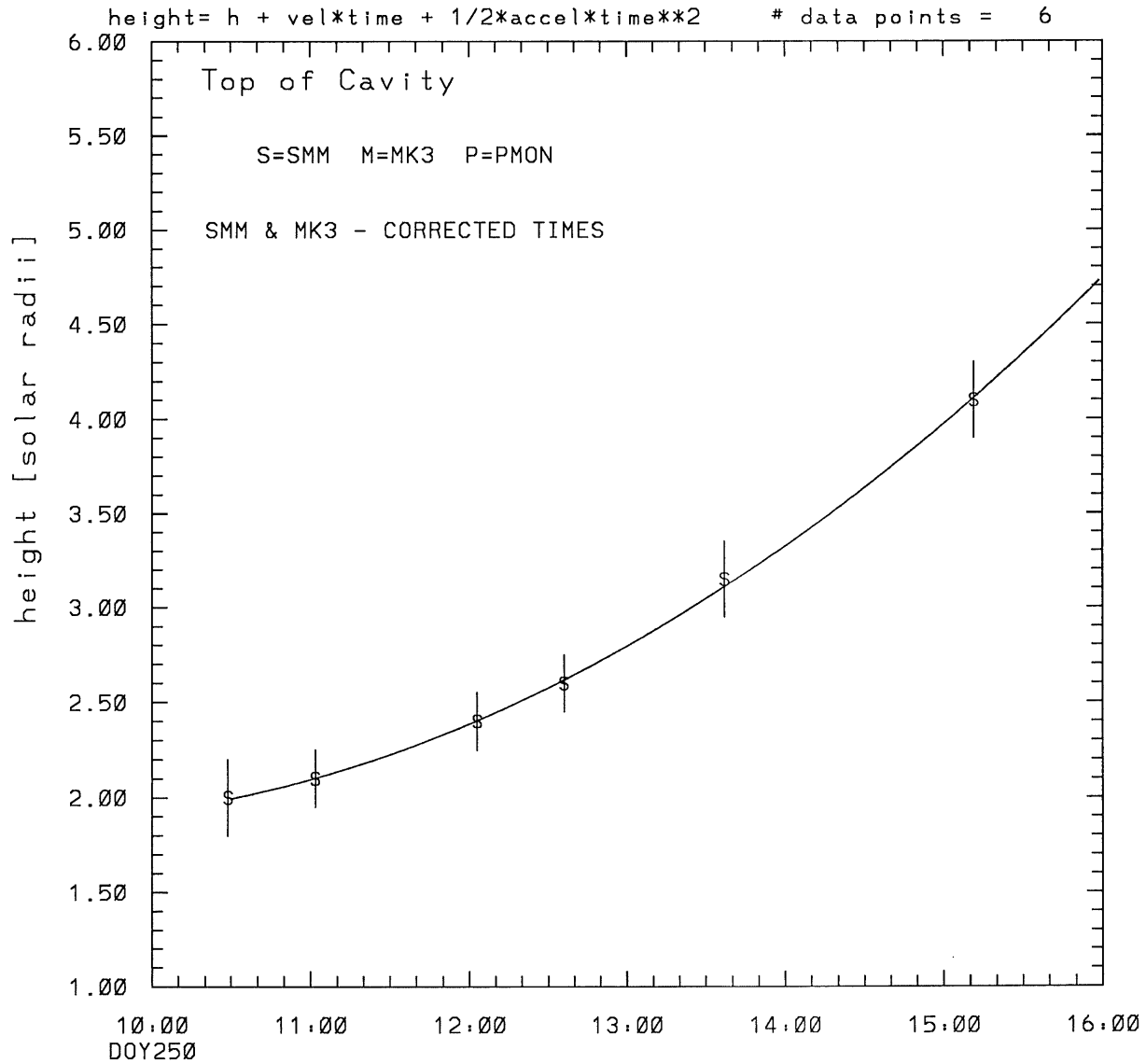
height = h + velocity*time

data points = 6



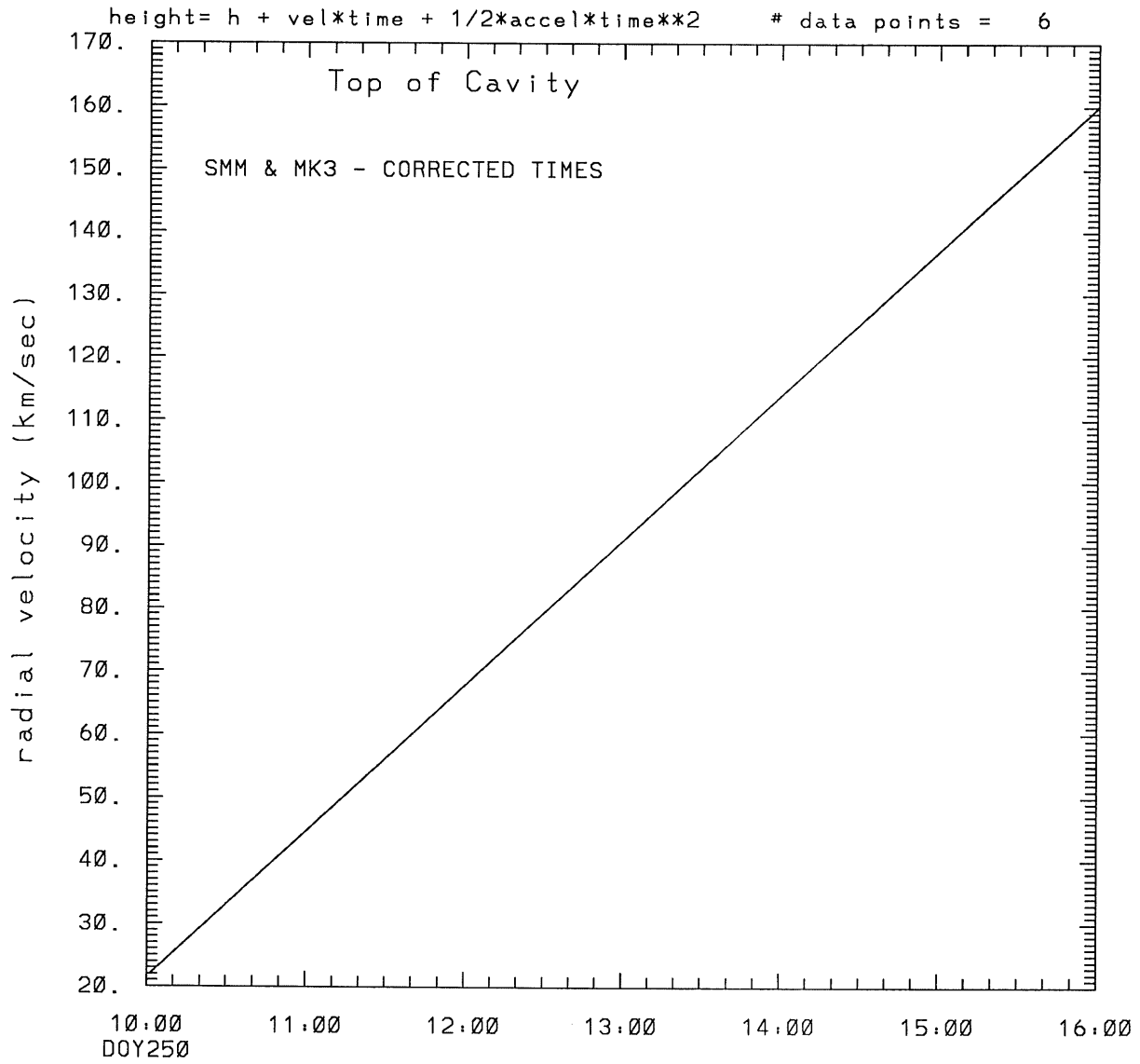
tstart=DOY250 8:41 +/- 2.8 [min.]
radial velocity= 86. +/- 8. [km/sec]

SMM C/P 1987 DOY250 115 +/- 0 degrees



tstart=DOY250 9.5 from derivative=0
Event begins at 1.87 Solar Radii
radial acceleration = 0.0064 +/- 0.0004 [km/sec**2]

SMM C/P 1987 DOY250 115 +/- 0 degrees



tstart=DOY250 9.5 from derivative=0
Event begins at 1.87 Solar Radii
radial acceleration= $0.642E-02$ km/sec**2

This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in	angle	error in	angle	datatype
1987	250	10:28:49	2.00	+/- 0.20	115.0	+/- 0.5			SMM
1987	250	11: 1:50	2.10	+/- 0.15	115.0	+/- 0.5			SMM
1987	250	12: 3: 4	2.40	+/- 0.15	115.0	+/- 0.5			SMM
1987	250	12:36: 4	2.60	+/- 0.15	115.0	+/- 0.5			SMM
1987	250	13:37:14	3.15	+/- 0.20	115.0	+/- 1.0			SMM
1987	250	15:11:29	4.10	+/- 0.20	115.0	+/- 1.0			SMM

Structure being measured:

Top of Cavity

OUTPUT:

START TIME:

Event began at $t = 0 + -0.793E+02 +/- 0.283E+01$ [minutes]

In more convenient units:

Event began at DOY 250 8:41 +/- 0.283E+01 [minutes]

Origin defined at DOY250 10: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 86. +/- 8. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.159E+01 +/- 0.113E+00$ [solar radii]
 $c(2) = 0.742E-02 +/- 0.693E-03$ [radii/min]
 $c(2) = 0.861E+02 +/- 0.804E+01$ [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 $c(1) = 0.13024E+00$ [radii] see Bevington pg. 114

error in $c(2) = 0.73502E-03$ [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) = 115. +/- 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 10:28 = 0.000E+00 km/sec

The TOTAL velocity at 10:28 = 86. km/sec

The TANGENTIAL velocity at 11: 1 = 0.000E+00 km/sec

The TOTAL velocity at 11: 1 = 86. km/sec

The TANGENTIAL velocity at 12: 3 = 0.000E+00 km/sec

The TOTAL velocity at 12: 3 = 86. km/sec

The TANGENTIAL velocity at 12:36 = 0.000E+00 km/sec

The TOTAL velocity at 12:36 = 86. km/sec

The TANGENTIAL velocity at 13:37 = 0.000E+00 km/sec

The TOTAL velocity at 13:37 = 86. km/sec

The TANGENTIAL velocity at 15:11 = 0.000E+00 km/sec

The TOTAL velocity at 15:11 = 86. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.79

Standard Deviation in start time measurement = 0.947E+02

Error in time = 0.45958E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.206E-01

Reduced Chi Squared = 0.104E+00

Chi Squared = 0.415E+00

The probability for exceeding chi square = 0.999E+00

The correlation coefficient = 0.982E+00

The probability that no LINEAR correlation exists between the variables = 0.4959E-03

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

This is a 2 order run

INPUT:

year	doy	time	radii	radius	error in	angle	angle	datatype
1987	250	10:28:49	2.00	+/- 0.20	115.0	+/- 0.5	SMM	
1987	250	11: 1:50	2.10	+/- 0.15	115.0	+/- 0.5	SMM	
1987	250	12: 3: 4	2.40	+/- 0.15	115.0	+/- 0.5	SMM	
1987	250	12:36: 4	2.60	+/- 0.15	115.0	+/- 0.5	SMM	
1987	250	13:37:14	3.15	+/- 0.20	115.0	+/- 1.0	SMM	
1987	250	15:11:29	4.10	+/- 0.20	115.0	+/- 1.0	SMM	

Structure being measured:

Top of Cavity

OUTPUT:

START TIME:

tstart=DOY250 9: 5 from derivative = 0

Event begins at 1.87 Solar Radii

Origin defined at DOY250 10: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.642E-02 +/- 0.419E-03 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.192E+01 +/- 0.273E-01 [solar radii]
c(2) = 0.185E-02 +/- 0.377E-03 [radii/min]
c(2) = 0.215E+02 +/- 0.437E+01 [km/sec]
c(3) = 0.166E-04 +/- 0.108E-05 [radii/min**2]
c(3) = 0.642E-02 +/- 0.419E-03 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.32531E-01 [radii] Bevington pg 154 (8-30)

Exact error in c(1) = 0.35433E-02 [radii] Bevington pg 154 (8-28)

Approximate error in c(2) = 0.45911E-03 [radii/min] Bevington pg 154 (8-30)

Exact error in c(2) = 0.62362E-04 [radii/min] Bevington pg 154 (8-28)

Approximate error in c(3) = 0.13146E-05 [radii/min**] Bevington pg 154 (8-30)

Exact error in c(3) = 0.20216E-06 [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) = 115. +/- 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 10:28 = 0.000E+00 km/sec

The TOTAL velocity at 10:28 = 33. km/sec

The TANGENTIAL velocity at 11: 1 = 0.000E+00 km/sec

The TOTAL velocity at 11: 1 = 45. km/sec

The TANGENTIAL velocity at 12: 3 = 0.000E+00 km/sec

The TOTAL velocity at 12: 3 = 69. km/sec

The TANGENTIAL velocity at 12:36 = 0.000E+00 km/sec

The TOTAL velocity at 12:36 = 82. km/sec

The TANGENTIAL velocity at 13:37 = 0.000E+00 km/sec

The TOTAL velocity at 13:37 = 105. km/sec

The TANGENTIAL velocity at 15:11 = 0.000E+00 km/sec

The TOTAL velocity at 15:11 = 141. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.79

Standard Deviation in start time measurement = 0.947E+02

Value of reduced Chi Squared returned from nllst2 = 0.431E-03

Reduced Chi Squared = 0.342E-02

Chi Squared = 0.103E-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 = 0.8798E+00

The correlation between the data and the time**2 term = 0.8987E+00

The correlation between the data and the complete equation of motion = 0.9986E+00

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