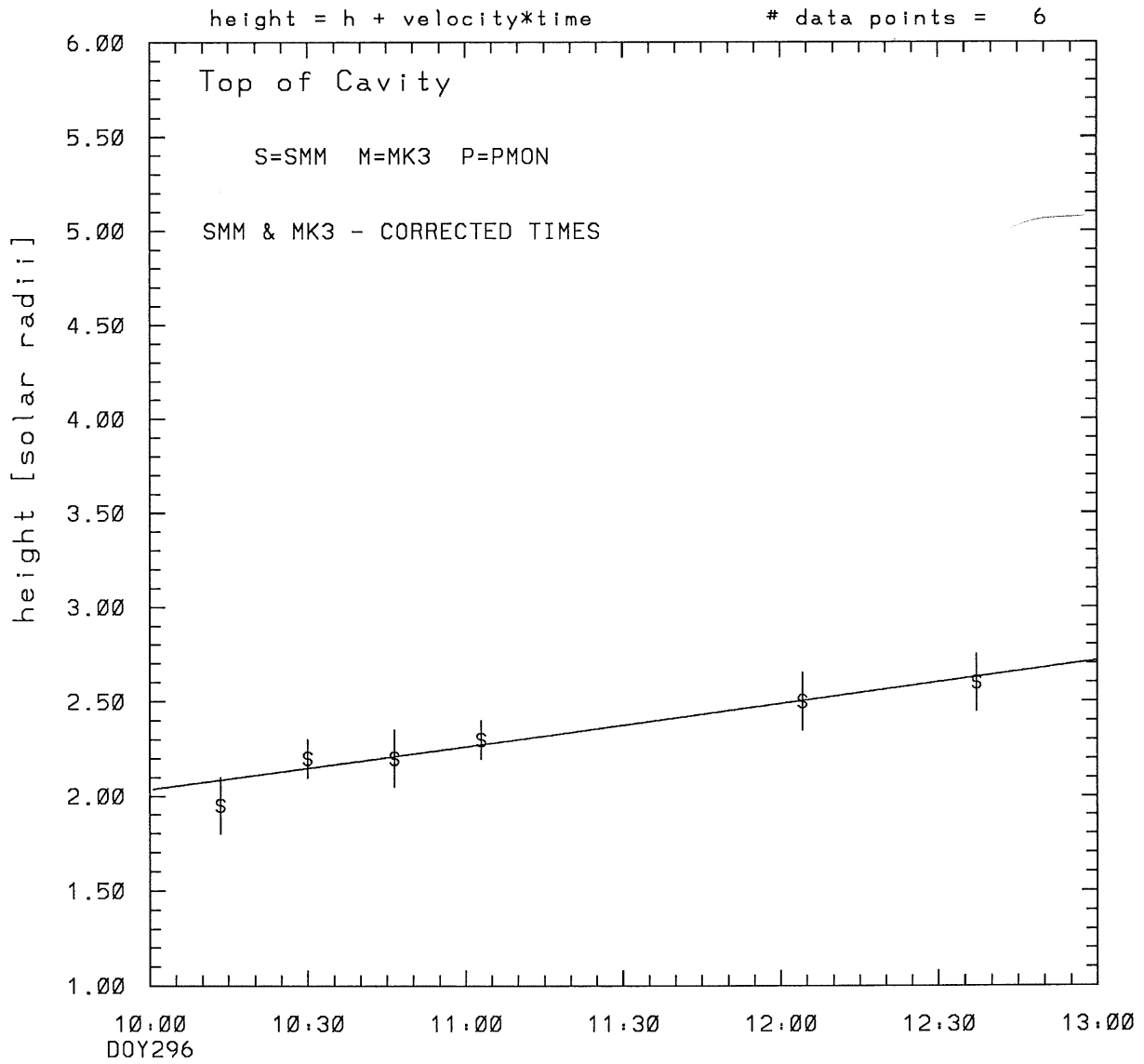
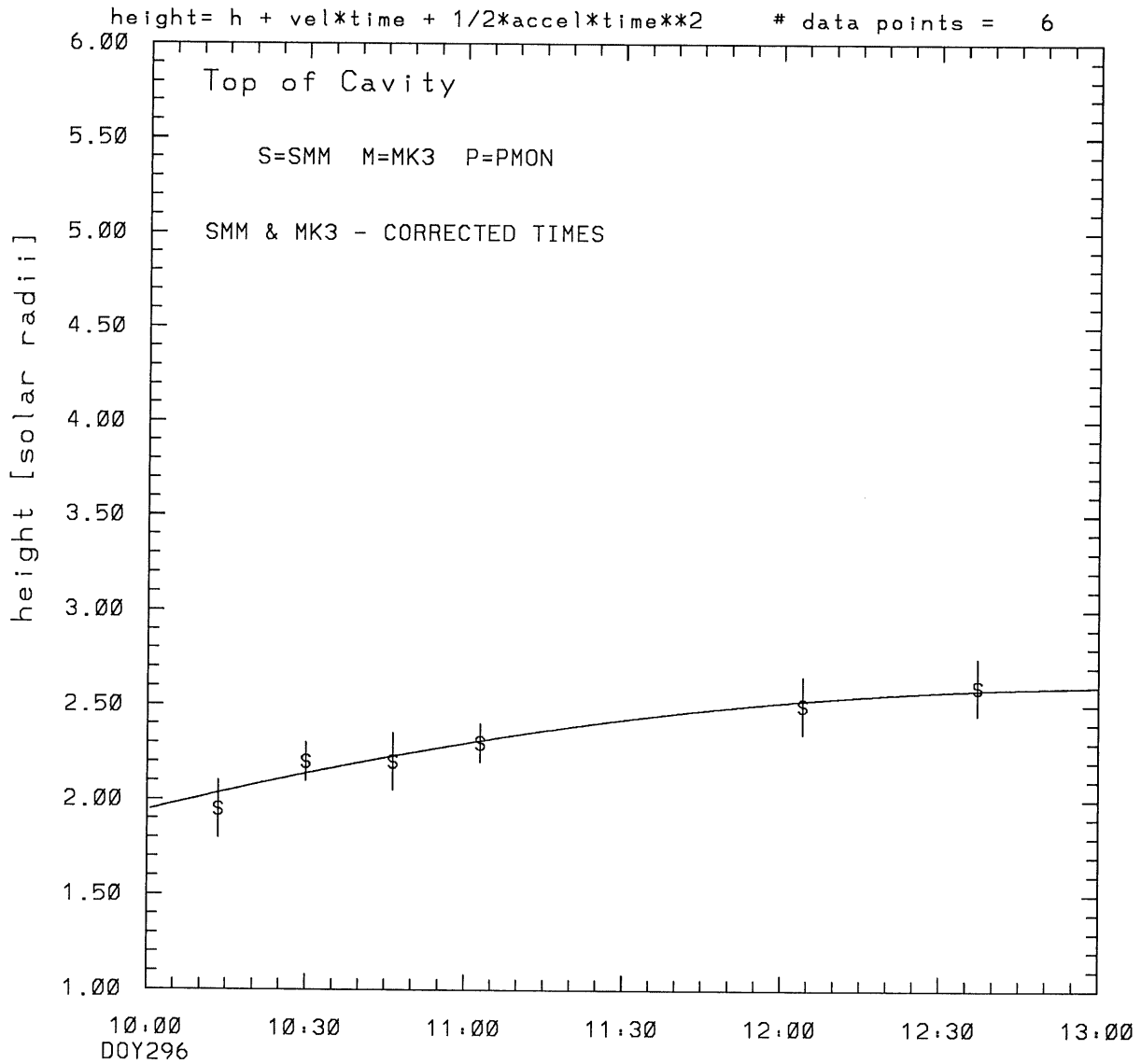


SMM C/P 1987 DOY296 291 +/- 0 degrees



tstart=DOY296 5.28 +/- 4.9 [min.]  
radial velocity= 44. +/- 6. [km/sec]

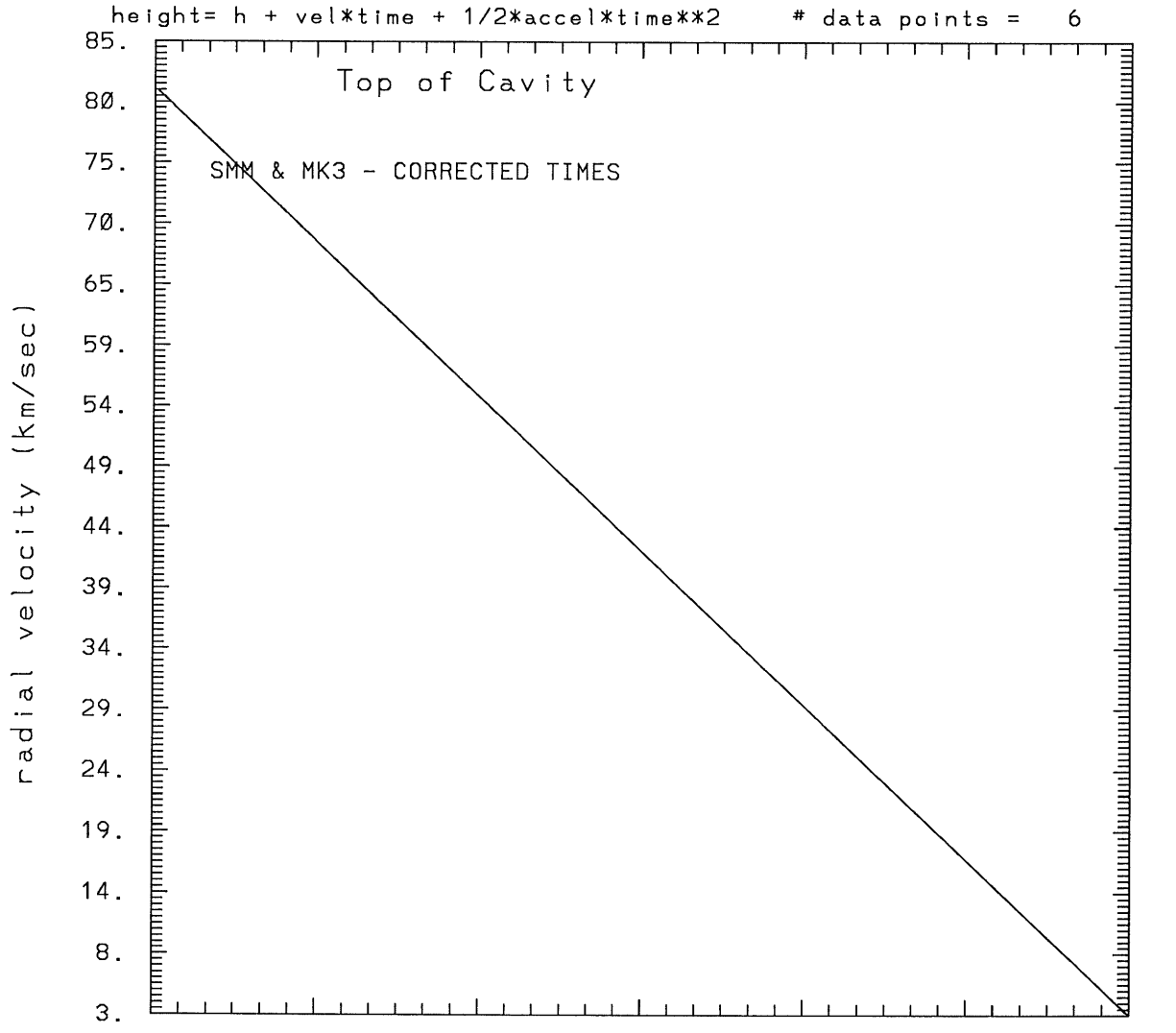
SMM C/P 1987 DOY296 291 +/- 0 degrees



tstart=DOY296 8.15 +/- 28.0 [min.]

radial acceleration =  $-0.0072 +/- 0.0051$  [km/sec\*\*2]

SMM C/P 1987 DOY296 291 +/- 0 degrees



DOY296

tstart=DOY296 8:15 +/- 28.0 [min.]

radial acceleration=-.720E-02 km/sec\*\*2

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

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

year	day	time	radii	radius	error in	angle	error in	datatype
1987	296	10:13:28	1.95	+/- 0.15	291.0	+/- 0.5	SMM	
1987	296	10:29:57	2.20	+/- 0.10	291.0	+/- 0.5	SMM	
1987	296	10:46:28	2.20	+/- 0.15	291.0	+/- 0.5	SMM	
1987	296	11: 2:57	2.30	+/- 0.10	291.0	+/- 0.5	SMM	
1987	296	12: 4:11	2.50	+/- 0.15	291.0	+/- 0.5	SMM	
1987	296	12:37:12	2.60	+/- 0.15	291.0	+/- 0.5	SMM	

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

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

START TIME:

Event began at  $t = 0 + -0.274E+03 +/- 0.487E+01$  [minutes]  
In more convenient units:  
Event began at DOY 296 5:28 +/- 0.487E+01 [minutes]

Origin defined at DOY296 10: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 44. +/- 6. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.203E+01 +/- 0.438E-01$  [solar radii]  
 $c(2) = 0.378E-02 +/- 0.553E-03$  [radii/min]  
 $c(2) = 0.439E+02 +/- 0.641E+01$  [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  $c(1) = 0.53158E-01$  [radii] see Bevington pg. 114  
error in  $c(2) = 0.59849E-03$  [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) = 291. +/- 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 10:13 = 0.000E+00 km/sec

The TOTAL velocity at 10:13 = 44. km/sec

The TANGENTIAL velocity at 10:29 = 0.000E+00 km/sec

The TOTAL velocity at 10:29 = 44. km/sec

The TANGENTIAL velocity at 10:46 = 0.000E+00 km/sec

The TOTAL velocity at 10:46 = 44. km/sec

The TANGENTIAL velocity at 11: 2 = 0.000E+00 km/sec

The TOTAL velocity at 11: 2 = 44. km/sec

The TANGENTIAL velocity at 12: 4 = 0.000E+00 km/sec

The TOTAL velocity at 12: 4 = 44. km/sec

The TANGENTIAL velocity at 12:37 = 0.000E+00 km/sec

The TOTAL velocity at 12:37 = 44. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.23

Standard Deviation in start time measurement = 0.515E+02

Error in time = 0.39920E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.383E-02

Reduced Chi Squared = 0.807E-02

Chi Squared = 0.323E-01

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.962E+00

The probability that no LINEAR correlation exists between the variables = 0.2194E-02

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	datatype
1987	296	10:13:28	1.95	+/- 0.15	291.0	+/- 0.5	SMM	
1987	296	10:29:57	2.20	+/- 0.10	291.0	+/- 0.5	SMM	
1987	296	10:46:28	2.20	+/- 0.15	291.0	+/- 0.5	SMM	
1987	296	11: 2:57	2.30	+/- 0.10	291.0	+/- 0.5	SMM	
1987	296	12: 4:11	2.50	+/- 0.15	291.0	+/- 0.5	SMM	
1987	296	12:37:12	2.60	+/- 0.15	291.0	+/- 0.5	SMM	

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

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

START TIME:

Event began at  $t = 0 + -0.105E+03 +/- 0.280E+02$  [minutes]  
In more convenient units:  
Event began at DOY 296 8:15 +/- 0.280E+02 [minutes]

Origin defined at DOY296 10: 0

RADIAL INFORMATION:

RADIAL ACCELERATION =  $-0.720E-02 +/- 0.513E-02$  km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) =  $0.194E+01 +/- 0.762E-01$  [solar radii]  
c(2) =  $0.699E-02 +/- 0.234E-02$  [radii/min]  
c(2) =  $0.811E+02 +/- 0.272E+02$  [km/sec]  
c(3) =  $-0.186E-04 +/- 0.133E-04$  [radii/min\*\*2]  
c(3) =  $-0.720E-02 +/- 0.513E-02$  [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) =  $0.82791E-01$  [radii] Bevington pg 154 (8-30)  
Exact error in c(1) =  $0.39291E-01$  [radii] Bevington pg 154 (8-28)  
Approximate error in c(2) =  $0.26138E-02$  [radii/min] Bevington pg 154 (8-30)  
Exact error in c(2) =  $0.90389E-03$  [radii/min] Bevington pg 154 (8-28)  
Approximate error in c(3) =  $0.14799E-04$  [radii/min\*\*] Bevington pg 154 (8-30)

Exact error in  $c(3) = 0.43140E-05$  [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) = 291. +/- 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 10:13 =  $0.000E+00$  km/sec

The TOTAL velocity at 10:13 = 75. km/sec

The TANGENTIAL velocity at 10:29 =  $0.000E+00$  km/sec

The TOTAL velocity at 10:29 = 68. km/sec

The TANGENTIAL velocity at 10:46 =  $0.000E+00$  km/sec

The TOTAL velocity at 10:46 = 61. km/sec

The TANGENTIAL velocity at 11: 2 =  $0.000E+00$  km/sec

The TOTAL velocity at 11: 2 = 54. km/sec

The TANGENTIAL velocity at 12: 4 =  $0.000E+00$  km/sec

The TOTAL velocity at 12: 4 = 27. km/sec

The TANGENTIAL velocity at 12:37 =  $0.000E+00$  km/sec

The TOTAL velocity at 12:37 = 13. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.23

Standard Deviation in start time measurement =  $0.515E+02$

Value of reduced Chi Squared returned from nllst2 =  $0.321E-02$

Reduced Chi Squared =  $0.764E-02$

Chi Squared =  $0.229E-01$

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 =  $0.8522E+00$

The correlation between the data and the time\*\*2 term =  $0.8004E+00$

The correlation between the data and the complete equation of motion =  $0.9398E+00$

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