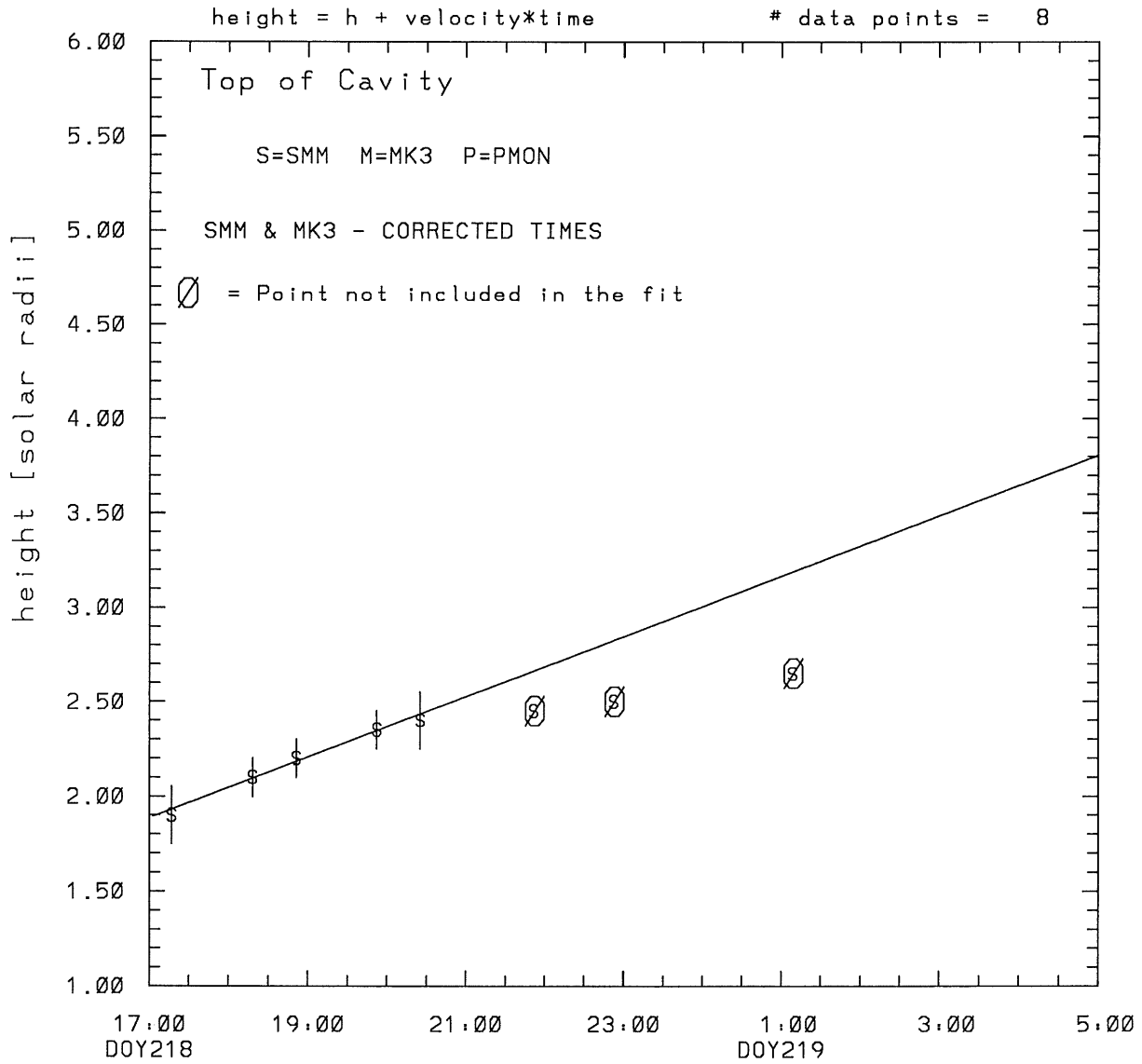
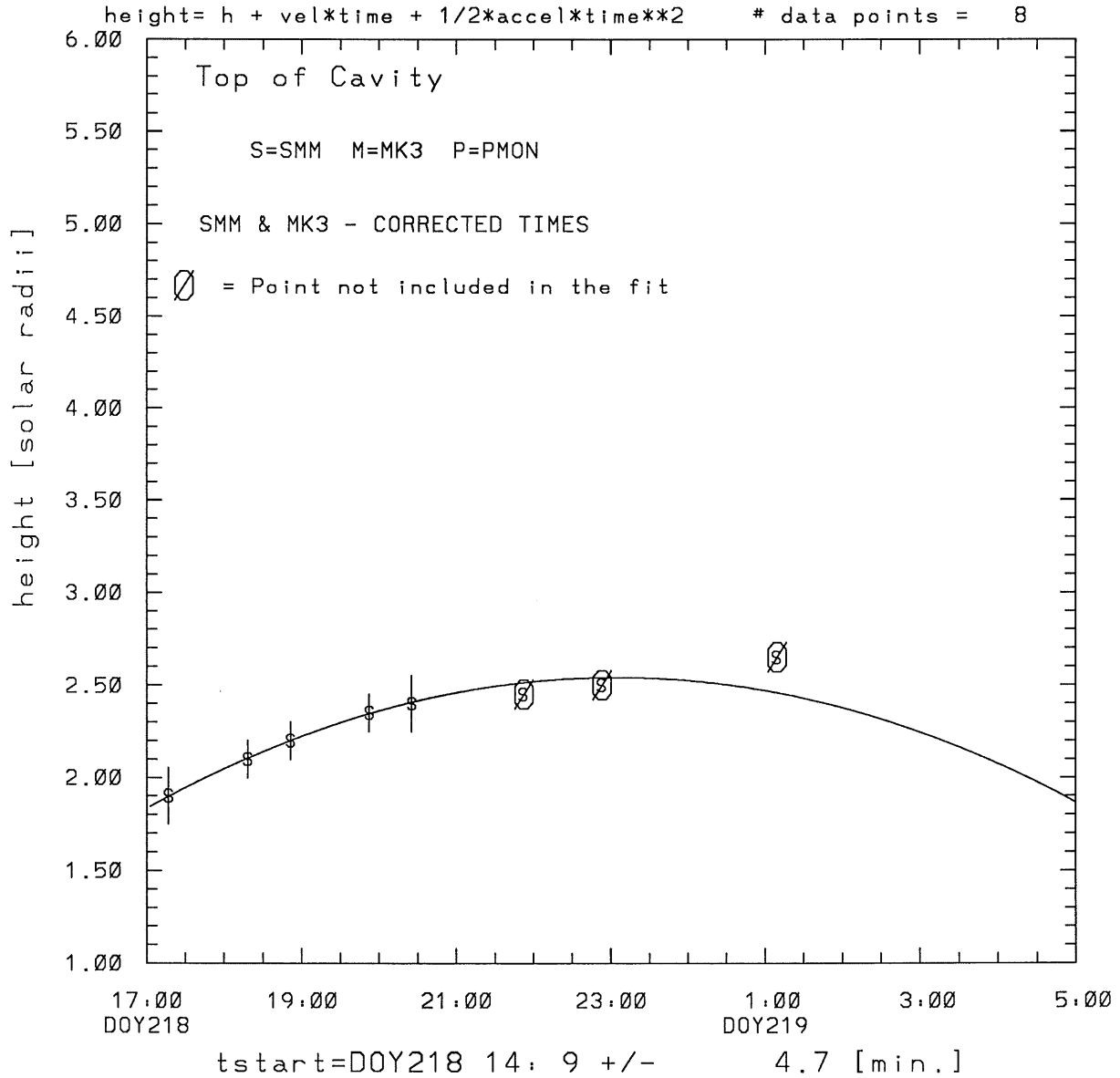


SMM C/P 1987 DOY218 110 +/- 0 degrees



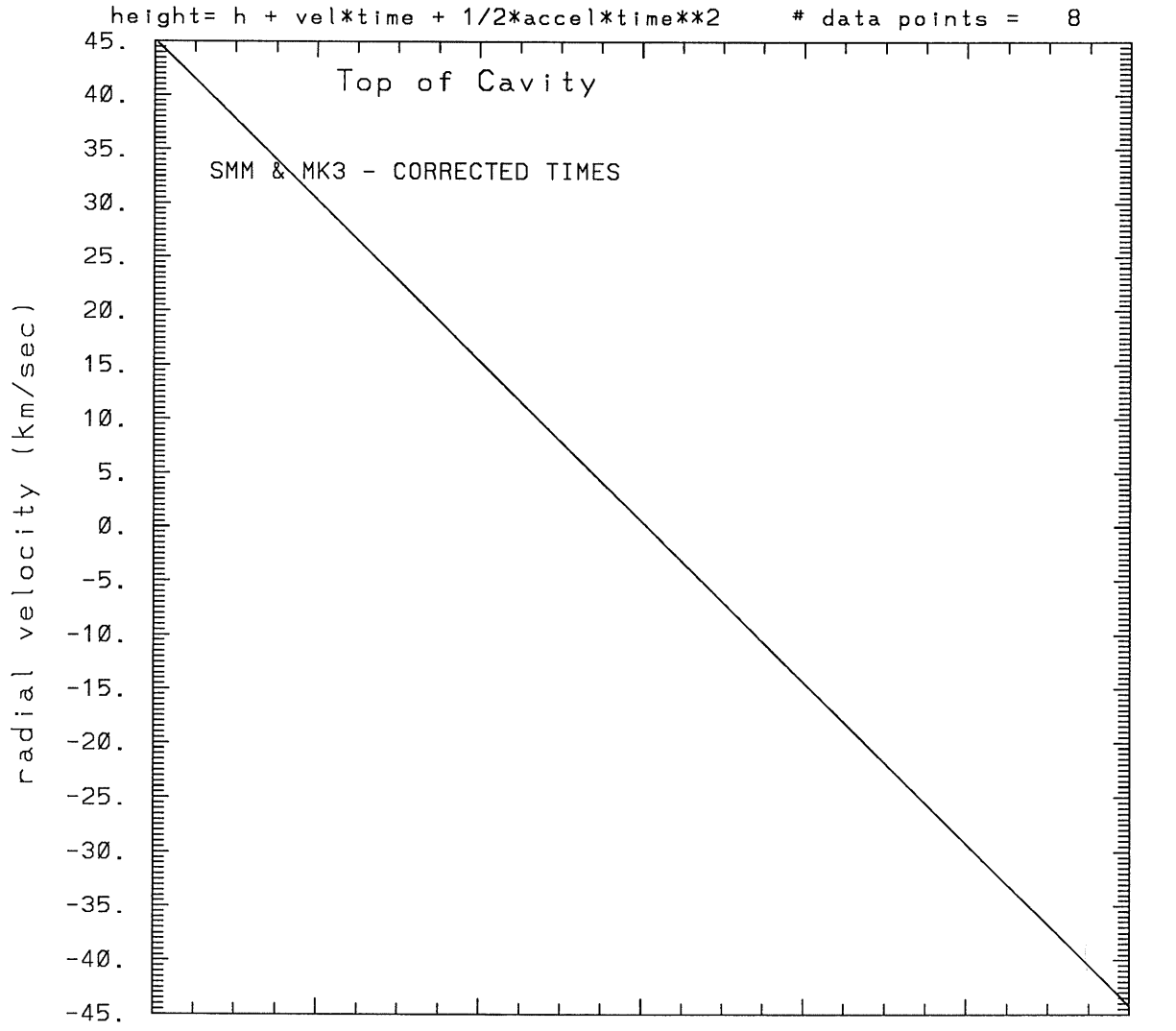
tstart=DOY218 11:28 +/- 3.9 [min.]  
radial velocity= 31. +/- 1. [km/sec]

SMM C/P 1987 DOY218 110 +/- 0 degrees



radial acceleration =  $-0.0021 \pm 0.0002$  [km/sec\*\*2]

SMM C/P 1987 DOY218 110 +/- 0 degrees



17:00 19:00 21:00 23:00 1:00 3:00 5:00  
DOY218 DOY219  
tstart=DOY218 14: 9 +/- 4.7 [min.]

radial acceleration =  $-.207E-02$  km/sec\*\*2

\*\*\*\*\*

This is a 1 order run

\*\*\*\*\*

\*\*\*\*\*

INPUT:

\*\*\*\*\*

year	doy	time	radii	radius	error in radius	angle	error in angle	datatype
1987	218	17:16:51	1.90	+/- 0.15	110.0	+/- 0.5	SMM	
1987	218	18:18: 4	2.10	+/- 0.10	110.0	+/- 0.5	SMM	
1987	218	18:51: 5	2.20	+/- 0.10	110.0	+/- 0.5	SMM	
1987	218	19:52:19	2.35	+/- 0.10	110.0	+/- 0.5	SMM	
1987	218	20:25:19	2.40	+/- 0.15	110.0	+/- 0.5	SMM	
1987	218	21:51:51	2.45	-----	110.00	+/- ----	SMM THIS POINT WASN'T USED IN THE FIT.	
1987	218	22:52:31	2.50	-----	110.00	+/- ----	SMM THIS POINT WASN'T USED IN THE FIT.	
1987	219	1: 8:32	2.65	-----	110.00	+/- ----	SMM THIS POINT WASN'T USED IN THE FIT.	

\*\*\*\*\*

Structure being measured:

Top of Cavity

\*\*\*\*\*

\*\*\*\*\*

OUTPUT:

\*\*\*\*\*

START TIME:

Event began at t = 0 + -0.332E+03 +/- 0.390E+01 [minutes]

In more convenient units:

Event began at DOY 218 11:28 +/- 0.390E+01 [minutes]

Origin defined at DOY218 17: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 31. +/- 1. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

- c(1) = 0.189E+01 +/- 0.159E-01 [solar radii]
- c(2) = 0.266E-02 +/- 0.121E-03 [radii/min]
- c(2) = 0.309E+02 +/- 0.141E+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)= 0.17093E+00 [radii] see Bevington pg. 114

error in c(2)= 0.65872E-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) = 110. +/- 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 17:16 = 0.000E+00 km/sec

The TOTAL velocity at 17:16 = 31. km/sec

The TANGENTIAL velocity at 18:18 = 0.000E+00 km/sec

The TOTAL velocity at 18:18 = 31. km/sec

The TANGENTIAL velocity at 18:51 = 0.000E+00 km/sec

The TOTAL velocity at 18:51 = 31. km/sec

The TANGENTIAL velocity at 19:52 = 0.000E+00 km/sec

The TOTAL velocity at 19:52 = 31. km/sec

The TANGENTIAL velocity at 20:25 = 0.000E+00 km/sec

The TOTAL velocity at 20:25 = 31. km/sec

The TANGENTIAL velocity at 21:51 = 0.000E+00 km/sec

The TOTAL velocity at 21:51 = 31. km/sec

The TANGENTIAL velocity at 22:52 = 0.000E+00 km/sec

The TOTAL velocity at 22:52 = 31. km/sec

The TANGENTIAL velocity at 1: 8 = 0.000E+00 km/sec

The TOTAL velocity at 1: 8 = 31. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.24

Standard Deviation in start time measurement = 0.146E+03

Error in time = 0.24991E+03 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.380E-03

Reduced Chi Squared = 0.557E+00

Chi Squared = 0.334E+01

The probability for exceeding chi square = 0.100E+01

The correlation coefficient =  $0.947E+00$

The probability that no LINEAR correlation exists between the variables =  $0.3491E-03$   
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

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

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

year	doy	time	radii	error in radius	angle	error in angle	datatype
1987	218	17:16:51	1.90	+/- 0.15	110.0	+/- 0.5	SMM
1987	218	18:18: 4	2.10	+/- 0.10	110.0	+/- 0.5	SMM
1987	218	18:51: 5	2.20	+/- 0.10	110.0	+/- 0.5	SMM
1987	218	19:52:19	2.35	+/- 0.10	110.0	+/- 0.5	SMM
1987	218	20:25:19	2.40	+/- 0.15	110.0	+/- 0.5	SMM
1987	218	21:51:51	2.45	----	110.00	+/- ----	SMM THIS POINT WASN'T USED IN THE FIT.
1987	218	22:52:31	2.50	----	110.00	+/- ----	SMM THIS POINT WASN'T USED IN THE FIT.
1987	219	1: 8:32	2.65	----	110.00	+/- ----	SMM THIS POINT WASN'T USED IN THE FIT.

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

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

START TIME:

Event began at  $t = 0 + -0.173E+03 +/- 0.470E+01$  [minutes]  
In more convenient units:  
Event began at DOY 218 14: 9 +/- 0.470E+01 [minutes]

Origin defined at DOY218 17: 0

RADIAL INFORMATION:

RADIAL ACCELERATION =  $-0.207E-02 +/- 0.199E-03$  km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.183E+01 +/- 0.650E-02$  [solar radii]  
 $c(2) = 0.390E-02 +/- 0.122E-03$  [radii/min]  
 $c(2) = 0.452E+02 +/- 0.142E+01$  [km/sec]  
 $c(3) = -0.535E-05 +/- 0.515E-06$  [radii/min\*\*2]  
 $c(3) = -0.207E-02 +/- 0.199E-03$  [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in  $c(1) = 0.84880E-01$  [radii] Bevington pg 154 (8-30)  
Exact error in  $c(1) = 0.18895E-02$  [radii] Bevington pg 154 (8-28)  
Approximate error in  $c(2) = 0.80720E-03$  [radii/min] Bevington pg 154 (8-30)

Exact error in c(2) = 0.30075E-04 [radii/min] Bevington pg 154 (8-28)  
Approximate error in c(3) = 0.15495E-05 [radii/min\*\*] Bevington pg 154 (8-30)  
Exact error in c(3) = 0.13962E-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) = 110. +/- 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 17:16 = 0.000E+00 km/sec  
The TOTAL velocity at 17:16 = 43. km/sec

The TANGENTIAL velocity at 18:18 = 0.000E+00 km/sec  
The TOTAL velocity at 18:18 = 36. km/sec

The TANGENTIAL velocity at 18:51 = 0.000E+00 km/sec  
The TOTAL velocity at 18:51 = 31. km/sec

The TANGENTIAL velocity at 19:52 = 0.000E+00 km/sec  
The TOTAL velocity at 19:52 = 24. km/sec

The TANGENTIAL velocity at 20:25 = 0.000E+00 km/sec  
The TOTAL velocity at 20:25 = 20. km/sec

The TANGENTIAL velocity at 21:51 = 0.000E+00 km/sec  
The TOTAL velocity at 21:51 = 9. km/sec

The TANGENTIAL velocity at 22:52 = 0.000E+00 km/sec  
The TOTAL velocity at 22:52 = 1. km/sec

The TANGENTIAL velocity at 1: 8 = 0.000E+00 km/sec  
The TOTAL velocity at 1: 8 = -15. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.24  
Standard Deviation in start time measurement = 0.146E+03  
Value of reduced Chi Squared returned from nllst2 = 0.234E-04  
Reduced Chi Squared = 0.656E-01



Chi Squared = 0.328E+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 = 0.7083E+00

The correlation between the data and the  $t^2$  term = 0.5333E+00

The correlation between the data and the complete equation of motion = 0.9664E+00

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