SMM C/P 1988 DOY320 300 +/- 0 degrees

height = h + velocity*time   # data points =   5

Top of Cavity

    S=SMM   M=MK3   P=PMON

SMM & MK3 - CORRECTED TIMES

height [solar radii]

6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00

19:00   19:30   20:00   20:30   21:00   21:30   22:00
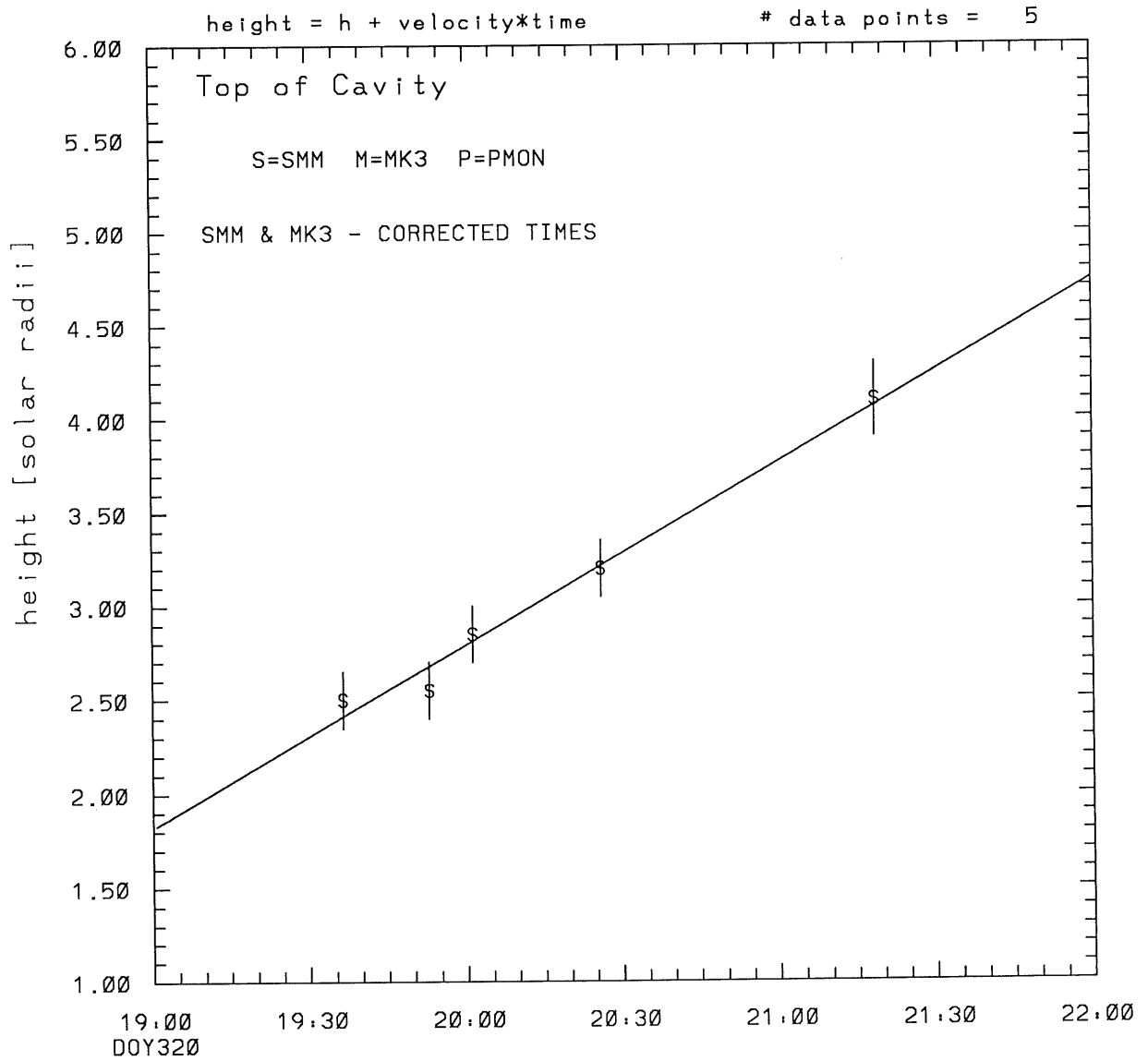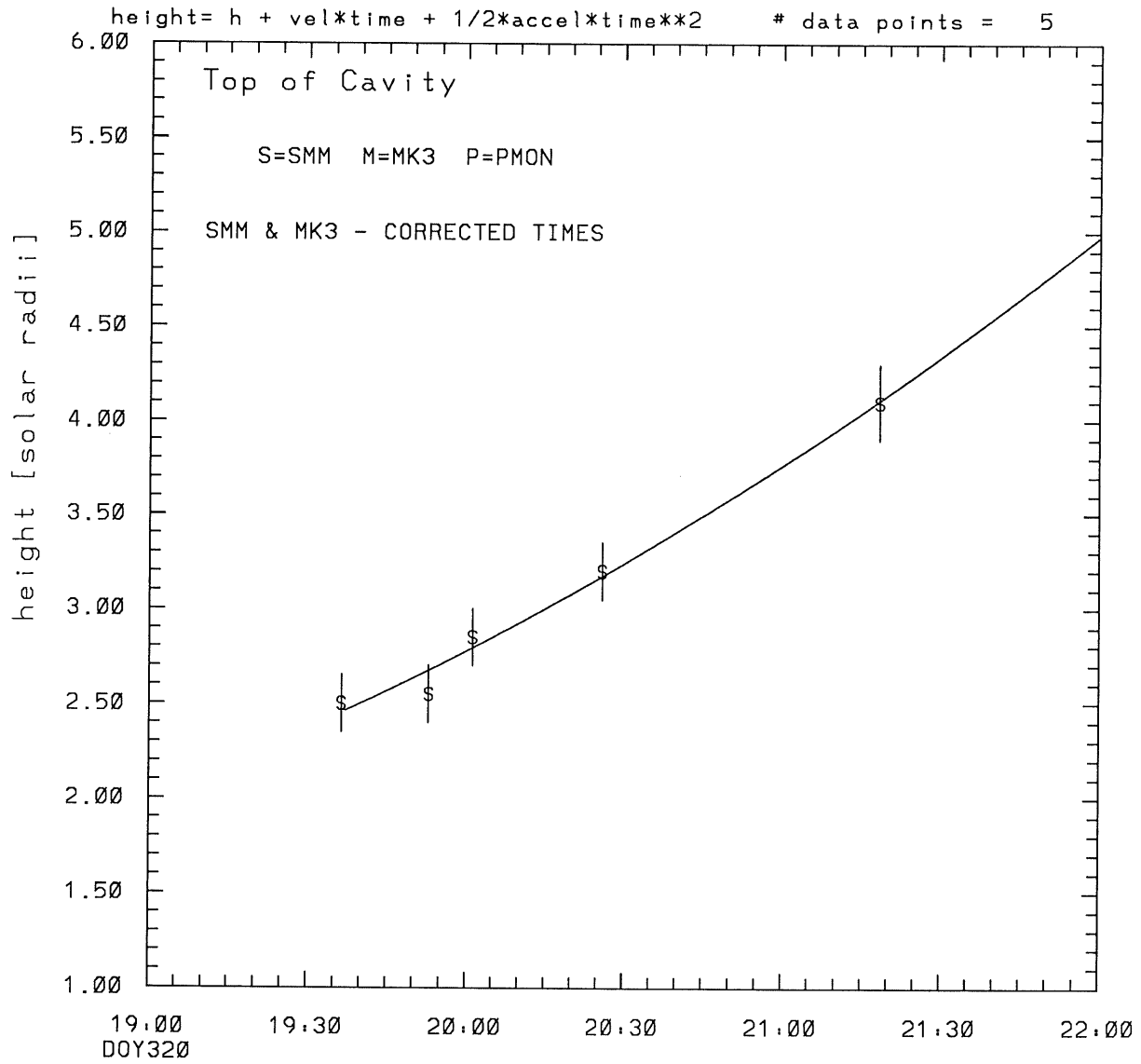DOY320

tstart=DOY320 18:11 +/-   1.3 [min.]
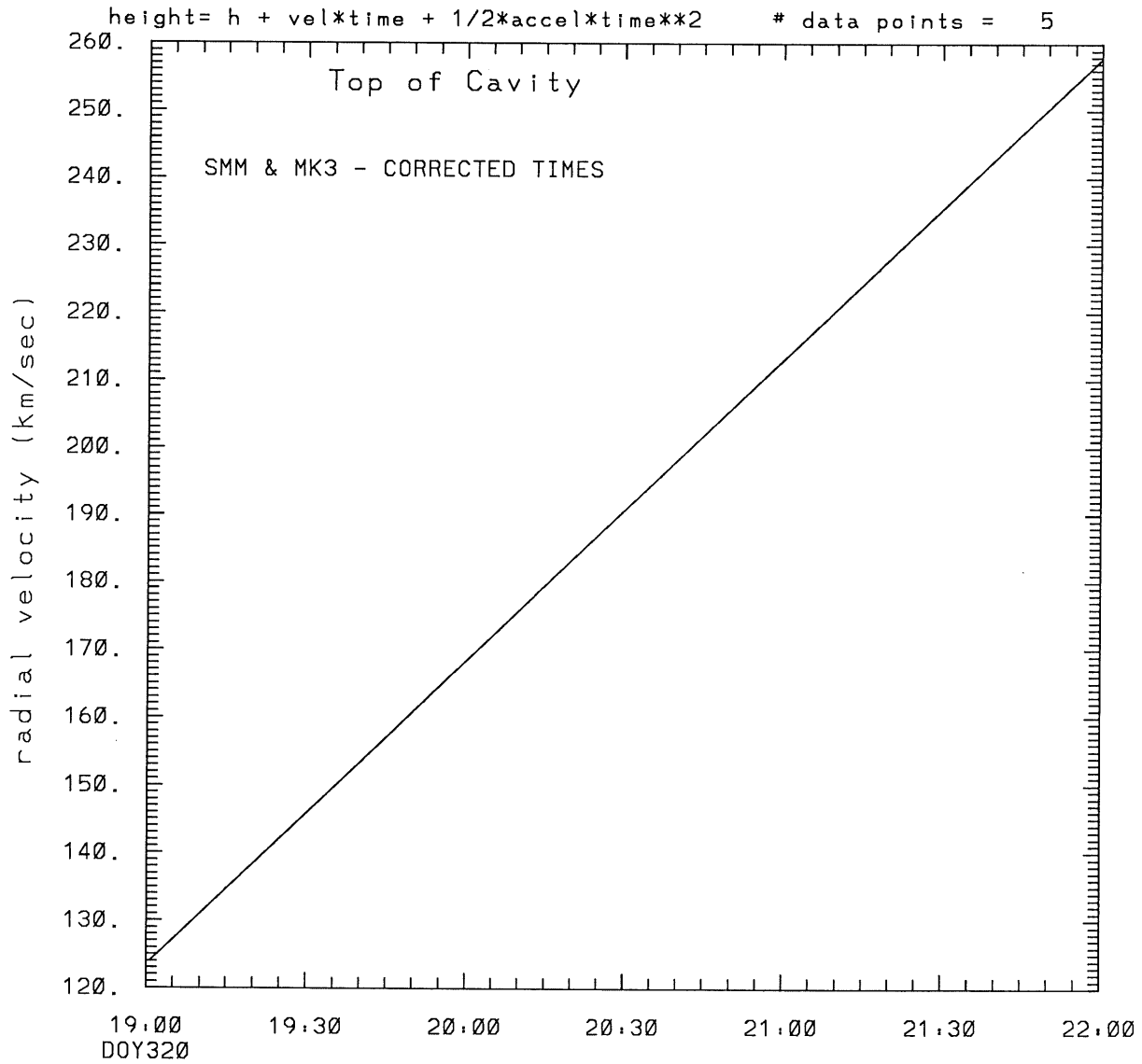radial velocity= 188. +/- 14. [km/sec]

SMM C/P   1988 DOY320   300 +/-   0 degrees

height= h + vel*time + 1/2*accel*time**2   # data points =   5

Top of Cavity

S=SMM   M=MK3   P=PMON

SMM & MK3 - CORRECTED TIMES

height [solar radii]

6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00

19:00   19:30   20:00   20:30   21:00   21:30   22:00
DOY320

tstart=DOY320 16:15   from derivative=0
Event begins at   1.14 Solar Radii
radial acceleration= 0.0124 +/- 0.0152 [km/sec**2]

SMM C/P   1988 DOY320   300 +/-   0 degrees

height= h + vel*time + 1/2*accel*time**2   # data points =   5

Top of Cavity

SMM & MK3 - CORRECTED TIMES

radial velocity (km/sec)

260.
250.
240.
230.
220.
210.
200.
190.
180.
170.
160.
150.
140.
130.
120.

19:00   19:30   20:00   20:30   21:00   21:30   22:00
DOY320

tstart=DOY320 16:15   from derivative=0
Event begins at   1.14 Solar Radii
radial acceleration=0.124E-01 km/sec**2

```
********************
 This is a 1 order run
********************


*******
 INPUT:
*******


                      error in       error in
year doy   time    radii  radius   angle angle   datatype
1988 320  19:36:26  2.50 +/- 0.15   300.0 +/- 0.5    SMM
1988 320  19:52:57  2.55 +/- 0.15   300.0 +/- 0.5    SMM
1988 320  20: 1:13  2.85 +/- 0.15   300.0 +/- 0.5    SMM
1988 320  20:25:58  3.20 +/- 0.15   300.0 +/- 1.0    SMM
1988 320  21:18:26  4.10 +/- 0.20   300.0 +/- 1.0    SMM


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


********
 OUTPUT:
********


START TIME:


Event began at t = 0 + -0.506E+02 +/- 0.131E+01 [minutes]
In more convenient units:
Event began at DOY 320 18:11 +/- 0.131E+01 [minutes]


Origin defined at DOY320 19: 0


RADIAL INFORMATION:


RADIAL VELOCITY =   188. +/-   14. km/sec


The computed RADIAL coefficients and errors FROM NLLST2 are:


c(1) =   0.182E+01 +/-   0.934E-01 [solar radii]
c(2) =   0.162E-01 +/-   0.124E-02 [radii/min]
c(2) =   0.188E+03 +/-   0.143E+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)= 0.99675E-01 [radii] see Bevington pg. 114
         error in c(2)= 0.12011E-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) = 300. +/-   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 19:36 =   0. km/sec
The TOTAL velocity at 19:36 = 188. km/sec

The TANGENTIAL velocity at 19:52 =   0. km/sec
The TOTAL velocity at 19:52 = 188. km/sec

The TANGENTIAL velocity at 20: 1 =   0. km/sec
The TOTAL velocity at 20: 1 = 188. km/sec

The TANGENTIAL velocity at 20:25 =   0. km/sec
The TOTAL velocity at 20:25 = 188. km/sec

The TANGENTIAL velocity at 21:18 =   0. km/sec
The TOTAL velocity at 21:18 = 188. km/sec

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

Fit is ok [ier=1]

Standard Deviation in the height = 0.66
Standard Deviation in start time measurement =   0.355E+02
Error in time =   0.10188E+02 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.734E-02
Reduced Chi Squared = 0.174E-01
Chi Squared = 0.521E-01
The probability for exceeding chi square = 0.999E+00

The correlation coefficient =   0.992E+00
The probability that no LINEAR correlation exists between the variables =   0.8461E-03
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

```
********************
   This is a 2 order run
********************


*******
 INPUT:
*******


                      error in      error in
year doy   time    radii  radius   angle  angle   datatype
1988 320  19:36:26  2.50 +/- 0.15   300.0 +/- 0.5    SMM
1988 320  19:52:57  2.55 +/- 0.15   300.0 +/- 0.5    SMM
1988 320  20: 1:13  2.85 +/- 0.15   300.0 +/- 0.5    SMM
1988 320  20:25:58  3.20 +/- 0.15   300.0 +/- 1.0    SMM
1988 320  21:18:26  4.10 +/- 0.20   300.0 +/- 1.0    SMM


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


********
 OUTPUT:
********


START TIME:


tstart=DOY320 16:15 from derivative = 0
Event begins at   1.14 Solar Radii
 Origin defined at DOY320 19: 0


RADIAL INFORMATION:


RADIAL ACCELERATION =  0.124E-01 +/-  0.152E-01 km/sec**2


The computed RADIAL coefficients and errors FROM NLLST2 are:


c(1) =   0.202E+01 +/-   0.264E+00 [solar radii]
c(2) =   0.106E-01 +/-   0.695E-02 [radii/min]
c(2) =   0.123E+03 +/-   0.806E+02 [km/sec]
c(3) =   0.322E-04 +/-   0.394E-04 [radii/min**2]
c(3) =   0.124E-01 +/-   0.152E-01 [km/sec**2]
```

The computed ERRORS in coefficients [BEVINGTON] are:

```
     Approximate error in c(1) =  0.31981E+00 [radii] Bevington pg 154 (8-30)
         Exact error in c(1) =  0.86561E-01 [radii] Bevington pg 154 (8-28)
     Approximate error in c(2) =  0.83092E-02 [radii/min] Bevington pg 154 (8-30)
         Exact error in c(2) =  0.19610E-02 [radii/min] Bevington pg 154 (8-28)
     Approximate error in c(3) =  0.45712E-04 [radii/min**] Bevington pg 154 (8-30)
         Exact error in c(3) =  0.98939E-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) = 300. +/- 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 19:36 = 0. km/sec
The TOTAL velocity at 19:36 = 151. km/sec

The TANGENTIAL velocity at 19:52 = 0. km/sec
The TOTAL velocity at 19:52 = 163. km/sec

The TANGENTIAL velocity at 20: 1 = 0. km/sec
The TOTAL velocity at 20: 1 = 169. km/sec

The TANGENTIAL velocity at 20:25 = 0. km/sec
The TOTAL velocity at 20:25 = 188. km/sec

The TANGENTIAL velocity at 21:18 = 0. km/sec
The TOTAL velocity at 21:18 = 227. km/sec

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

 Fit is ok [ier=1]

Standard Deviation in the height = 0.66
Standard Deviation in start time measurement = 0.355E+02
Value of reduced Chi Squared returned from nllst2 = 0.801E-02
Reduced Chi Squared = 0.233E-01
Chi Squared = 0.465E-01
The probability for exceeding chi square = 0.992E+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 = 0.8791E+00
The correlation between the data and the time**2 term = 0.8516E+00
0The correlation between the data and the complete equation of motion = 0.9825E+00
 SEE BEVINGTON "Data Reduction and Error Analysis" [1969]