SMM C/P 1988 DOY281   5Ø +/- Ø degrees

height = h + velocity*time   # data points =   4

Top of ~~Mound~~ Loop

S=SMM   M=MK3   P=PMON

SMM & MK3 - CORRECTED TIMES

height [solar radii] (y-axis)
6.00, 5.50, 5.00, 4.50, 4.00, 3.50, 3.00, 2.50, 2.00, 1.50, 1.00

x-axis: 20:00, 20:30, 21:00, 21:30, 22:00, 22:30, 23:00
DOY281
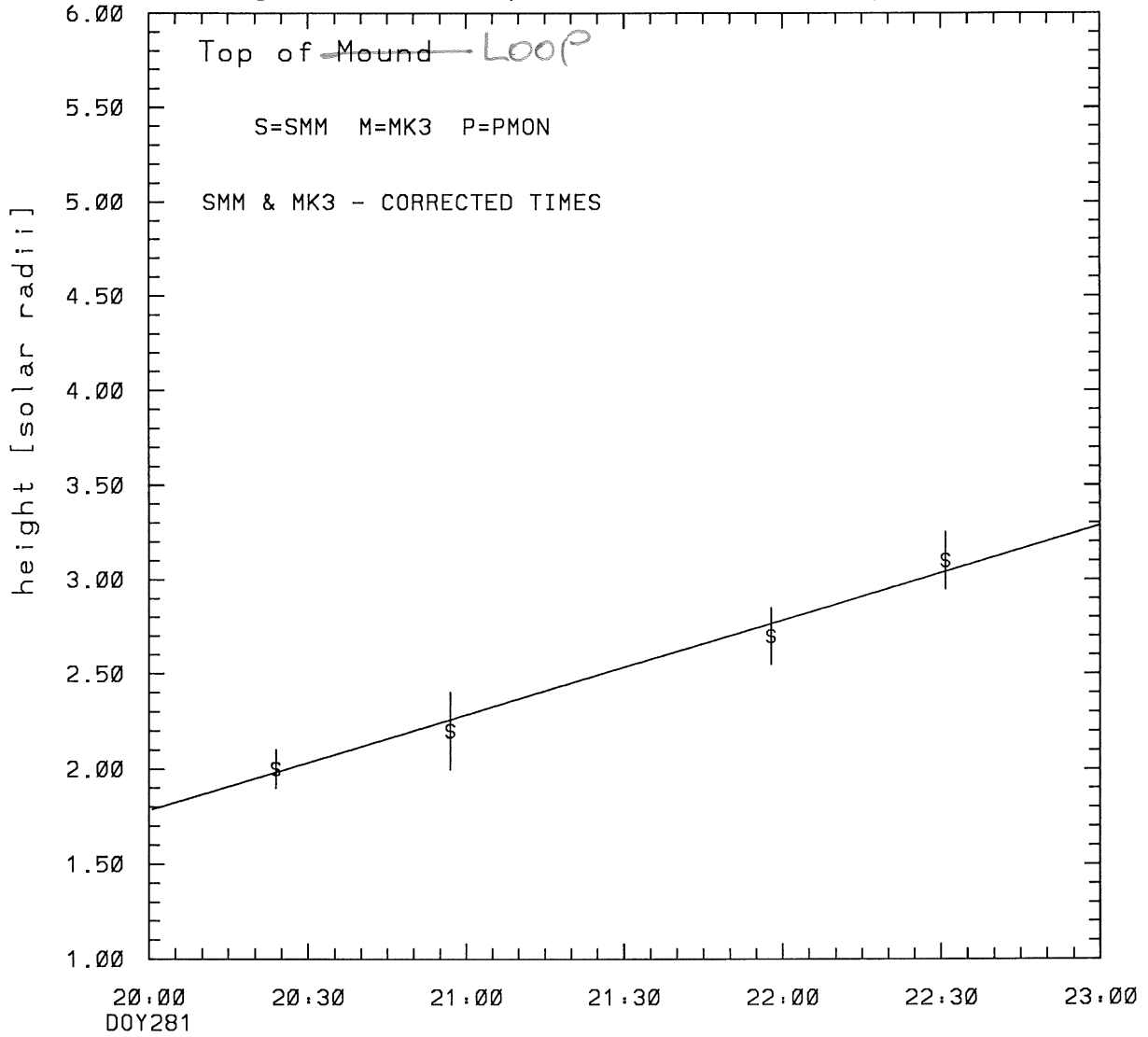
tstart=DOY281 18:28 +/-   3.4 [min.]
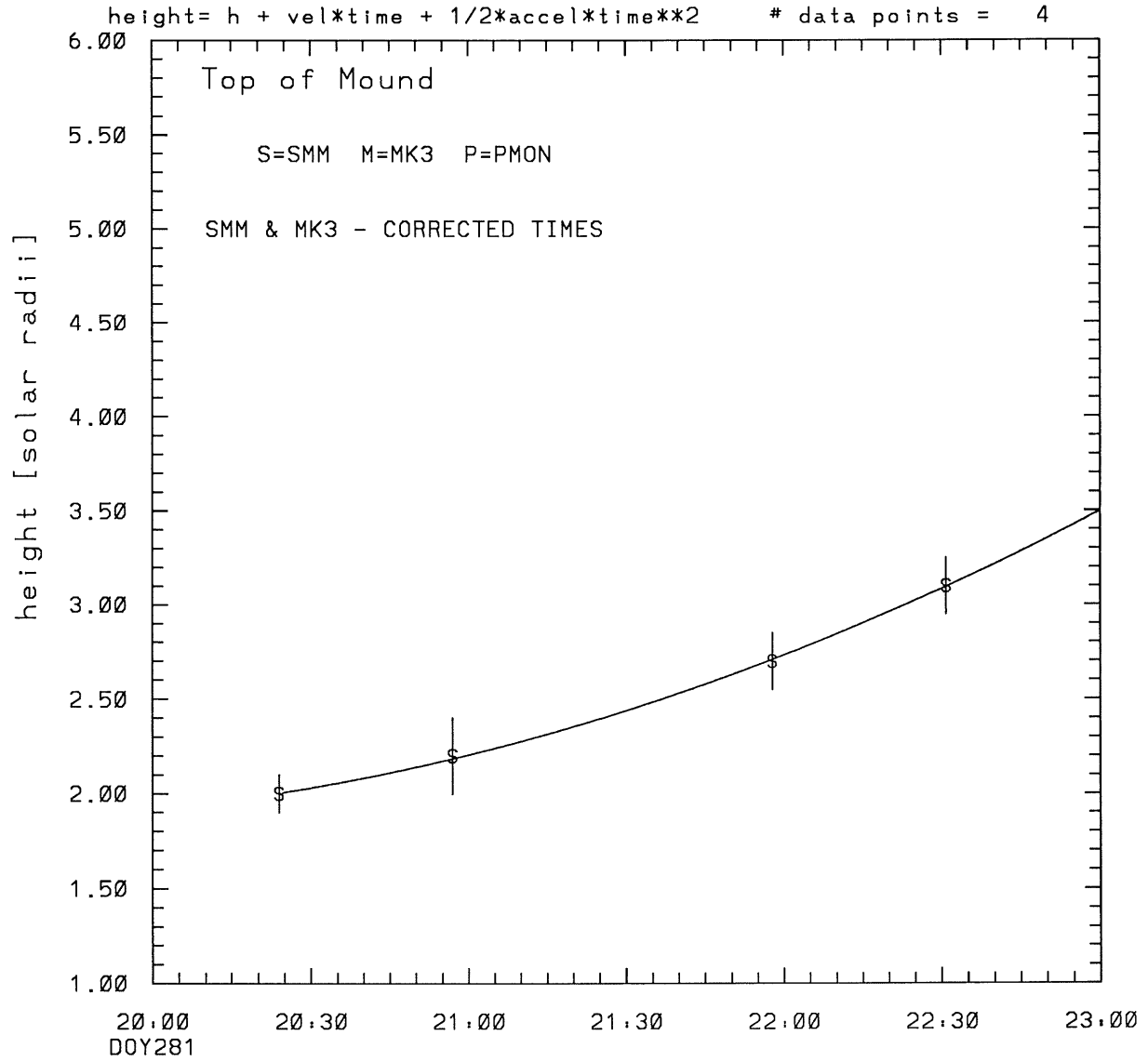radial velocity=   97. +/-   6. [km/sec]

SMM C/P 1988 DOY281   5Ø +/- Ø degrees

height= h + vel*time + 1/2*accel*time**2   # data points =   4

Top of Mound

S=SMM   M=MK3   P=PMON

SMM & MK3 - CORRECTED TIMES

height [solar radii]

6.ØØ
5.5Ø
5.ØØ
4.5Ø
4.ØØ
3.5Ø
3.ØØ
2.5Ø
2.ØØ
1.5Ø
1.ØØ

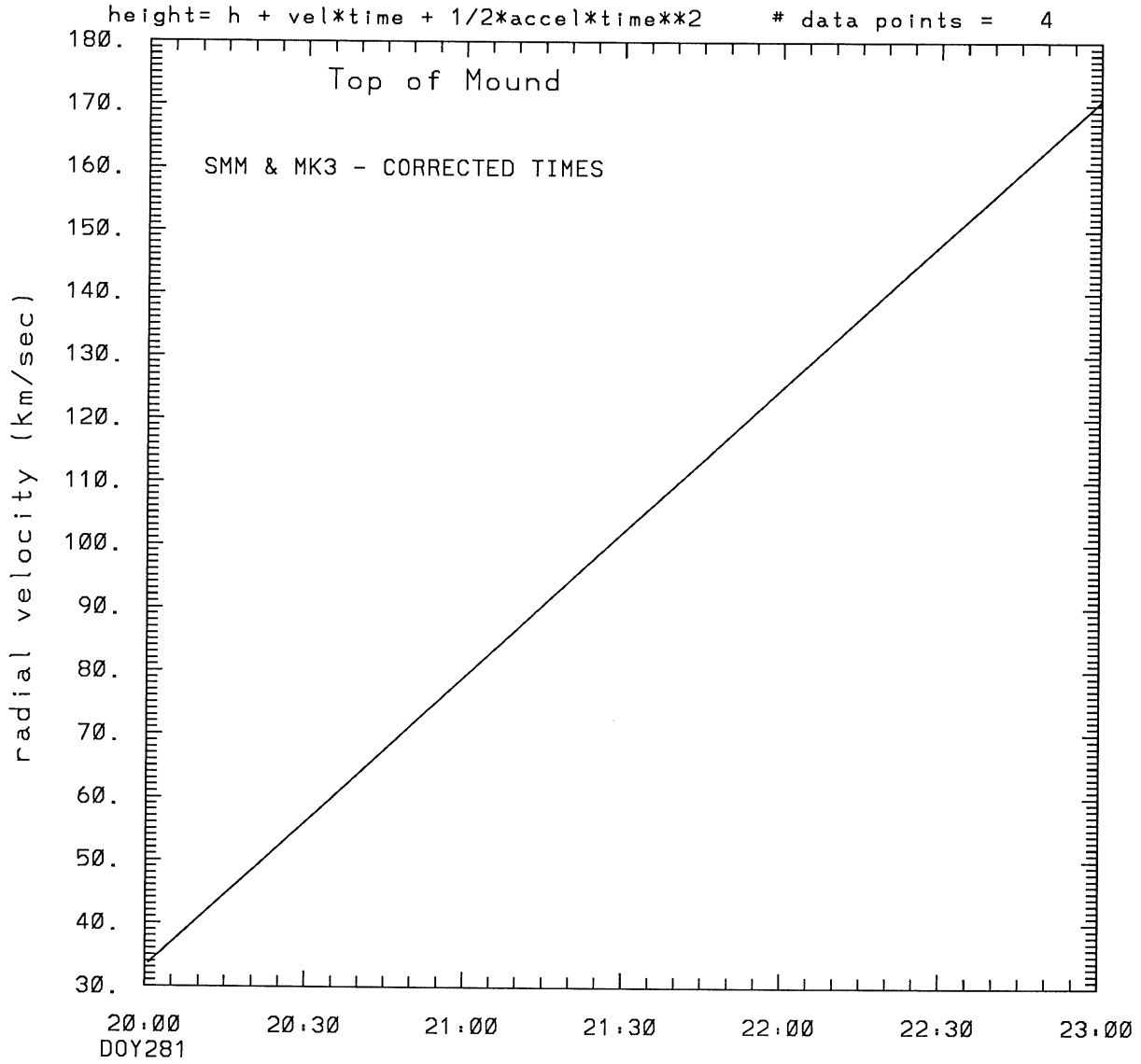2Ø.ØØ   2Ø:3Ø   21:ØØ   21:3Ø   22:ØØ   22:3Ø   23:ØØ
DOY281

tstart=DOY281 19:17   from derivative=Ø
Event begins at   1.85 Solar Radii
radial acceleration= Ø.Ø127 +/- Ø.ØØ14 [km/sec**2]

SMM C/P   1988 DOY281   50 +/-   0 degrees

height= h + vel*time + 1/2*accel*time**2   # data points =   4

Top of Mound

SMM & MK3 - CORRECTED TIMES

radial velocity (km/sec)

180.
170.
160.
150.
140.
130.
120.
110.
100.
90.
80.
70.
60.
50.
40.
30.

20:00   20:30   21:00   21:30   22:00   22:30   23:00
DOY281

tstart=DOY281 19:17   from derivative=0
Event begins at   1.85 Solar Radii
radial acceleration=0.127E-01   km/sec**2

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


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


                          error in      error in
year doy    time    radii  radius   angle  angle   datatype
1988 281  20:23:54  2.00 +/- 0.10   50.0 +/- 0.5      SMM
1988 281  20:56:56  2.20 +/- 0.20   50.0 +/- 0.5      SMM
1988 281  21:57:49  2.70 +/- 0.15   50.0 +/- 0.5      SMM
1988 281  22:30:51  3.10 +/- 0.15   50.0 +/- 1.0      SMM


****************************************
 Structure being measured:
Top of Mound  Loop
****************************************


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


START TIME:


Event began at t = 0 + -0.936E+02 +/- 0.337E+01 [minutes]
In more convenient units:
Event began at DOY 281 18:28 +/- 0.337E+01 [minutes]


 Origin defined at DOY281 20: 0

RADIAL INFORMATION:

RADIAL VELOCITY =   97. +/-    6. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) =   0.178E+01 +/-   0.457E-01 [solar radii]
c(2) =   0.836E-02 +/-   0.503E-03 [radii/min]
c(2) =   0.969E+02 +/-   0.584E+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)= 0.76217E-01 [radii] see Bevington pg. 114
           error in c(2)= 0.75792E-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) = 50. +/-   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 20:23 =   0. km/sec
The TOTAL velocity at 20:23 =   97. km/sec

The TANGENTIAL velocity at 20:56 =   0. km/sec
The TOTAL velocity at 20:56 =   97. km/sec

The TANGENTIAL velocity at 21:57 =   0. km/sec
The TOTAL velocity at 21:57 =   97. km/sec

The TANGENTIAL velocity at 22:30 =   0. km/sec
The TOTAL velocity at 22:30 =   97. km/sec

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

Fit is ok [ier=1]

Standard Deviation in the height = 0.50
Standard Deviation in start time measurement =   0.498E+02
Error in time =   0.12771E+02 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.287E-02
Reduced Chi Squared = 0.167E-01
Chi Squared = 0.335E-01
The probability for exceeding chi square = 0.997E+00

The correlation coefficient =   0.993E+00
The probability that no LINEAR correlation exists between the variables =   0.6991E-02
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 281  20:23:54  2.00 +/- 0.10   50.0 +/-  0.5    SMM
1988 281  20:56:56  2.20 +/- 0.20   50.0 +/-  0.5    SMM
1988 281  21:57:49  2.70 +/- 0.15   50.0 +/-  0.5    SMM
1988 281  22:30:51  3.10 +/- 0.15   50.0 +/-  1.0    SMM


*****************************************
 Structure being measured:
Top of Mound
*****************************************


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


START TIME:


tstart=DOY281 19:17 from derivative = 0
Event begins at   1.85 Solar Radii
 Origin defined at DOY281 20: 0


RADIAL INFORMATION:


RADIAL ACCELERATION =  0.127E-01 +/-  0.140E-02 km/sec**2
```

The computed RADIAL coefficients and errors FROM NLLST2 are:

```
c(1) =    0.191E+01 +/-    0.169E-01 [solar radii]
c(2) =    0.286E-02 +/-    0.611E-03 [radii/min]
c(2) =    0.331E+02 +/-    0.709E+01 [km/sec]
c(3) =    0.330E-04 +/-    0.362E-05 [radii/min**2]
c(3) =    0.127E-01 +/-    0.140E-02 [km/sec**2]
```

The computed ERRORS in coefficients [BEVINGTON] are:

```
     Approximate error in c(1) =  0.36279E-01 [radii] Bevington pg 154 (8-30)
          Exact error in c(1) =  0.97511E-02 [radii] Bevington pg 154 (8-28)
     Approximate error in c(2) =  0.10673E-02 [radii/min] Bevington pg 154 (8-30)
          Exact error in c(2) =  0.45322E-03 [radii/min] Bevington pg 154 (8-28)
     Approximate error in c(3) =  0.60125E-05 [radii/min**]  Bevington pg 154 (8-30)
          Exact error in c(3) =  0.26396E-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) = 50. +/- 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 20:23 = 0. km/sec
The TOTAL velocity at 20:23 = 51. km/sec

The TANGENTIAL velocity at 20:56 = 0. km/sec
The TOTAL velocity at 20:56 = 77. km/sec

The TANGENTIAL velocity at 21:57 = 0. km/sec
The TOTAL velocity at 21:57 = 123. km/sec

The TANGENTIAL velocity at 22:30 = 0. km/sec
The TOTAL velocity at 22:30 = 148. km/sec

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

Fit is ok [ier=1]

Standard Deviation in the height = 0.50
Standard Deviation in start time measurement = 0.498E+02
Value of reduced Chi Squared returned from nllst2 = 0.101E-03
Reduced Chi Squared = 0.807E-03
Chi Squared = 0.807E-03
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 = 0.1098E+01
 The correlation between the data and the time**2 term = 0.1037E+01
0The correlation between the data and the complete equation of motion = 0.9986E+00
 SEE BEVINGTON "Data Reduction and Error Analysis" [1969]