SMM C/P 1989 DOY263 298 +/- Ø degrees

height = h + velocity*time   # data points =   3

Top of Mound [or Loop]

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
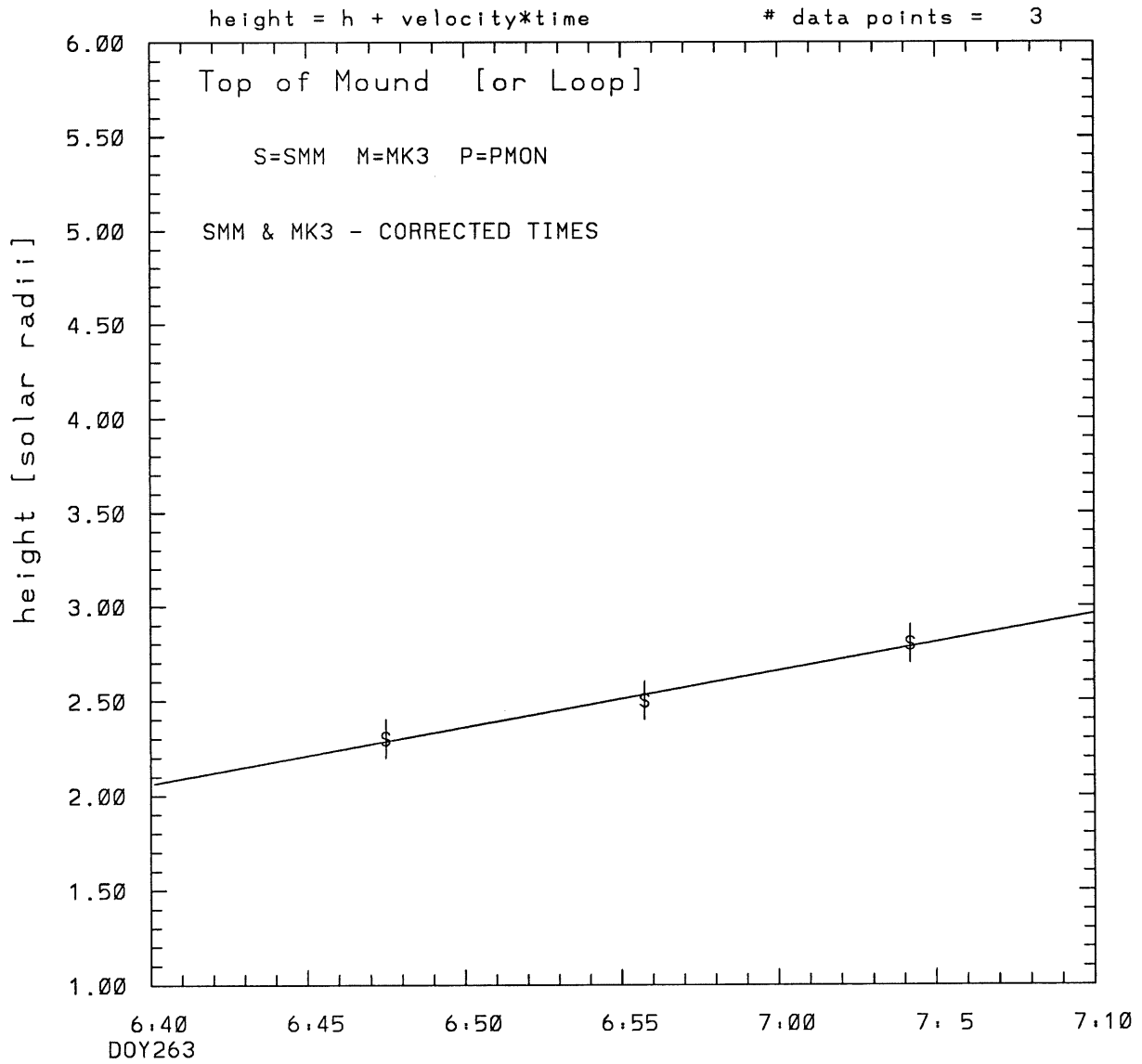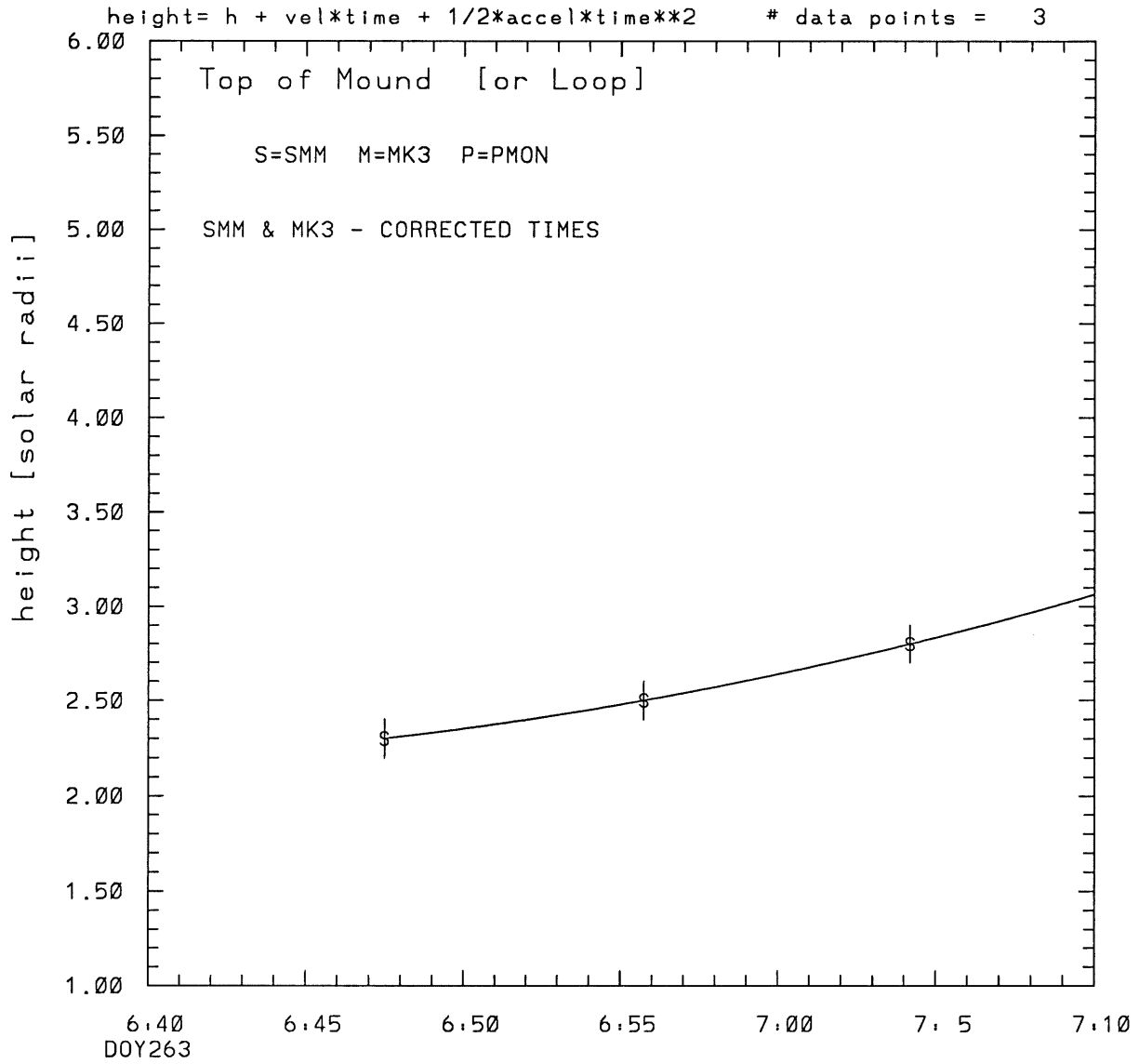2.00
1.50
1.00

6:40   6:45   6:50   6:55   7:00   7:5   7:10
DOY263

tstart=DOY263   6: 5 +/-   1.6 [min.]
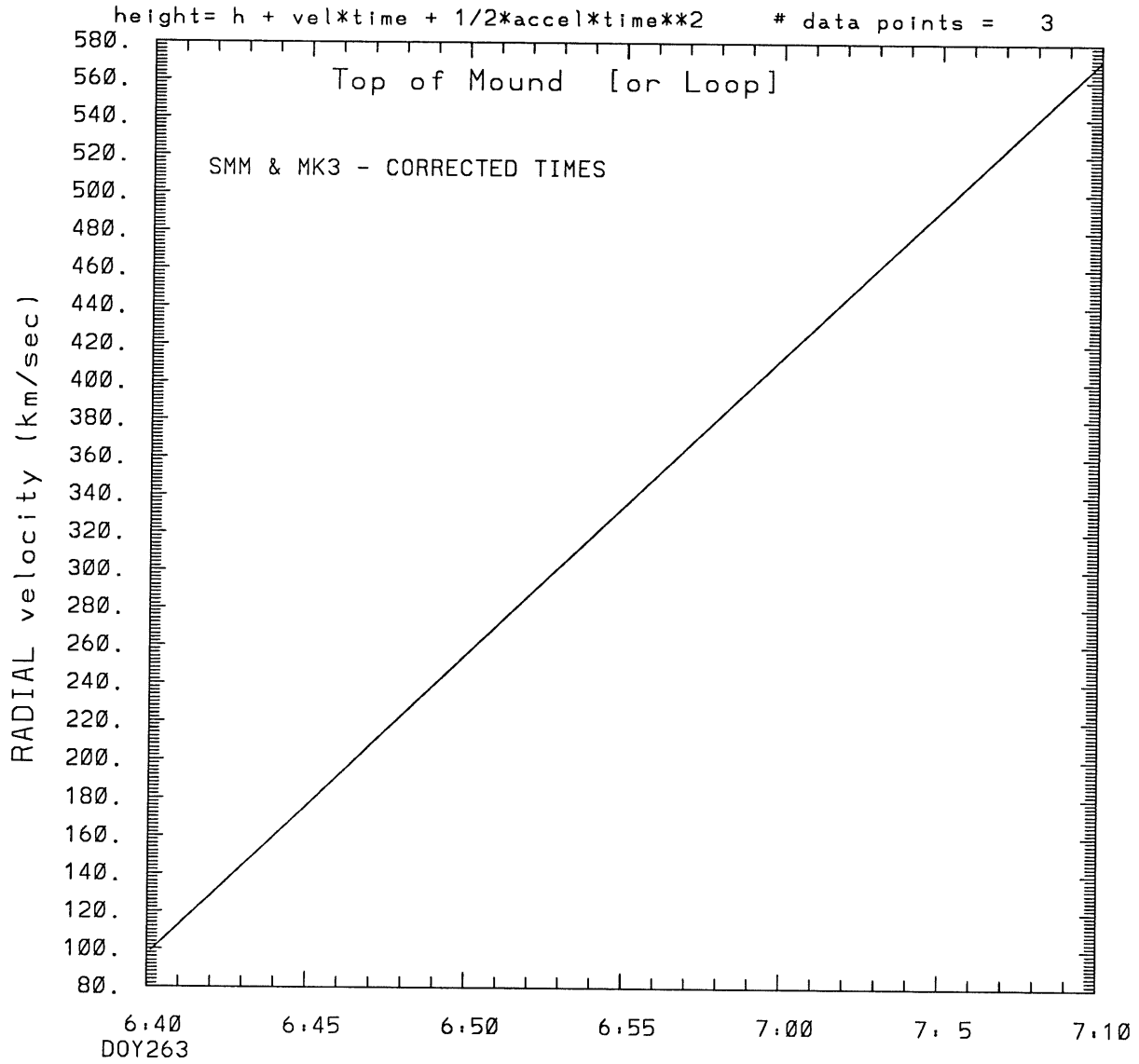radial velocity=   348. +/-   27. [km/sec]

SMM C/P 1989 DOY263 298 +/- 0 degrees

height= h + vel*time + 1/2*accel*time**2   # data points = 3

Top of Mound [or Loop]

S=SMM M=MK3 P=PMON

SMM & MK3 - CORRECTED TIMES

height [solar radii]

tstart=DOY263 6:34   from derivative=0
Event begins at 2.17 Solar Radii
radial acceleration= 0.2635 +/- 0.0000 [km/sec**2]

SMM C/P 1989 DOY263 298 +/- Ø degrees

height= h + vel*time + 1/2*accel*time**2   # data points =   3

Top of Mound [or Loop]

SMM & MK3 - CORRECTED TIMES

RADIAL velocity (km/sec)

580.
560.
540.
520.
500.
480.
460.
440.
420.
400.
380.
360.
340.
320.
300.
280.
260.
240.
220.
200.
180.
160.
140.
120.
100.
 80.

6:40   6:45   6:50   6:55   7:00   7:5   7:10
DOY263

tstart=DOY263 6:34   from derivative=Ø
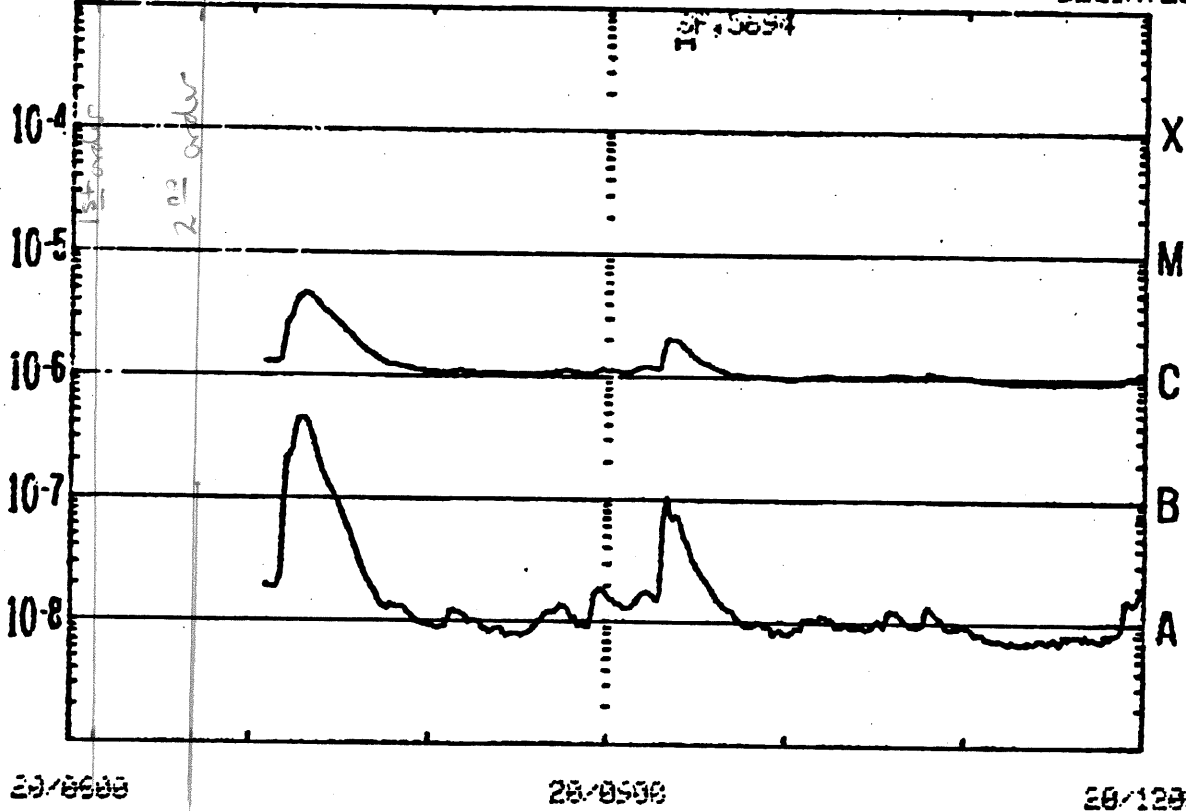Event begins at   2.17 Solar Radii
radial acceleration=Ø.263E+ØØ km/sec**2

Top of Mound entr =298°
[6.08] 1st order

Top of Mound 2nd order
[6.37]

X-RAY and OPTICAL DATA TOGETHER

STOP
Ret..

BEGIN: 28 SEP 89

1st order

2nd order

Watts meter⁻²

10^{-4} — X

10^{-5} — M

10^{-6} — C

10^{-7} — B

10^{-8} — A

GOES 7 1.0-8.0A

GOES 7 0.5-4.0A OPTICAL FLARES

28/0600   28/0900   28/1200

_____ SAA's
NIGHT

GOES-7 1 MIN DATA: OPTICAL FLARE DUR, IMP, REGION

RUN: 2106UT
25 SEP 89

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

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

                              error in         error in
year doy    time    radii  radius      angle   angle   datatype
1989 263  6:47:29   2.30 +/- 0.10    298.0 +/-  0.5     SMM
1989 263  6:55:45   2.50 +/- 0.10    298.0 +/-  0.5     SMM
1989 263  7: 4:11   2.80 +/- 0.10    298.0 +/-  0.5     SMM

******************************************
 Structure being measured:
Top of Mound  [or Loop]
******************************************

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

START TIME:

 Event began at t = 0 + -0.354E+02 +/-  0.164E+01 [minutes]
 In more convenient units:
 Event began at DOY 263  6: 5 +/-  0.164E+01 [minutes]

 Origin defined at DOY263  6:40

RADIAL INFORMATION:

RADIAL VELOCITY =   348. +/-    27. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

 c(1) =     0.206E+01 +/-    0.400E-01 [solar radii]
 c(2) =     0.300E-01 +/-    0.232E-02 [radii/min]
 c(2) =     0.348E+03 +/-    0.269E+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)=  0.56538E-01 [radii] see Bevington pg. 114
              error in c(2)=  0.32846E-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) = 298. +/-    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 RADIAL velocity at  6:47 =  348. km/sec

The RADIAL velocity at  6:55 =  348. km/sec

The RADIAL velocity at  7: 4 =  348. km/sec
```

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

 Fit is ok [ier=1]

 Standard Deviation in the height =  0.25
 Standard Deviation in start time measurement =    0.682E+01
 Error in time =         0.12947E+01 using best fit method
 See Taylor Error Analysis [Univ of Colorado] pg.78

 Value of reduced Chi Squared returned from nllst2 = 0.752E-03
 Reduced Chi Squared = 0.300E-02
 Chi Squared = 0.300E-02
 The probability for exceeding chi square = 0.978E+00

 The correlation coefficient =    0.994E+00
 The probability that no LINEAR correlation exists between the variables =   0.6946]
 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
1989 263		6:47:29	2.30 +/- 0.10	298.0 +/-	0.5	SMM
1989 263		6:55:45	2.50 +/- 0.10	298.0 +/-	0.5	SMM
1989 263		7: 4:11	2.80 +/- 0.10	298.0 +/-	0.5	SMM

```
******************************************
 Structure being measured:
Top of Mound   [or Loop]
******************************************

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

START TIME:

 tstart=DOY263  6:34 from derivative = 0
Event begins at   2.17 Solar Radii
 Origin defined at DOY263  6:40

RADIAL INFORMATION:

RADIAL ACCELERATION =  0.263E+00 +/-  0.126E-04 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

 c(1) =     0.220E+01 +/-    0.722E-05 [solar radii]
 c(2) =     0.836E-02 +/-    0.105E-05 [radii/min]
 c(2) =     0.970E+02 +/-    0.122E-01 [km/sec]
 c(3) =     0.681E-03 +/-    0.327E-07 [radii/min**2]
 c(3) =     0.263E+00 +/-    0.126E-04 [km/sec**2]

ANGULAR INFORMATION:

ANGULAR ACCELERATION=  0.0000E+00 +/-   0.0000E+00[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

 a(1) = 298. +/-    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 RADIAL velocity at  6:47 =  215. km/sec

The RADIAL velocity at  6:55 =  346. km/sec

The RADIAL velocity at  7: 4 =  479. km/sec


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


 Number data points = number of coefficients.  No error  analysis is possible.
```

Correlation coefficient is not computable!