SMM C/P 1980 DOY106 282 +/- 0 degrees

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

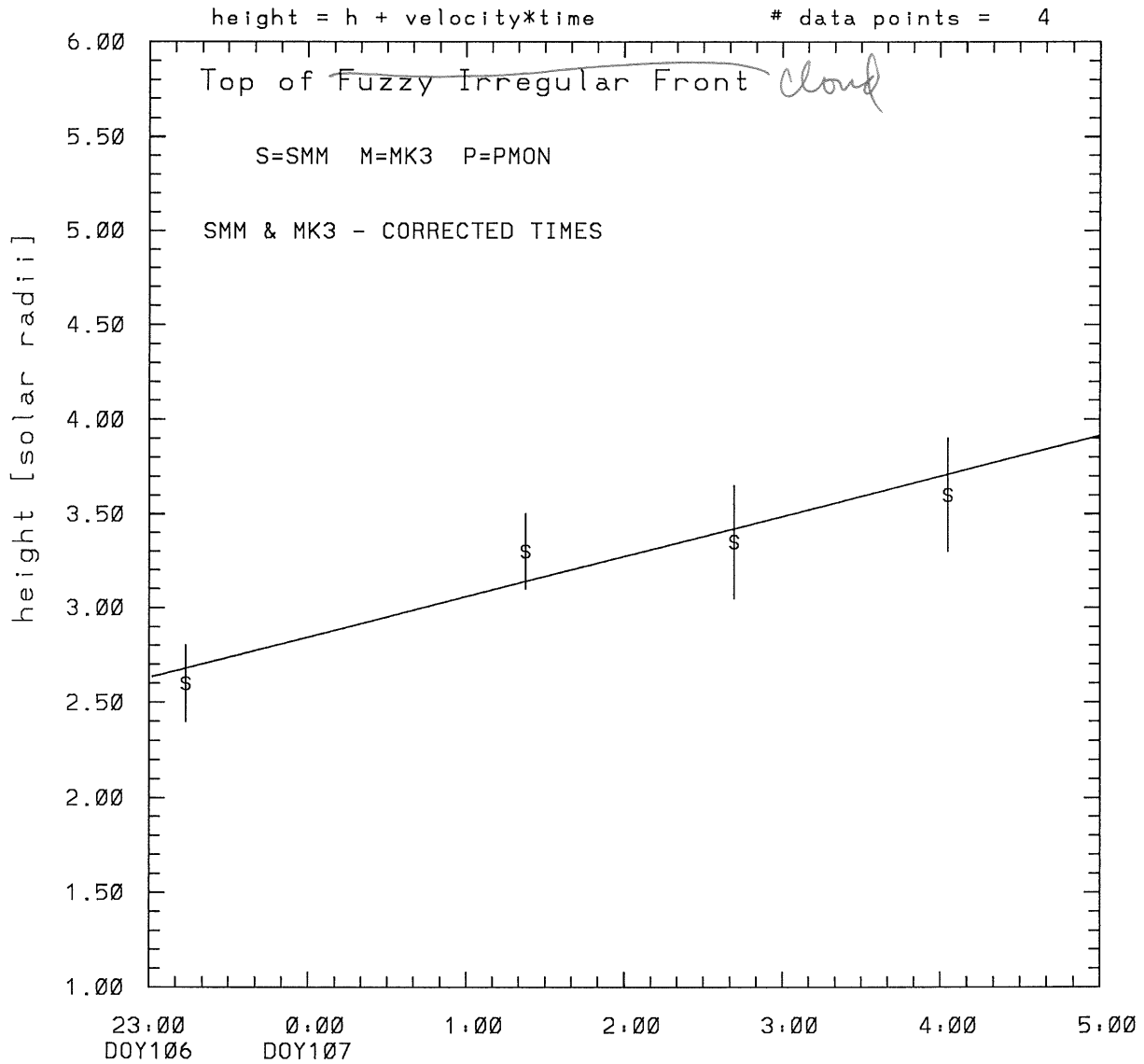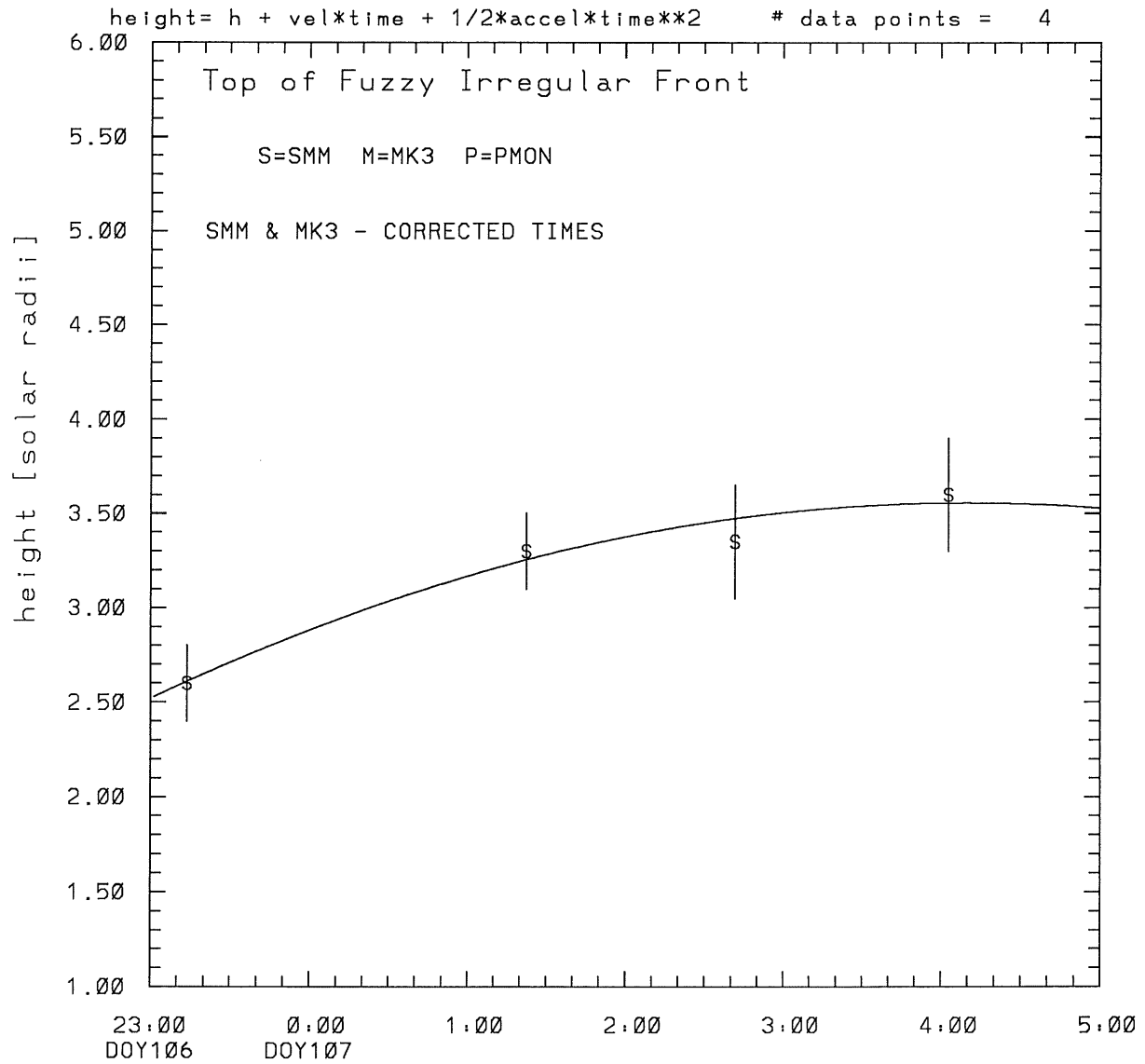**Top of Fuzzy Irregular Front** *Cloud*

S=SMM   M=MK3   P=PMON

SMM & MK3 — CORRECTED TIMES

tstart=DOY106 15:24 +/-   39.2 [min.]
radial velocity=   41. +/-   8. [km/sec]

SMM C/P 1980 DOY106 282 +/- 0 degrees

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

Top of Fuzzy Irregular Front

S=SMM   M=MK3   P=PMON

SMM & MK3 - CORRECTED TIMES
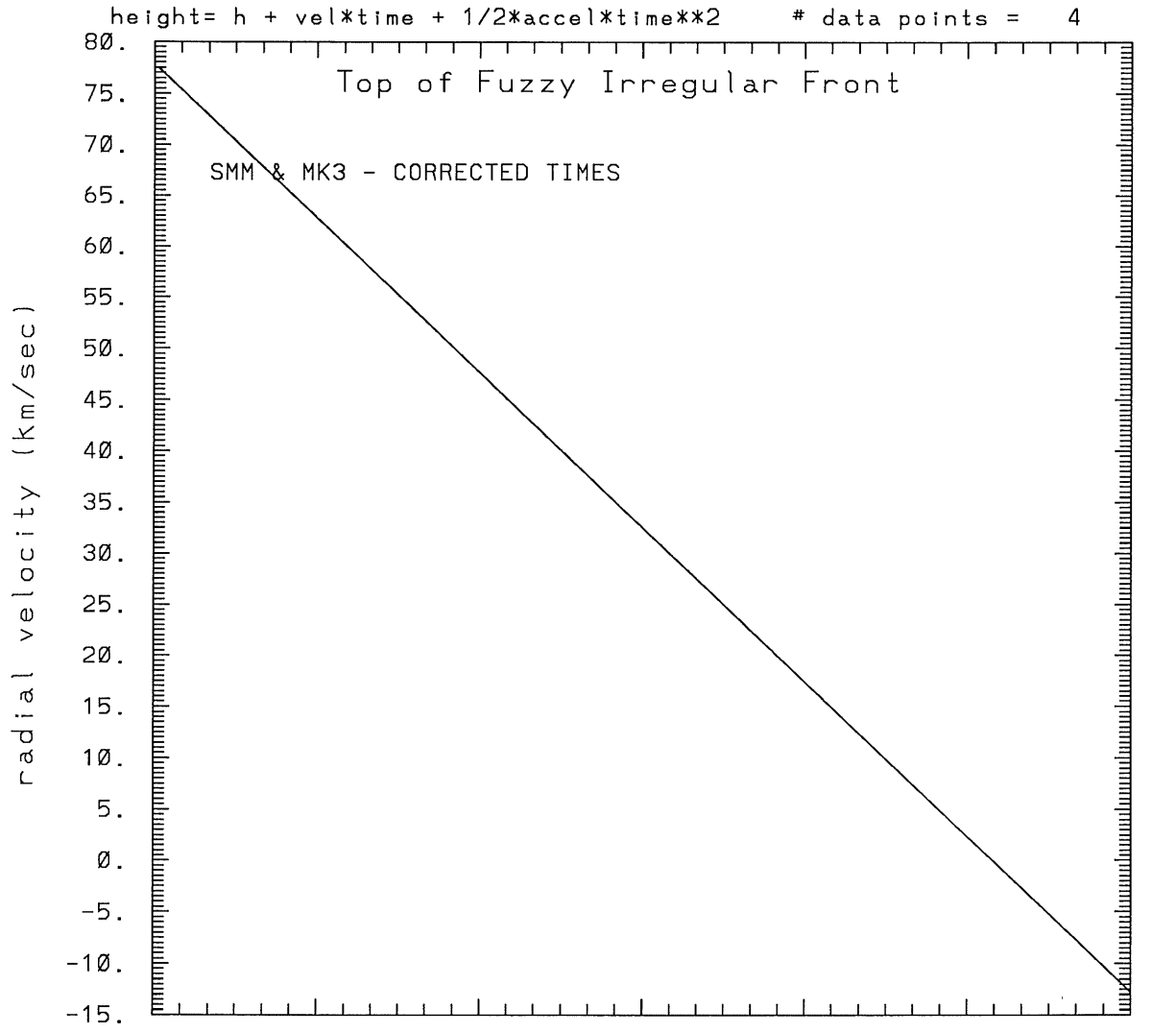
tstart=DOY106 20: 4 +/-   41.9 [min.]

radial acceleration=-0.0042 +/- 0.0017 [km/sec**2]

SMM C/P 1980 DOY106 282 +/- Ø degrees

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

Top of Fuzzy Irregular Front

SMM & MK3 - CORRECTED TIMES

radial velocity (km/sec)

80.
75.
70.
65.
60.
55.
50.
45.
40.
35.
30.
25.
20.
15.
10.
5.
Ø.
-5.
-10.
-15.

23:00   Ø:00   1:00   2:00   3:00   4:00   5:00
DOY106   DOY107

tstart=DOY106 20: 4 +/-   41.9 [min.]

radial acceleration=-.420E-02 km/sec**2

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


*******
 INPUT:
*******
```

| | | | error in | | error in | | |
year doy	time	radii	radius	angle	angle	datatype
1980 106	23:13:52	2.60	+/- 0.20	282.0	+/- 0.5	SMM
1980 107	1:22:37	3.30	+/- 0.20	282.0	+/- 1.0	SMM
1980 107	2:41:42	3.35	+/- 0.30	282.0	+/- 1.0	SMM
1980 107	4: 2:52	3.60	+/- 0.30	282.0	+/- 1.0	SMM

```
*****************************************
 Structure being measured:
 Top of Fuzzy Irregular Front
*****************************************


********
 OUTPUT:
********
```

START TIME:

Event began at t = 0 + -0.458E+03 +/- 0.392E+02 [minutes]
In more convenient units:
Event began at DOY 106 15:24 +/- 0.392E+02 [minutes]

Origin defined at DOY106 23: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 41. +/- 8. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) =   0.263E+01 +/-   0.112E+00 [solar radii]
c(2) =   0.356E-02 +/-   0.660E-03 [radii/min]
c(2) =   0.413E+02 +/-   0.765E+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)= 0.14825E+00 [radii] see Bevington pg. 114
              error in c(2)= 0.73798E-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) = 282. +/-   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 23:13 = 0.000E+00 km/sec
The TOTAL velocity at 23:13 =   41. km/sec

The TANGENTIAL velocity at 1:22 = 0.000E+00 km/sec
The TOTAL velocity at 1:22 =   41. km/sec

The TANGENTIAL velocity at 2:41 = 0.000E+00 km/sec
The TOTAL velocity at 2:41 =   41. km/sec

The TANGENTIAL velocity at 4: 2 = 0.000E+00 km/sec
The TOTAL velocity at 4: 2 =   41. km/sec

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

Fit is ok [ier=1]

Standard Deviation in the height = 0.43
Standard Deviation in start time measurement =   0.107E+03
Error in time =   0.62439E+02 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.184E-01
Reduced Chi Squared = 0.609E-01
Chi Squared = 0.122E+00
The probability for exceeding chi square = 0.982E+00

The correlation coefficient =   0.959E+00
The probability that no LINEAR correlation exists between the variables =   0.4136E-01
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
1980	106	23:13:52	2.60 +/-	0.20	282.0 +/-	0.5	SMM
1980	107	1:22:37	3.30 +/-	0.20	282.0 +/-	1.0	SMM
1980	107	2:41:42	3.35 +/-	0.30	282.0 +/-	1.0	SMM
1980	107	4: 2:52	3.60 +/-	0.30	282.0 +/-	1.0	SMM

```
*****************************************
Structure being measured:
Top of Fuzzy Irregular Front
*****************************************


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


START TIME:
```

Event began at t = 0 + -0.176E+03 +/- 0.419E+02 [minutes]
In more convenient units:
Event began at DOY 106 20: 4 +/- 0.419E+02 [minutes]

Origin defined at DOY106 23: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = -0.420E-02 +/- 0.168E-02 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

```
c(1) =    0.252E+01 +/-   0.813E-01 [solar radii]
c(2) =    0.671E-02 +/-   0.132E-02 [radii/min]
c(2) =    0.779E+02 +/-   0.154E+02 [km/sec]
c(3) =   -0.109E-04 +/-   0.435E-05 [radii/min**2]
c(3) =   -0.420E-02 +/-   0.168E-02 [km/sec**2]
```

The computed ERRORS in coefficients [BEVINGTON] are:

```
        Approximate error in c(1) = 0.15957E+00 [radii] Bevington pg 154 (8-30)
             Exact error in c(1) = 0.14184E-01 [radii] Bevington pg 154 (8-28)
        Approximate error in c(2) = 0.23694E-02 [radii/min] Bevington pg 154 (8-30)
             Exact error in c(2) = 0.69047E-03 [radii/min] Bevington pg 154 (8-28)
        Approximate error in c(3) = 0.73448E-05 [radii/min**] Bevington pg 154 (8-30)
             Exact error in c(3) = 0.23297E-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) = 282. +/- 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 23:13 = 0.000E+00 km/sec
The TOTAL velocity at 23:13 = 74. km/sec

The TANGENTIAL velocity at 1:22 = 0.000E+00 km/sec
The TOTAL velocity at 1:22 = 42. km/sec

The TANGENTIAL velocity at 2:41 = 0.000E+00 km/sec
The TOTAL velocity at 2:41 = 22. km/sec

The TANGENTIAL velocity at 4: 2 = 0.000E+00 km/sec
The TOTAL velocity at 4: 2 = 2. km/sec

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

Fit is ok [ier=1]

Standard Deviation in the height = 0.43
Standard Deviation in start time measurement = 0.107E+03
Value of reduced Chi Squared returned from nllst2 = 0.673E-02
Reduced Chi Squared = 0.575E-01
Chi Squared = 0.575E-01
The probability for exceeding chi square = 0.935E+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 = 0.9734E+00
The correlation between the data and the time**2 term = 0.8149E+00
The correlation between the data and the complete equation of motion = 0.9858E+00
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]