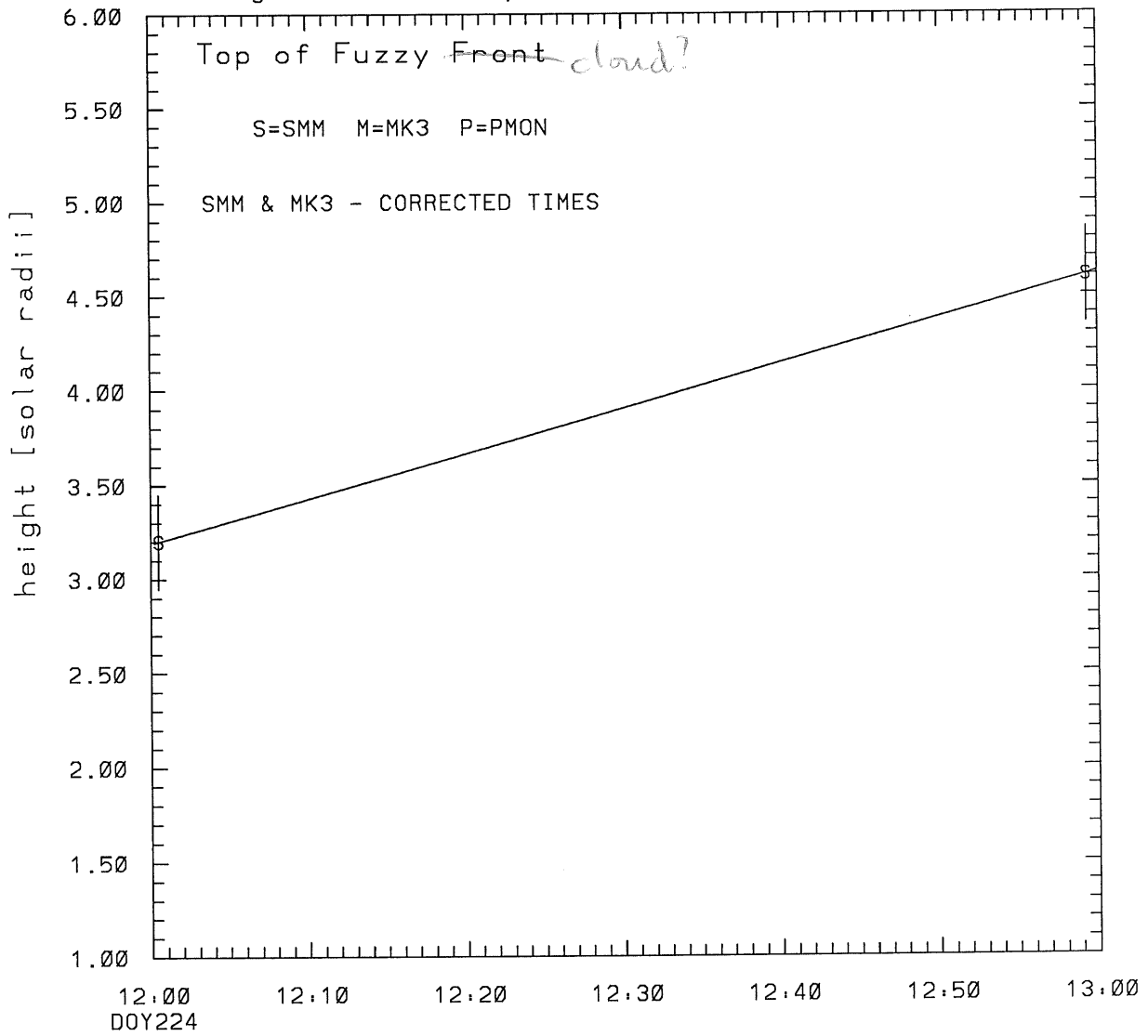


SMM C/P 1989 DOY224 67 +/- 0 degrees

height = h + velocity\*time

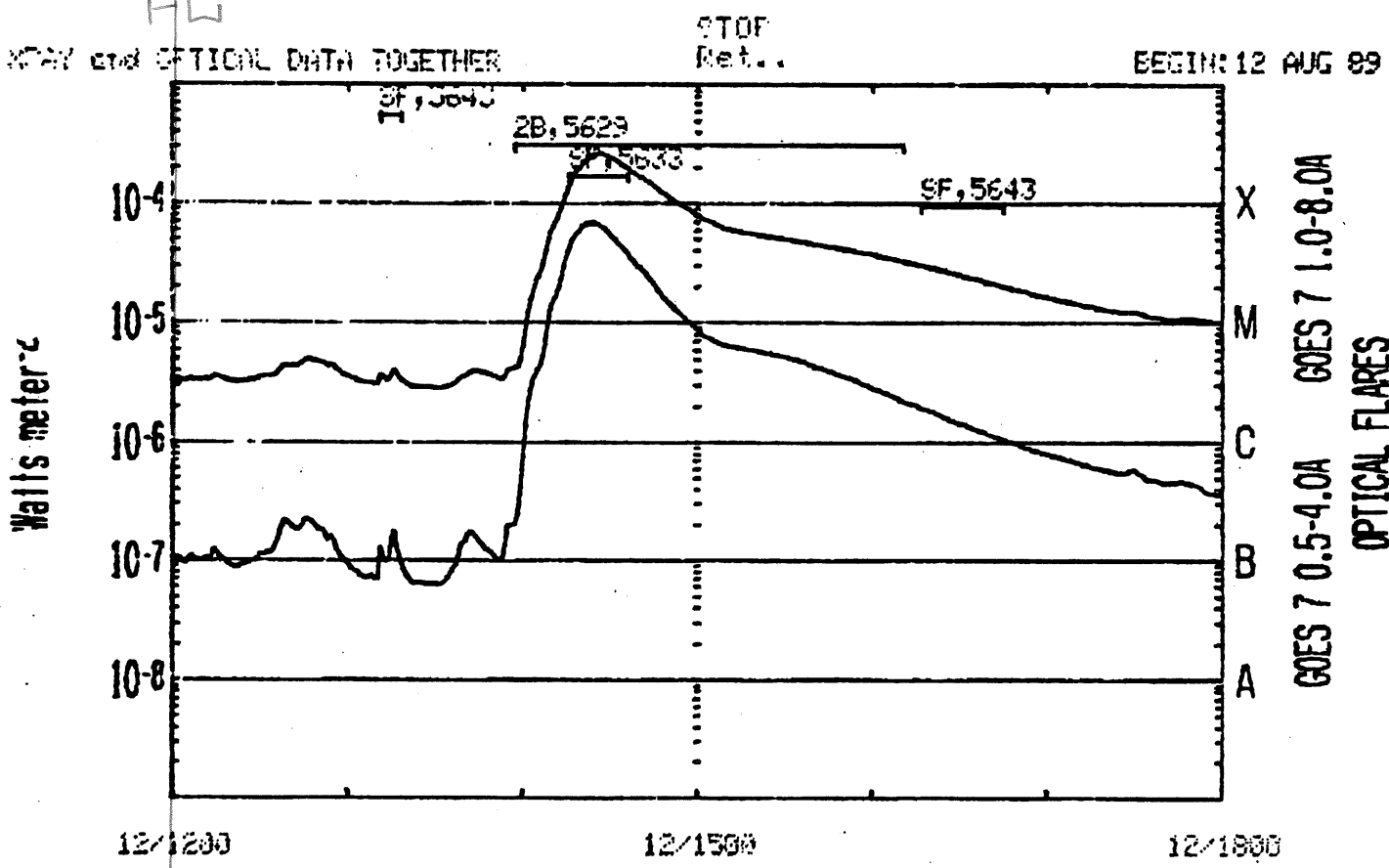
# data points = 2



tstart=DOY224 10:30 +/- 0.0 [min.]  
radial velocity= 276. +/- 0. [km/sec]

Top of Loop ~~200~~ center = 72°  
[12:00] 1st order only

1989 Day 224



GOES 7 0.5-4.0A GOES 7 1.0-8.0A  
OPTICAL FLARES

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

RUN: 1974UT  
14 AUG 89

1989 Day 224

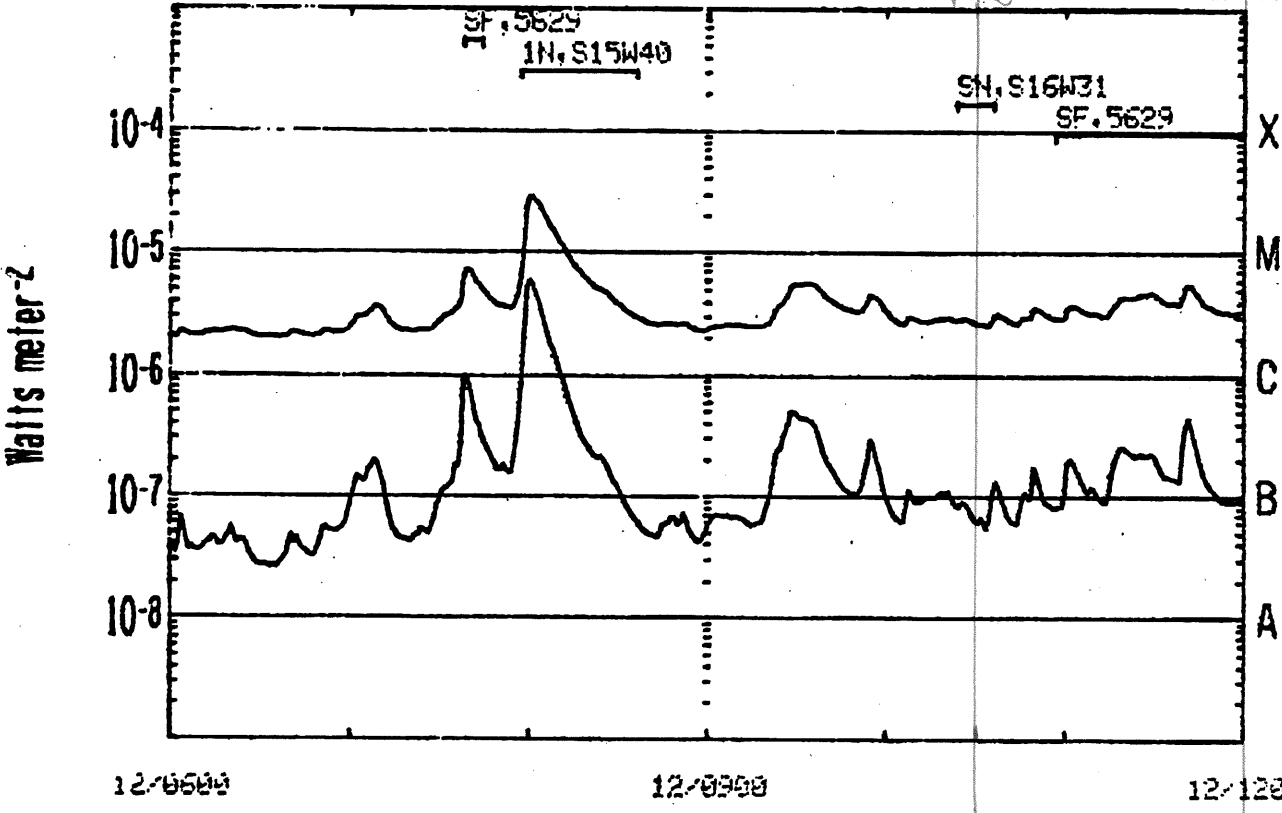
Top of Fuzzy Front  
center = 65°, [10:30] 1st order  
only

Top of Loop, center = 72°  
~~[10:30] 1st order only~~  
now  
12:14 1st order  
12:40 2nd order

Start and OPTICAL DATA TOGETHER

STOP  
Ret.

BEGIN: 12 AUG 89



GOES 7 0.5-4.0A GOES 7 1.0-8.0A  
OPTICAL FLARES

12-0500 12-0900 12-1200

SAA's  
NIGHT

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

RUN: 1931UT  
14 AUG 89

See next page

\*\*\*\*\*

This is a 1 order run

\*\*\*\*\*

\*\*\*\*\*

INPUT:

\*\*\*\*\*

year	doy	time	radii	radius	error in angle	error in angle	datatype
1989	224	12: 0:30	3.20	+/- 0.25	67.0	+/- 1.0	SMM
1989	224	12:59:19	4.60	+/- 0.25	67.0	+/- 1.0	SMM

\*\*\*\*\*

Structure being measured:

Top of Fuzzy Front

\*\*\*\*\*

\*\*\*\*\*

OUTPUT:

\*\*\*\*\*

START TIME:

Event began at  $t = 0 + -0.919E+02 +/- 0.000E+00$  [minutes]

In more convenient units:

Event began at DOY 224 10:30 +/- 0.000E+00 [minutes]

Origin defined at DOY224 12: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 276. +/- 0. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.319E+01 +/- 0.867E-06 [solar radii]  
c(2) = 0.238E-01 +/- 0.207E-07 [radii/min]  
c(2) = 0.276E+03 +/- 0.240E-03 [km/sec]  
c(3) = 0.000E+00 +/- 0.000E+00 [radii/min\*\*2]  
c(3) = 0.000E+00 +/- 0.000E+00 [km/sec\*\*2]

ANGULAR INFORMATION:

ANGULAR VELOCITY = 0.0000E+00 +/- 0.0000E+00[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 67. +/- 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 12: 0 = 0. km/sec

The TOTAL velocity at 12: 0 = 276. km/sec

The TANGENTIAL velocity at 12:59 = 0. km/sec

The TOTAL velocity at 12:59 = 276. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

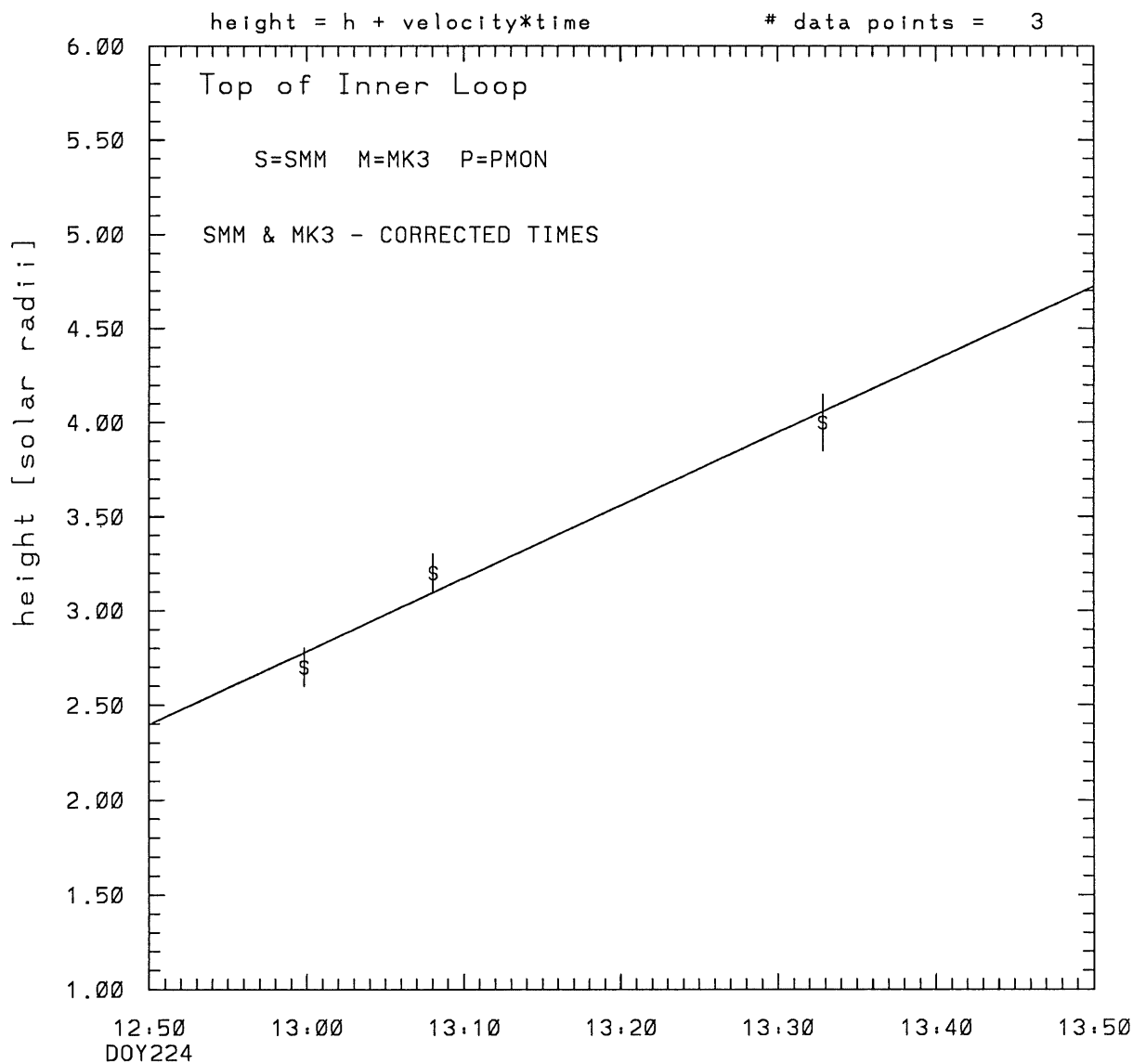
\*\*\*\*\*

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

Correlation coefficient is not computable!

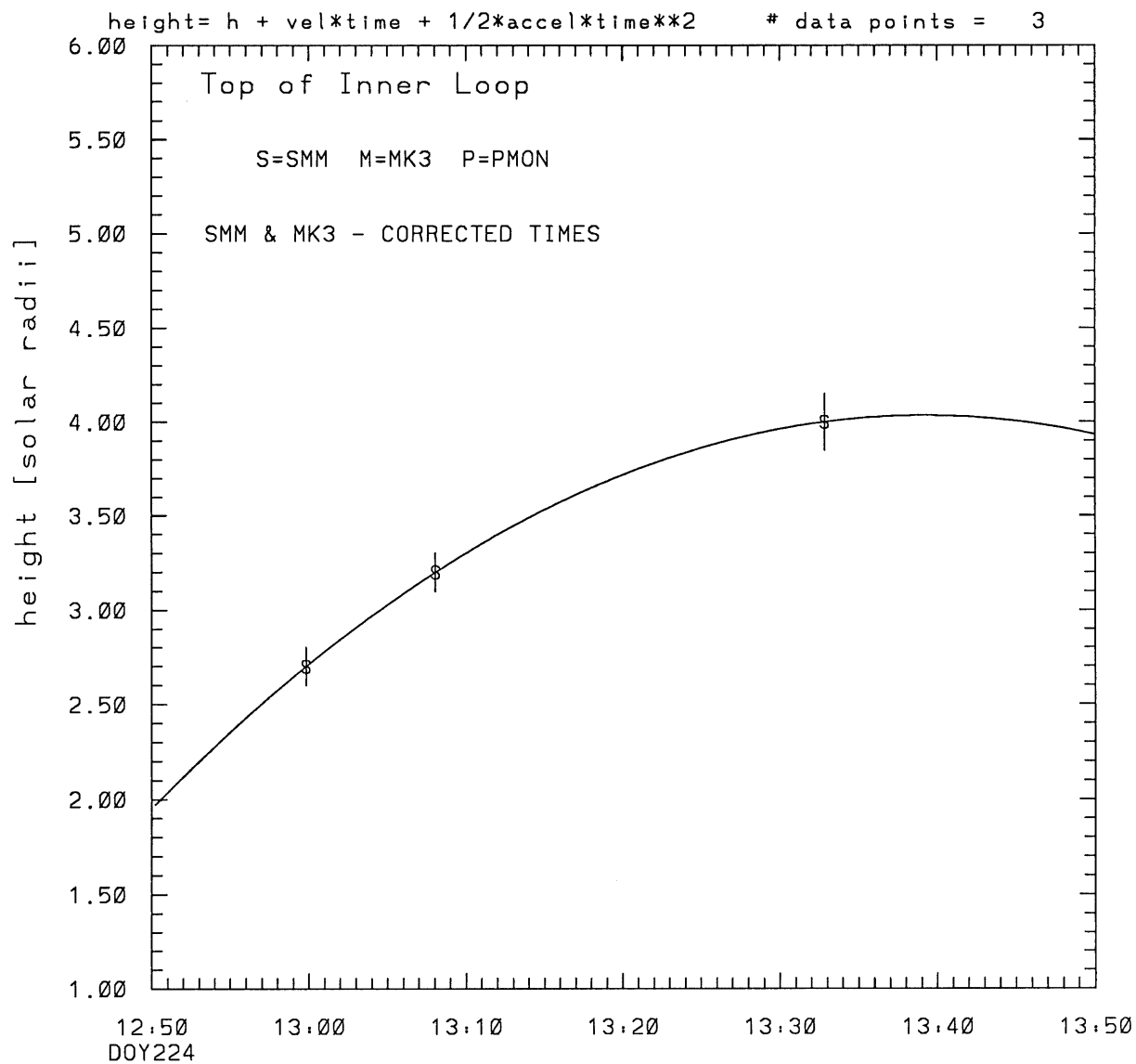


SMM C/P 1989 DOY224 67 +/- 0 degrees



tstart=DOY224 12:14 +/- 2.9 [min.]  
radial velocity= 450. +/- 60. [km/sec]

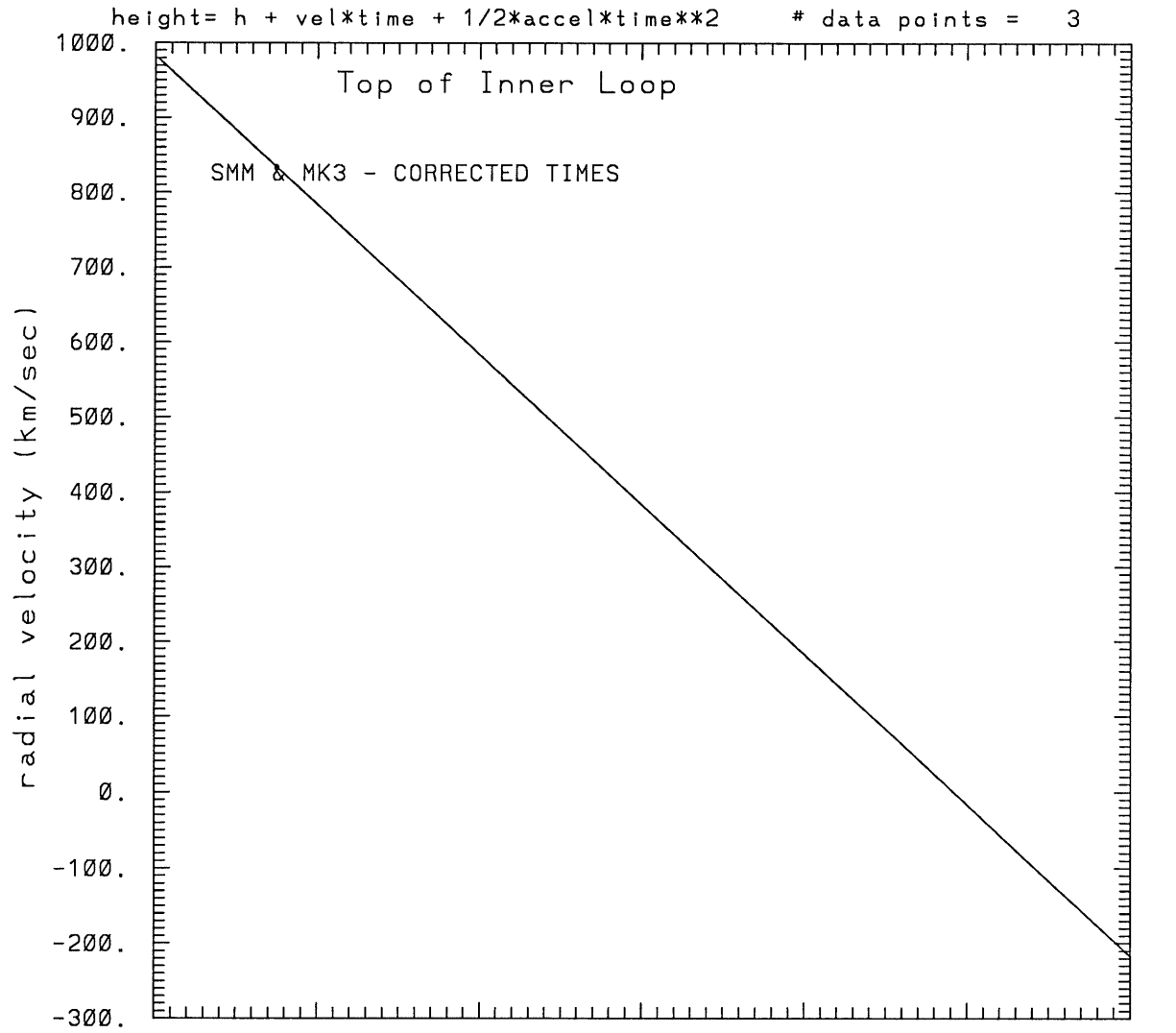
SMM C/P 1989 DOY224 67 +/- 0 degrees



tstart=DOY224 12:40 +/- 0.0 [min.]

radial acceleration = -0.3333 +/- 0.0000 [km/sec\*\*2]

SMM C/P 1989 DOY224 67 +/- 0 degrees



12:50  
DOY224

13:00 13:10 13:20 13:30 13:40 13:50  
tstart=DOY224 12:40 +/- 0.0 [min.]

radial acceleration =  $-.333E+00$  km/sec\*\*2



\*\*\*\*\*  
This is a 1 order run  
\*\*\*\*\*

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

year	doy	time	radii	radius	error in angle	error in angle	datatype
1989	224	12:59:49	2.70 +/-	0.10	67.0 +/-	0.5	SMM
1989	224	13: 8: 3	3.20 +/-	0.10	67.0 +/-	1.0	SMM
1989	224	13:32:51	4.00 +/-	0.15	67.0 +/-	1.0	SMM

\*\*\*\*\*  
Structure being measured:  
Top of Inner Loop  
\*\*\*\*\*

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

START TIME:

Event began at t = 0 + -0.360E+02 +/- 0.292E+01 [minutes]  
In more convenient units:  
Event began at DOY 224 12:14 +/- 0.292E+01 [minutes]

Origin defined at DOY224 12:50

RADIAL INFORMATION:

RADIAL VELOCITY = 450. +/- 60. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.240E+01 +/- 0.117E+00 [solar radii]  
c(2) = 0.388E-01 +/- 0.519E-02 [radii/min]  
c(2) = 0.450E+03 +/- 0.602E+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)= 0.15974E+00 [radii] see Bevington pg. 114  
error in c(2)= 0.58223E-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) = 67. +/- 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 12:59 = 0.000E+00 km/sec  
The TOTAL velocity at 12:59 = 450. km/sec

The TANGENTIAL velocity at 13: 8 = 0.000E+00 km/sec  
The TOTAL velocity at 13: 8 = 450. km/sec

The TANGENTIAL velocity at 13:32 = 0.000E+00 km/sec  
The TOTAL velocity at 13:32 = 450. 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 = 0.140E+02  
Error in time = 0.36528E+01 using best fit method  
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.112E-01  
Reduced Chi Squared = 0.374E-01  
Chi Squared = 0.374E-01  
The probability for exceeding chi square = 0.916E+00

The correlation coefficient = 0.989E+00  
The probability that no LINEAR correlation exists between the variables = 0.9510  
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

\*\*\*\*\*

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

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

year	doy	time	radii	radius	angle	error in angle	datatype
1989	224	12:59:49	2.70 +/-	0.10	67.0 +/-	0.5	SMM
1989	224	13: 8: 3	3.20 +/-	0.10	67.0 +/-	1.0	SMM
1989	224	13:32:51	4.00 +/-	0.15	67.0 +/-	1.0	SMM

\*\*\*\*\*  
Structure being measured:  
Top of Inner Loop  
\*\*\*\*\*

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

START TIME:

Event began at t = 0 + -0.102E+02 +/- 0.000E+00 [minutes]  
In more convenient units:  
Event began at DOY 224 12:40 +/- 0.000E+00 [minutes]

Origin defined at DOY224 12:50

RADIAL INFORMATION:

RADIAL ACCELERATION = -0.333E+00 +/- 0.387E-05 km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) =	0.195E+01 +/-	0.553E-05 [solar radii]
c(2) =	0.847E-01 +/-	0.541E-06 [radii/min]
c(2) =	0.983E+03 +/-	0.628E-02 [km/sec]
c(3) =	-0.862E-03 +/-	0.100E-07 [radii/min**2]
c(3) =	-0.333E+00 +/-	0.387E-05 [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) =	67. +/-	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 12:59 = 0.000E+00 km/sec  
The TOTAL velocity at 12:59 = 787. km/sec

The TANGENTIAL velocity at 13: 8 = 0.000E+00 km/sec  
The TOTAL velocity at 13: 8 = 622. km/sec

The TANGENTIAL velocity at 13:32 = 0.000E+00 km/sec  
The TOTAL velocity at 13:32 = 126. 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!