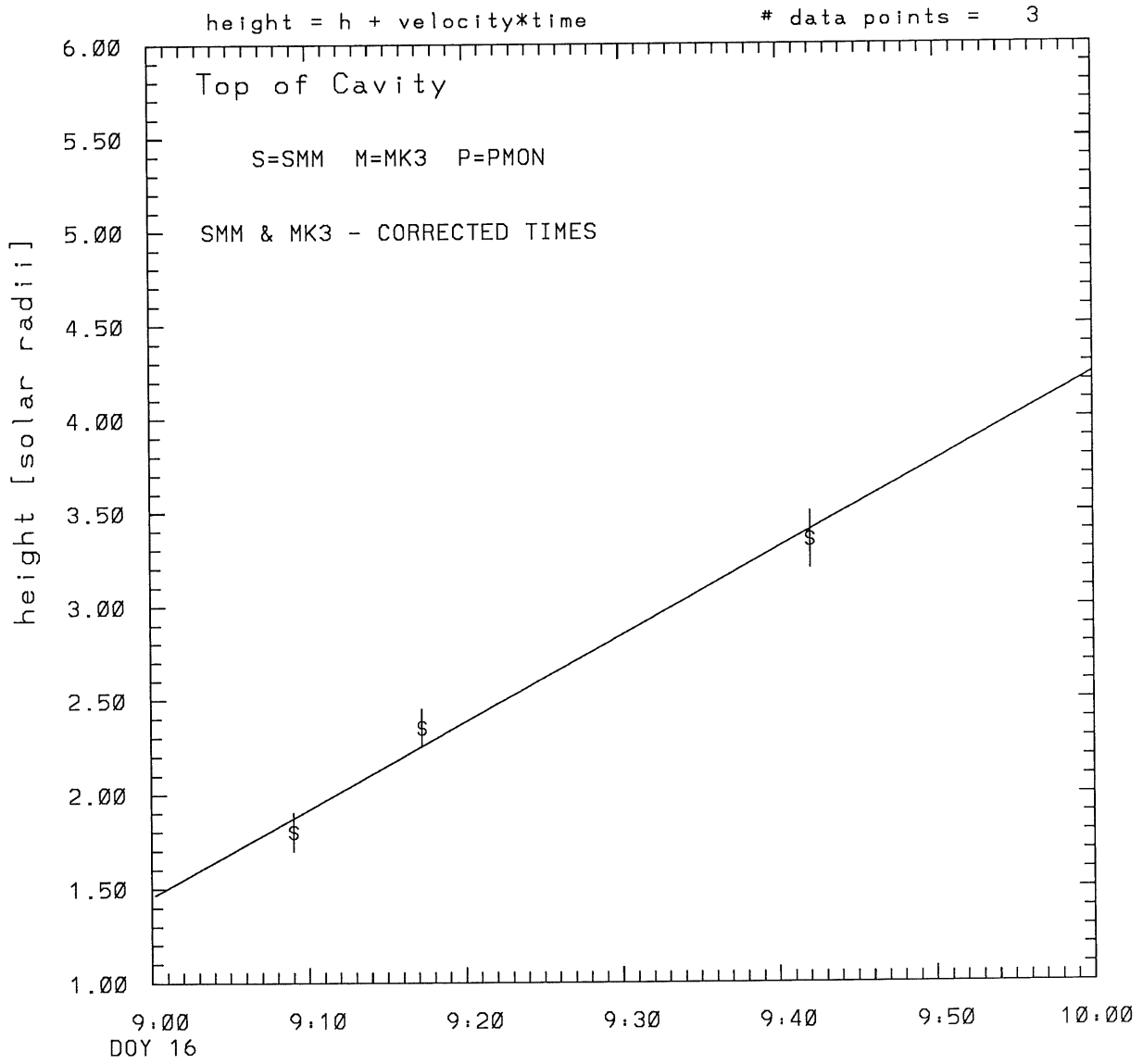
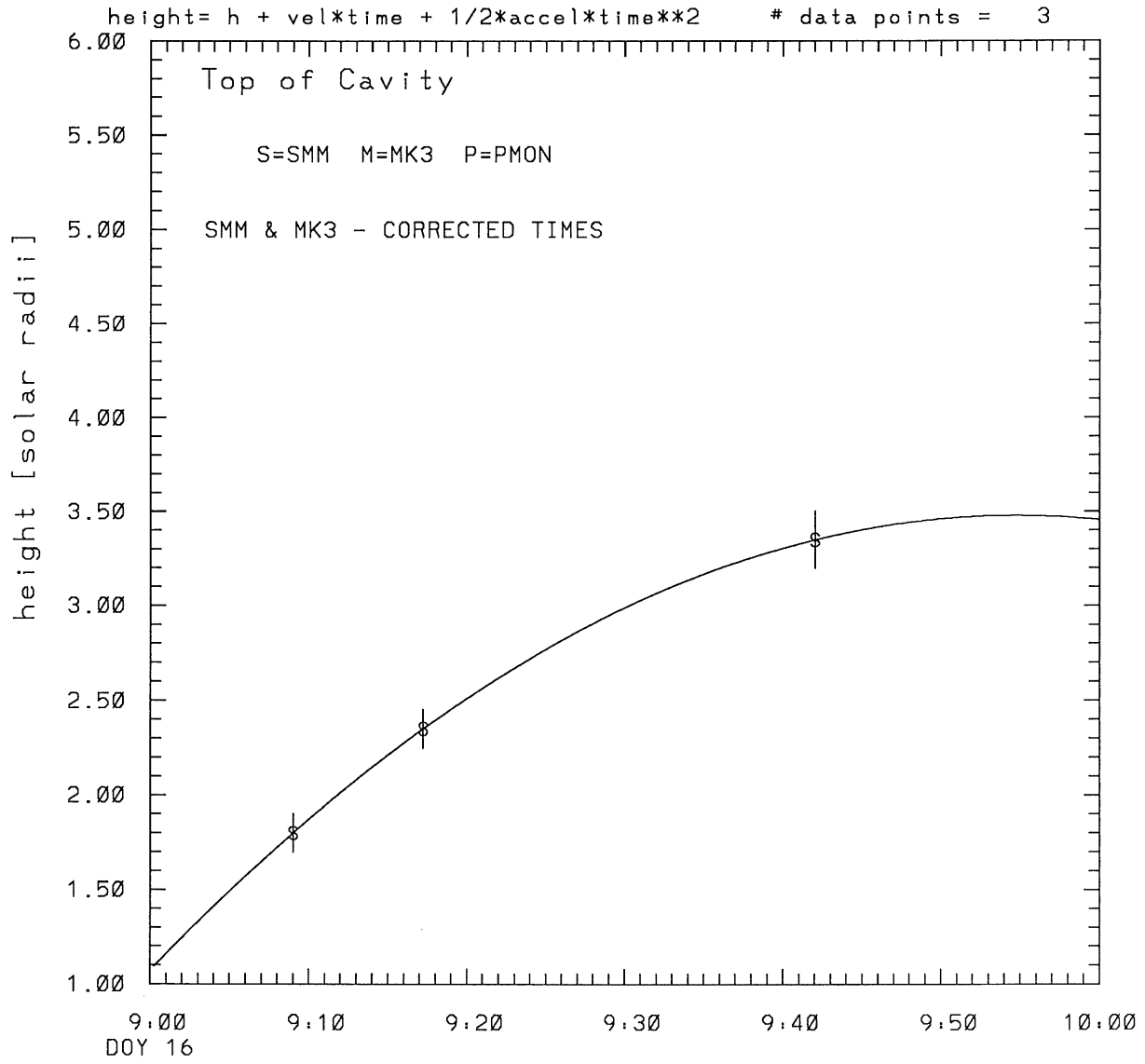


SMM C/P 1989 DOY 16 60 +/- 0 degrees



tstart=DOY 16 8:52 +/- 0.8 [min.]
radial velocity= 538. +/- 56. [km/sec]

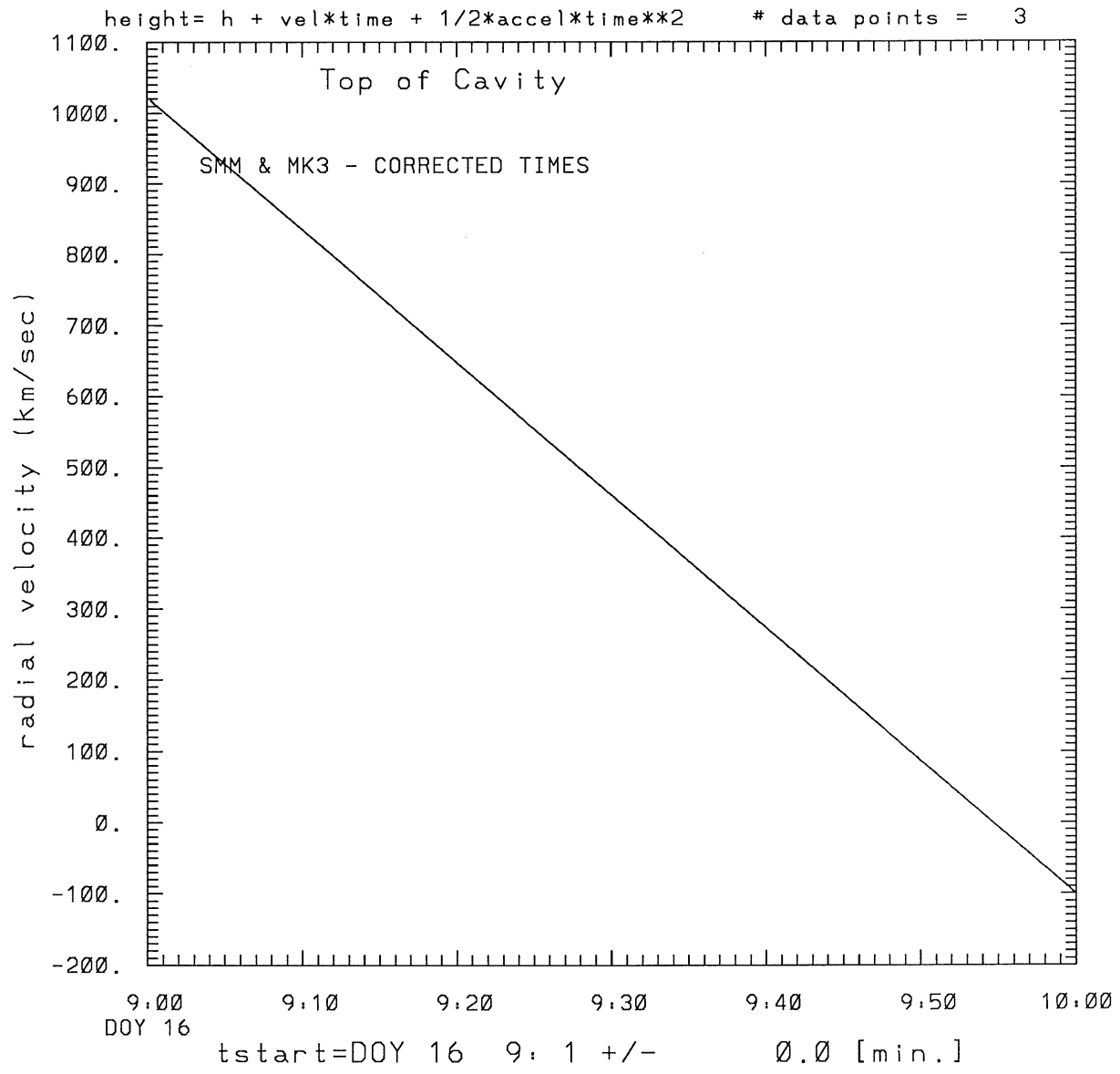
SMM C/P 1989 DOY 16 60 +/- 0 degrees



tstart=DOY 16 9: 1 +/- 0.0 [min.]

radial acceleration=-0.3117 +/- 0.0000 [km/sec**2]

SMM C/P 1989 DOY 16 60 +/- 0 degrees

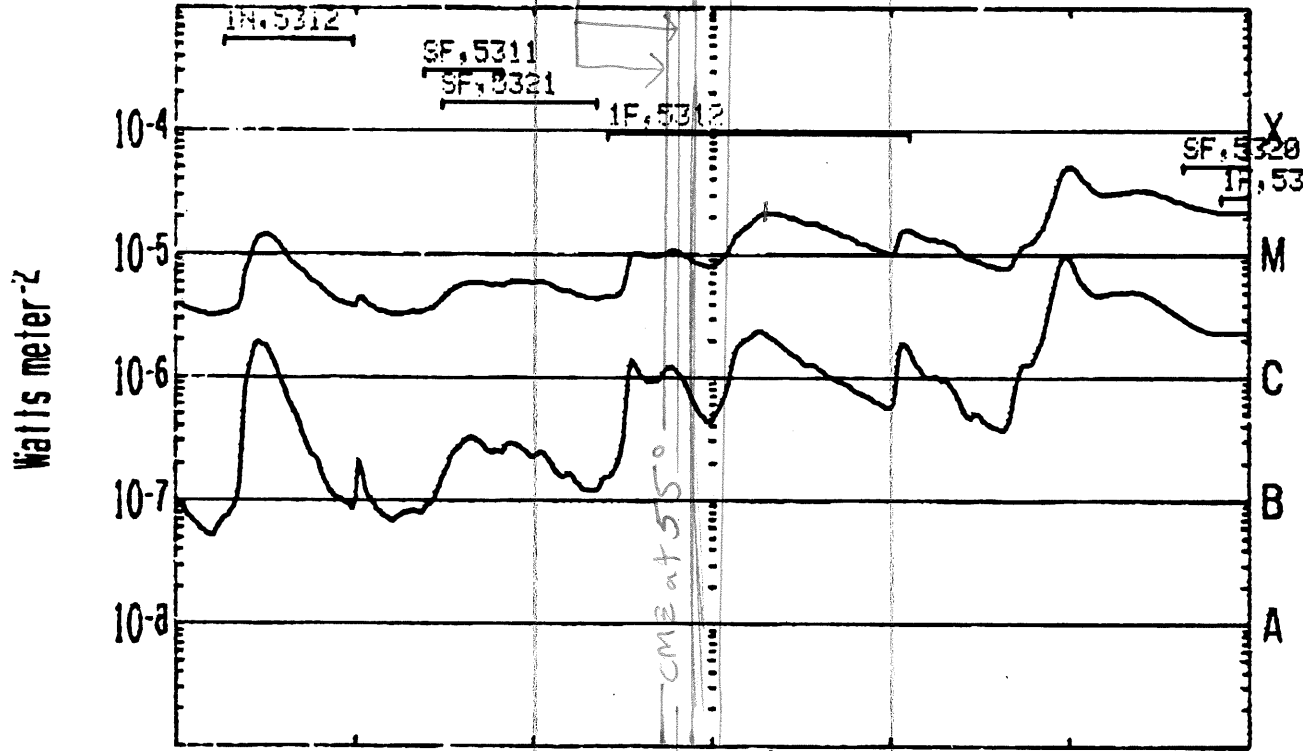


radial acceleration=-.312E+00 km/sec**2

1989 Jan 16

ARRAY and OPTICAL DATA TOGETHER

BEGIN: 16 JAN 89



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

SAA's NIGHT

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

RUN: 2823UT
21 JAN 89

This is a 1 order run

INPUT:

year	day	time	radii	error in radius	angle	error in angle	datatype
1989	16	9: 9: 1	1.80	+/- 0.10	60.0	+/- 0.5	SMM
1989	16	9:17:14	2.35	+/- 0.10	60.0	+/- 0.5	SMM
1989	16	9:42: 2	3.35	+/- 0.15	60.0	+/- 0.5	SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

Event began at $t = 0 + -0.979E+01 +/- 0.781E+00$ [minutes]
In more convenient units:
Event began at DOY 16 8:52 +/- 0.781E+00 [minutes]

Origin defined at DOY 16 9: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 538. +/- 56. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.145E+01 +/- 0.106E+00$ [solar radii]
 $c(2) = 0.464E-01 +/- 0.484E-02$ [radii/min]
 $c(2) = 0.538E+03 +/- 0.562E+02$ [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 $c(1) = 0.14535E+00$ [radii] see Bevington pg. 114
error in $c(2) = 0.54355E-02$ [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) = 60. +/- 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 9: 9 = 0. km/sec

The TOTAL velocity at 9: 9 = 538. km/sec

The TANGENTIAL velocity at 9:17 = 0. km/sec

The TOTAL velocity at 9:17 = 538. km/sec

The TANGENTIAL velocity at 9:42 = 0. km/sec

The TOTAL velocity at 9:42 = 538. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.79

Standard Deviation in start time measurement = 0.140E+02

Error in time = 0.28483E+01 using best fit method

See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.972E-02

Reduced Chi Squared = 0.326E-01

Chi Squared = 0.326E-01

The probability for exceeding chi square = 0.921E+00

The correlation coefficient = 0.993E+00

The probability that no LINEAR correlation exists between the variables = 0.7395E-01

SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

This is a 2 order run

INPUT:

year	day	time	radii	error in radius	error in angle	datatype
1989	16	9: 9: 1	1.80	+/- 0.10	60.0 +/- 0.5	SMM
1989	16	9:17:14	2.35	+/- 0.10	60.0 +/- 0.5	SMM
1989	16	9:42: 2	3.35	+/- 0.15	60.0 +/- 0.5	SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

Event began at t = 0 + -0.802E+00 +/- 0.000E+00 [minutes]
In more convenient units:
Event began at DOY 16 9: 1 +/- 0.000E+00 [minutes]

Origin defined at DOY 16 9: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = -0.312E+00 +/- 0.267E-06 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

- c(1) = 0.107E+01 +/- 0.351E-06 [solar radii]
- c(2) = 0.881E-01 +/- 0.361E-07 [radii/min]
- c(2) = 0.102E+04 +/- 0.419E-03 [km/sec]
- c(3) = -0.806E-03 +/- 0.689E-09 [radii/min**2]
- c(3) = -0.312E+00 +/- 0.267E-06 [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) = 60. +/- 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]

$$a(3) = 0.000E+00 \pm 0.000E+00 \text{ [rad/sec**2]}$$

THE TANGENTIAL AND TOTAL VELOCITIES AT EACH DATA POINT ARE:

The TANGENTIAL velocity at 9: 9 = 0. km/sec

The TOTAL velocity at 9: 9 = 853. km/sec

The TANGENTIAL velocity at 9:17 = 0. km/sec

The TOTAL velocity at 9:17 = 700. km/sec

The TANGENTIAL velocity at 9:42 = 0. km/sec

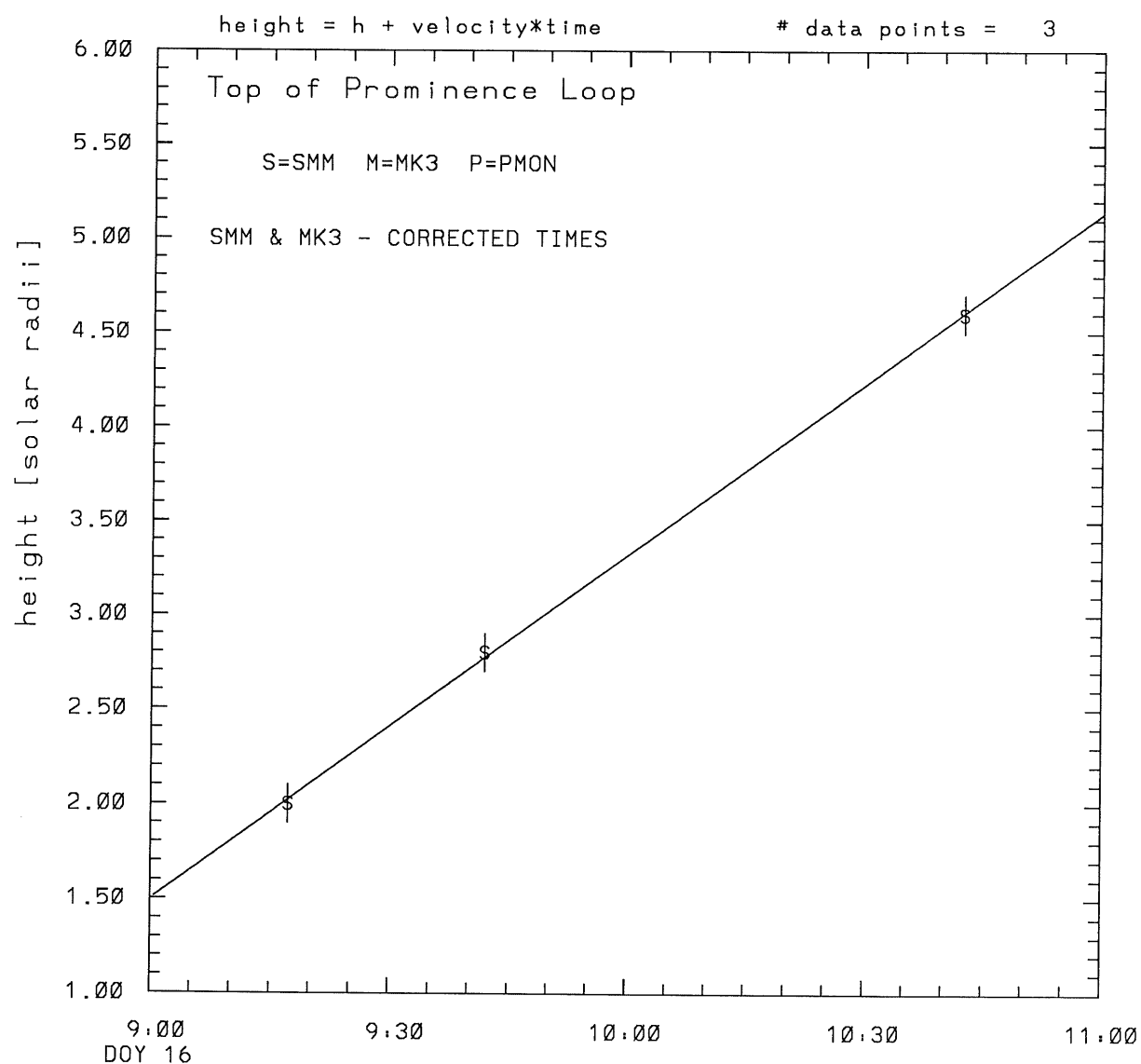
The TOTAL velocity at 9:42 = 236. km/sec

The following info is for estimating goodness of the fit

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

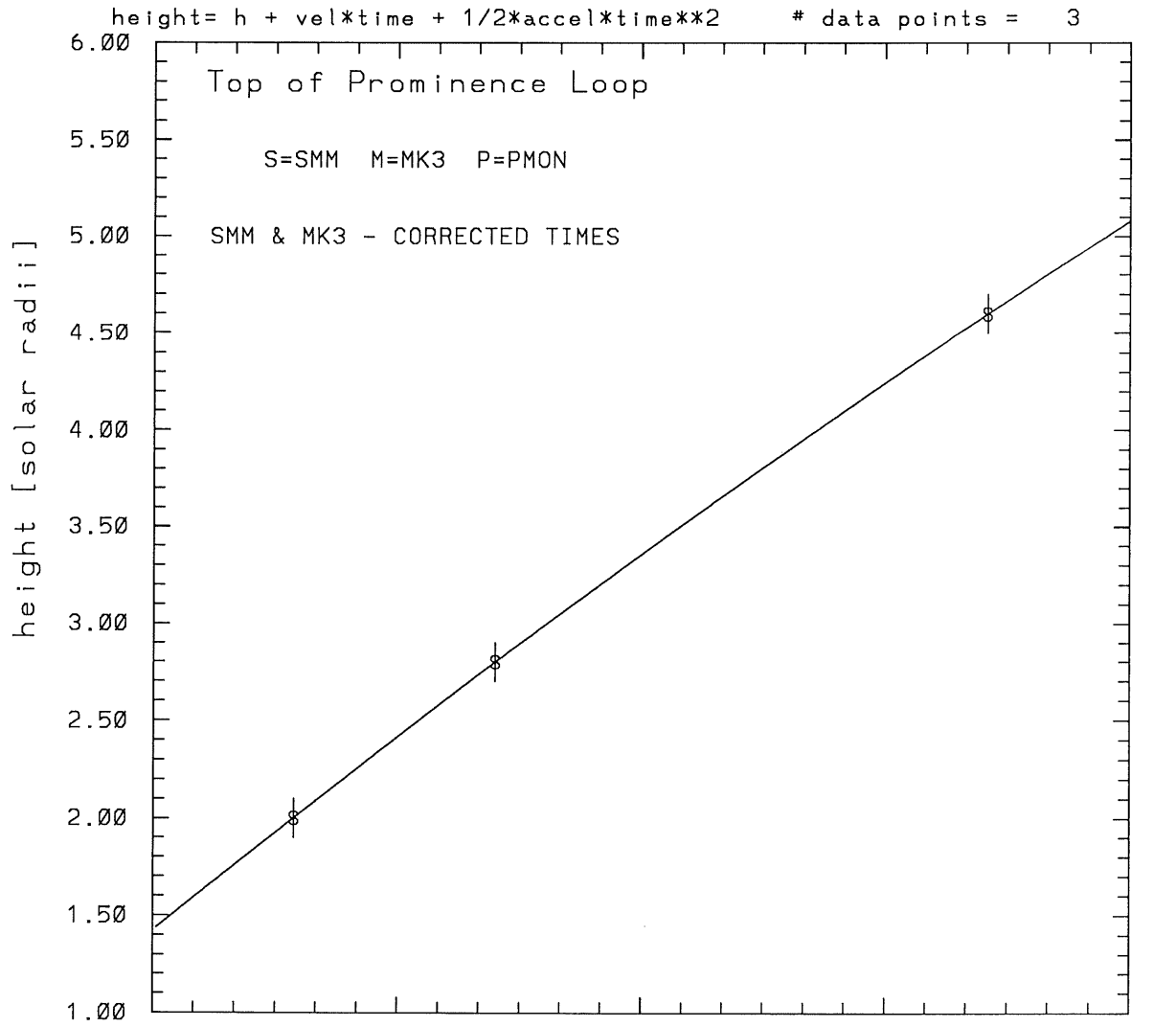
Correlation coefficient is not computable!

SMM C/P 1989 DOY 16 60 +/- 0 degrees



tstart=DOY 16 8.44 +/- 0.3 [min.]
radial velocity= 352. +/- 5. [km/sec]

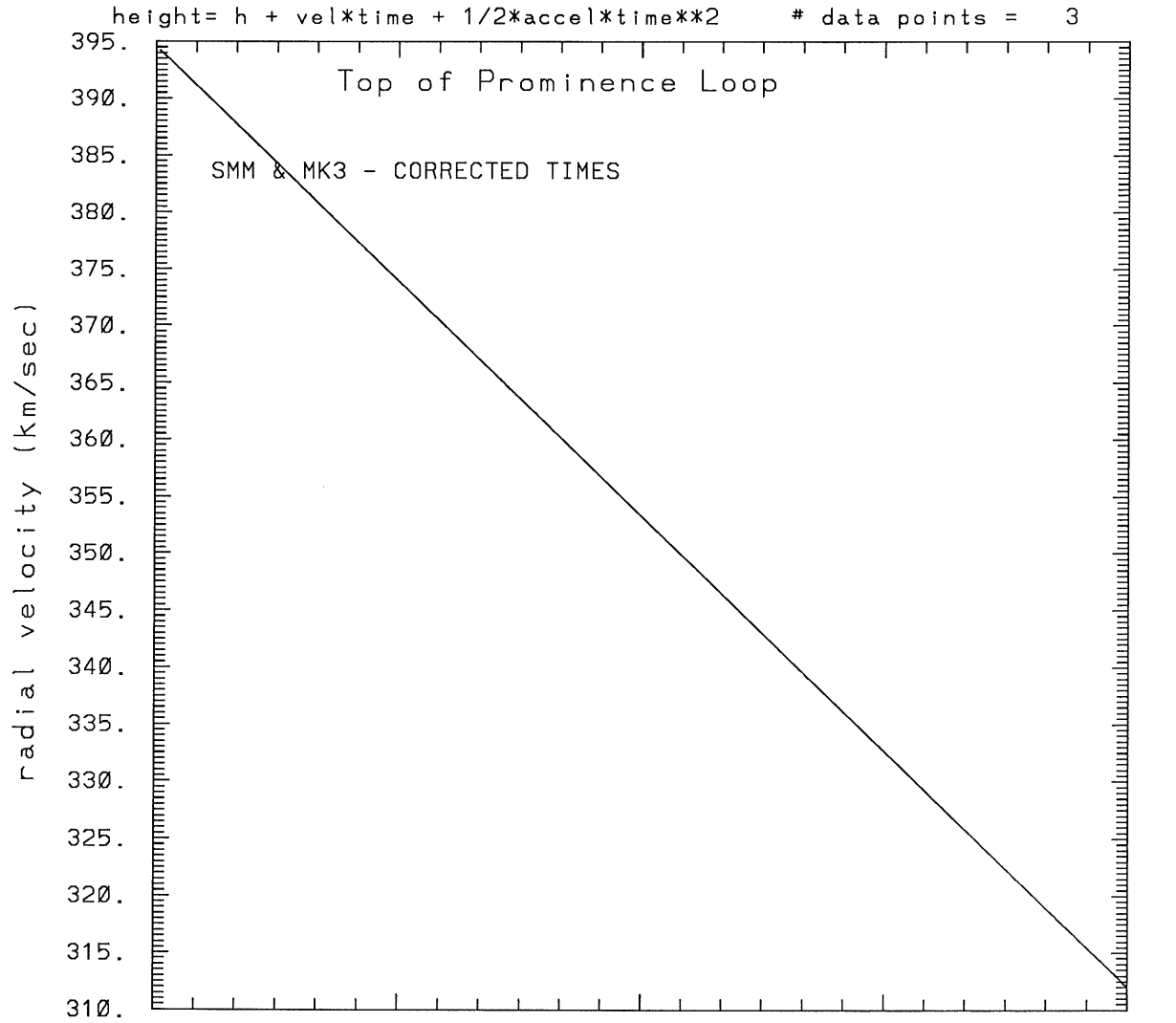
SMM C/P 1989 DOY 16 60 +/- 0 degrees



tstart=DOY 16 8:48 +/- 0.0 [min.]

radial acceleration=-0.0115 +/- 0.0000 [km/sec**2]

SMM C/P 1989 DOY 16 60 +/- 0 degrees



9:00
DOY 16

9:30

10:00

10:30

11:00

tstart=DOY 16 8:48 +/- 0.0 [min.]

radial acceleration=-.115E-01 km/sec**2

This is a 1 order run

INPUT:

year	day	time	radii	radius	error in	angle	error in	datatype
1989	16	9:17:14	2.00	+/- 0.10	60.0	+/- 0.5	SMM	
1989	16	9:42: 2	2.80	+/- 0.10	60.0	+/- 0.5	SMM	
1989	16	10:42:35	4.60	+/- 0.10	60.0	+/- 0.5	SMM	

Structure being measured:
Top of Prominence Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.164E+02 +/- 0.267E+00$ [minutes]

In more convenient units:

Event began at DOY 16 8:44 +/- 0.267E+00 [minutes]

Origin defined at DOY 16 9: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 352. +/- 5. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.150E+01 +/- 0.261E-01 [solar radii]
c(2) = 0.303E-01 +/- 0.402E-03 [radii/min]
c(2) = 0.352E+03 +/- 0.467E+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)= 0.36861E-01 [radii] see Bevington pg. 114

error in c(2)= 0.56906E-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) = 60. +/- 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 9:17 = 0. km/sec

The TOTAL velocity at 9:17 = 352. km/sec

The TANGENTIAL velocity at 9:42 = 0. km/sec

The TOTAL velocity at 9:42 = 352. km/sec

The TANGENTIAL velocity at 10:42 = 0. km/sec

The TOTAL velocity at 10:42 = 352. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 1.33

Standard Deviation in start time measurement = 0.358E+02

Error in time = 0.11652E+01 using best fit method

See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.624E-03

Reduced Chi Squared = 0.217E-02

Chi Squared = 0.217E-02

The probability for exceeding chi square = 0.980E+00

The correlation coefficient = 0.100E+01

The probability that no LINEAR correlation exists between the variables = 0.1196E-01

SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

This is a 2 order run

INPUT:

year	day	time	radii	error in radius	angle	error in angle	datatype
1989	16	9:17:14	2.00	+/- 0.10	60.0	+/- 0.5	SMM
1989	16	9:42: 2	2.80	+/- 0.10	60.0	+/- 0.5	SMM
1989	16	10:42:35	4.60	+/- 0.10	60.0	+/- 0.5	SMM

Structure being measured:
Top of Prominence Loop

OUTPUT:

START TIME:

Event began at t = 0 + -0.123E+02 +/- 0.000E+00 [minutes]
In more convenient units:
Event began at DOY 16 8:48 +/- 0.000E+00 [minutes]

Origin defined at DOY 16 9: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = -0.115E-01 +/- 0.604E-06 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

- c(1) = 0.142E+01 +/- 0.439E-05 [solar radii]
- c(2) = 0.340E-01 +/- 0.197E-06 [radii/min]
- c(2) = 0.395E+03 +/- 0.228E-02 [km/sec]
- c(3) = -0.296E-04 +/- 0.156E-08 [radii/min**2]
- c(3) = -0.115E-01 +/- 0.604E-06 [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) = 60. +/- 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]

$$a(3) = 0.000E+00 \pm 0.000E+00 \text{ [rad/sec**2]}$$

THE TANGENTIAL AND TOTAL VELOCITIES AT EACH DATA POINT ARE:

The TANGENTIAL velocity at 9:17 = 0. km/sec

The TOTAL velocity at 9:17 = 383. km/sec

The TANGENTIAL velocity at 9:42 = 0. km/sec

The TOTAL velocity at 9:42 = 366. km/sec

The TANGENTIAL velocity at 10:42 = 0. km/sec

The TOTAL velocity at 10:42 = 324. 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!