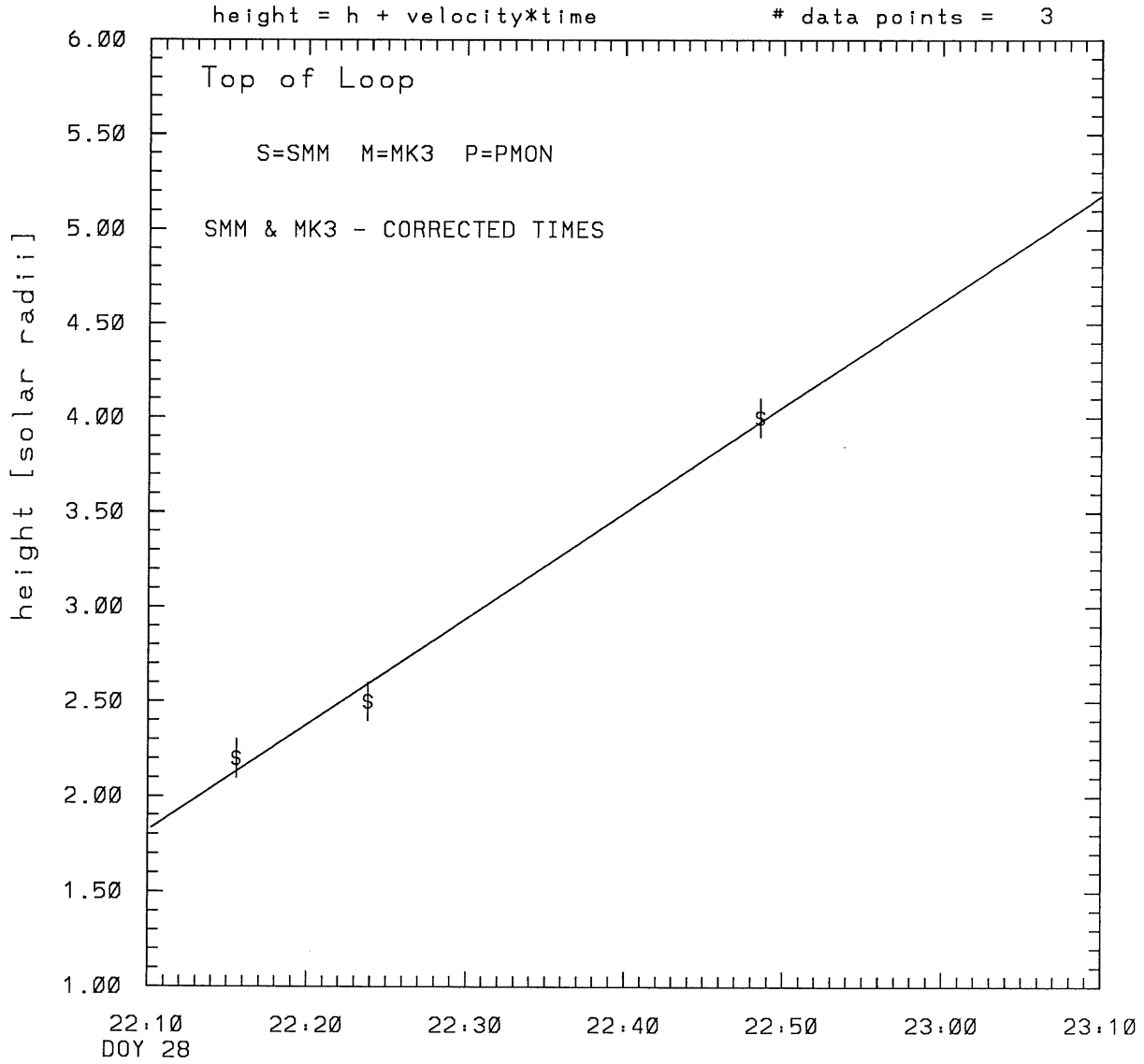
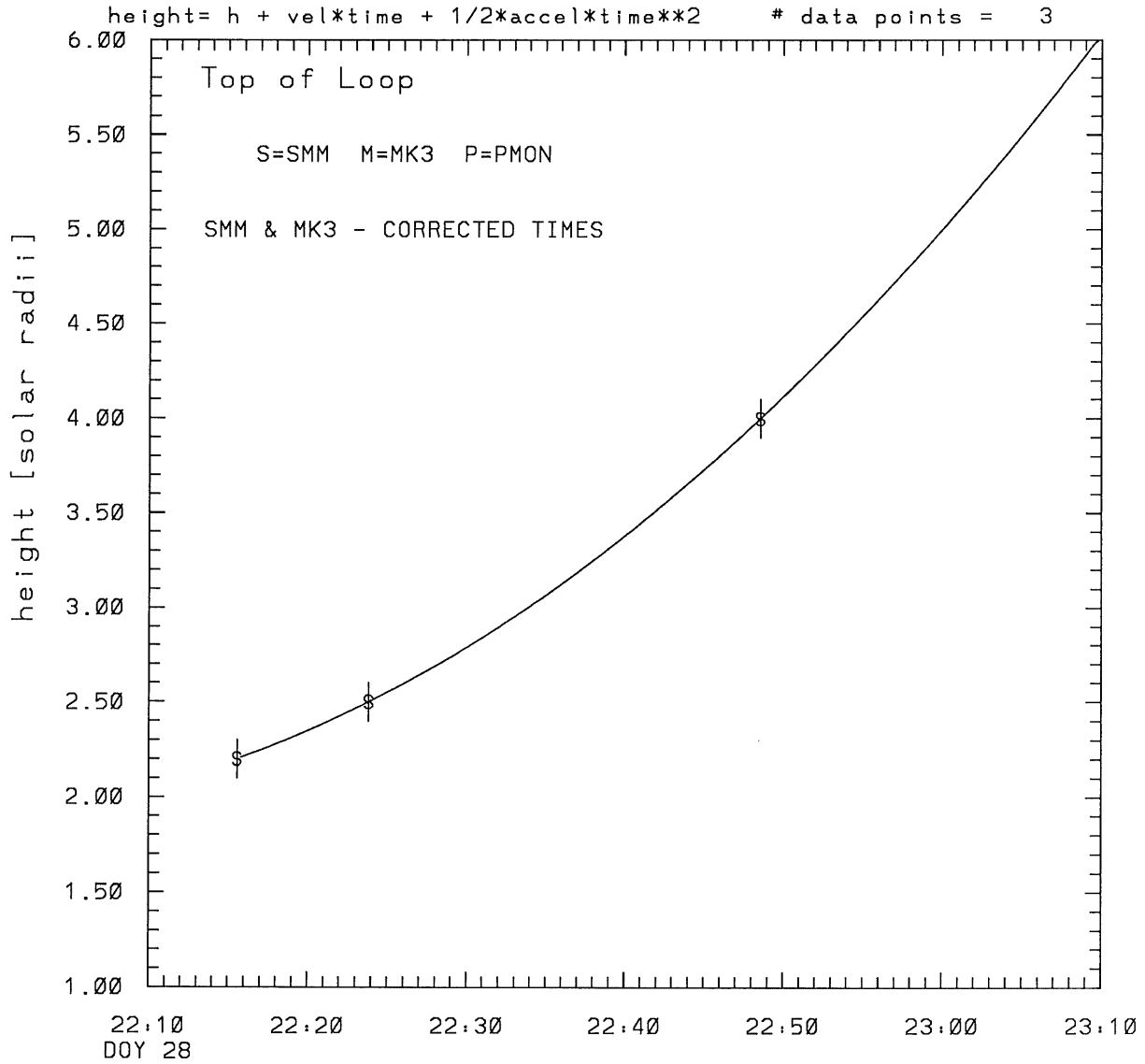


SMM C/P 1989 DOY 28 315 +/- 0 degrees



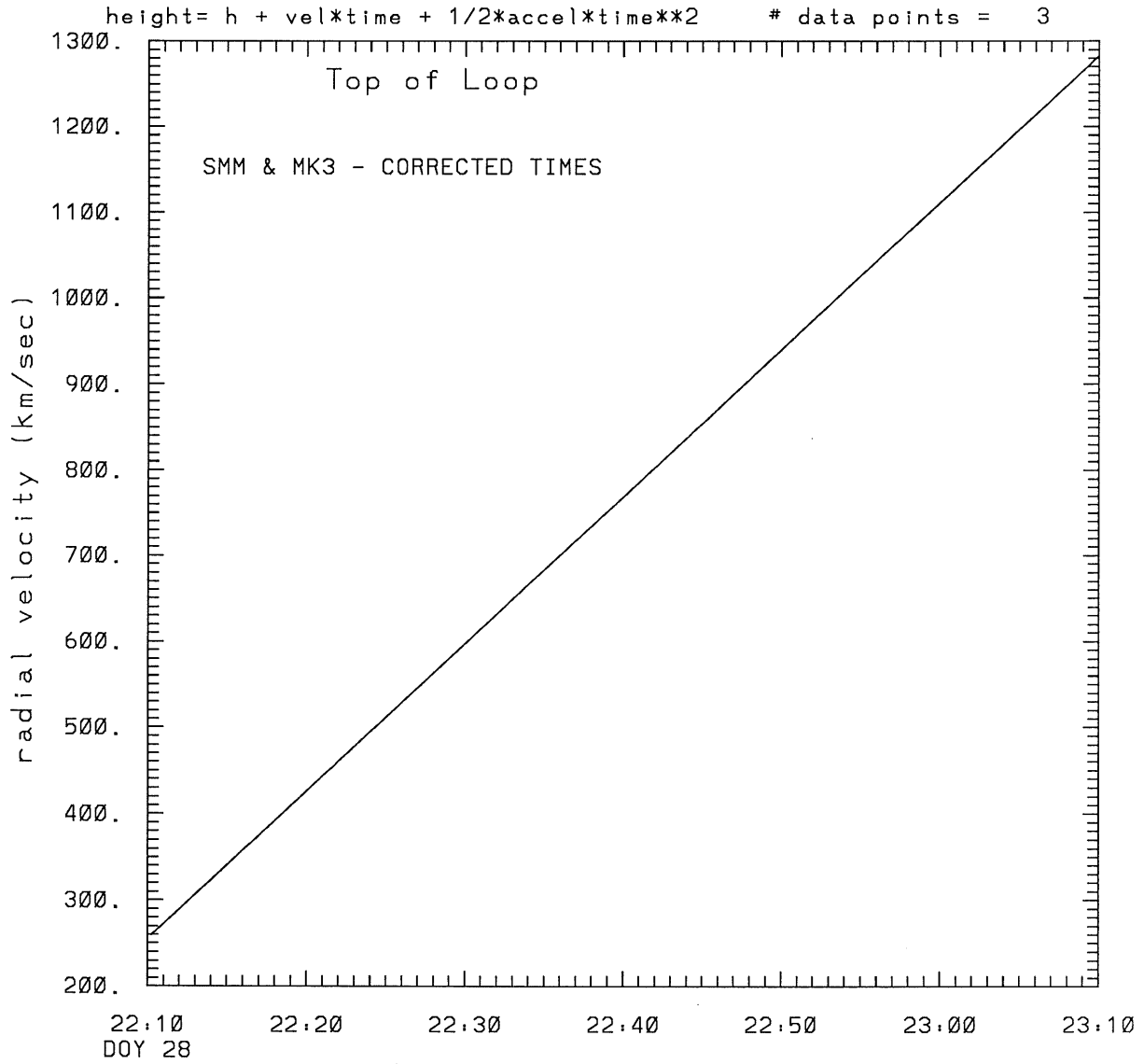
tstart=DOY 28 21:57 +/- 0.8 [min.]
radial velocity= 649. +/- 40. [km/sec]

SMM C/P 1989 DOY 28 315 +/- 0 degrees



tstart=DOY 28 21:56 from derivative=0
Event begins at 1.89 Solar Radii
radial acceleration = 0.2854 ± 0.0000 [km/sec**2]

SMM C/P 1989 DOY 28 315 +/- 0 degrees



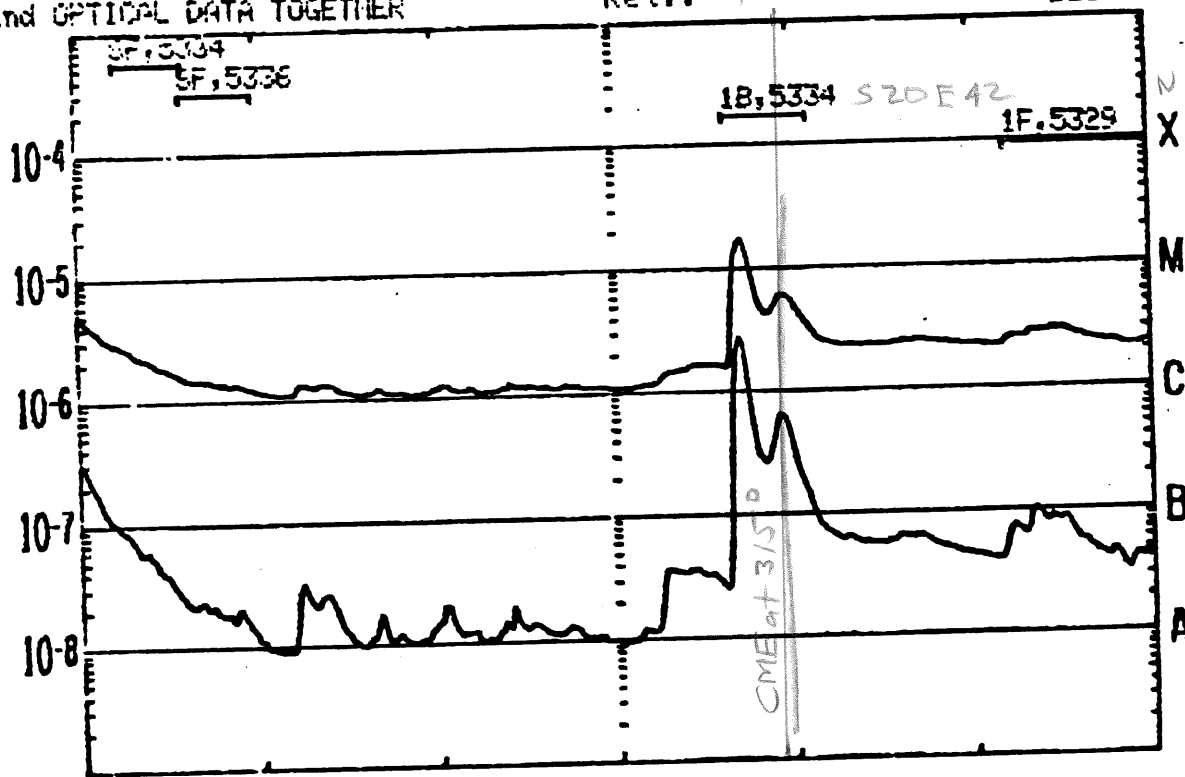
DOY 28
tstart=DOY 28 21:56 from derivative=0
Event begins at 1.89 Solar Radii
radial acceleration=0.285E+00 km/sec**2

XRAY and OPTICAL DATA TOGETHER

STOP
Ret..

BEGIN: 28 JAN 89

Watts meter²



[21:57] 1st order
 [21:56] 2nd order
 [22:00] 1st order
 [21:54] 2nd order

N17W31
 GOES 7 0.5-4.0A
 OPTICAL FLARES

28-1800

28-2100

29-0000

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

SAA's
NIGHT

FILE: 2825UT
2 FEB 89

This is a 1 order run

INPUT:

year	day	time	radii	error in radius	error in angle	datatype
1989	28	22:15:33	2.20	+/- 0.10	315.0 +/- 0.5	SMM
1989	28	22:23:49	2.50	+/- 0.10	315.0 +/- 0.5	SMM
1989	28	22:48:33	4.00	+/- 0.10	315.0 +/- 0.5	SMM

Structure being measured:
Top of Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.147E+02 +/- 0.775E+00$ [minutes]
In more convenient units:
Event began at DOY 28 21:57 +/- 0.775E+00 [minutes]

Origin defined at DOY 28 22:10

RADIAL INFORMATION:

RADIAL VELOCITY = 649. +/- 40. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.182E+01 +/- 0.823E-01$ [solar radii]
 $c(2) = 0.560E-01 +/- 0.345E-02$ [radii/min]
 $c(2) = 0.649E+03 +/- 0.400E+02$ [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 $c(1) = 0.11633E+00$ [radii] see Bevington pg. 114
error in $c(2) = 0.48758E-02$ [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) = 315. +/- 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 22:15 = 0. km/sec

The TOTAL velocity at 22:15 = 649. km/sec

The TANGENTIAL velocity at 22:23 = 0. km/sec

The TOTAL velocity at 22:23 = 649. km/sec

The TANGENTIAL velocity at 22:48 = 0. km/sec

The TOTAL velocity at 22:48 = 649. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.96

Standard Deviation in start time measurement = 0.140E+02

Error in time = 0.21162E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.701E-02

Reduced Chi Squared = 0.237E-01

Chi Squared = 0.237E-01

The probability for exceeding chi square = 0.933E+00

The correlation coefficient = 0.996E+00

The probability that no LINEAR correlation exists between the variables = 0.5534E-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	28	22:15:33	2.20	+/- 0.10	315.0	+/- 0.5	SMM
1989	28	22:23:49	2.50	+/- 0.10	315.0	+/- 0.5	SMM
1989	28	22:48:33	4.00	+/- 0.10	315.0	+/- 0.5	SMM

Structure being measured:
Top of Loop

OUTPUT:

START TIME:

tstart=DOY 28 21:56 from derivative = 0
Event begins at 1.89 Solar Radii
Origin defined at DOY 28 22:10

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.285E+00 +/- 0.575E-06 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.206E+01 +/- 0.529E-06 [solar radii]
c(2) = 0.220E-01 +/- 0.691E-07 [radii/min]
c(2) = 0.255E+03 +/- 0.801E-03 [km/sec]
c(3) = 0.738E-03 +/- 0.149E-08 [radii/min**2]
c(3) = 0.285E+00 +/- 0.575E-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) = 315. +/- 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 22:15 = 0. km/sec

The TOTAL velocity at 22:15 = 350. km/sec

The TANGENTIAL velocity at 22:23 = 0. km/sec

The TOTAL velocity at 22:23 = 492. km/sec

The TANGENTIAL velocity at 22:48 = 0. km/sec

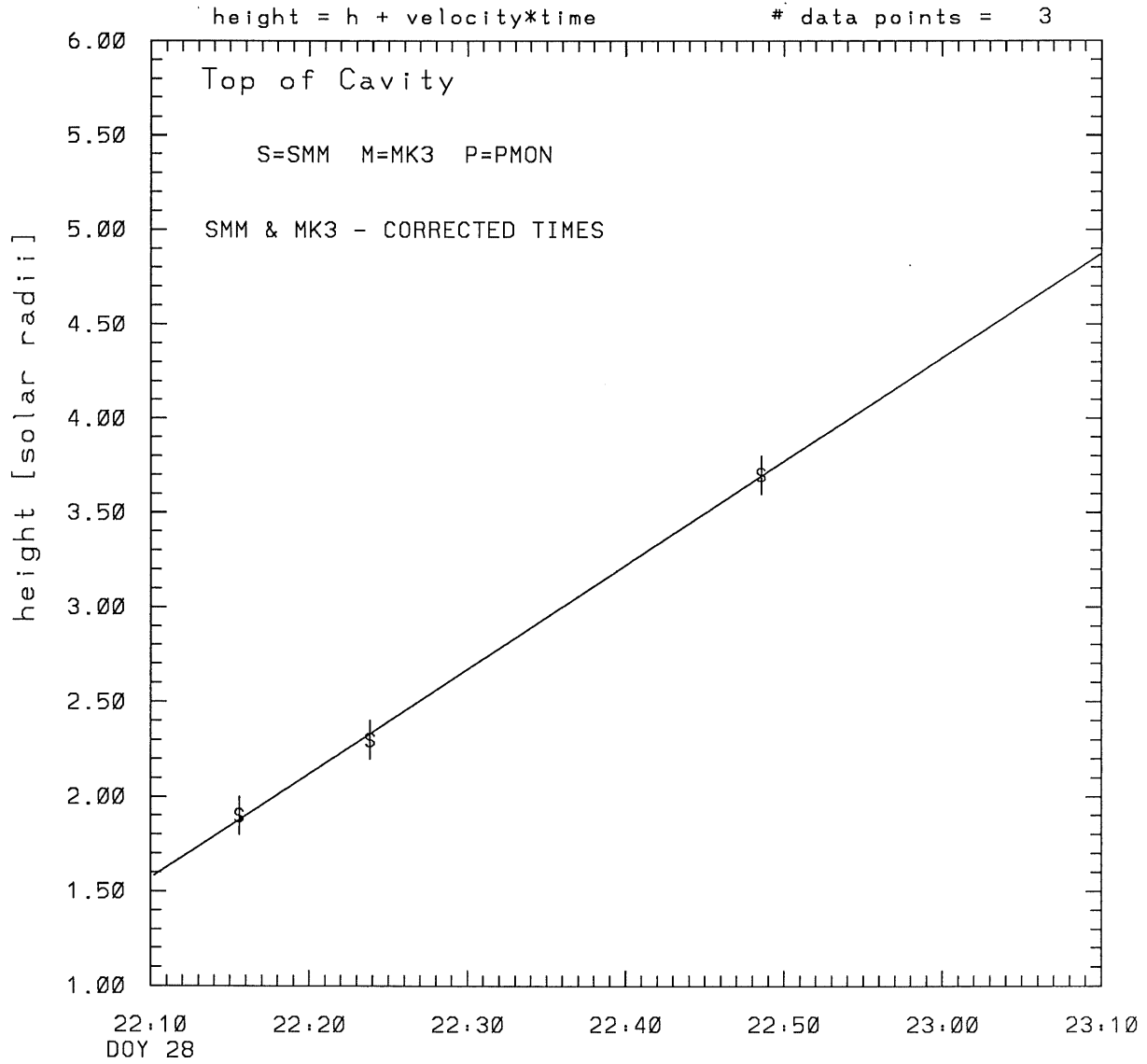
The TOTAL velocity at 22:48 = 915. km/sec

The following info is for estimating goodness of the fit

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

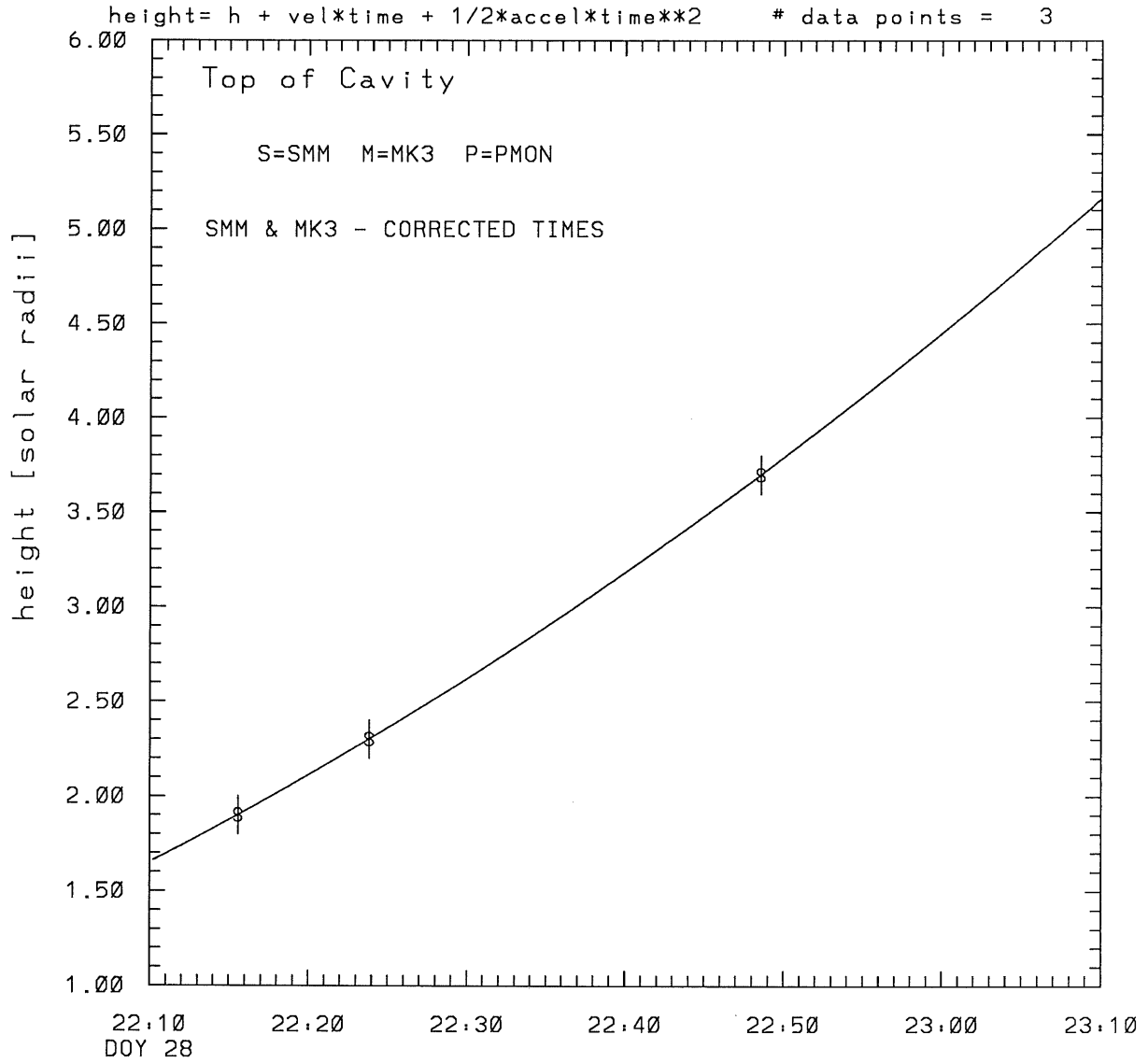
Correlation coefficient is not computable!

SMM C/P 1989 DOY 28 315 +/- 0 degrees



tstart=DOY 28 22: 0 +/- 0.2 [min.]
radial velocity= 638. +/- 13. [km/sec]

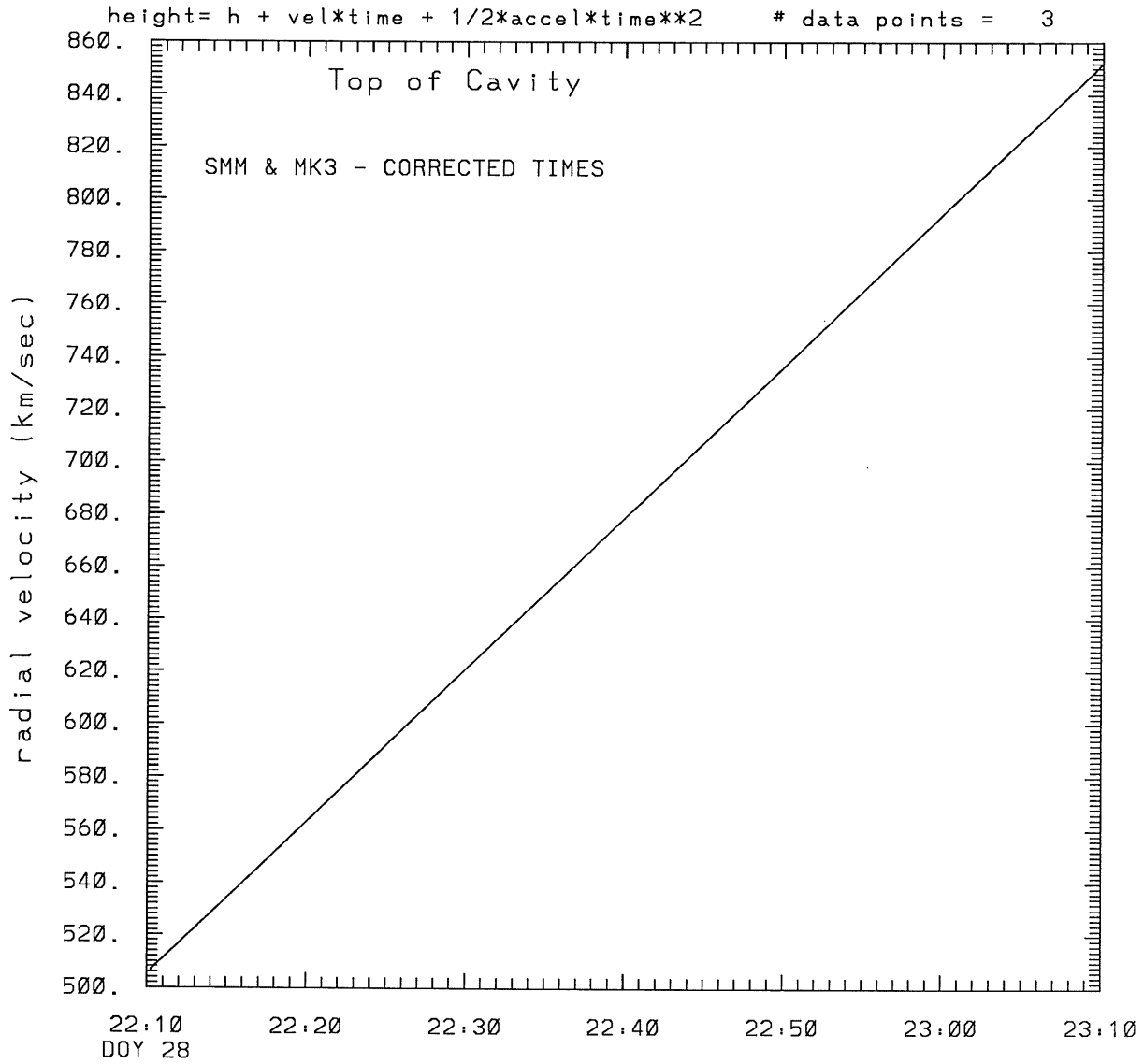
SMM C/P 1989 DOY 28 315 +/- 0 degrees



tstart=DOY 28 21:54 +/- 0.0 [min.]

radial acceleration = 0.0963 +/- 0.0000 [km/sec**2]

SMM C/P 1989 DOY 28 315 +/- 0 degrees



tstart=DOY 28 21:54 +/- 0.0 [min.]

radial acceleration= $0.963E-01$ km/sec**2

This is a 1 order run

INPUT:

year	doy	time	radii	error in radius	angle	error in angle	datatype
1989	28	22:15:33	1.90	+/- 0.10	315.0	+/- 0.5	SMM
1989	28	22:23:49	2.30	+/- 0.10	315.0	+/- 0.5	SMM
1989	28	22:48:33	3.70	+/- 0.10	315.0	+/- 0.5	SMM

Structure being measured:

Top of Cavity

OUTPUT:

START TIME:

Event began at t = 0 + -0.104E+02 +/- 0.203E+00 [minutes]

In more convenient units:

Event began at DOY 28 22:00 +/- 0.203E+00 [minutes]

Event began at DOY 28 22: 0 +/- 0.203E+00 [minutes]

Origin defined at DOY 28 22:10

RADIAL INFORMATION:

RADIAL VELOCITY = 638. +/- 13. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.157E+01 +/- 0.278E-01 [solar radii]
 c(2) = 0.550E-01 +/- 0.116E-02 [radii/min]
 c(2) = 0.638E+03 +/- 0.135E+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)= 0.39245E-01 [radii] see Bevington pg. 114

error in c(2)= 0.16448E-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) = 315. +/- 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 22:15 = 0. km/sec

The TOTAL velocity at 22:15 = 638. km/sec

The TANGENTIAL velocity at 22:23 = 0. km/sec

The TOTAL velocity at 22:23 = 638. km/sec

The TANGENTIAL velocity at 22:48 = 0. km/sec

The TOTAL velocity at 22:48 = 638. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.95

Standard Deviation in start time measurement = 0.140E+02

Error in time = 0.72598E+00 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.798E-03

Reduced Chi Squared = 0.270E-02

Chi Squared = 0.270E-02

The probability for exceeding chi square = 0.977E+00

The correlation coefficient = 0.100E+01

The probability that no LINEAR correlation exists between the variables = 0.1904E-01

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

This is a 2 order run

INPUT:

year	doy	time	radii	error in radius	error in angle	angle	datatype
1989	28	22:15:33	1.90	+/- 0.10	315.0	+/- 0.5	SMM
1989	28	22:23:49	2.30	+/- 0.10	315.0	+/- 0.5	SMM
1989	28	22:48:33	3.70	+/- 0.10	315.0	+/- 0.5	SMM

Structure being measured:

Top of Cavity

OUTPUT:

START TIME:

Event began at $t = 0 + -0.165E+02 +/- 0.000E+00$ [minutes]

In more convenient units:

Event began at DOY 28 21:54 +/- 0.000E+00 [minutes]

Origin defined at DOY 28 22:10

RADIAL INFORMATION:

RADIAL ACCELERATION = $0.963E-01 +/- 0.118E-05$ km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = $0.165E+01 +/- 0.109E-05$ [solar radii]
c(2) = $0.436E-01 +/- 0.142E-06$ [radii/min]
c(2) = $0.505E+03 +/- 0.165E-02$ [km/sec]
c(3) = $0.249E-03 +/- 0.306E-08$ [radii/min**2]
c(3) = $0.963E-01 +/- 0.118E-05$ [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) = $315. +/- 0.$ [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]

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

THE TANGENTIAL AND TOTAL VELOCITIES AT EACH DATA POINT ARE:

The TANGENTIAL velocity at 22:15 = 0. km/sec

The TOTAL velocity at 22:15 = 537. km/sec

The TANGENTIAL velocity at 22:23 = 0. km/sec

The TOTAL velocity at 22:23 = 585. km/sec

The TANGENTIAL velocity at 22:48 = 0. km/sec

The TOTAL velocity at 22:48 = 728. 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!