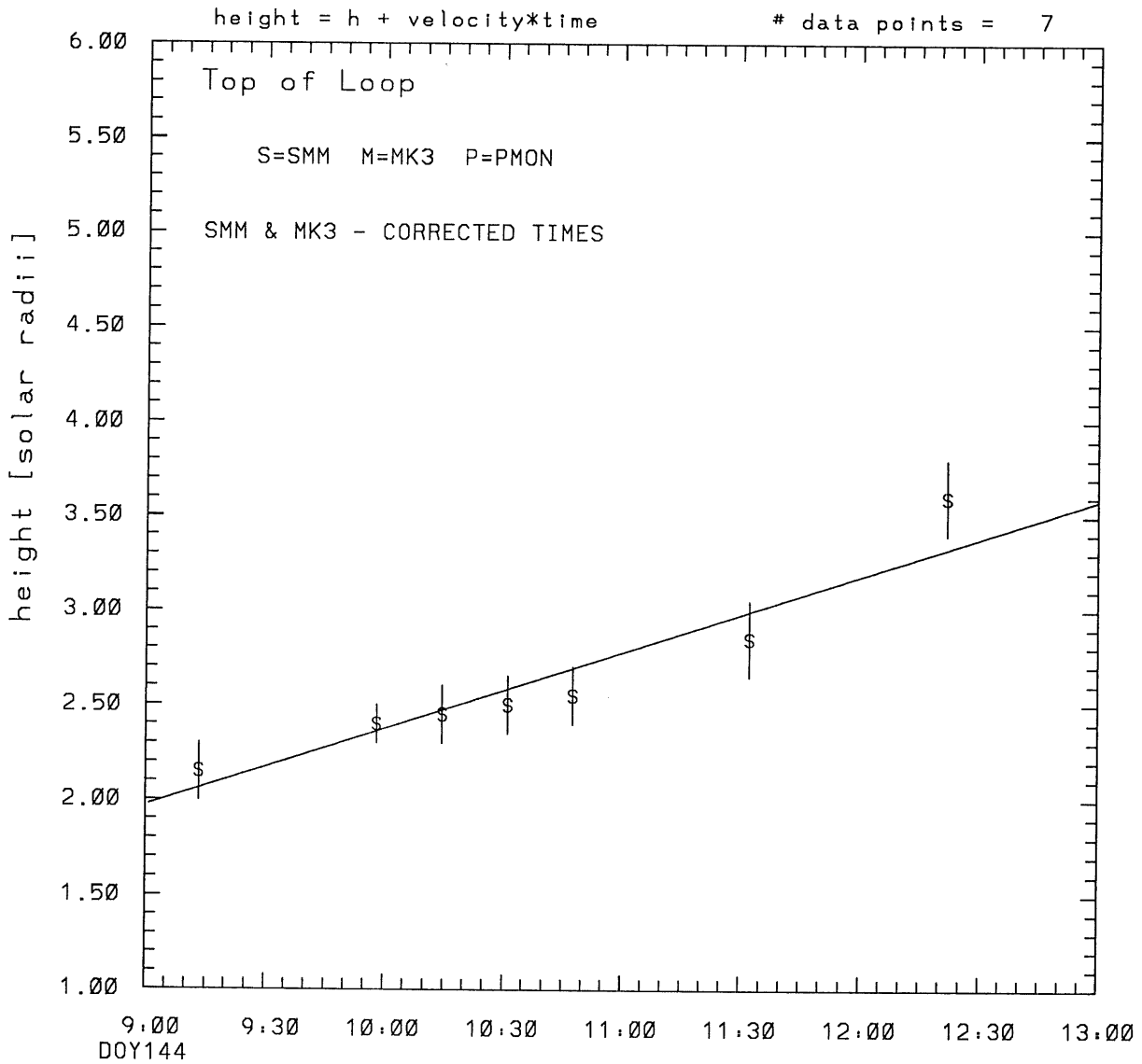
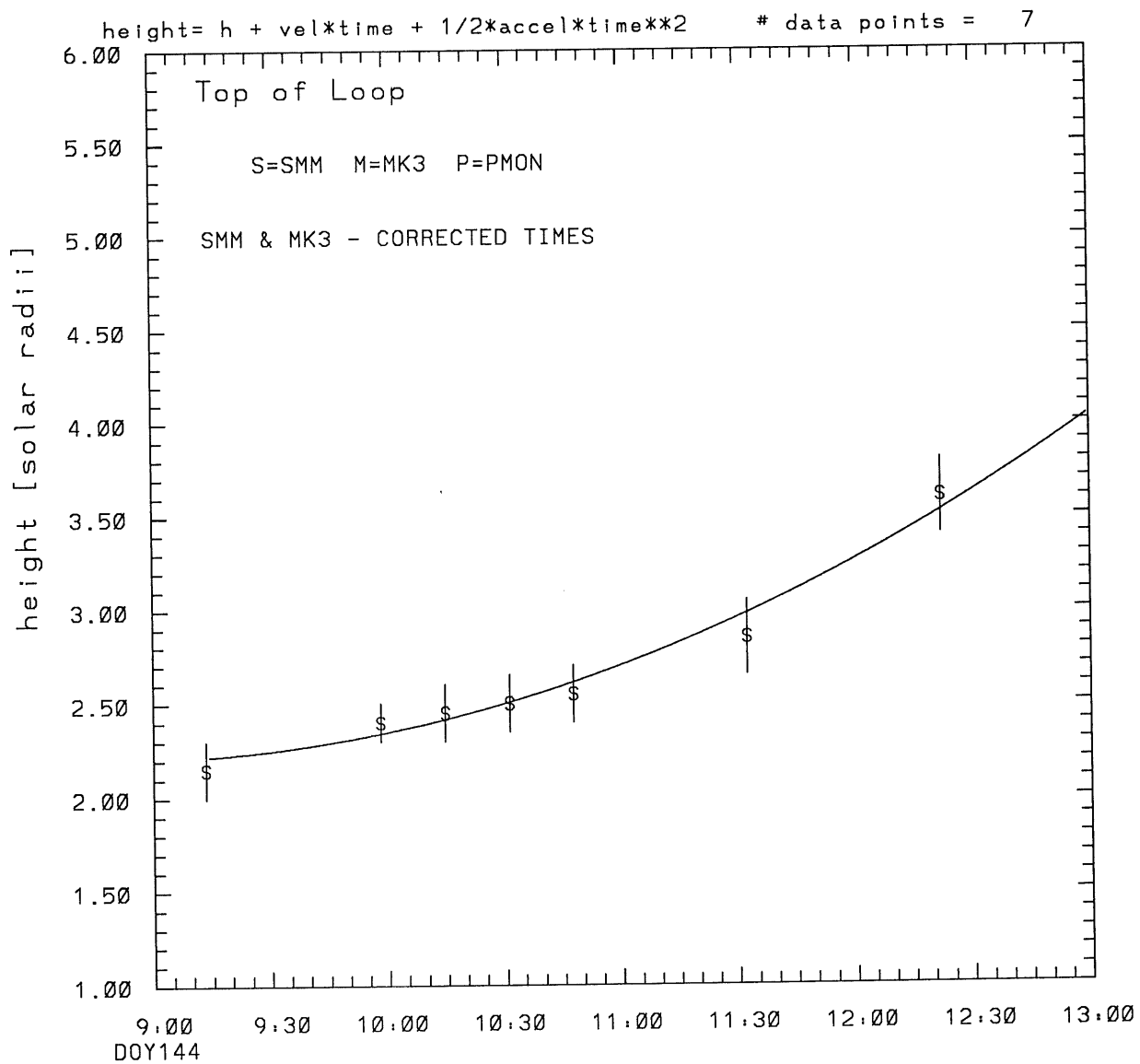


SMM C/P 1987 DOY144 305 +/- 0 degrees



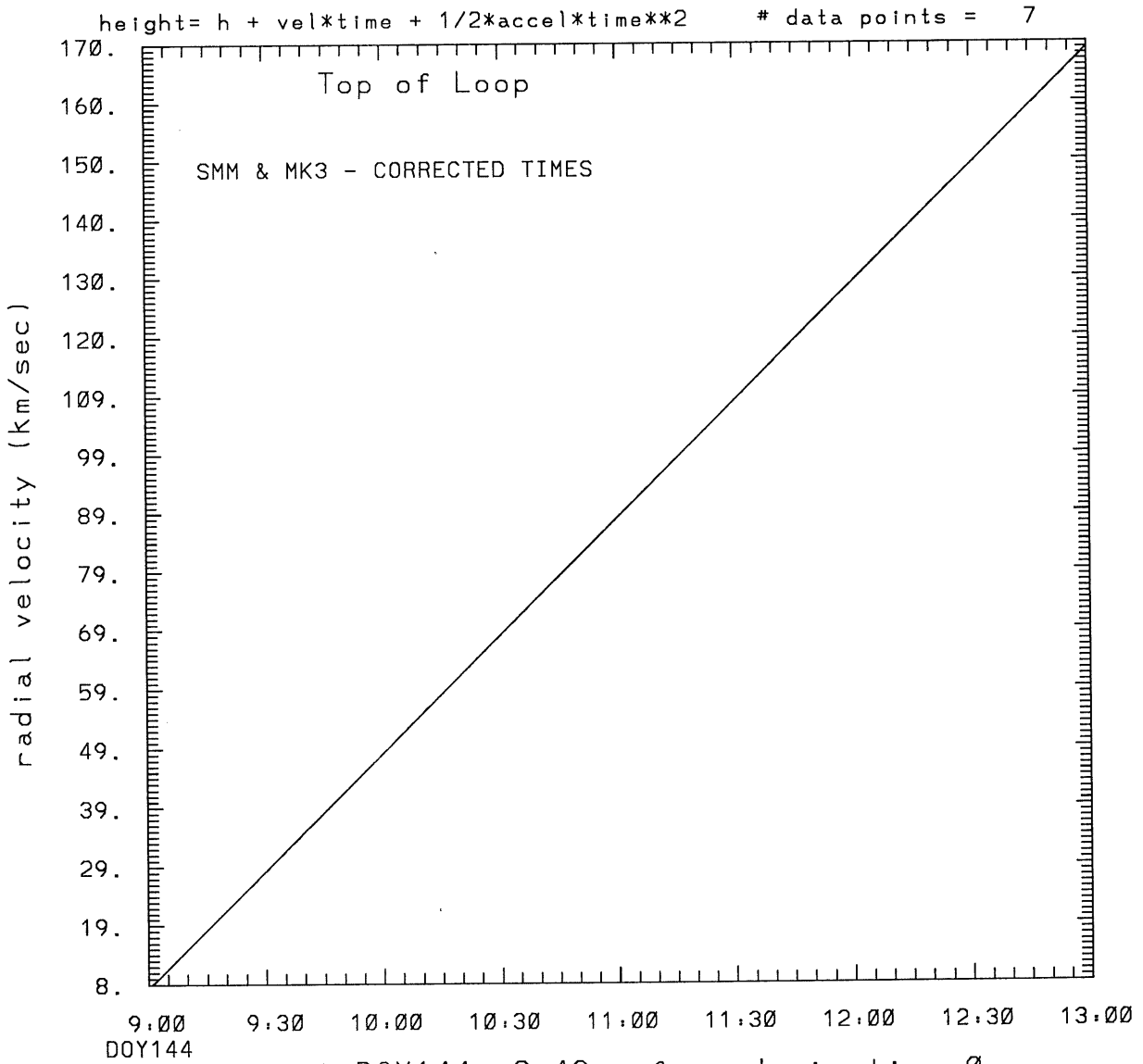
tstart=DOY144 6:36 +/- 9.0 [min.]
radial velocity= 78. +/- 11. [km/sec]

SMM C/P 1987 DOY144 305 +/- 0 degrees



tstart=DOY144 8.49 from derivative=0
Event begins at 2.20 Solar Radii
radial acceleration = 0.0112 +/- 0.0035 [km/sec**2]

SMM C/P 1987 DOY144 305 +/- 0 degrees



DOY144

tstart=DOY144 8.49 from derivative=0
Event begins at 2.20 Solar Radii
radial acceleration= $0.112E-01$ km/sec**2

This is a 1 order run

INPUT:

year	doy	time	radii	error in radius	angle	error in angle	datatype
1987	144	9:13:23	2.15	+/- 0.15	305.0	+/- 0.5	SMM
1987	144	9:58: 8	2.40	+/- 0.10	305.0	+/- 0.5	SMM
1987	144	10:14:37	2.45	+/- 0.15	305.0	+/- 0.5	SMM
1987	144	10:31: 8	2.50	+/- 0.15	305.0	+/- 0.5	SMM
1987	144	10:47:37	2.55	+/- 0.15	305.0	+/- 0.5	SMM
1987	144	11:32:21	2.85	+/- 0.20	305.0	+/- 0.5	SMM
1987	144	12:21:51	3.60	+/- 0.20	305.0	+/- 1.0	SMM

Structure being measured:
Top of Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.144E+03 +/- 0.897E+01$ [minutes]
In more convenient units:
Event began at DOY 144 6:36 +/- 0.897E+01 [minutes]

Origin defined at DOY144 9: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 78. +/- 11. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.197E+01 +/- 0.909E-01$ [solar radii]
 $c(2) = 0.673E-02 +/- 0.938E-03$ [radii/min]
 $c(2) = 0.781E+02 +/- 0.109E+02$ [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 $c(1) = 0.12338E+00$ [radii] see Bevington pg. 114
error in $c(2) = 0.10706E-02$ [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) = 305. +/- 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 9:13 = 0.000E+00 km/sec
The TOTAL velocity at 9:13 = 78. km/sec

The TANGENTIAL velocity at 9:58 = 0.000E+00 km/sec
The TOTAL velocity at 9:58 = 78. km/sec

The TANGENTIAL velocity at 10:14 = 0.000E+00 km/sec
The TOTAL velocity at 10:14 = 78. km/sec

The TANGENTIAL velocity at 10:31 = 0.000E+00 km/sec
The TOTAL velocity at 10:31 = 78. km/sec

The TANGENTIAL velocity at 10:47 = 0.000E+00 km/sec
The TOTAL velocity at 10:47 = 78. km/sec

The TANGENTIAL velocity at 11:32 = 0.000E+00 km/sec
The TOTAL velocity at 11:32 = 78. km/sec

The TANGENTIAL velocity at 12:21 = 0.000E+00 km/sec
The TOTAL velocity at 12:21 = 78. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.47
Standard Deviation in start time measurement = 0.575E+02
Error in time = 0.54117E+02 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.147E-01
Reduced Chi Squared = 0.157E+00
Chi Squared = 0.787E+00
The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.951E+00
The probability that no LINEAR correlation exists between the variables = 0.1009E-02
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

This is a 2 order run

INPUT:

year	day	time	radii	radius	error in	angle	error in	datatype
1987	144	9:13:23	2.15	+/- 0.15	305.0	+/- 0.5	SMM	
1987	144	9:58: 8	2.40	+/- 0.10	305.0	+/- 0.5	SMM	
1987	144	10:14:37	2.45	+/- 0.15	305.0	+/- 0.5	SMM	
1987	144	10:31: 8	2.50	+/- 0.15	305.0	+/- 0.5	SMM	
1987	144	10:47:37	2.55	+/- 0.15	305.0	+/- 0.5	SMM	
1987	144	11:32:21	2.85	+/- 0.20	305.0	+/- 0.5	SMM	
1987	144	12:21:51	3.60	+/- 0.20	305.0	+/- 1.0	SMM	

Structure being measured:
Top of Loop

OUTPUT:

START TIME:

tstart=DOY144 8:49 from derivative = 0
Event begins at 2.20 Solar Radii
Origin defined at DOY144 9: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.112E-01 +/- 0.349E-02 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

- c(1) = 0.220E+01 +/- 0.929E-01 [solar radii]
- c(2) = 0.673E-03 +/- 0.198E-02 [radii/min]
- c(2) = 0.780E+01 +/- 0.230E+02 [km/sec]
- c(3) = 0.289E-04 +/- 0.903E-05 [radii/min**2]
- c(3) = 0.112E-01 +/- 0.349E-02 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

- Approximate error in c(1) = 0.11361E+00 [radii] Bevington pg 154 (8-30)
- Exact error in c(1) = 0.39166E-01 [radii] Bevington pg 154 (8-28)
- Approximate error in c(2) = 0.23078E-02 [radii/min] Bevington pg 154 (8-30)
- Exact error in c(2) = 0.67338E-03 [radii/min] Bevington pg 154 (8-28)
- Approximate error in c(3) = 0.10096E-04 [radii/min**] Bevington pg 154 (8-30)
- Exact error in c(3) = 0.29674E-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) = 305. +/- 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 9:13 = 0.000E+00 km/sec
The TOTAL velocity at 9:13 = 17. km/sec

The TANGENTIAL velocity at 9:58 = 0.000E+00 km/sec
The TOTAL velocity at 9:58 = 47. km/sec

The TANGENTIAL velocity at 10:14 = 0.000E+00 km/sec
The TOTAL velocity at 10:14 = 58. km/sec

The TANGENTIAL velocity at 10:31 = 0.000E+00 km/sec
The TOTAL velocity at 10:31 = 69. km/sec

The TANGENTIAL velocity at 10:47 = 0.000E+00 km/sec
The TOTAL velocity at 10:47 = 80. km/sec

The TANGENTIAL velocity at 11:32 = 0.000E+00 km/sec
The TOTAL velocity at 11:32 = 110. km/sec

The TANGENTIAL velocity at 12:21 = 0.000E+00 km/sec
The TOTAL velocity at 12:21 = 143. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.47
Standard Deviation in start time measurement = 0.575E+02
Value of reduced Chi Squared returned from nllst2 = 0.578E-02
Reduced Chi Squared = 0.449E-01
Chi Squared = 0.180E+00
The probability for exceeding chi square = 0.100E+01

For a second order fit 3 correlation coefficients are given:

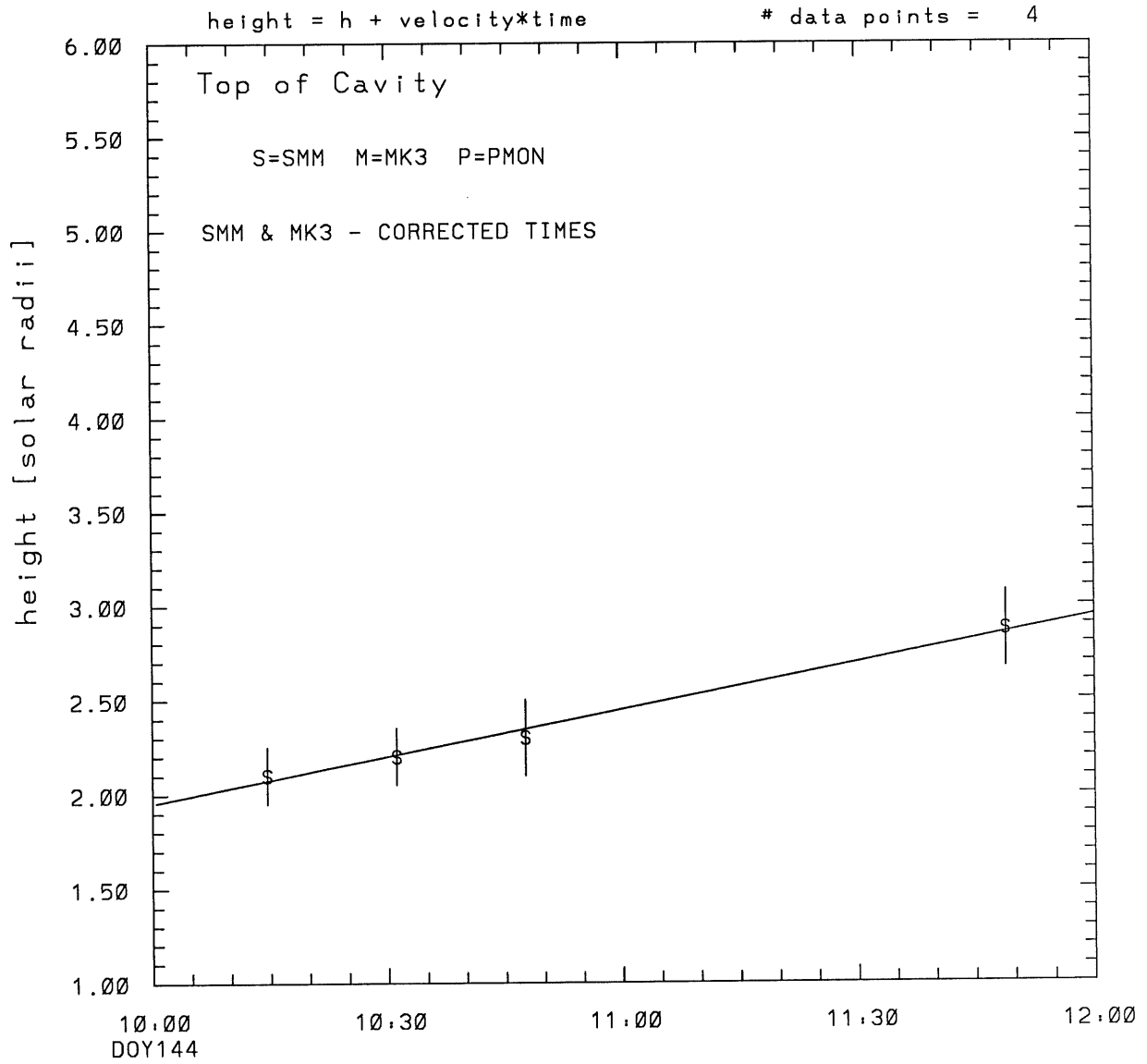
(Using equation of motion: $r = a + bt + at^2$)

The correlation between the data and the term linear in time = 0.8523E+00

The correlation between the data and the time**2 term = 0.8530E+00

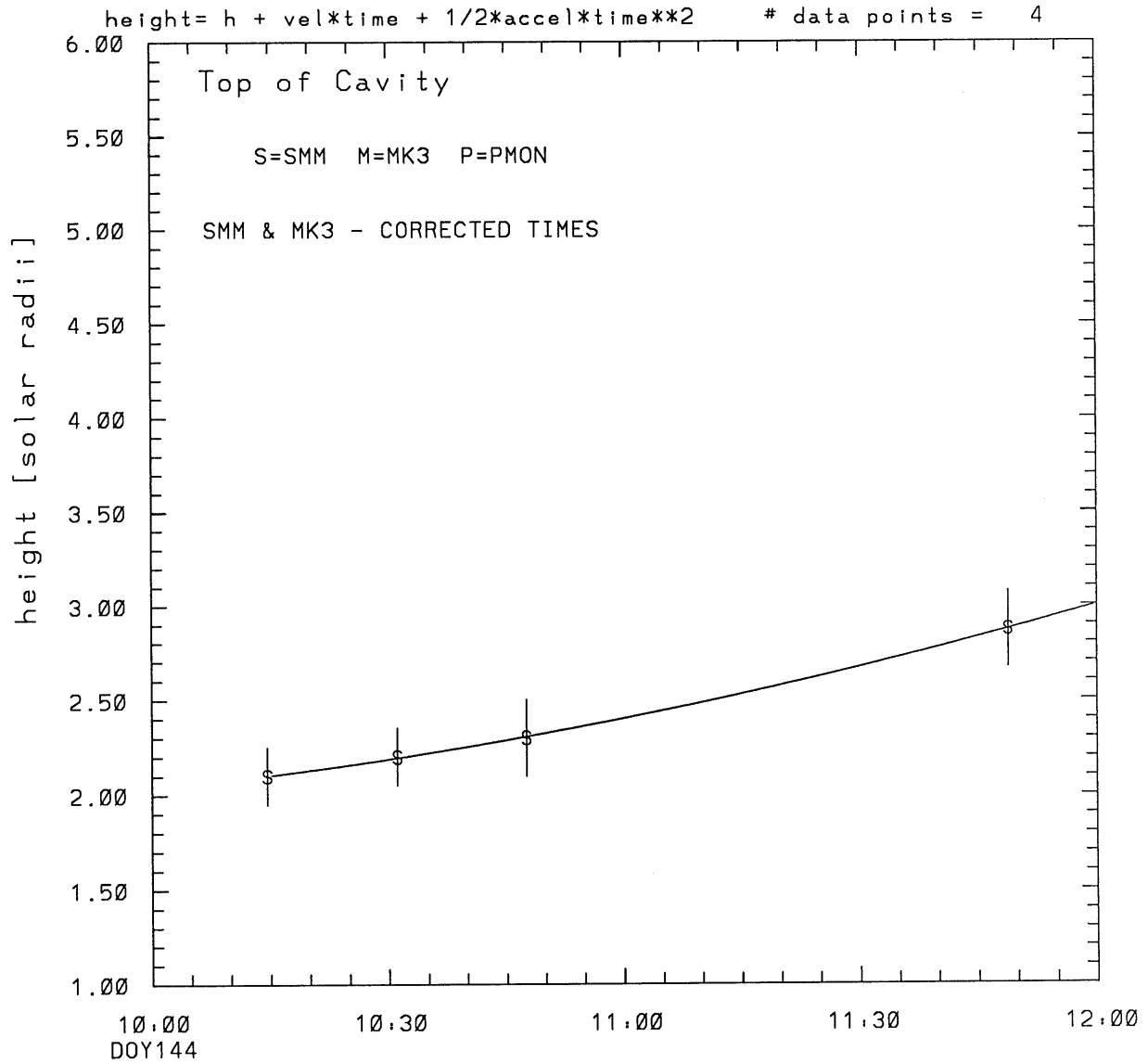
0The correlation between the data and the complete equation of motion = 0.9801E+00
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

SMM C/P 1987 DOY144 300 +/- 0 degrees



tstart=DOY144 8.6 +/- 2.7 [min.]
radial velocity= 96. +/- 5. [km/sec]

SMM C/P 1987 DOY144 300 +/- 0 degrees

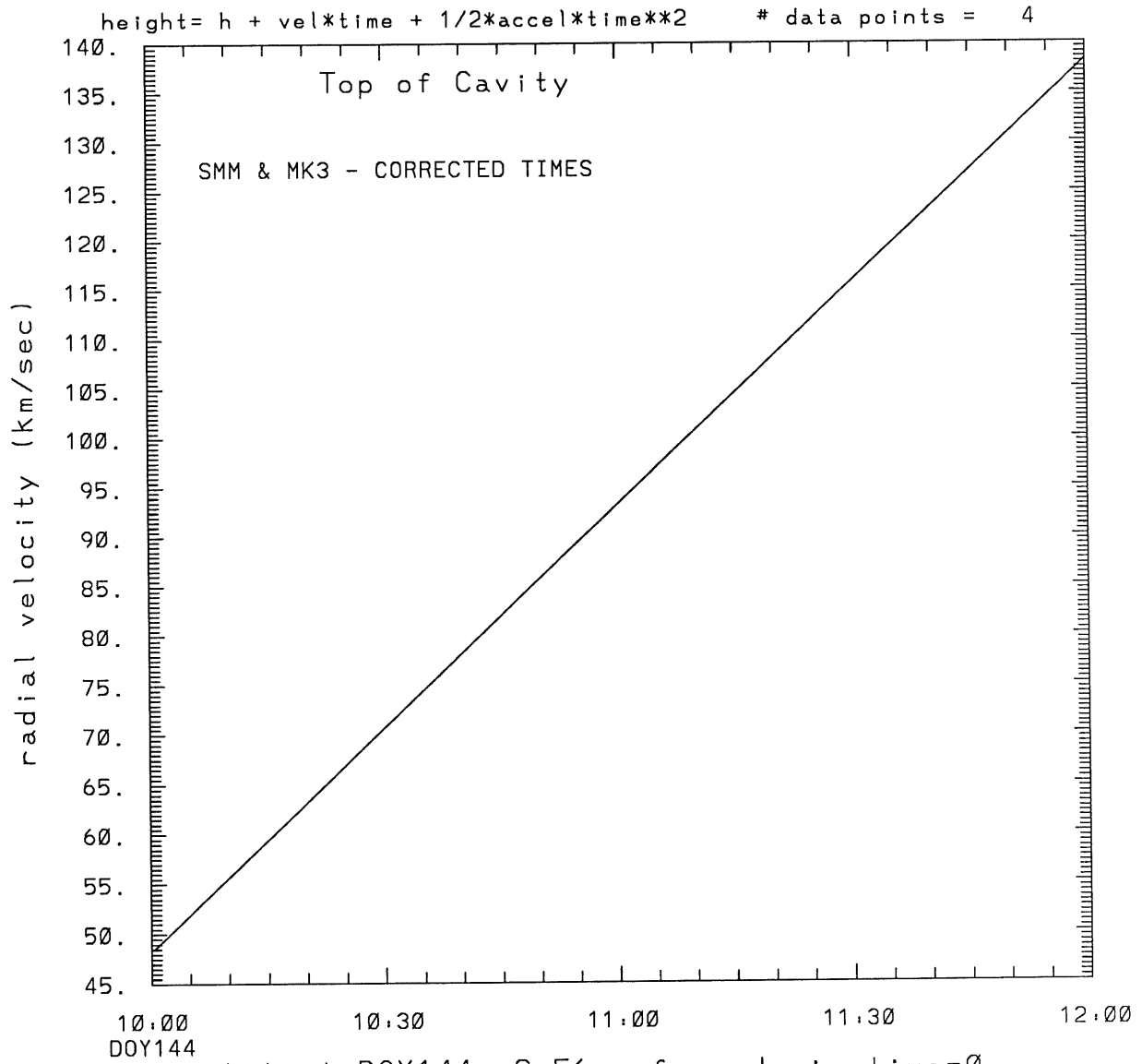


tstart=DOY144 8:56 from derivative=0

Event begins at 1.90 Solar Radii

radial acceleration = 0.0125 +/- 0.0013 [km/sec**2]

SMM C/P 1987 DOY144 300 +/- 0 degrees



DOY144

tstart=DOY144 8:56 from derivative=0
Event begins at 1.90 Solar Radii
radial acceleration=0.125E-01 km/sec**2

This is a 1 order run

INPUT:

year	day	time	radii	radius	error in angle	error in angle	datatype
1987	144	10:14:37	2.10 +/- 0.15	300.0 +/- 0.5			SMM
1987	144	10:31: 8	2.20 +/- 0.15	300.0 +/- 0.5			SMM
1987	144	10:47:37	2.30 +/- 0.20	300.0 +/- 0.5			SMM
1987	144	11:48:50	2.87 +/- 0.20	300.0 +/- 0.5			SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

Event began at t = 0 + -0.116E+03 +/- 0.274E+01 [minutes]
In more convenient units:
Event began at DOY 144 8: 6 +/- 0.274E+01 [minutes]

Origin defined at DOY144 10: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 96. +/- 5. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.195E+01 +/- 0.250E-01 [solar radii]
c(2) = 0.824E-02 +/- 0.463E-03 [radii/min]
c(2) = 0.956E+02 +/- 0.537E+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)= 0.35174E-01 [radii] see Bevington pg. 114
error in c(2)= 0.56883E-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) = 300. +/- 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 10:14 = 0.000E+00 km/sec
The TOTAL velocity at 10:14 = 96. km/sec

The TANGENTIAL velocity at 10:31 = 0.000E+00 km/sec

The TOTAL velocity at 10:31 = 96. km/sec

The TANGENTIAL velocity at 10:47 = 0.000E+00 km/sec

The TOTAL velocity at 10:47 = 96. km/sec

The TANGENTIAL velocity at 11:48 = 0.000E+00 km/sec

The TOTAL velocity at 11:48 = 96. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.34

Standard Deviation in start time measurement = 0.356E+02

Error in time = 0.69563E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.931E-03

Reduced Chi Squared = 0.441E-02

Chi Squared = 0.881E-02

The probability for exceeding chi square = 0.999E+00

The correlation coefficient = 0.996E+00

The probability that no LINEAR correlation exists between the variables = 0.44761

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

This is a 2 order run

INPUT:

year	doy	time	radii	radius	error in angle	error in angle	datatype
1987	144	10:14:37	2.10 +/-	0.15	300.0 +/-	0.5	SMM
1987	144	10:31: 8	2.20 +/-	0.15	300.0 +/-	0.5	SMM
1987	144	10:47:37	2.30 +/-	0.20	300.0 +/-	0.5	SMM
1987	144	11:48:50	2.87 +/-	0.20	300.0 +/-	0.5	SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

tstart=DOY144 8:56 from derivative = 0
Event begins at 1.90 Solar Radii
Origin defined at DOY144 10: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.125E-01 +/- 0.129E-02 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.203E+01 +/- 0.941E-02 [solar radii]
c(2) = 0.416E-02 +/- 0.430E-03 [radii/min]
c(2) = 0.482E+02 +/- 0.499E+01 [km/sec]
c(3) = 0.323E-04 +/- 0.334E-05 [radii/min**2]
c(3) = 0.125E-01 +/- 0.129E-02 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.14171E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.51191E-02 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.60406E-03 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.30369E-03 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.45883E-05 [radii/min**] Bevington pg 154 (8-
Exact error in c(3) = 0.23933E-05 [radii/min**] Bevington pg 154 (8-

ANGULAR INFORMATION:

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

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 300. +/- 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 10:14 = 0.000E+00 km/sec

The TOTAL velocity at 10:14 = 59. km/sec

The TANGENTIAL velocity at 10:31 = 0.000E+00 km/sec

The TOTAL velocity at 10:31 = 72. km/sec

The TANGENTIAL velocity at 10:47 = 0.000E+00 km/sec

The TOTAL velocity at 10:47 = 84. km/sec

The TANGENTIAL velocity at 11:48 = 0.000E+00 km/sec

The TOTAL velocity at 11:48 = 130. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.34

Standard Deviation in start time measurement = 0.356E+02

Value of reduced Chi Squared returned from nllst2 = 0.292E-04

Reduced Chi Squared = 0.145E-03

Chi Squared = 0.145E-03

The probability for exceeding chi square = 0.996E+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 = 0.9465E+00

The correlation between the data and the time**2 term = 0.9204E+00

The correlation between the data and the complete equation of motion = 0.1000E+00

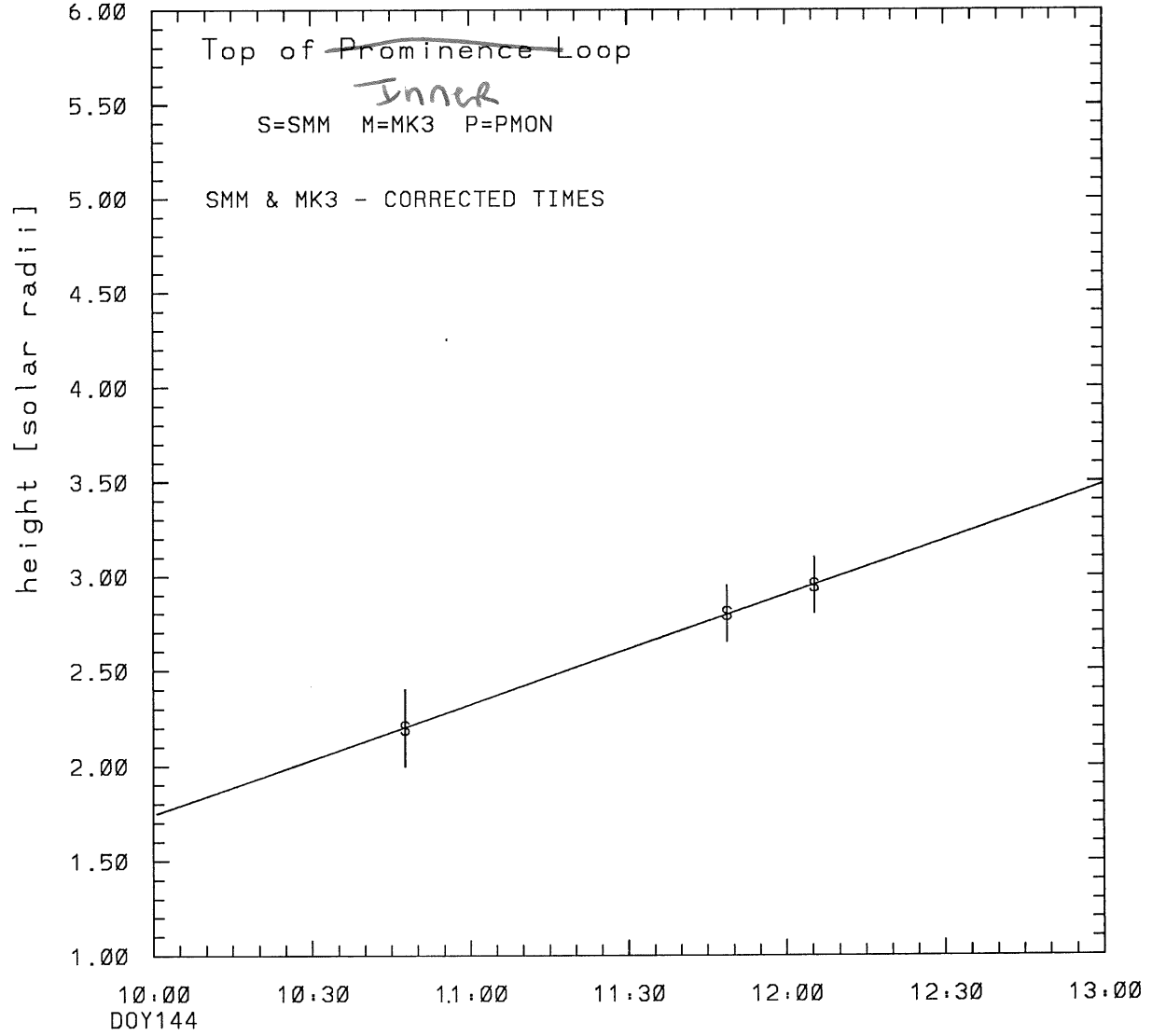
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]



3050

SMM C/P 1987 DOY144 300 +/- 0 degrees

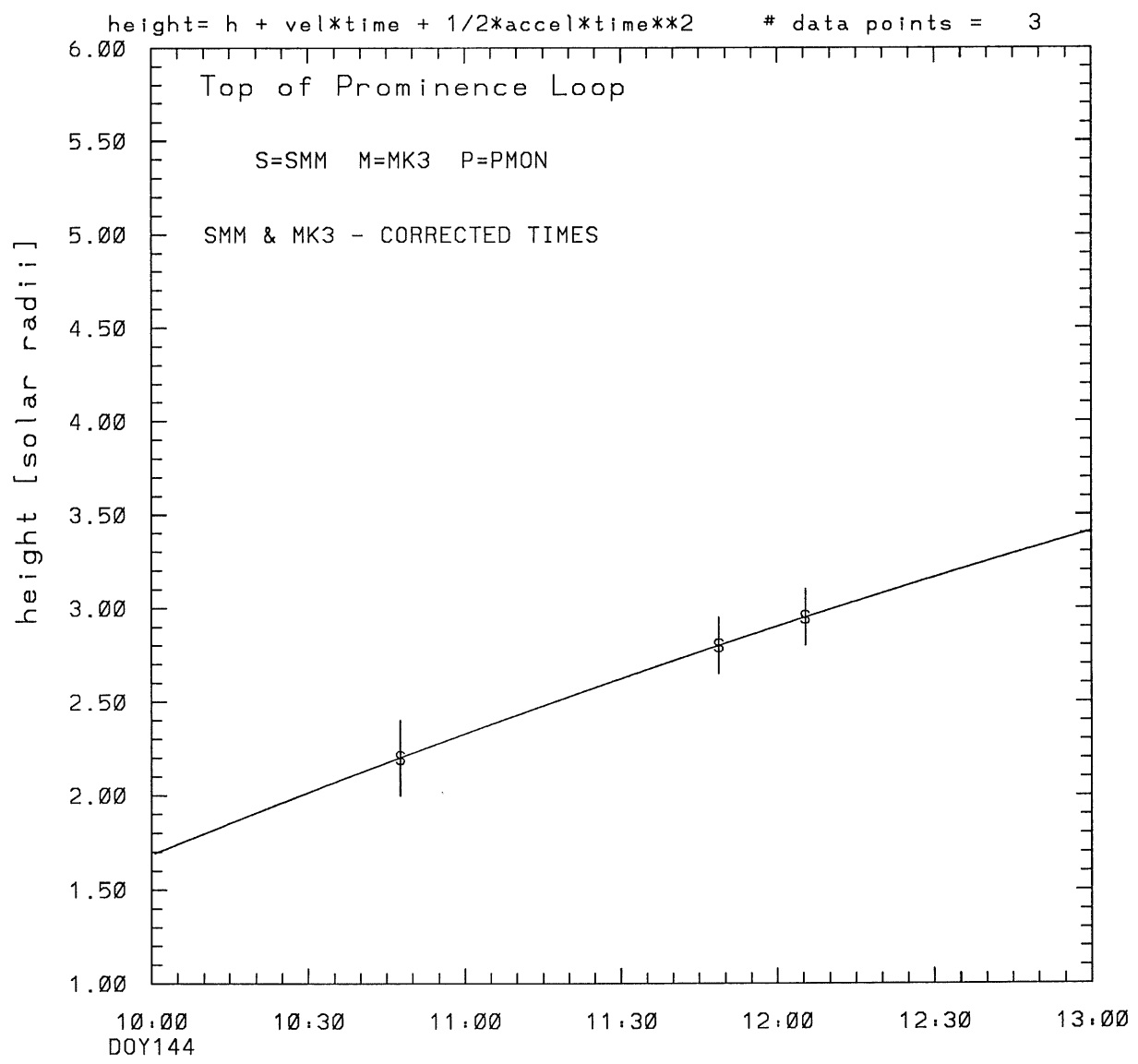
height = h + velocity*time # data points = 3



tstart=DOY144 8:45 +/- 0.5 [min.]
radial velocity= 112. +/- 1. [km/sec]

305

SMM C/P 1987 DOY144 ~~300~~ +/- 0 degrees



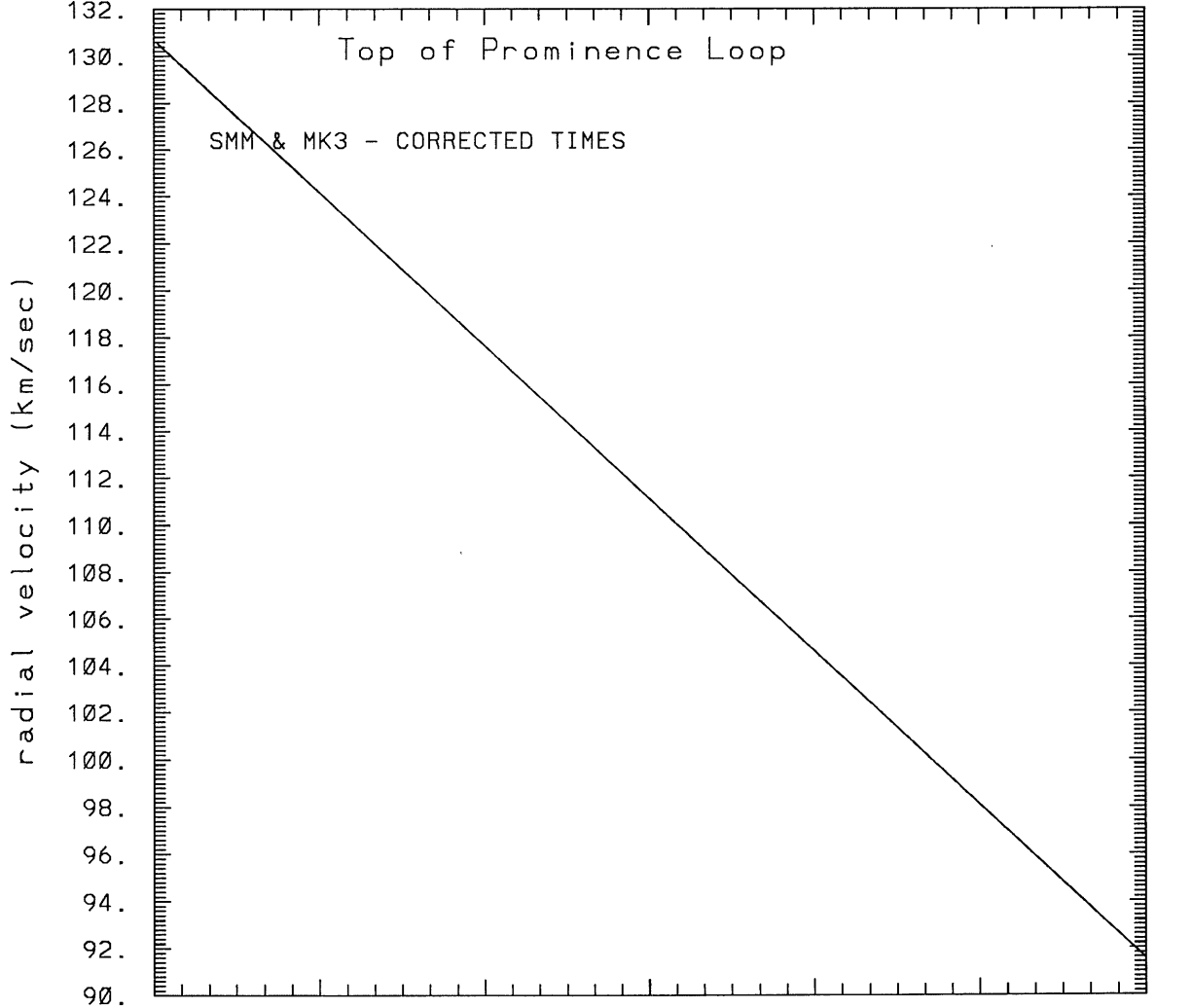
tstart=DOY144 9.4 +/- 0.0 [min.]

radial acceleration = -0.0036 +/- 0.0000 [km/sec**2]

305°

SMM C/P 1987 DOY144 ~~300~~ +/- 0 degrees

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



10:00
DOY144

tstart=DOY144 9: 4 +/- 0.0 [min.]

radial acceleration=-.362E-02 km/sec**2

This is a 1 order run

INPUT:

error in error in
year doy time radii radius angle angle datatype
1987 144 10:47:37 2.20 +/- 0.20 300.0 +/- 0.5 SMM
1987 144 11:48:50 2.80 +/- 0.15 300.0 +/- 0.5 SMM
1987 144 12: 5:22 2.95 +/- 0.15 300.0 +/- 0.5 SMM

Structure being measured:
Top of Prominence Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.766E+02 +/- 0.481E+00$ [minutes]
In more convenient units:
Event began at DOY 144 8:45 +/- 0.481E+00 [minutes]

Origin defined at DOY144 10: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 112. +/- 1. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.174E+01 +/- 0.115E-01$ [solar radii]
 $c(2) = 0.968E-02 +/- 0.108E-03$ [radii/min]
 $c(2) = 0.112E+03 +/- 0.126E+01$ [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 $c(1) = 0.12750E-01$ [radii] see Bevington pg. 114
error in $c(2) = 0.12787E-03$ [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) = 300. +/- 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 10:47 = 0.000E+00 km/sec
The TOTAL velocity at 10:47 = 112. km/sec

The TANGENTIAL velocity at 11:48 = 0.000E+00 km/sec
The TOTAL velocity at 11:48 = 112. km/sec

The TANGENTIAL velocity at 12: 5 = 0.000E+00 km/sec
The TOTAL velocity at 12: 5 = 112. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.40
Standard Deviation in start time measurement = 0.334E+02
Error in time = 0.76551E+00 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.310E-04
Reduced Chi Squared = 0.125E-03
Chi Squared = 0.125E-03
The probability for exceeding chi square = 0.996E+00

The correlation coefficient = 0.100E+01
The probability that no LINEAR correlation exists between the variables = 0.8476E-02
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
1987	144	10:47:37	2.20	+/- 0.20	300.0	+/- 0.5	SMM
1987	144	11:48:50	2.80	+/- 0.15	300.0	+/- 0.5	SMM
1987	144	12: 5:22	2.95	+/- 0.15	300.0	+/- 0.5	SMM

305°

Structure being measured:

Top of Prominence Loop

OUTPUT:

START TIME:

Event began at t = 0 + -0.580E+02 +/- 0.000E+00 [minutes]

In more convenient units:

Event began at DOY 144 9: 4 +/- 0.000E+00 [minutes]

Origin defined at DOY144 10: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = -0.362E-02 +/- 0.165E-06 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

- c(1) = 0.168E+01 +/- 0.268E-05 [solar radii]
- c(2) = 0.113E-01 +/- 0.727E-07 [radii/min]
- c(2) = 0.131E+03 +/- 0.843E-03 [km/sec]
- c(3) = -0.937E-05 +/- 0.426E-09 [radii/min**2]
- c(3) = -0.362E-02 +/- 0.165E-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) = 300. +/- 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 10:47 = 0.000E+00 km/sec

The TOTAL velocity at 10:47 = 120. km/sec

The TANGENTIAL velocity at 11:48 = 0.000E+00 km/sec

The TOTAL velocity at 11:48 = 107. km/sec

The TANGENTIAL velocity at 12: 5 = 0.000E+00 km/sec

The TOTAL velocity at 12: 5 = 103. km/sec

The following info is for estimating goodness of the fit

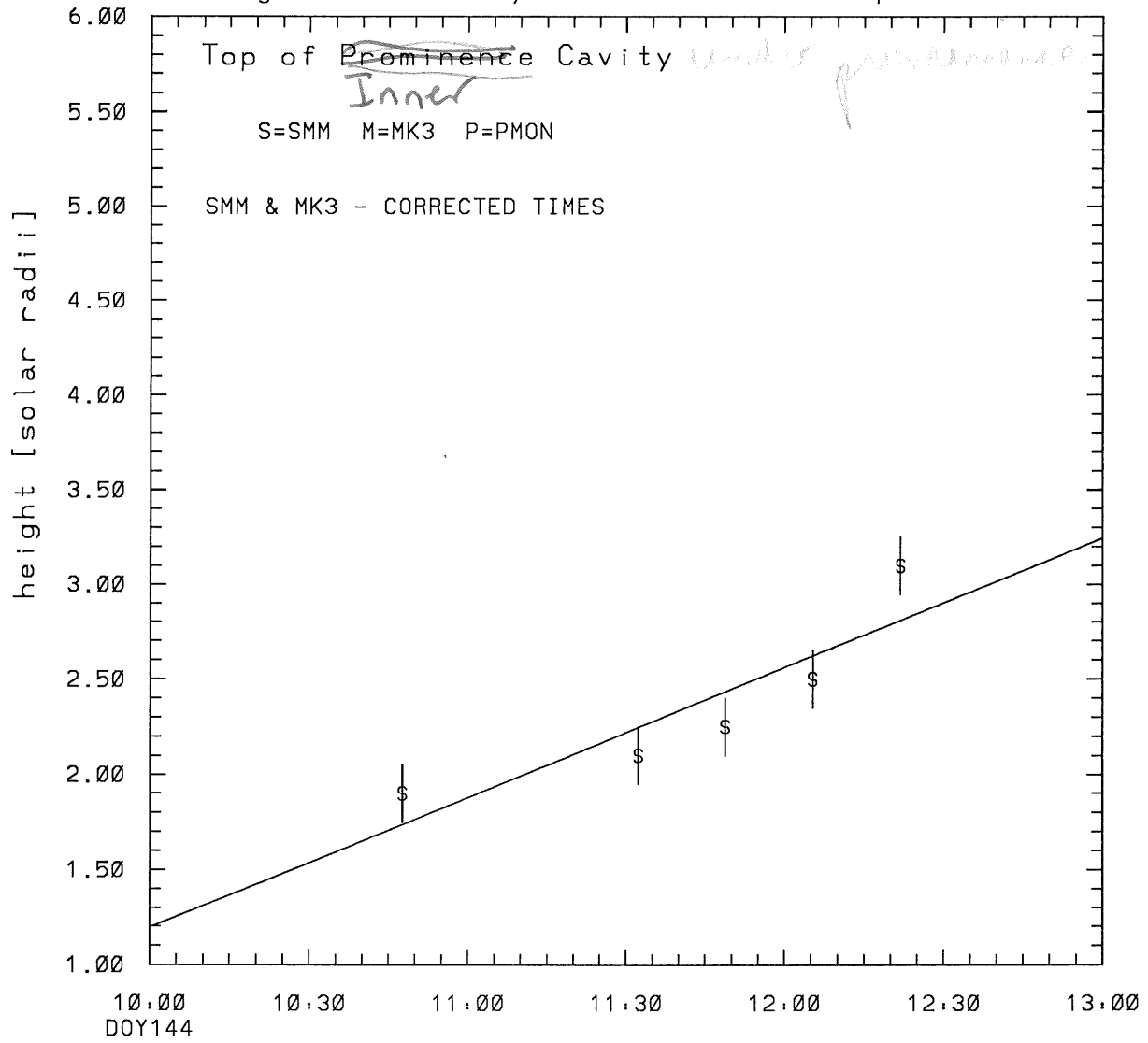
Number data points = number of coefficients. No error analysis is possible.

Correlation coefficient is not computable!

SMM C/P 1987 DOY144 300 +/- 0 degrees

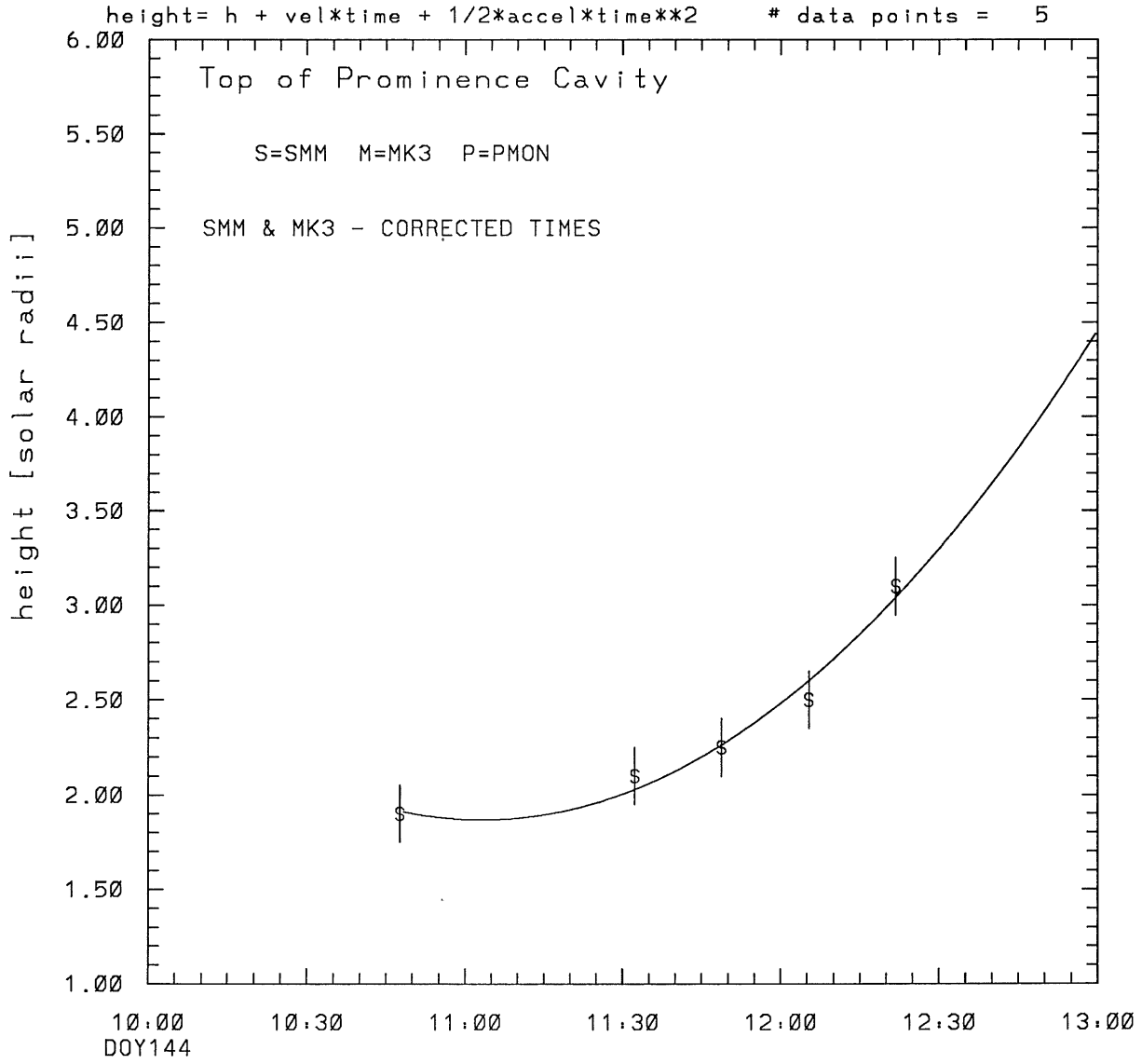
height = h + velocity*time

data points = 5



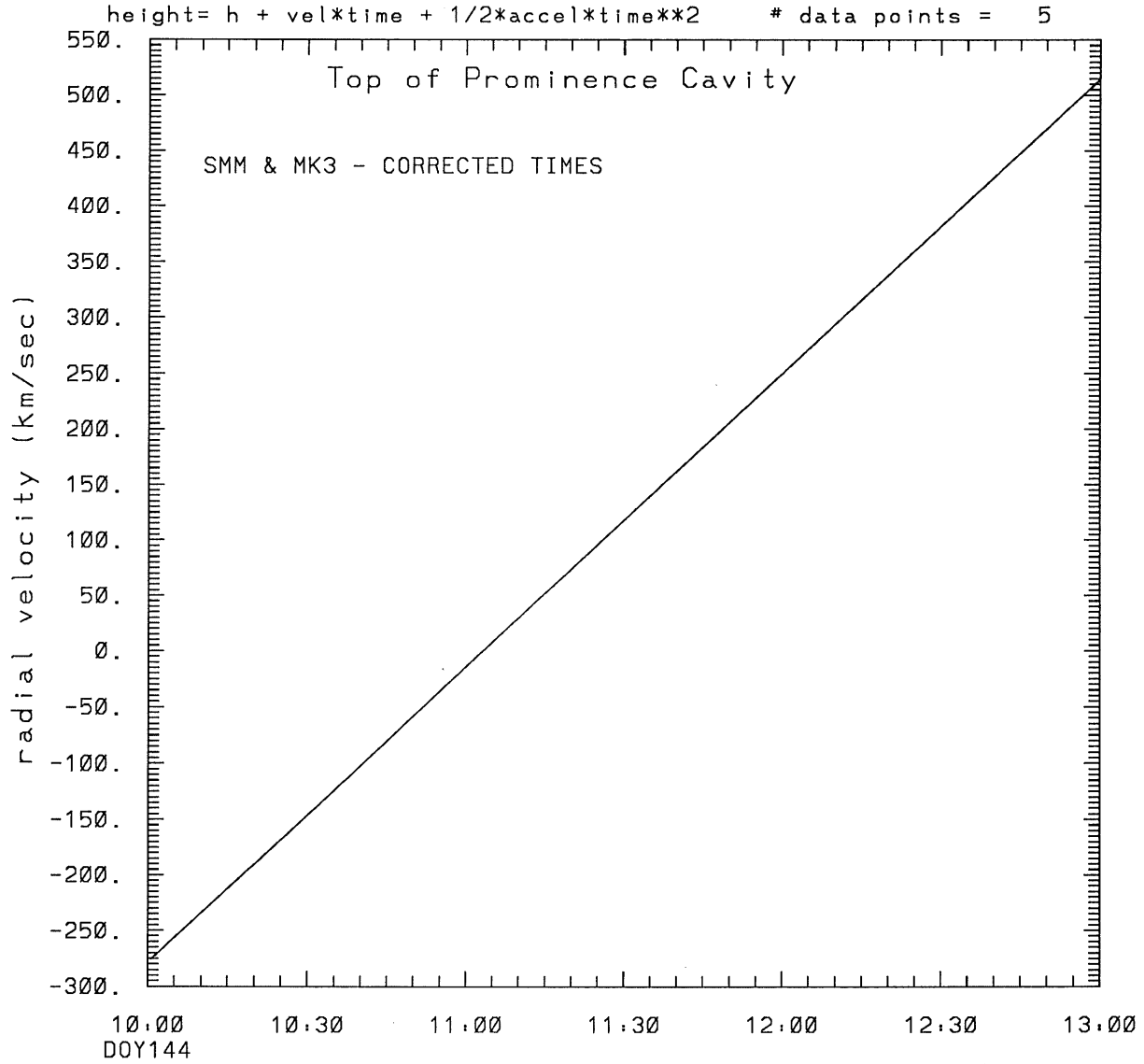
tstart=DOY144 9:43 +/- 3.0 [min.]
radial velocity= 132. +/- 34. [km/sec]

SMM C/P 1987 DOY144 300 +/- 0 degrees



tstart=DOY144 11:3 from derivative=0
Event begins at 1.87 Solar Radii
radial acceleration = 0.0734 +/- 0.0145 [km/sec**2]

SMM C/P 1987 DOY144 300 +/- 0 degrees



tstart=DOY144 11: 3 from derivative=0
Event begins at 1.87 Solar Radii
radial acceleration=0.734E-01 km/sec**2

This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in	angle	angle	error in	datatype
1987	144	10:47:37	1.90	+/- 0.15		300.0	+/- 0.5		SMM
1987	144	11:32:21	2.10	+/- 0.15		300.0	+/- 0.5		SMM
1987	144	11:48:50	2.25	+/- 0.15		300.0	+/- 0.5		SMM
1987	144	12: 5:22	2.50	+/- 0.15		300.0	+/- 0.5		SMM
1987	144	12:21:51	3.10	+/- 0.15		300.0	+/- 1.0		SMM

Structure being measured:

Top of Prominence Cavity

OUTPUT:

START TIME:

Event began at $t = 0 + -0.171E+02 +/- 0.296E+01$ [minutes]

In more convenient units:

Event began at DOY 144 9:43 +/- 0.296E+01 [minutes]

Origin defined at DOY144 10: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 132. +/- 34. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.120E+01 +/- 0.318E+00 [solar radii]
c(2) = 0.114E-01 +/- 0.294E-02 [radii/min]
c(2) = 0.132E+03 +/- 0.341E+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)= 0.36745E+00 [radii] see Bevington pg. 114

error in c(2)= 0.33977E-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) = 300. +/- 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 10:47 = 0.000E+00 km/sec
The TOTAL velocity at 10:47 = 132. km/sec

The TANGENTIAL velocity at 11:32 = 0.000E+00 km/sec
The TOTAL velocity at 11:32 = 132. km/sec

The TANGENTIAL velocity at 11:48 = 0.000E+00 km/sec
The TOTAL velocity at 11:48 = 132. km/sec

The TANGENTIAL velocity at 12: 5 = 0.000E+00 km/sec
The TOTAL velocity at 12: 5 = 132. km/sec

The TANGENTIAL velocity at 12:21 = 0.000E+00 km/sec
The TOTAL velocity at 12:21 = 132. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.46
Standard Deviation in start time measurement = 0.323E+02
Error in time = 0.37363E+02 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.452E-01
Reduced Chi Squared = 0.217E+00
Chi Squared = 0.652E+00
The probability for exceeding chi square = 0.987E+00

The correlation coefficient = 0.888E+00
The probability that no LINEAR correlation exists between the variables = 0.4404E-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
1987	144	10:47:37	1.90	+/- 0.15	300.0	+/- 0.5	SMM
1987	144	11:32:21	2.10	+/- 0.15	300.0	+/- 0.5	SMM
1987	144	11:48:50	2.25	+/- 0.15	300.0	+/- 0.5	SMM
1987	144	12: 5:22	2.50	+/- 0.15	300.0	+/- 0.5	SMM
1987	144	12:21:51	3.10	+/- 0.15	300.0	+/- 1.0	SMM

Structure being measured:
Top of Prominence Cavity

OUTPUT:

START TIME:

tstart=DOY144 11: 3 from derivative = 0
Event begins at 1.87 Solar Radii
Origin defined at DOY144 10: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.734E-01 +/- 0.145E-01 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.263E+01 +/- 0.308E+00 [solar radii]
c(2) = -0.240E-01 +/- 0.709E-02 [radii/min]
c(2) = -0.278E+03 +/- 0.823E+02 [km/sec]
c(3) = 0.190E-03 +/- 0.376E-04 [radii/min**2]
c(3) = 0.734E-01 +/- 0.145E-01 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.37668E+00 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.77454E-01 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.86847E-02 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.21995E-02 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.46013E-04 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.13538E-04 [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) = 300. +/- 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 10:47 = 0.000E+00 km/sec

The TOTAL velocity at 10:47 = -69. km/sec

The TANGENTIAL velocity at 11:32 = 0.000E+00 km/sec

The TOTAL velocity at 11:32 = 128. km/sec

The TANGENTIAL velocity at 11:48 = 0.000E+00 km/sec

The TOTAL velocity at 11:48 = 201. km/sec

The TANGENTIAL velocity at 12: 5 = 0.000E+00 km/sec

The TOTAL velocity at 12: 5 = 274. km/sec

The TANGENTIAL velocity at 12:21 = 0.000E+00 km/sec

The TOTAL velocity at 12:21 = 346. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.46

Standard Deviation in start time measurement = 0.323E+02

Value of reduced Chi Squared returned from nllst2 = 0.635E-02

Reduced Chi Squared = 0.344E-01

Chi Squared = 0.688E-01

The probability for exceeding chi square = 0.994E+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 = 0.8883E+00

The correlation between the data and the time**2 term = 0.9450E+00

The correlation between the data and the complete equation of motion = 0.9778E+00

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