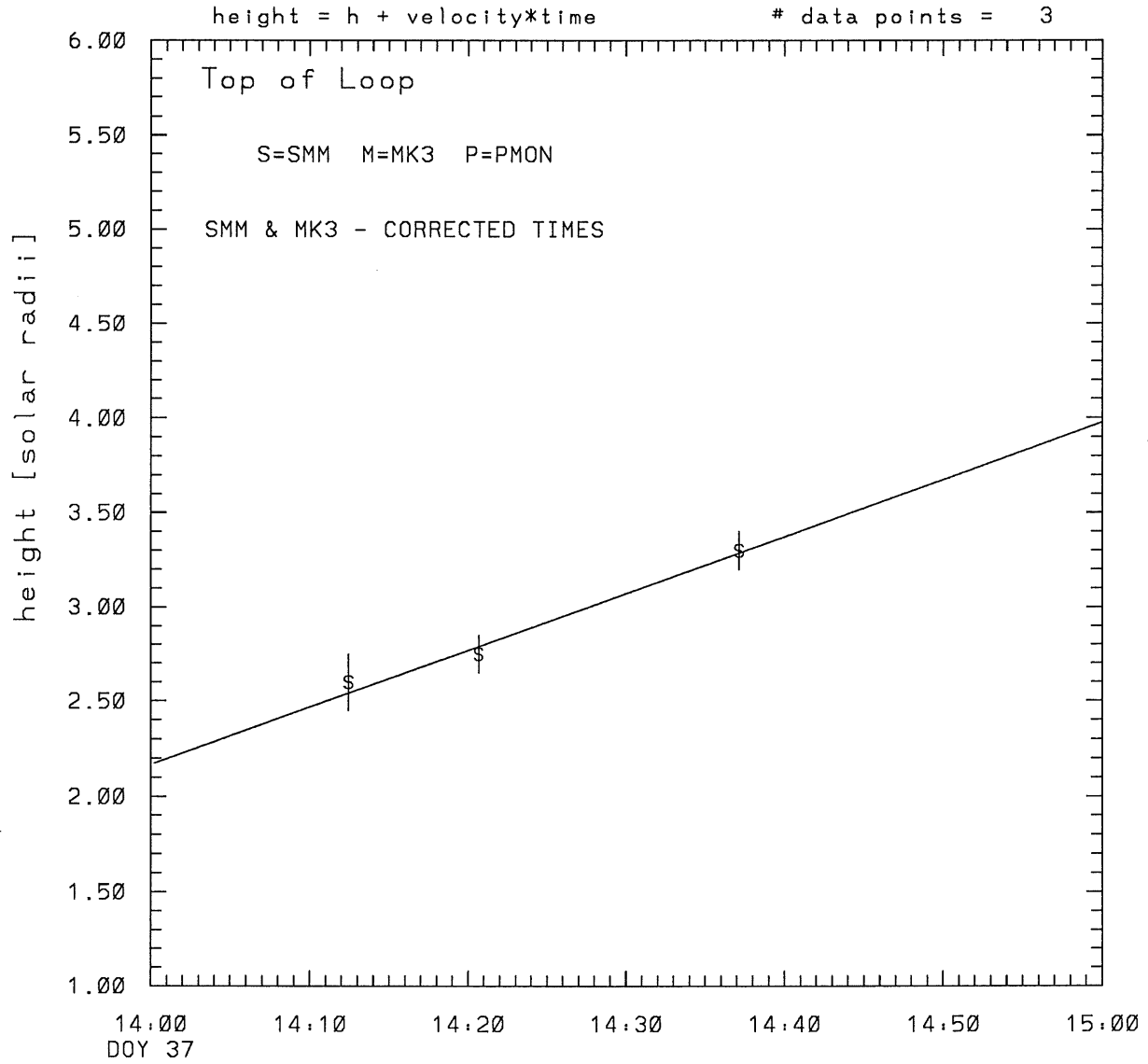
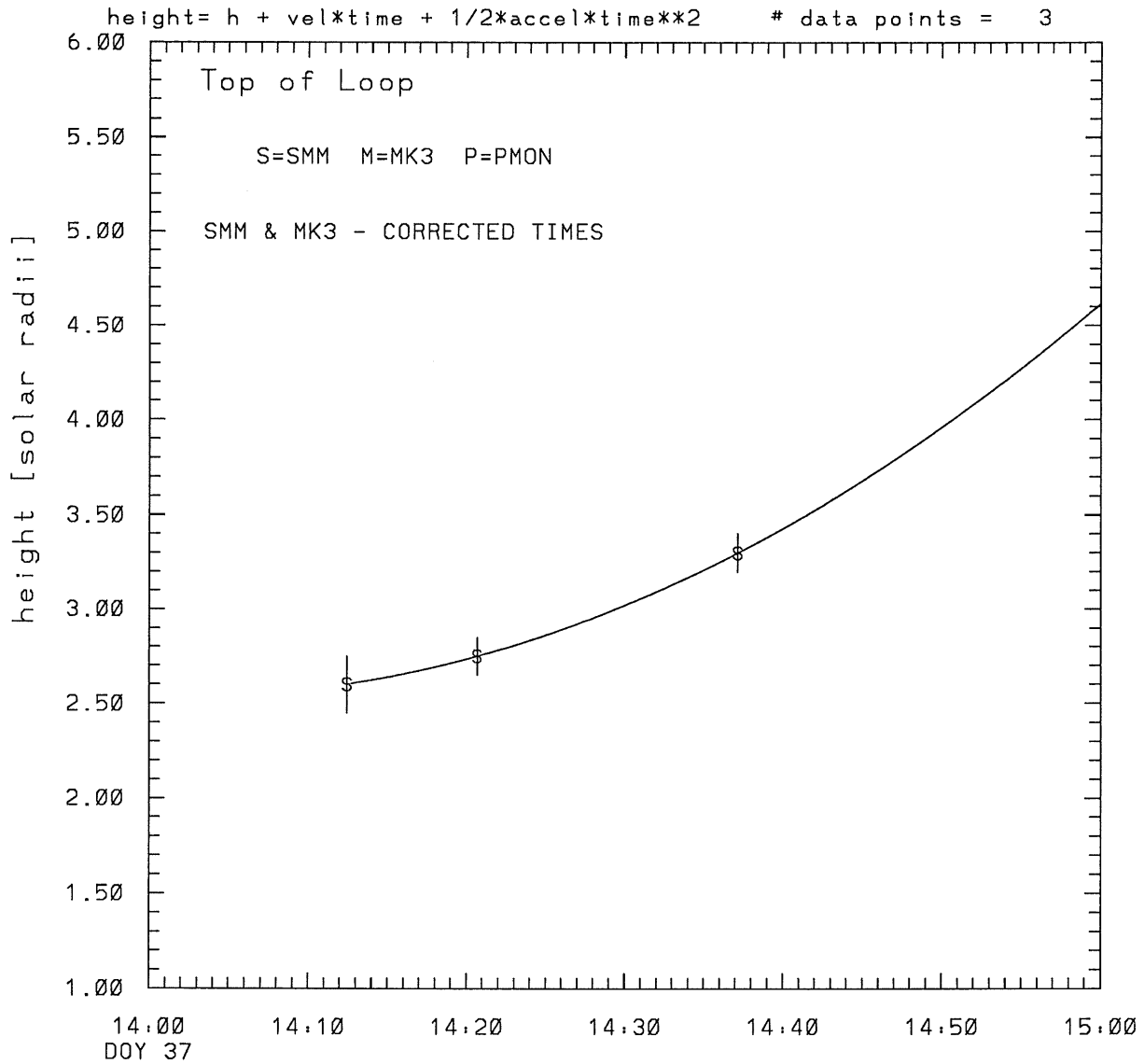


SMM C/P 1988 DOY 37 155 +/- 0 degrees



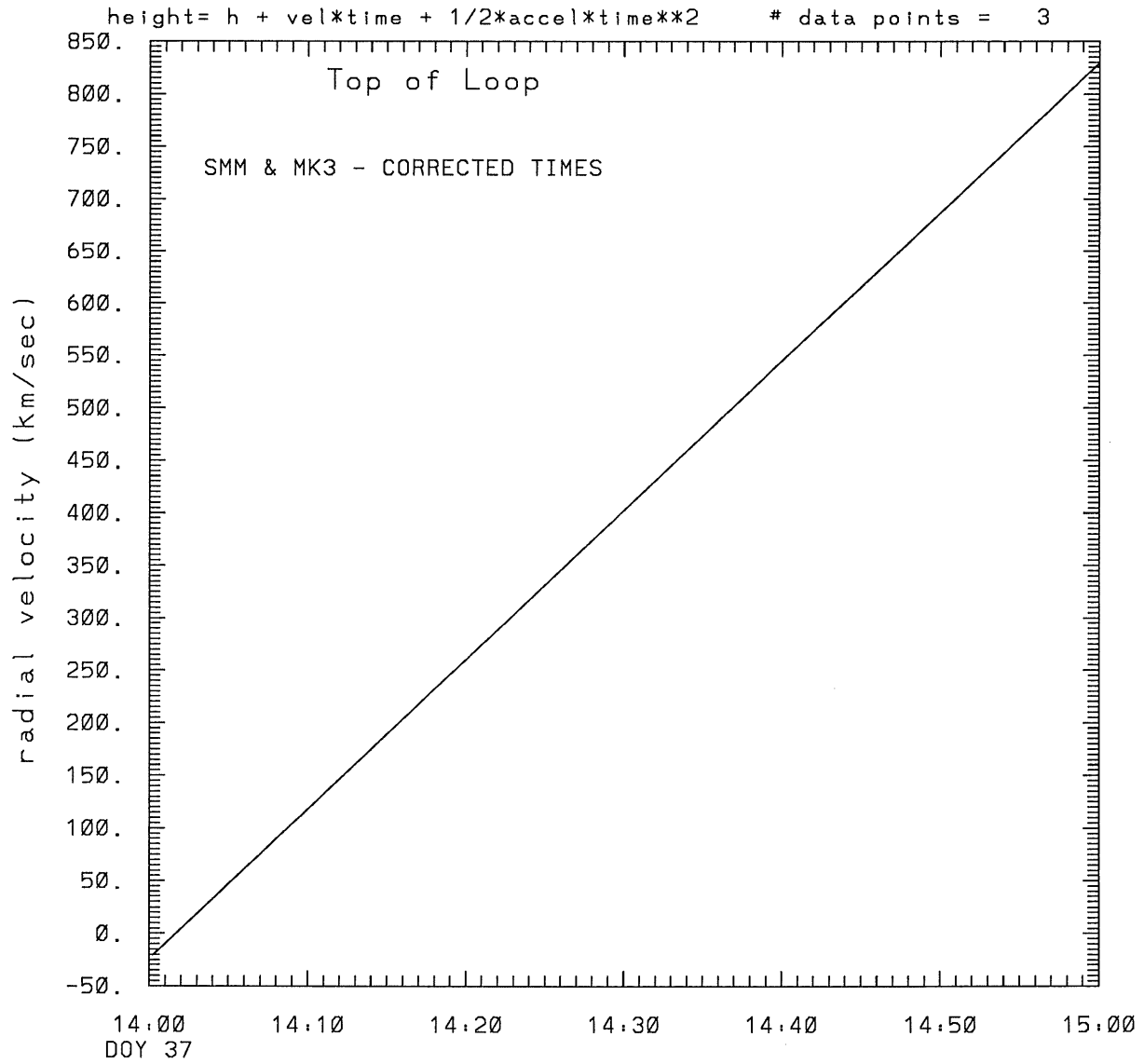
tstart=DOY 37 13:23 +/- 2.6 [min.]
radial velocity= 350. +/- 31. [km/sec]

SMM C/P 1988 DOY 37 155 +/- 0 degrees



tstart=DOY 37 14: 1 from derivative=0
Event begins at 2.53 Solar Radii
radial acceleration = 0.2370 +/- 0.0000 [km/sec**2]

SMM C/P 1988 DOY 37 155 +/- 0 degrees



tstart=DOY 37 14: 1 from derivative=0
Event begins at 2.53 Solar Radii
radial acceleration=0.237E+00 km/sec**2

This is a 1 order run

INPUT:

year	day	time	radii	error in radius	angle	error in angle	datatype
1988	37	14:12:26	2.60	+/- 0.15	155.0	+/- 0.5	SMM
1988	37	14:20:40	2.75	+/- 0.10	155.0	+/- 0.5	SMM
1988	37	14:37: 9	3.30	+/- 0.10	155.0	+/- 1.0	SMM

Structure being measured:
Top of Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.386E+02 +/- 0.259E+01$ [minutes]
In more convenient units:
Event began at DOY 37 13:23 +/- 0.259E+01 [minutes]

Origin defined at DOY 37 14: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 350. +/- 31. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.217E+01 +/- 0.732E-01$ [solar radii]
 $c(2) = 0.302E-01 +/- 0.264E-02$ [radii/min]
 $c(2) = 0.350E+03 +/- 0.307E+02$ [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 $c(1) = 0.10377E+00$ [radii] see Bevington pg. 114
error in $c(2) = 0.40581E-02$ [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) = 155. +/- 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 14:12 = 0. km/sec

The TOTAL velocity at 14:12 = 350. km/sec

The TANGENTIAL velocity at 14:20 = 0. km/sec

The TOTAL velocity at 14:20 = 350. km/sec

The TANGENTIAL velocity at 14:37 = 0. km/sec

The TOTAL velocity at 14:37 = 350. km/sec

The following info is for estimating goodness of the fit

Fit is ok [icr=1]

Standard Deviation in the height = 0.37

Standard Deviation in start time measurement = 0.103E+02

Error in time = 0.23932E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.201E-02

Reduced Chi Squared = 0.711E-02

Chi Squared = 0.711E-02

The probability for exceeding chi square = 0.964E+00

The correlation coefficient = 0.992E+00

The probability that no LINEAR correlation exists between the variables = 0.8168E-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
1988	37	14:12:26	2.60	+/- 0.15	155.0	+/- 0.5	SMM
1988	37	14:20:40	2.75	+/- 0.10	155.0	+/- 0.5	SMM
1988	37	14:37: 9	3.30	+/- 0.10	155.0	+/- 1.0	SMM

Structure being measured:
Top of Loop

OUTPUT:

START TIME:

tstart=DOY 37 14: 1 from derivative = 0
Event begins at 2.53 Solar Radii
Origin defined at DOY 37 14: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.237E+00 +/- 0.446E-06 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

- c(1) = 0.253E+01 +/- 0.714E-06 [solar radii]
- c(2) = -0.207E-02 +/- 0.610E-07 [radii/min]
- c(2) = -0.240E+02 +/- 0.708E-03 [km/sec]
- c(3) = 0.613E-03 +/- 0.115E-08 [radii/min**2]
- c(3) = 0.237E+00 +/- 0.446E-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) = 155. +/- 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 14:12 = 0. km/sec

The TOTAL velocity at 14:12 = 153. km/sec

The TANGENTIAL velocity at 14:20 = 0. km/sec

The TOTAL velocity at 14:20 = 270. km/sec

The TANGENTIAL velocity at 14:37 = 0. km/sec

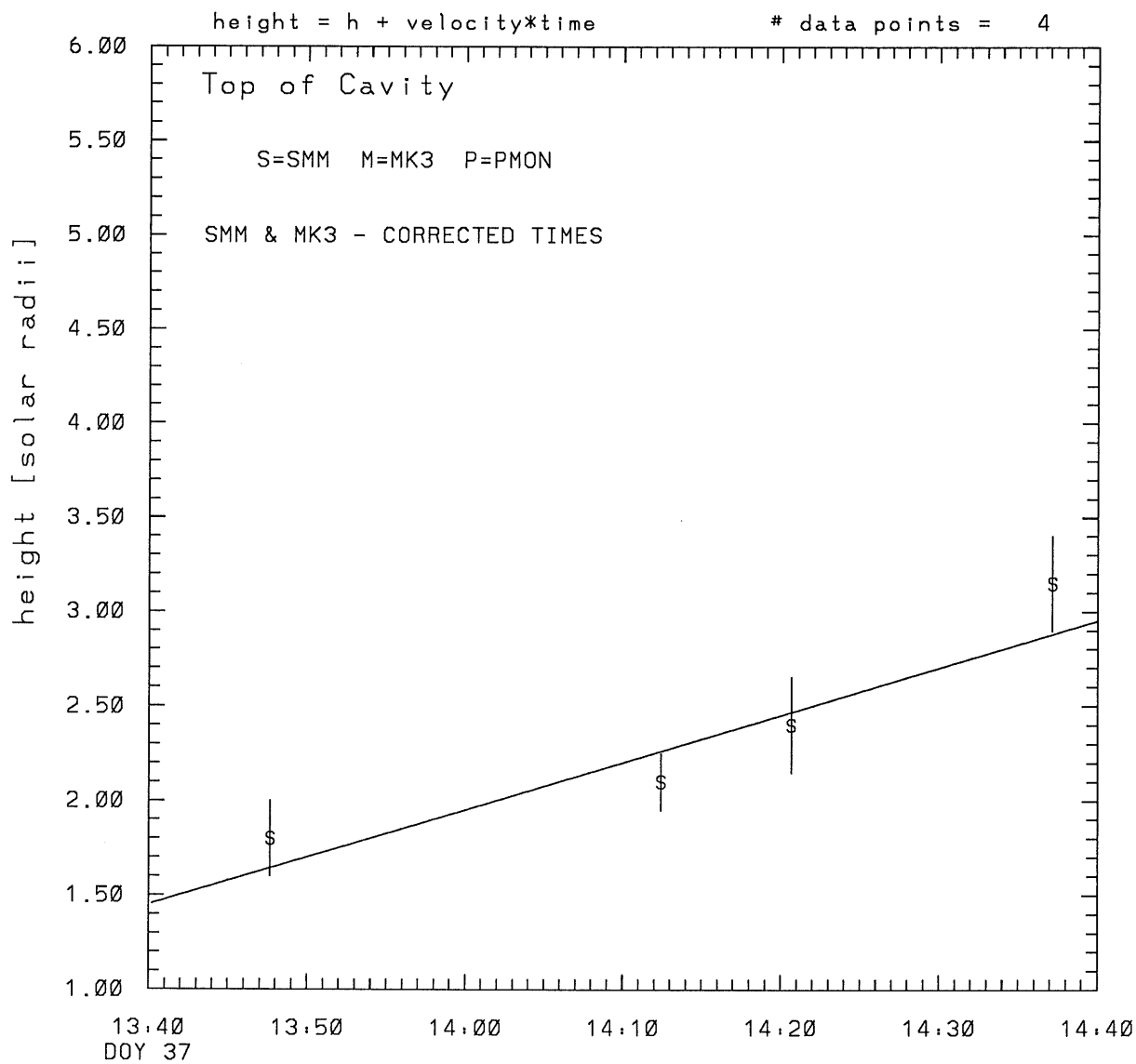
The TOTAL velocity at 14:37 = 504. km/sec

The following info is for estimating goodness of the fit

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

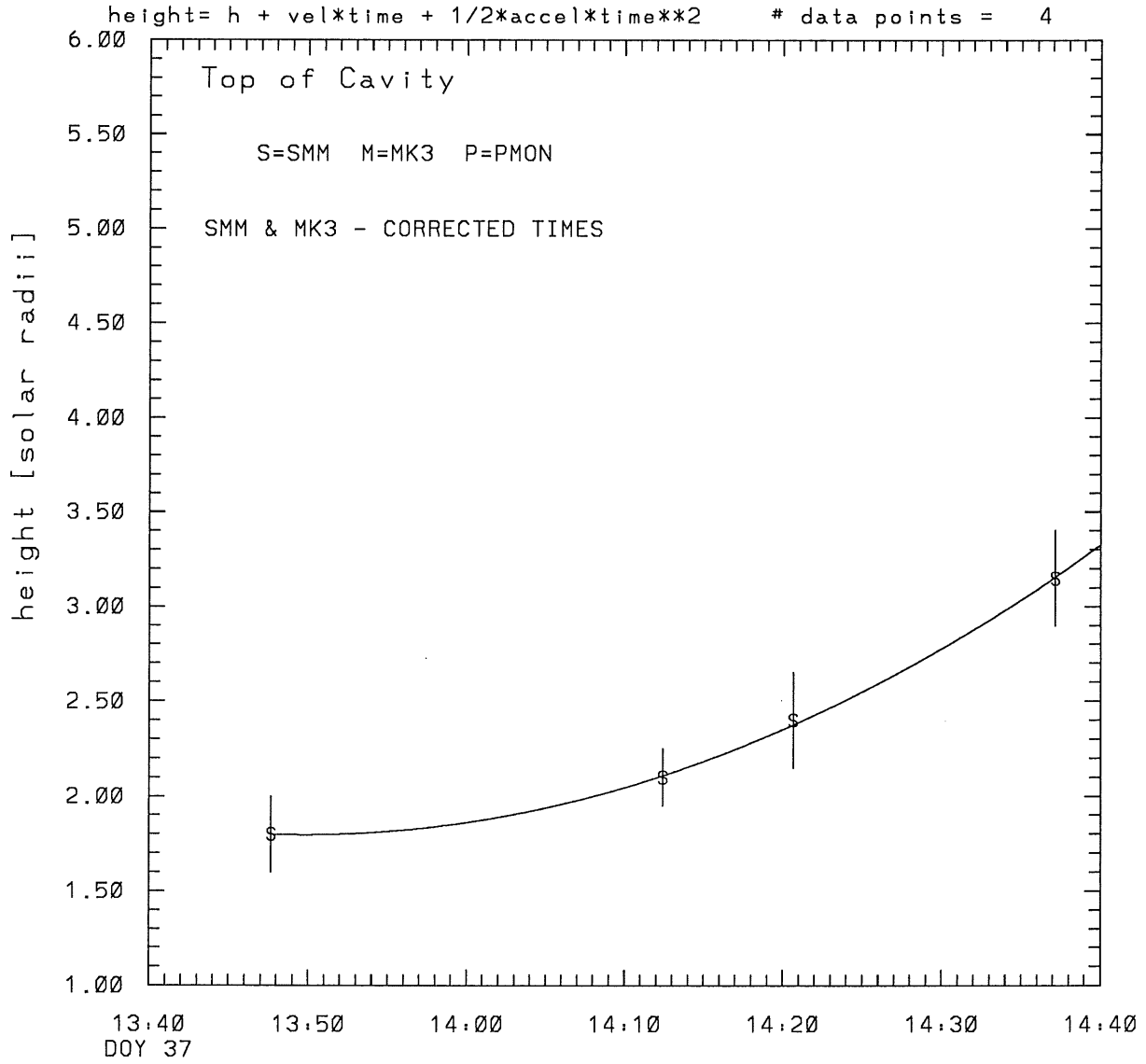
Correlation coefficient is not computable!

SMM C/P 1988 DOY 37 155 +/- 0 degrees



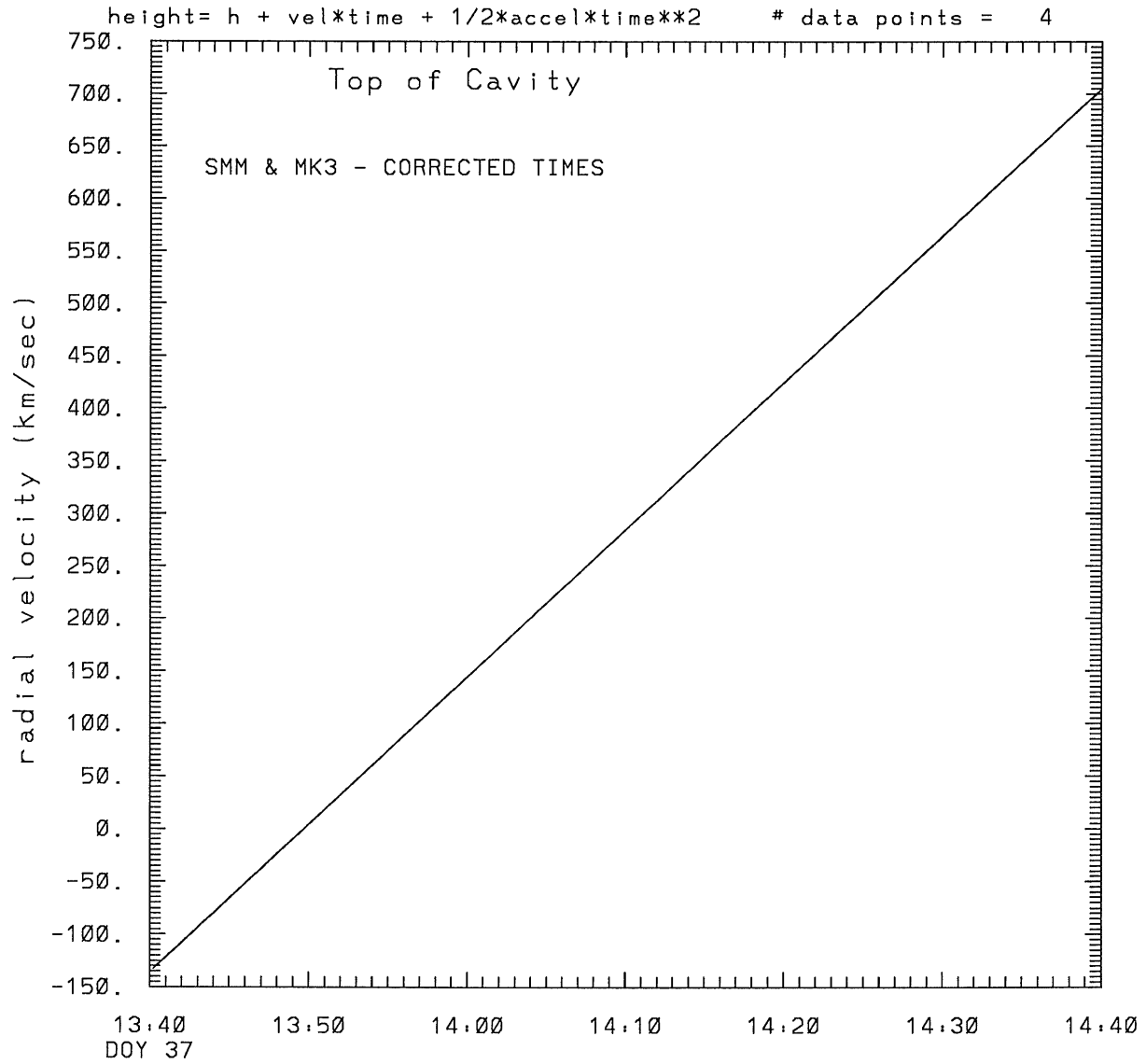
tstart=DOY 37 13:24 +/- 2.9 [min.]
radial velocity= 290. +/- 72. [km/sec]

SMM C/P 1988 DOY 37 155 +/- 0 degrees



tstart=DOY 37 13:49 from derivative=0
Event begins at 1.80 Solar Radii
radial acceleration = 0.2334 +/- 0.0110 [km/sec**2]

SMM C/P 1988 DOY 37 155 +/- 0 degrees



tstart=DOY 37 13:49 from derivative=0
Event begins at 1.80 Solar Radii
radial acceleration=0.233E+00 km/sec**2

This is a 1 order run

INPUT:

year	doy	time	radii	error in radius	angle	error in angle	datatype
1988	37	13:47:40	1.80	+/- 0.20	155.0	+/- 0.5	SMM
1988	37	14:12:26	2.10	+/- 0.15	155.0	+/- 0.5	SMM
1988	37	14:20:40	2.40	+/- 0.25	155.0	+/- 0.5	SMM
1988	37	14:37:9	3.15	+/- 0.25	155.0	+/- 1.0	SMM

Structure being measured:

Top of Cavity

OUTPUT:

START TIME:

Event began at $t = 0 + -0.180E+02 +/- 0.291E+01$ [minutes]

In more convenient units:

Event began at DOY 37 13:24 +/- 0.291E+01 [minutes]

Origin defined at DOY 37 13:40

RADIAL INFORMATION:

RADIAL VELOCITY = 290. +/- 72. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.145E+01 +/- 0.220E+00$ [solar radii]
 $c(2) = 0.250E-01 +/- 0.621E-02$ [radii/min]
 $c(2) = 0.290E+03 +/- 0.721E+02$ [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 $c(1) = 0.27563E+00$ [radii] see Bevington pg. 114

error in $c(2) = 0.70986E-02$ [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) = 155. +/- 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 13:47 = 0. km/sec

The TOTAL velocity at 13:47 = 290. km/sec

The TANGENTIAL velocity at 14:12 = 0. km/sec

The TOTAL velocity at 14:12 = 290. km/sec

The TANGENTIAL velocity at 14:20 = 0. km/sec

The TOTAL velocity at 14:20 = 290. km/sec

The TANGENTIAL velocity at 14:37 = 0. km/sec

The TOTAL velocity at 14:37 = 290. km/sec

The following info is for estimating goodness of the fit

Fit is ok [icr=1]

Standard Deviation in the height = 0.58

Standard Deviation in start time measurement = 0.179E+02

Error in time = 0.14329E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.398E-01

Reduced Chi Squared = 0.191E+00

Chi Squared = 0.382E+00

The probability for exceeding chi square = 0.961E+00

The correlation coefficient = 0.941E+00

The probability that no LINEAR correlation exists between the variables = 0.5944E-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	datatype
1988	37	13:47:40	1.80	+/- 0.20	155.0 +/- 0.5	SMM
1988	37	14:12:26	2.10	+/- 0.15	155.0 +/- 0.5	SMM
1988	37	14:20:40	2.40	+/- 0.25	155.0 +/- 0.5	SMM
1988	37	14:37: 9	3.15	+/- 0.25	155.0 +/- 1.0	SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

tstart=DOY 37 13:49 from derivative = 0
Event begins at 1.80 Solar Radii
Origin defined at DOY 37 13:40

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.233E+00 +/- 0.110E-01 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.185E+01 +/- 0.261E-01 [solar radii]
c(2) = -0.117E-01 +/- 0.181E-02 [radii/min]
c(2) = -0.136E+03 +/- 0.209E+02 [km/sec]
c(3) = 0.604E-03 +/- 0.285E-04 [radii/min**2]
c(3) = 0.233E+00 +/- 0.110E-01 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.42756E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.62334E-02 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.30367E-02 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.84646E-03 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.46580E-04 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.13489E-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) = 155. +/- 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 13:47 = 0. km/sec

The TOTAL velocity at 13:47 = -28. km/sec

The TANGENTIAL velocity at 14:12 = 0. km/sec

The TOTAL velocity at 14:12 = 319. km/sec

The TANGENTIAL velocity at 14:20 = 0. km/sec

The TOTAL velocity at 14:20 = 434. km/sec

The TANGENTIAL velocity at 14:37 = 0. km/sec

The TOTAL velocity at 14:37 = 665. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.58

Standard Deviation in start time measurement = 0.179E+02

Value of reduced Chi Squared returned from nllst2 = 0.264E-03

Reduced Chi Squared = 0.213E-02

Chi Squared = 0.213E-02

The probability for exceeding chi square = 0.987E+00

For a second order fit 3 correlation coefficients are given:

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

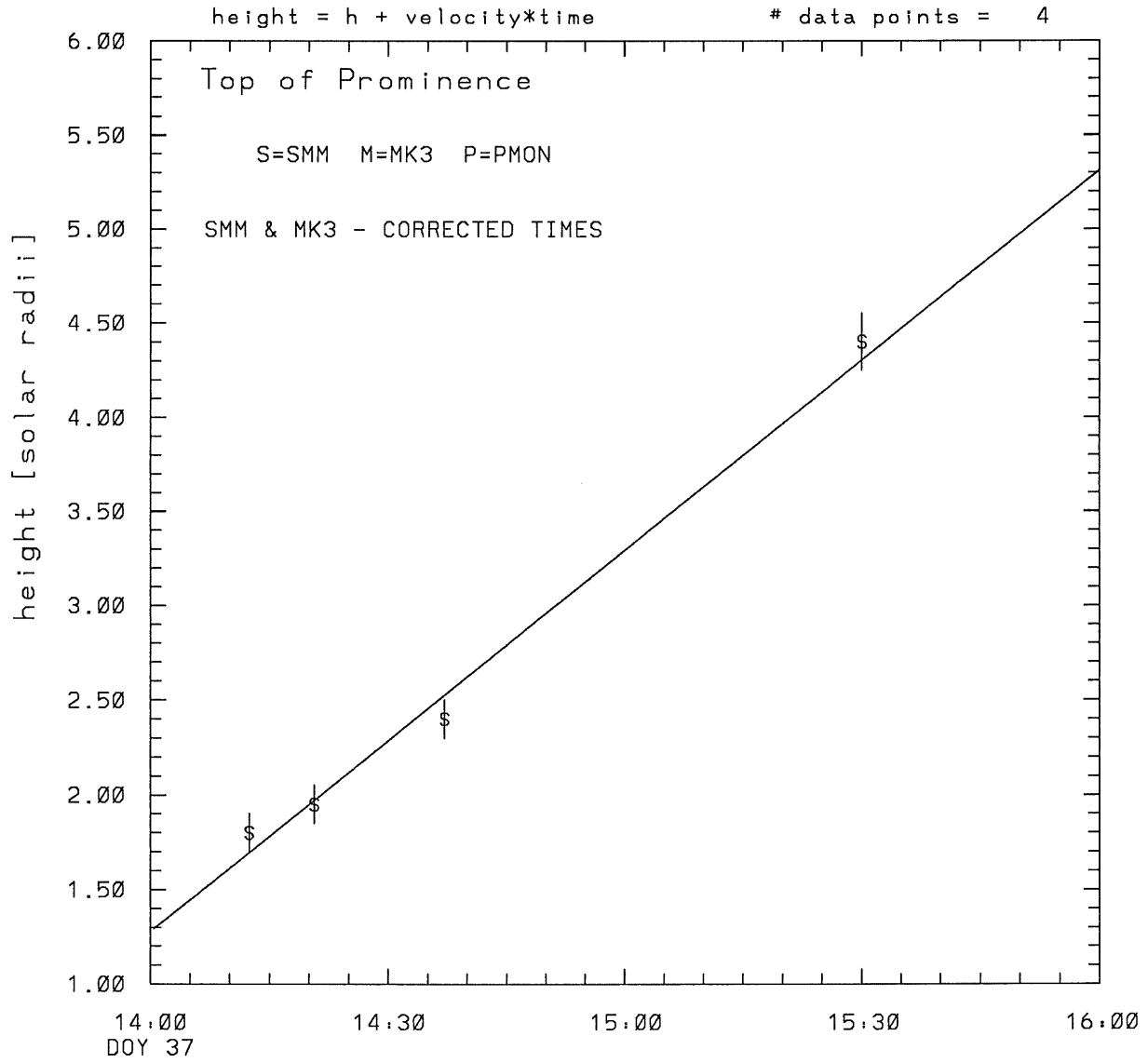
The correlation between the data and the term linear in time = 0.8392E+00

The correlation between the data and the time**2 term = 0.8939E+00

0The correlation between the data and the complete equation of motion = 0.9974E+00

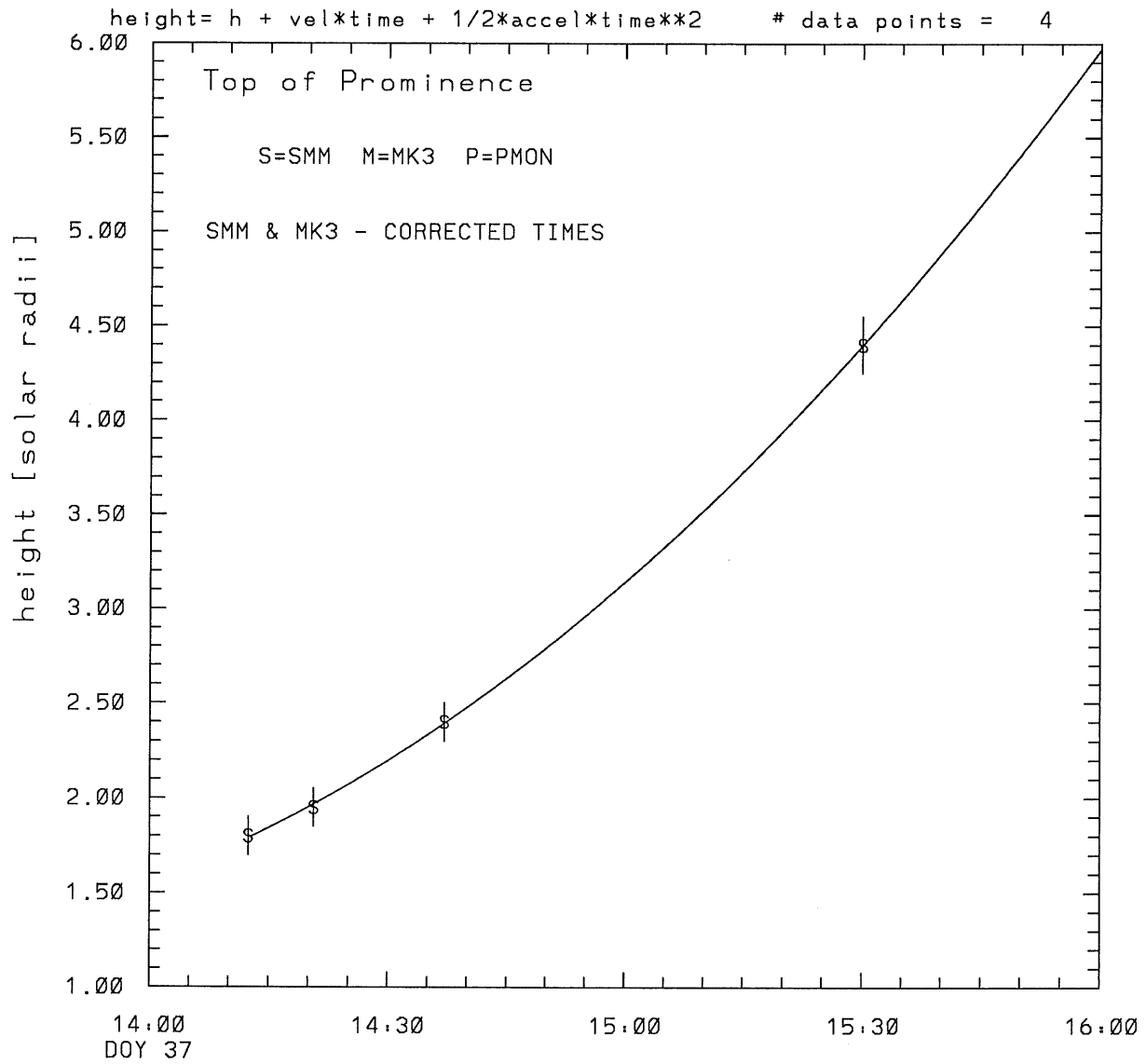
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

SMM C/P 1988 DOY 37 155 +/- 0 degrees



tstart=DOY 37 13:52 +/- 0.3 [min.]
radial velocity= 390. +/- 26. [km/sec]

SMM C/P 1988 DOY 37 155 +/- 0 degrees

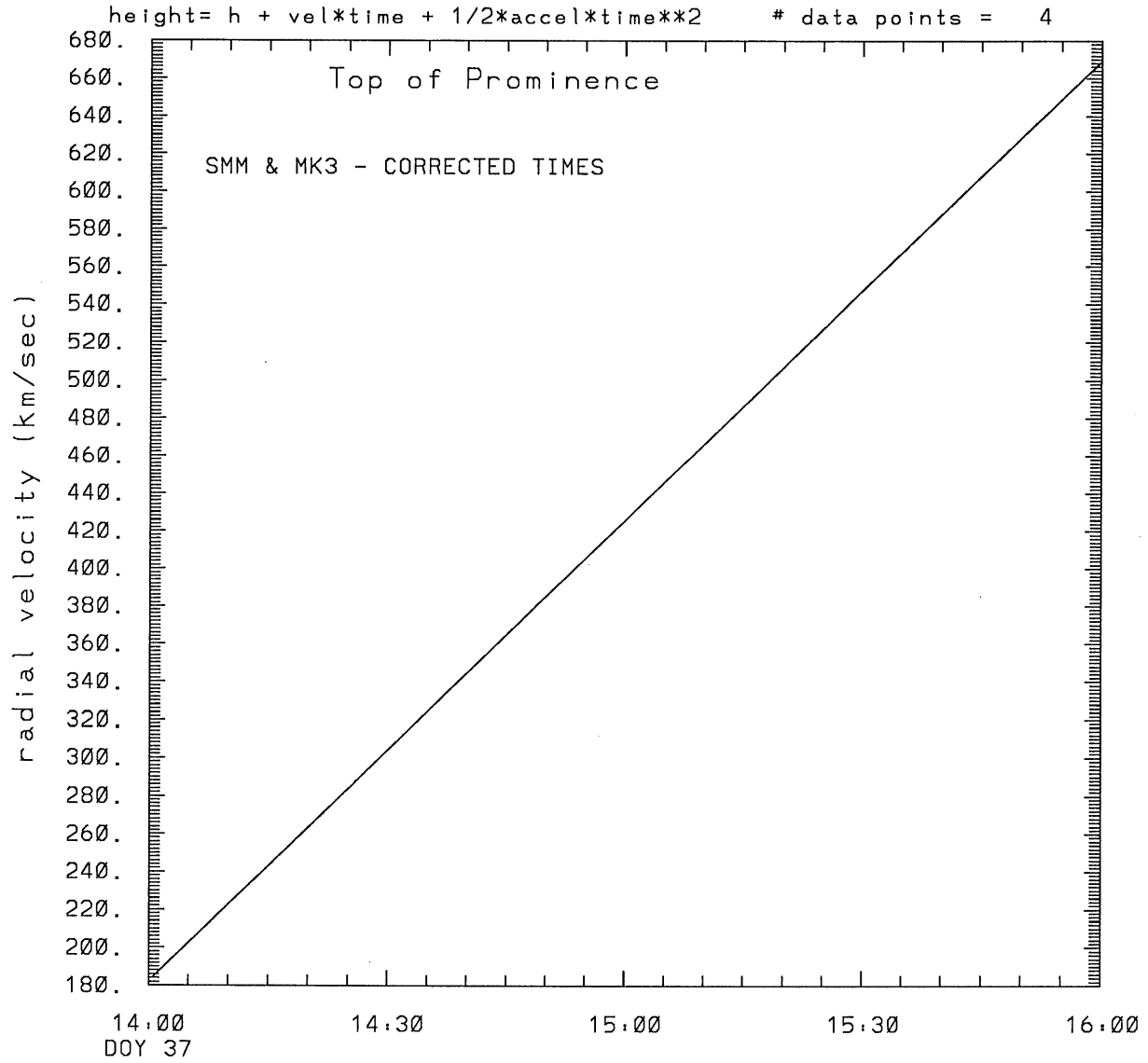


tstart=DOY 37 13:16 from derivative=0

Event begins at 1.21 Solar Radii

radial acceleration = 0.0676 ± 0.0057 [km/sec**2]

SMM C/P 1988 DOY 37 155 +/- 0 degrees



tstart=DOY 37 13:16 from derivative=0
Event begins at 1.21 Solar Radii
radial acceleration=0.676E-01 km/sec**2

This is a 1 order run

INPUT:

year	day	time	radii	error in radius	angle	error in angle	datatype
1988	37	14:12:26	1.80	+/- 0.10	155.0	+/- 0.5	SMM
1988	37	14:20:40	1.95	+/- 0.10	155.0	+/- 0.5	SMM
1988	37	14:37:9	2.40	+/- 0.10	155.0	+/- 1.0	SMM
1988	37	15:30:4	4.40	+/- 0.15	155.0	+/- 0.5	SMM

Structure being measured:
Top of Prominence

OUTPUT:

START TIME:

Event began at $t = 0 + -0.824E+01 +/- 0.297E+00$ [minutes]
In more convenient units:
Event began at DOY 37 13:52 +/- 0.297E+00 [minutes]

Origin defined at DOY 37 14: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 390. +/- 26. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

- c(1) = 0.128E+01 +/- 0.911E-01 [solar radii]
- c(2) = 0.336E-01 +/- 0.227E-02 [radii/min]
- c(2) = 0.390E+03 +/- 0.263E+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)= 0.11212E+00 [radii] see Bevington pg. 114
- error in c(2)= 0.22342E-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) = 155. +/- 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 14:12 = 0. km/sec

The TOTAL velocity at 14:12 = 390. km/sec

The TANGENTIAL velocity at 14:20 = 0. km/sec

The TOTAL velocity at 14:20 = 390. km/sec

The TANGENTIAL velocity at 14:37 = 0. km/sec

The TOTAL velocity at 14:37 = 390. km/sec

The TANGENTIAL velocity at 15:30 = 0. km/sec

The TOTAL velocity at 15:30 = 390. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 1.20

Standard Deviation in start time measurement = 0.302E+02

Error in time = 0.56770E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.121E-01

Reduced Chi Squared = 0.479E-01

Chi Squared = 0.958E-01

The probability for exceeding chi square = 0.988E+00

The correlation coefficient = 0.996E+00

The probability that no LINEAR correlation exists between the variables = 0.3905E-02

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	datatype
1988	37	14:12:26	1.80	+/- 0.10	155.0 +/- 0.5	SMM
1988	37	14:20:40	1.95	+/- 0.10	155.0 +/- 0.5	SMM
1988	37	14:37: 9	2.40	+/- 0.10	155.0 +/- 1.0	SMM
1988	37	15:30: 4	4.40	+/- 0.15	155.0 +/- 0.5	SMM

Structure being measured:
Top of Prominence

OUTPUT:

START TIME:

tstart=DOY 37 13:16 from derivative = 0
Event begins at 1.21 Solar Radii
Origin defined at DOY 37 14: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.676E-01 +/- 0.573E-02 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.157E+01 +/- 0.280E-01 [solar radii]
c(2) = 0.157E-01 +/- 0.155E-02 [radii/min]
c(2) = 0.182E+03 +/- 0.180E+02 [km/sec]
c(3) = 0.175E-03 +/- 0.148E-04 [radii/min**2]
c(3) = 0.676E-01 +/- 0.573E-02 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.39490E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.18116E-01 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.21791E-02 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.87795E-03 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.20179E-04 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.76983E-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) = 155. +/- 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 14:12 = 0. km/sec
The TOTAL velocity at 14:12 = 233. km/sec

The TANGENTIAL velocity at 14:20 = 0. km/sec
The TOTAL velocity at 14:20 = 266. km/sec

The TANGENTIAL velocity at 14:37 = 0. km/sec
The TOTAL velocity at 14:37 = 333. km/sec

The TANGENTIAL velocity at 15:30 = 0. km/sec
The TOTAL velocity at 15:30 = 548. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 1.20
Standard Deviation in start time measurement = 0.302E+02
Value of reduced Chi Squared returned from nllst2 = 0.258E-03
Reduced Chi Squared = 0.846E-03
Chi Squared = 0.846E-03
The probability for exceeding chi square = 0.987E+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 = 0.8430E+00

The correlation between the data and the time**2 term = 0.8251E+00

0The correlation between the data and the complete equation of motion = 0.9999E+00

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