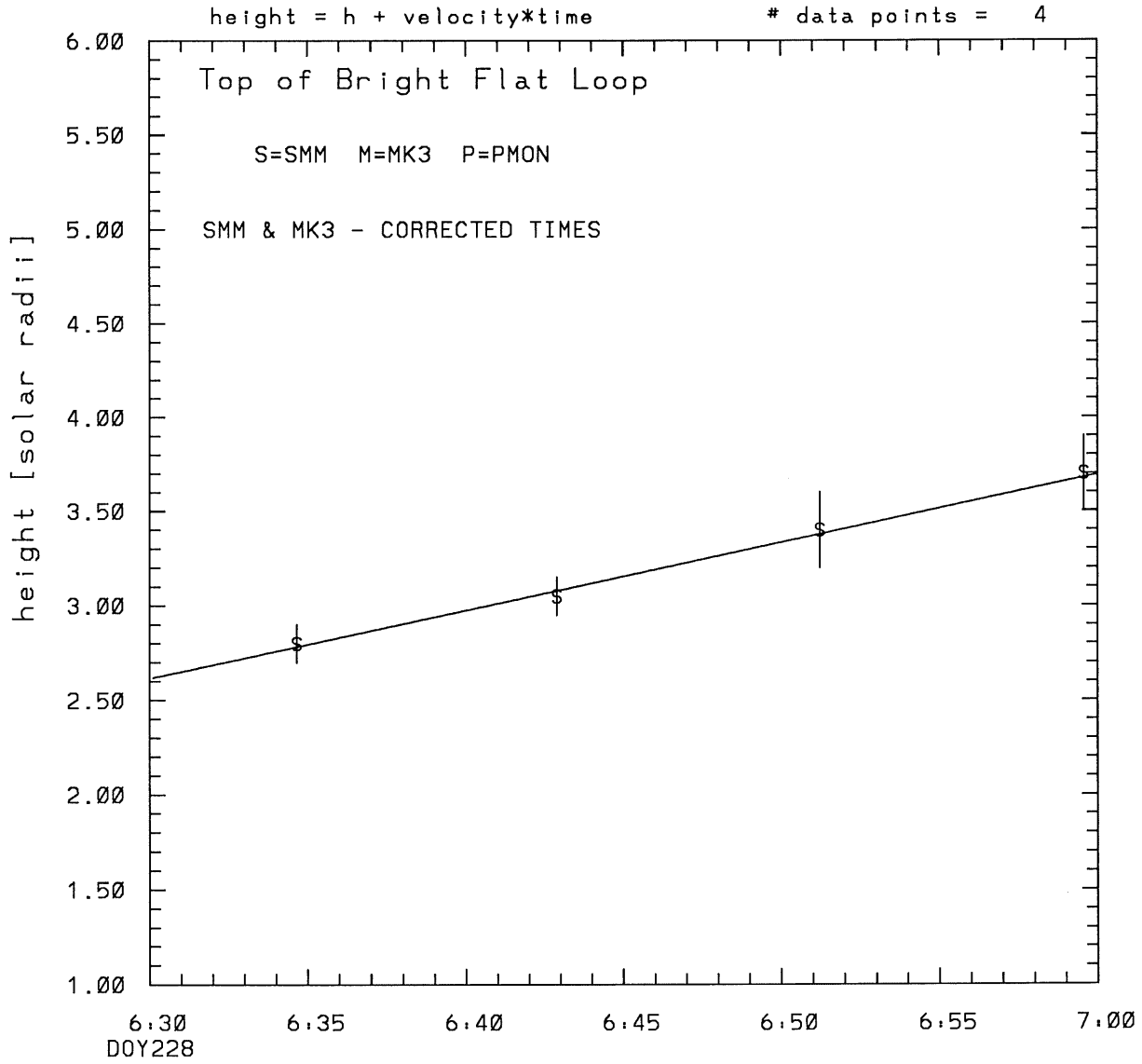
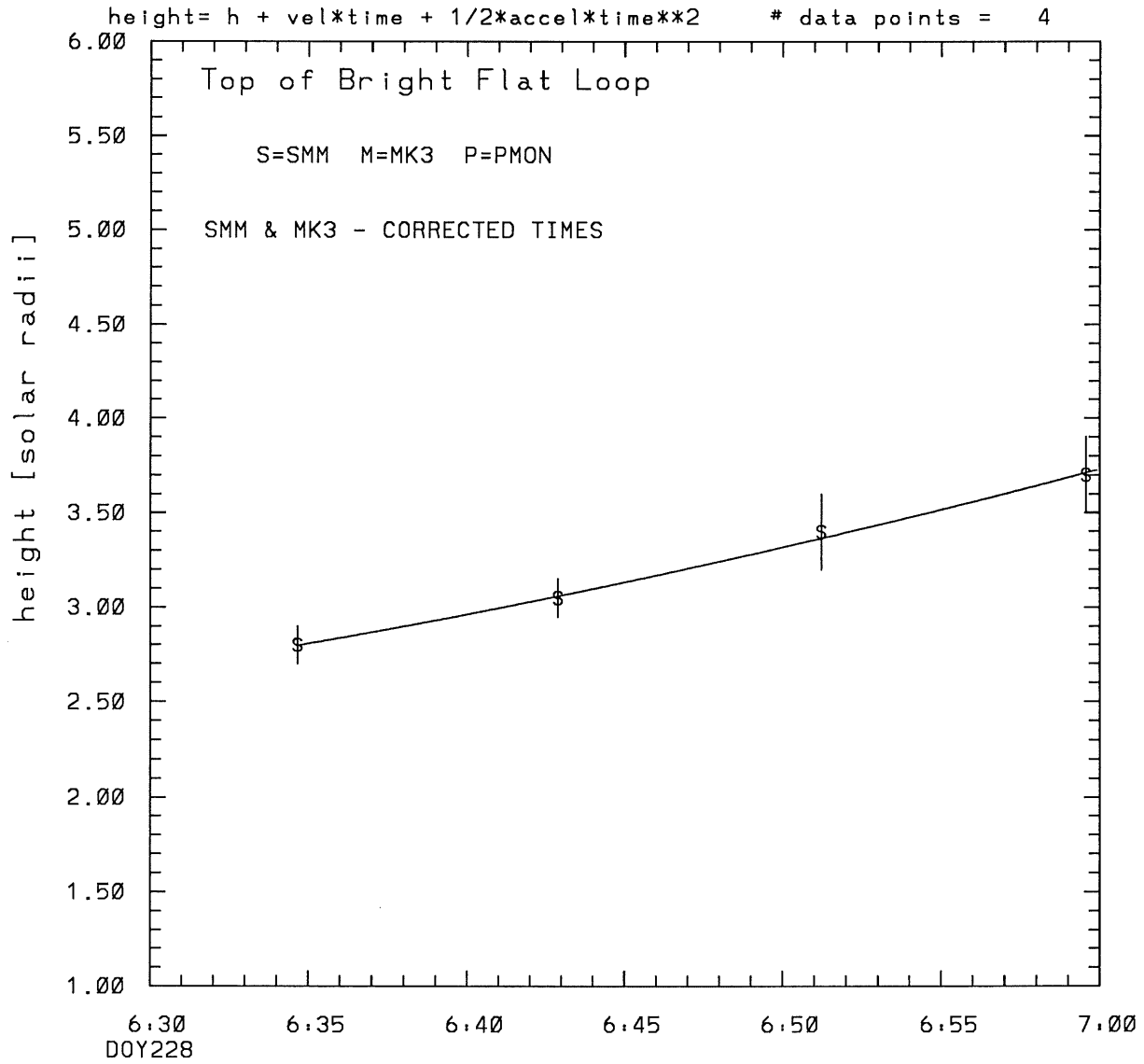


SMM C/P 1988 DOY228 115 +/- 0 degrees



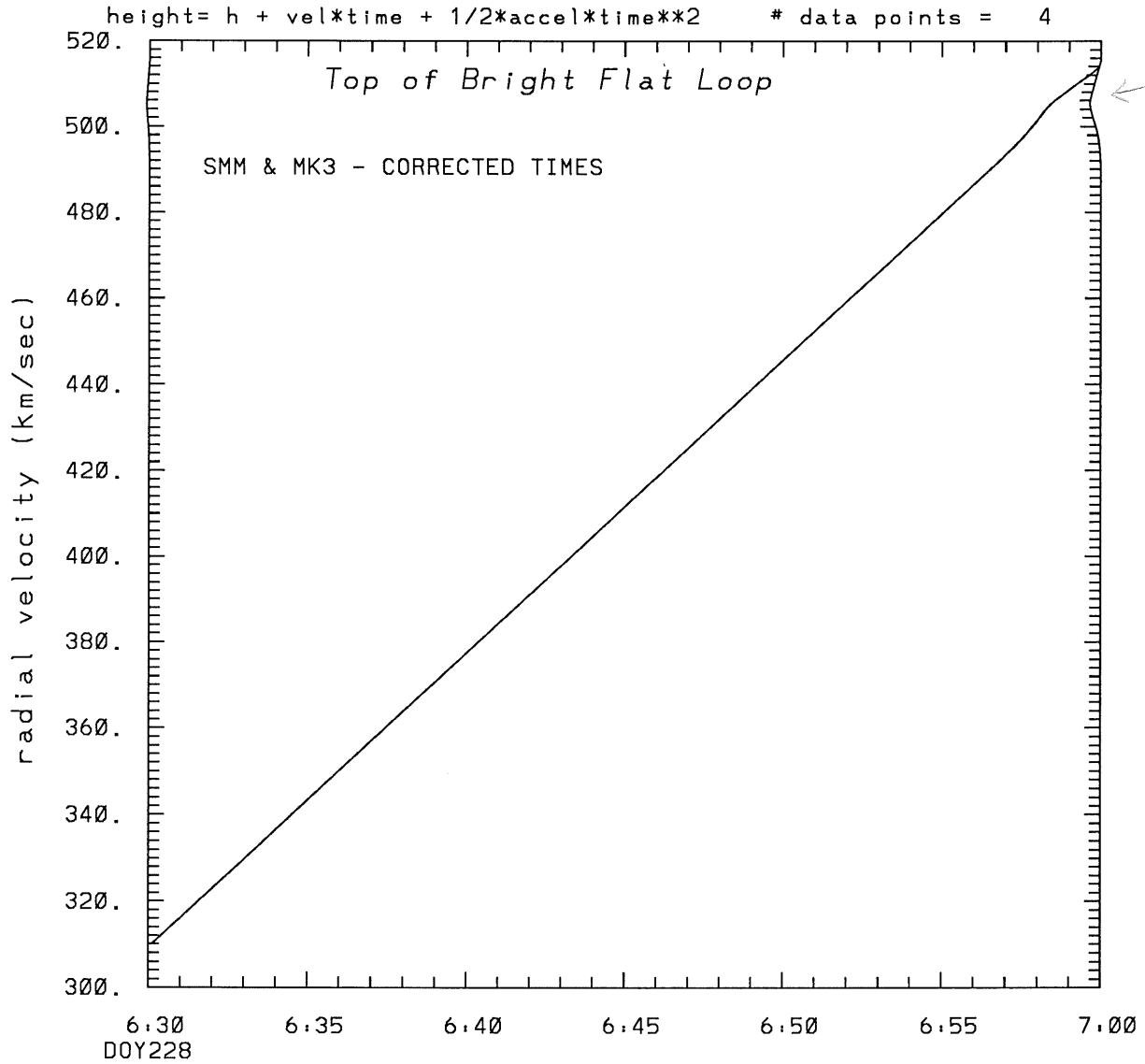
tstart=DOY228 5.45 +/- 1.0 [min.]
radial velocity= 416. +/- 20. [km/sec]

SMM C/P 1988 DOY228 115 +/- 0 degrees



tstart=DOY228 5:45 from derivative=0
Event begins at 2.06 Solar Radii
radial acceleration = 0.1136 ± 0.0554 [km/sec**2]

SMM C/P 1988 DOY228 115 +/- 0 degrees



tstart=DOY228 5:45 from derivative=0
Event begins at 2.06 Solar Radii
radial acceleration=0.114E+00 km/sec**2

This is a 1 order run

INPUT:

year	doy	time	error in radii	error in radius	error in angle	error in angle	datatype
1988	228	6:34:39	2.80 +/- 0.10	2.80 +/- 0.10	115.0 +/- 0.5	115.0 +/- 0.5	SMM
1988	228	6:42:53	3.05 +/- 0.10	3.05 +/- 0.10	115.0 +/- 1.0	115.0 +/- 1.0	SMM
1988	228	6:51:13	3.40 +/- 0.20	3.40 +/- 0.20	115.0 +/- 1.0	115.0 +/- 1.0	SMM
1988	228	6:59:34	3.70 +/- 0.20	3.70 +/- 0.20	115.0 +/- 1.0	115.0 +/- 1.0	SMM

Structure being measured:

Top of Bright Flat Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.450E+02 +/- 0.986E+00$ [minutes]

In more convenient units:

Event began at DOY 228 5:45 +/- 0.986E+00 [minutes]

Origin defined at DOY228 6:30

RADIAL INFORMATION:

RADIAL VELOCITY = 416. +/- 20. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.262E+01 +/- 0.247E-01 [solar radii]
c(2) = 0.359E-01 +/- 0.172E-02 [radii/min]
c(2) = 0.416E+03 +/- 0.199E+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)= 0.34054E-01 [radii] see Bevington pg. 114

error in c(2)= 0.17516E-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) = 115. +/- 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 6:34 = 0. km/sec

The TOTAL velocity at 6:34 = 416. km/sec

The TANGENTIAL velocity at 6:42 = 0. km/sec

The TOTAL velocity at 6:42 = 416. km/sec

The TANGENTIAL velocity at 6:51 = 0. km/sec

The TOTAL velocity at 6:51 = 416. km/sec

The TANGENTIAL velocity at 6:59 = 0. km/sec

The TOTAL velocity at 6:59 = 416. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.39

Standard Deviation in start time measurement = 0.929E+01

Error in time = 0.12819E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.723E-03

Reduced Chi Squared = 0.274E-02

Chi Squared = 0.547E-02

The probability for exceeding chi square = 0.999E+00

The correlation coefficient = 0.998E+00

The probability that no LINEAR correlation exists between the variables = 0.1719E-02

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

This is a 2 order run

INPUT:

year	doy	time	error in radii	error in radius	error in angle	error in angle	datatype
1988	228	6:34:39	2.80 +/- 0.10		115.0 +/- 0.5		SMM
1988	228	6:42:53	3.05 +/- 0.10		115.0 +/- 1.0		SMM
1988	228	6:51:13	3.40 +/- 0.20		115.0 +/- 1.0		SMM
1988	228	6:59:34	3.70 +/- 0.20		115.0 +/- 1.0		SMM

Structure being measured:

Top of Bright Flat Loop

OUTPUT:

START TIME:

tstart=DOY228 5:45 from derivative = 0

Event begins at 2.06 Solar Radii

Origin defined at DOY228 6:30

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.114E+00 +/- 0.554E-01 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.267E+01 +/- 0.301E-01 [solar radii]
c(2) = 0.267E-01 +/- 0.466E-02 [radii/min]
c(2) = 0.309E+03 +/- 0.540E+02 [km/sec]
c(3) = 0.294E-03 +/- 0.143E-03 [radii/min**2]
c(3) = 0.114E+00 +/- 0.554E-01 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.70369E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.10441E-01 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.97806E-02 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.23045E-02 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.27926E-03 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.71100E-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) = 115. +/- 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 6:34 = 0. km/sec

The TOTAL velocity at 6:34 = 341. km/sec

The TANGENTIAL velocity at 6:42 = 0. km/sec

The TOTAL velocity at 6:42 = 397. km/sec

The TANGENTIAL velocity at 6:51 = 0. km/sec

The TOTAL velocity at 6:51 = 454. km/sec

The TANGENTIAL velocity at 6:59 = 0. km/sec

The TOTAL velocity at 6:59 = 511. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.39

Standard Deviation in start time measurement = 0.929E+01

Value of reduced Chi Squared returned from nllst2 = 0.350E-03

Reduced Chi Squared = 0.449E-02

Chi Squared = 0.449E-02

The probability for exceeding chi square = 0.985E+00

For a second order fit 3 correlation coefficients are given:

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

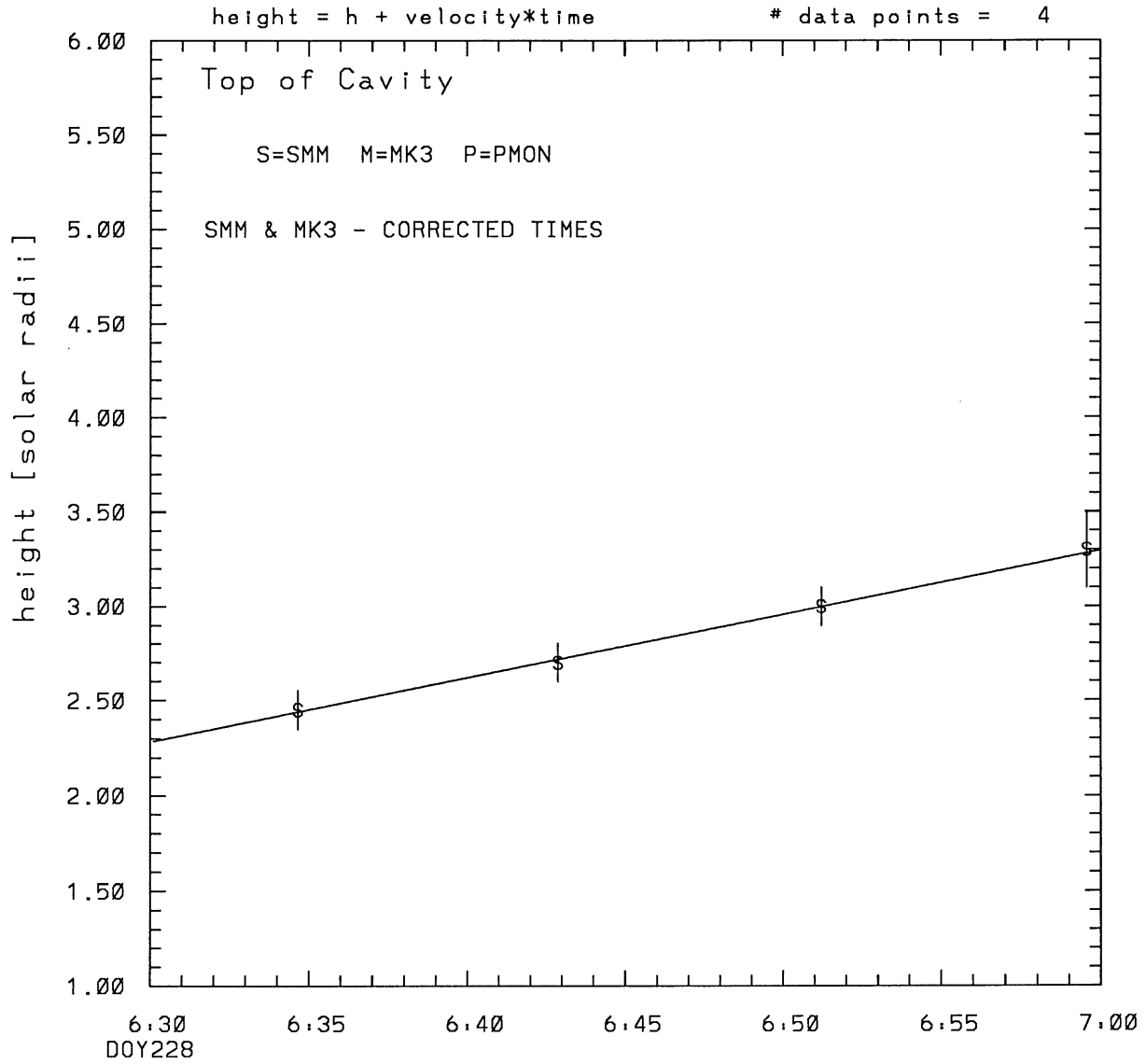
The correlation between the data and the term linear in time = 0.9966E+00

The correlation between the data and the time**2 term = 0.9294E+00

0The correlation between the data and the complete equation of motion = 0.9912E+00

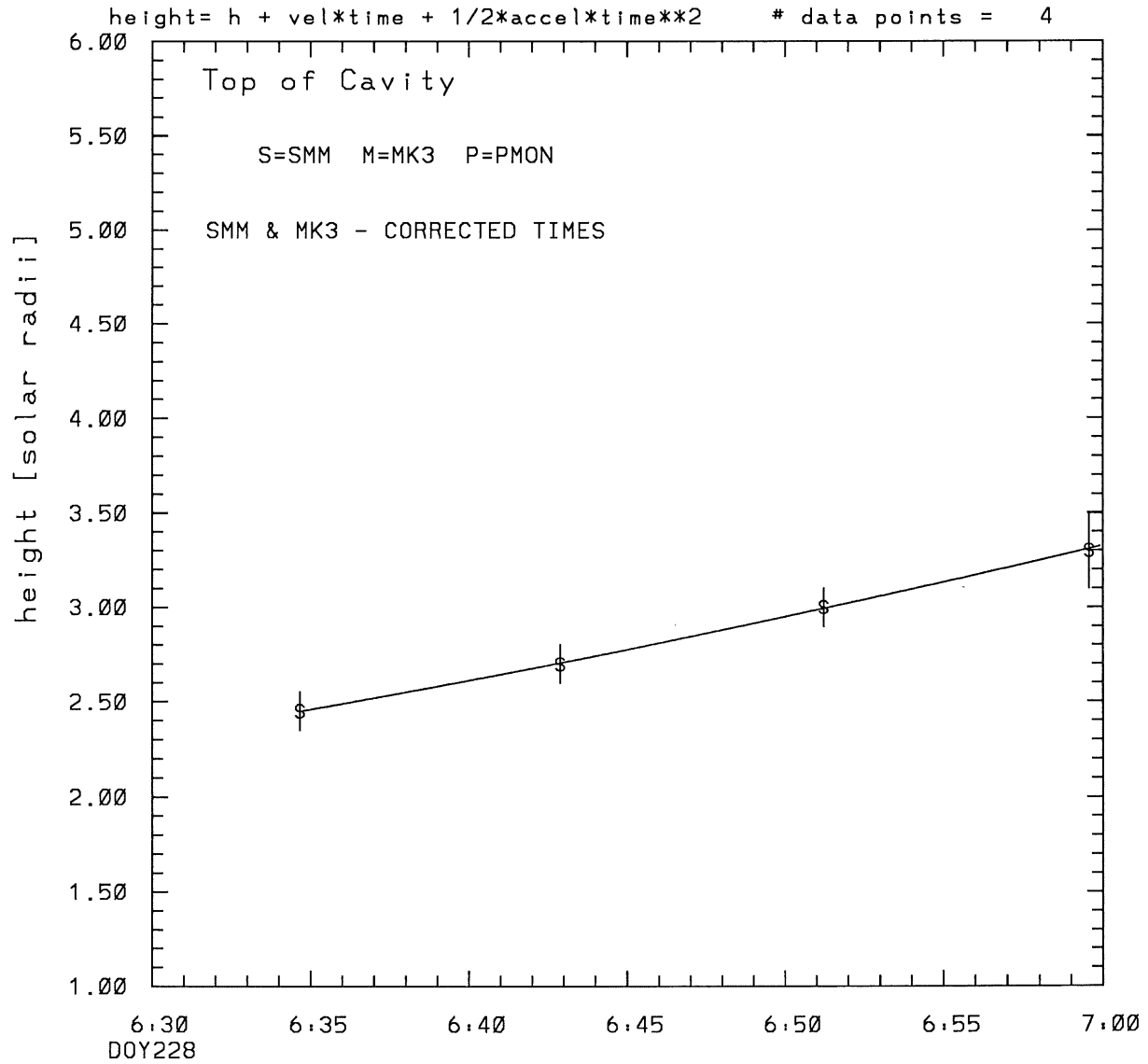
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

SMM C/P 1988 DOY228 115 +/- 0 degrees



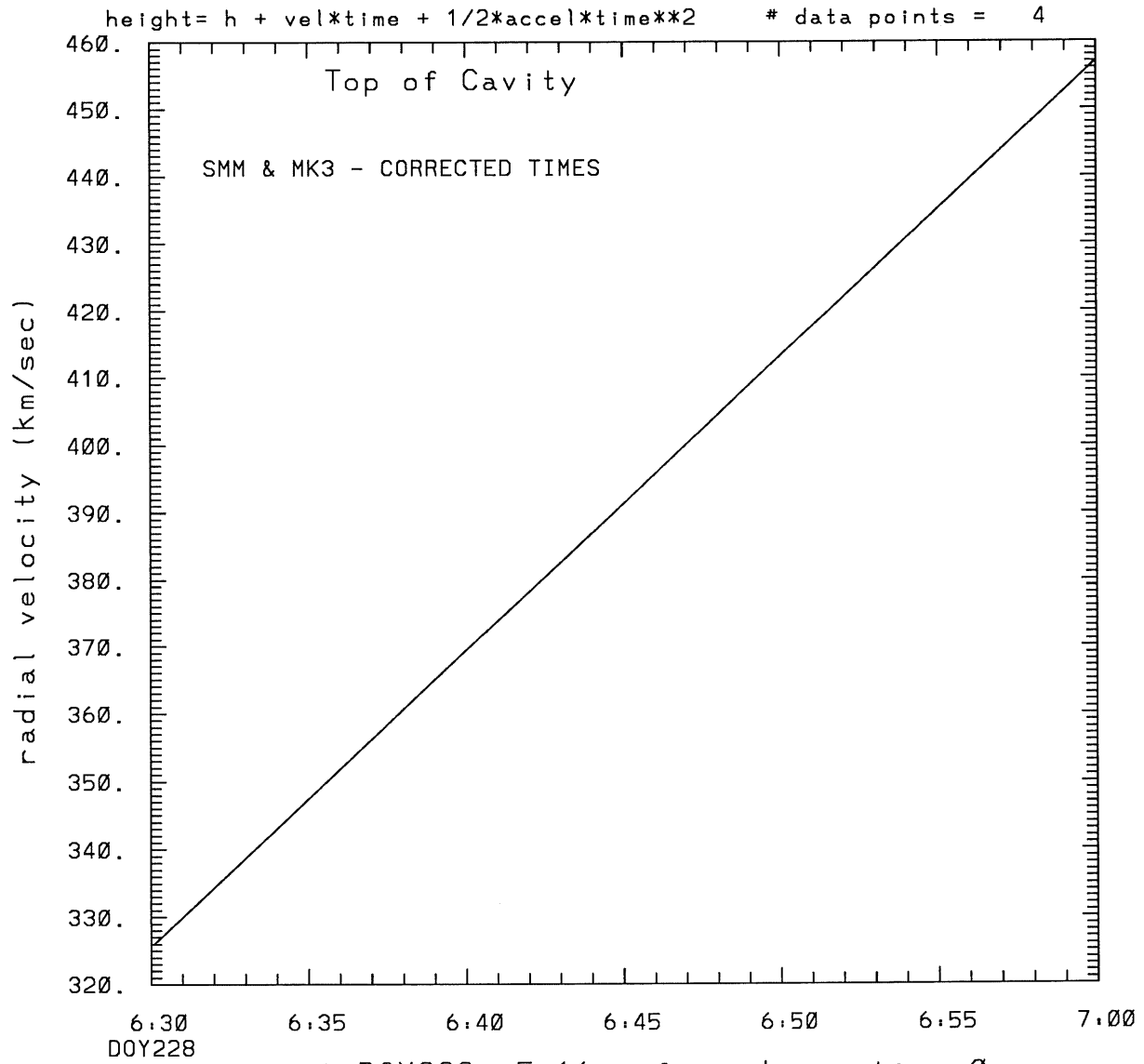
tstart=DOY228 5:54 +/- 0.5 [min.]
radial velocity= 392. +/- 11. [km/sec]

SMM C/P 1988 DOY228 115 +/- 0 degrees



tstart=DOY228 5.16 from derivative=0
Event begins at 1.27 Solar Radii
radial acceleration = 0.0730 +/- 0.0253 [km/sec**2]

SMM C/P 1988 DOY228 115 +/- 0 degrees



tstart=DOY228 5.16 from derivative=0
Event begins at 1.27 Solar Radii
radial acceleration=0.730E-01 km/sec**2

This is a 1 order run

INPUT:

year	day	time	radii	error in radius	angle	error in angle	datatype
1988	228	6:34:39	2.45	+/- 0.10	115.0	+/- 0.5	SMM
1988	228	6:42:53	2.70	+/- 0.10	115.0	+/- 0.5	SMM
1988	228	6:51:13	3.00	+/- 0.10	115.0	+/- 1.0	SMM
1988	228	6:59:34	3.30	+/- 0.20	115.0	+/- 1.0	SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

Event began at t = 0 + -0.379E+02 +/- 0.511E+00 [minutes]
In more convenient units:
Event began at DOY 228 5:54 +/- 0.511E+00 [minutes]

Origin defined at DOY228 6:30

RADIAL INFORMATION:

RADIAL VELOCITY = 392. +/- 11. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

- c(1) = 0.228E+01 +/- 0.149E-01 [solar radii]
- c(2) = 0.338E-01 +/- 0.919E-03 [radii/min]
- c(2) = 0.392E+03 +/- 0.107E+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)= 0.20737E-01 [radii] see Bevington pg. 114
- error in c(2)= 0.10666E-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) = 115. +/- 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 6:34 = 0. km/sec

The TOTAL velocity at 6:34 = 392. km/sec

The TANGENTIAL velocity at 6:42 = 0. km/sec

The TOTAL velocity at 6:42 = 392. km/sec

The TANGENTIAL velocity at 6:51 = 0. km/sec

The TOTAL velocity at 6:51 = 392. km/sec

The TANGENTIAL velocity at 6:59 = 0. km/sec

The TOTAL velocity at 6:59 = 392. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.37

Standard Deviation in start time measurement = 0.929E+01

Error in time = 0.82943E+00 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.209E-03

Reduced Chi Squared = 0.109E-02

Chi Squared = 0.219E-02

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.999E+00

The probability that no LINEAR correlation exists between the variables = 0.7883E-03

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	228	6:34:39	2.45	+/- 0.10	115.0	+/- 0.5	SMM
1988	228	6:42:53	2.70	+/- 0.10	115.0	+/- 0.5	SMM
1988	228	6:51:13	3.00	+/- 0.10	115.0	+/- 1.0	SMM
1988	228	6:59:34	3.30	+/- 0.20	115.0	+/- 1.0	SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

tstart=DOY228 5:16 from derivative = 0
Event begins at 1.27 Solar Radii
Origin defined at DOY228 6:30

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.730E-01 +/- 0.253E-01 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.231E+01 +/- 0.136E-01 [solar radii]
c(2) = 0.281E-01 +/- 0.205E-02 [radii/min]
c(2) = 0.326E+03 +/- 0.237E+02 [km/sec]
c(3) = 0.189E-03 +/- 0.655E-04 [radii/min**2]
c(3) = 0.730E-01 +/- 0.253E-01 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.22366E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.61785E-02 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.31087E-02 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.13257E-02 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.88760E-04 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.43589E-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) = 115. +/- 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 6:34 = 0. km/sec

The TOTAL velocity at 6:34 = 346. km/sec

The TANGENTIAL velocity at 6:42 = 0. km/sec

The TOTAL velocity at 6:42 = 382. km/sec

The TANGENTIAL velocity at 6:51 = 0. km/sec

The TOTAL velocity at 6:51 = 419. km/sec

The TANGENTIAL velocity at 6:59 = 0. km/sec

The TOTAL velocity at 6:59 = 455. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.37

Standard Deviation in start time measurement = 0.929E+01

Value of reduced Chi Squared returned from nllst2 = 0.608E-04

Reduced Chi Squared = 0.469E-03

Chi Squared = 0.469E-03

The probability for exceeding chi square = 0.994E+00

For a second order fit 3 correlation coefficients are given:

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

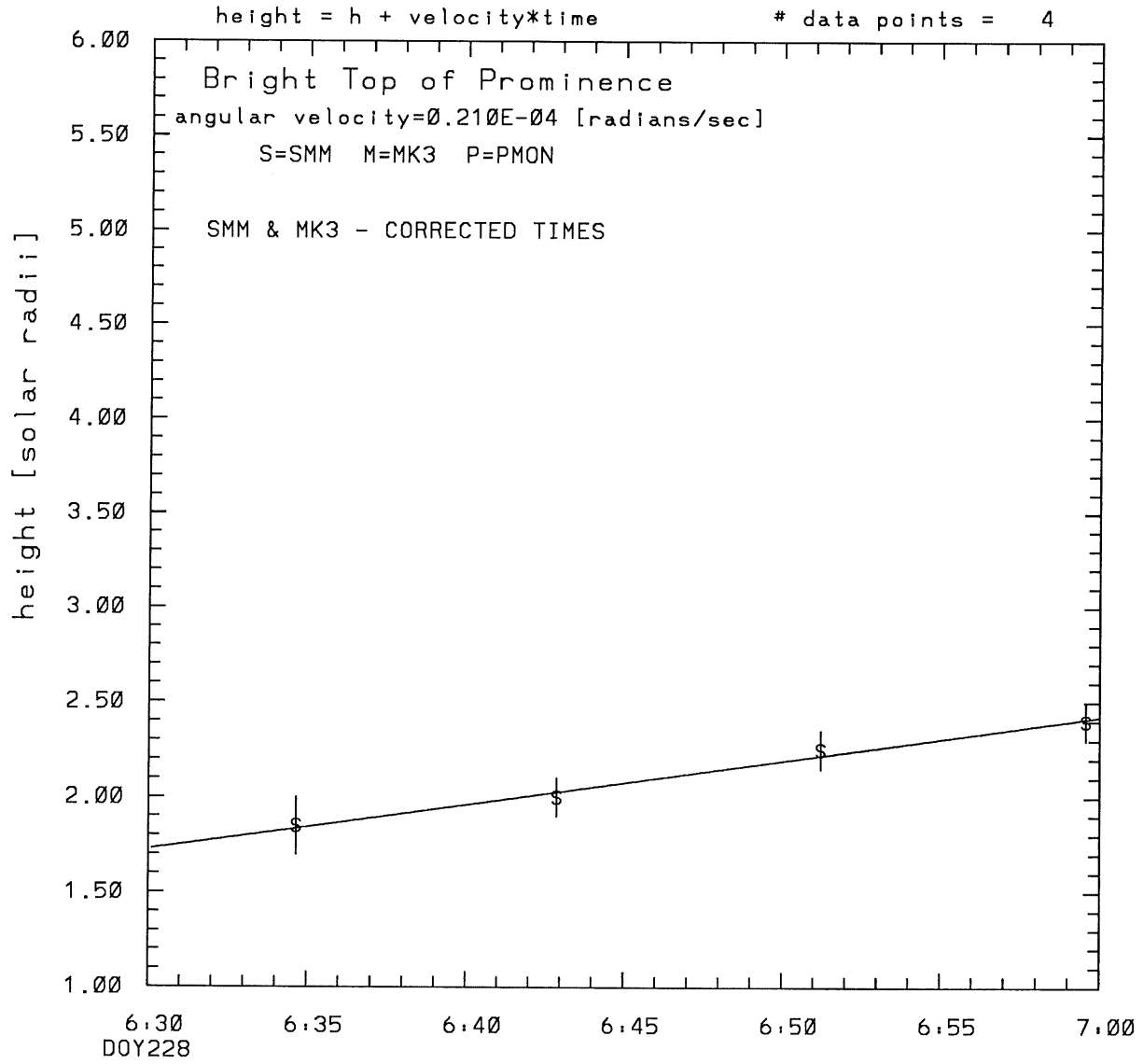
The correlation between the data and the term linear in time = 0.9011E+00

The correlation between the data and the time**2 term = 0.8162E+00

0The correlation between the data and the complete equation of motion = 0.1002E+01

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

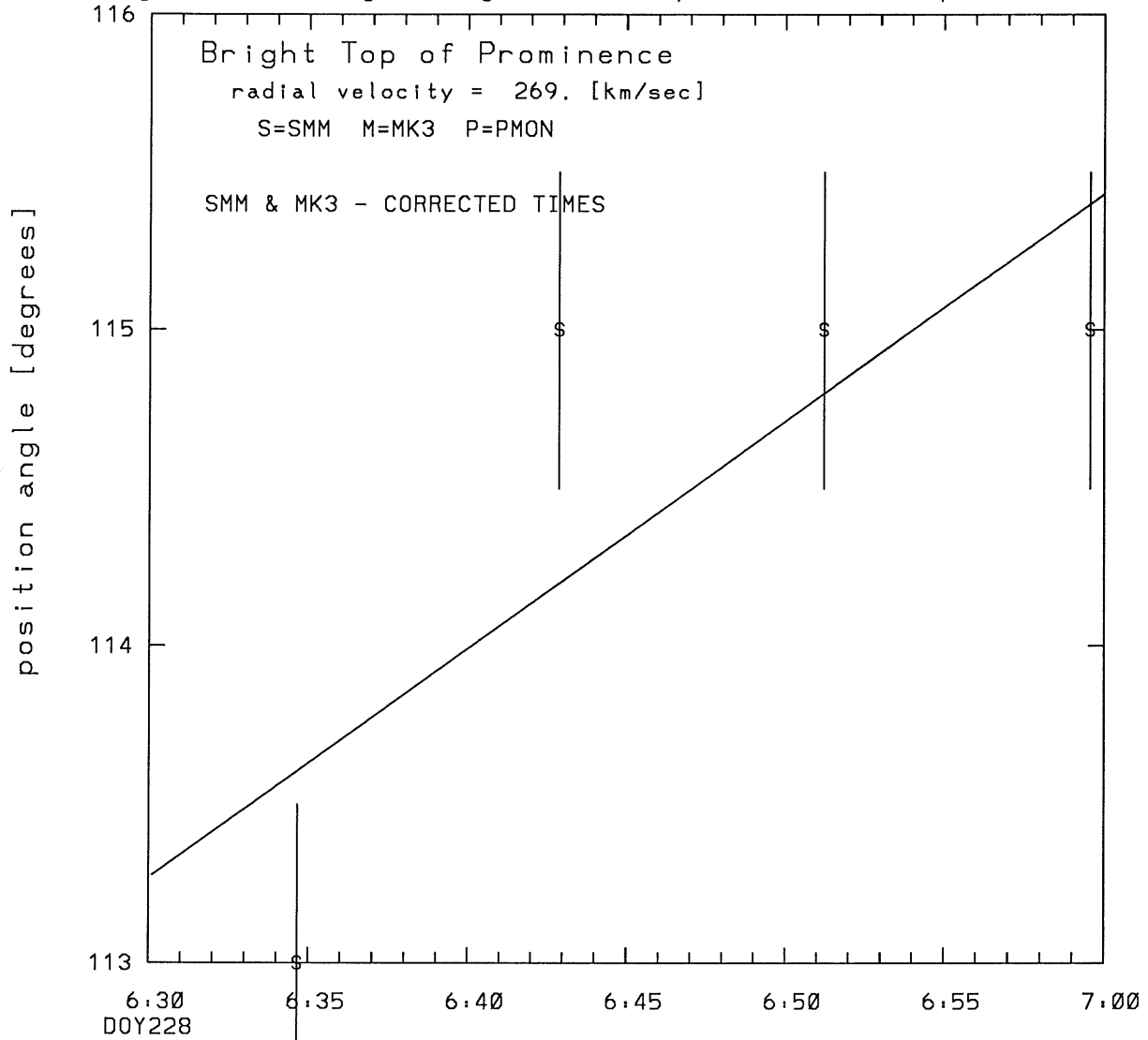
SMM C/P 1988 DOY228 114 +/- 1 degrees



tstart=DOY228 5:59 +/- 0.8 [min.]
radial velocity= 269. +/- 19. [km/sec]

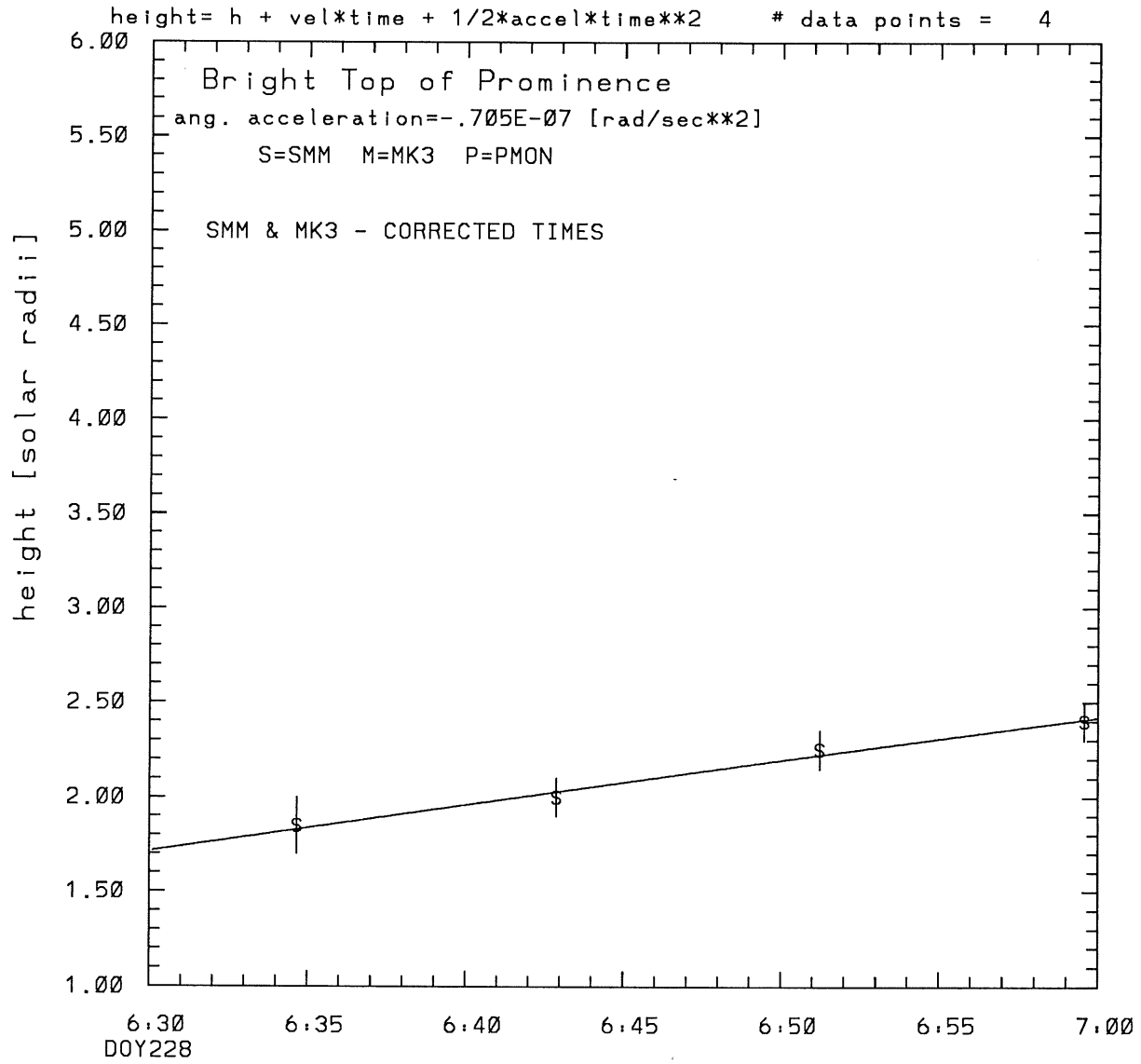
SMM C/P 1988 DOY228 114 +/- 1 degrees

angle= initial angle + angular velocity*time # data points = 4



angular velocity=0.210E-04 +/- 0.994E-05 [rad/sec]

SMM C/P 1988 DOY228 114 +/- 1 degrees

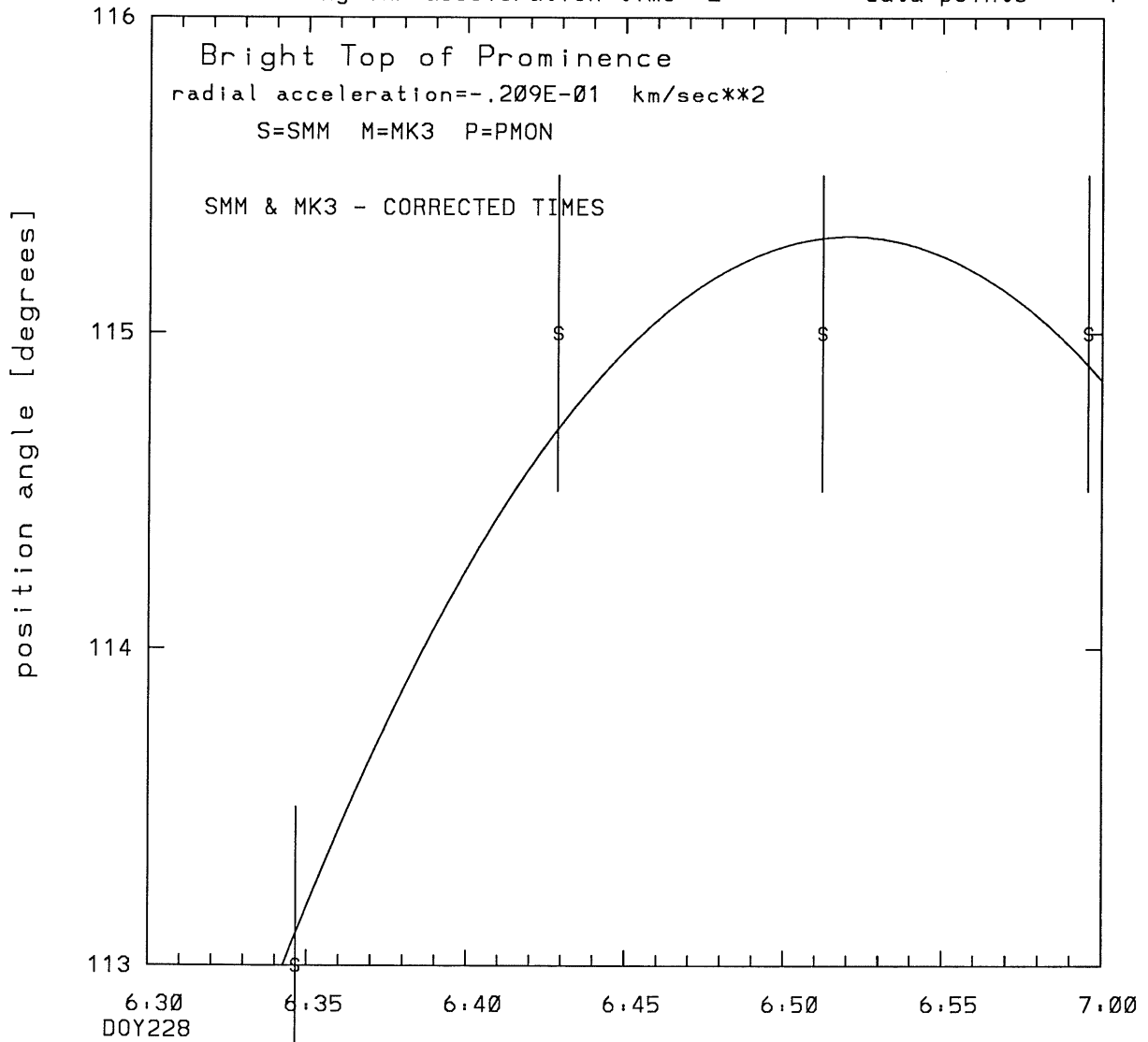


tstart=DOY228 6: 5 +/- 82.4 [min.]

radial acceleration = $-0.0209 +/- 0.0969$ [km/sec**2]

SMM C/P 1988 DOY228 114 +/- 1 degrees

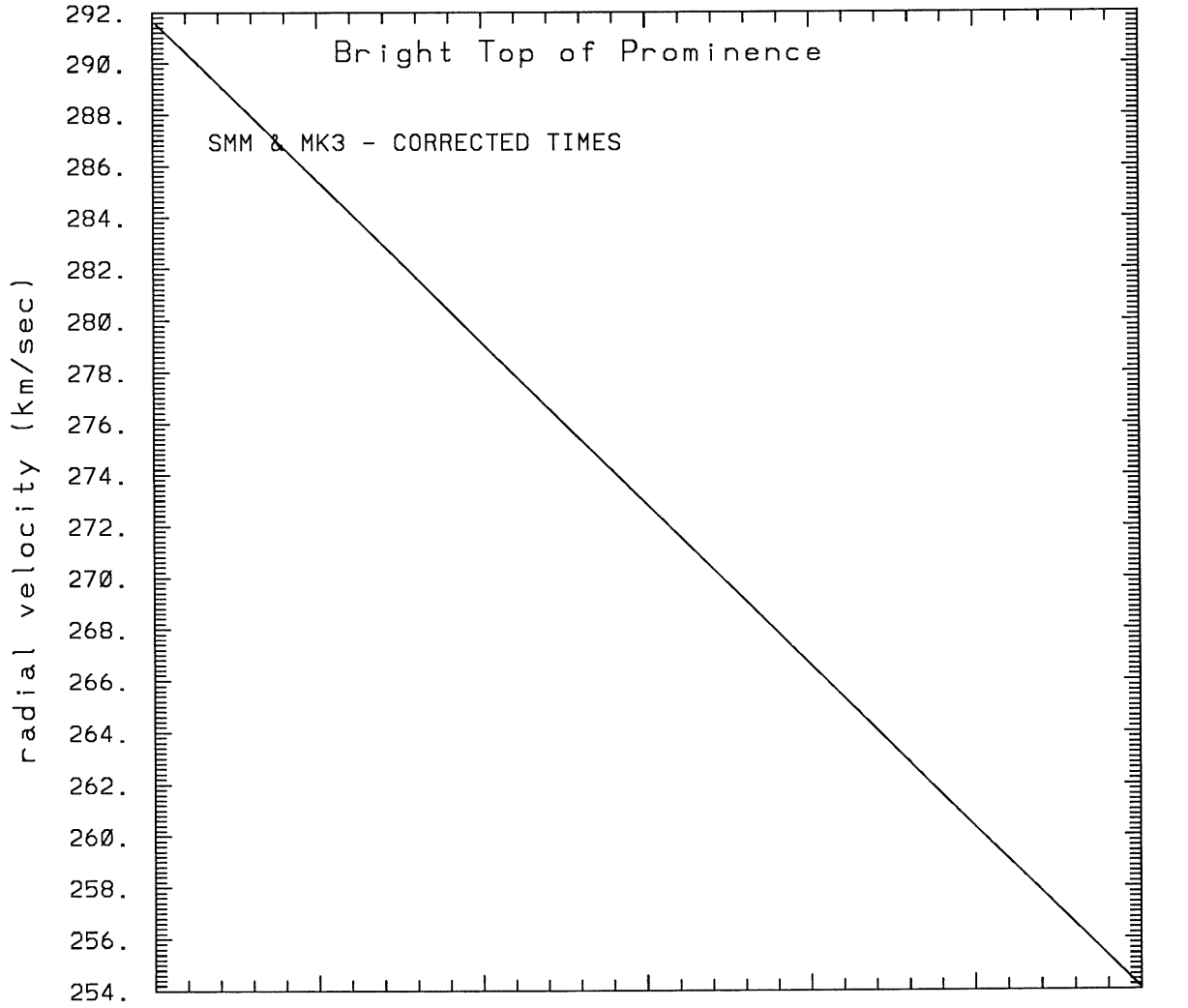
angle = initial angle + angular velocity*time
+ 1/2 angular acceleration*time**2 # data points = 4



angular acceleration = $-.705E-07$ +/- $0.225E-07$ [rad/sec**2]

SMM C/P 1988 DOY228 114 +/- 1 degrees

+ 1/2 angular acceleration*time**2 # data points = 4



6.30
DOY228

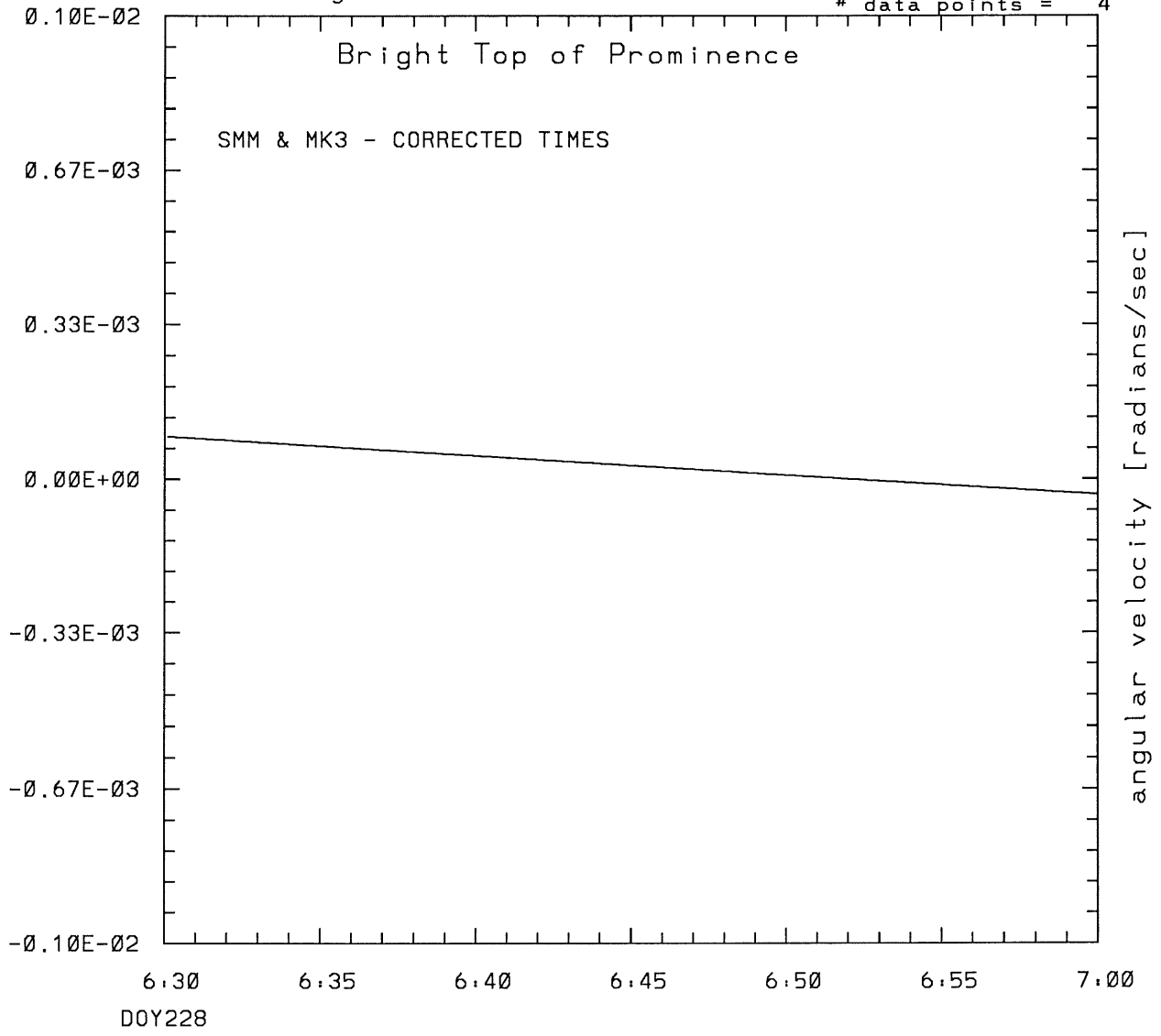
tstart=DOY228 6: 5 +/- 82.4 [min.]

radial acceleration=-.209E-01 km/sec**2

SMM C/P 1988 DOY228 114 +/- 1 degrees

$$\text{angle} = \text{initial angle} + \text{angular velocity} * \text{time} + \frac{1}{2} \text{angular acceleration} * \text{time}^2$$

data points = 4



angular acceleration = $-0.705E-07 \pm 0.225E-07$ [rad/sec**2]

This is a 1 order run

INPUT:

year	day	time	radii	radius	angle	error in angle	datatype
1988	228	6:34:39	1.85 +/- 0.15	113.0 +/- 0.5			SMM
1988	228	6:42:53	2.00 +/- 0.10	115.0 +/- 0.5			SMM
1988	228	6:51:13	2.25 +/- 0.10	115.0 +/- 0.5			SMM
1988	228	6:59:34	2.40 +/- 0.10	115.0 +/- 0.5			SMM

Structure being measured:
Bright Top of Prominence

OUTPUT:

START TIME:

Event began at t = 0 + -0.314E+02 +/- 0.765E+00 [minutes]
In more convenient units:
Event began at DOY 228 5:59 +/- 0.765E+00 [minutes]

Origin defined at DOY228 6:30

RADIAL INFORMATION:

RADIAL VELOCITY = 269. +/- 19. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.173E+01 +/- 0.334E-01 [solar radii]
c(2) = 0.232E-01 +/- 0.160E-02 [radii/min]
c(2) = 0.269E+03 +/- 0.186E+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)= 0.33201E-01 [radii] see Bevington pg. 114
error in c(2)= 0.17077E-02 [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = 0.2095E-04 +/- 0.9942E-05 [radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 113. +/- 1. [degrees]
a(2) = 0.720E-01 +/- 0.342E-01 [degrees/min]
a(2) = 0.210E-04 +/- 0.994E-05 [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 RADIAL velocity at 6:34 = 269. km/sec

The RADIAL velocity at 6:42 = 269. km/sec

The RADIAL velocity at 6:51 = 269. km/sec

The RADIAL velocity at 6:59 = 269. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.25
Standard Deviation in start time measurement = 0.929E+01
Error in time = 0.19362E+01 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.730E-03
Reduced Chi Squared = 0.254E-02
Chi Squared = 0.507E-02
The probability for exceeding chi square = 0.999E+00

The correlation coefficient = 0.995E+00
The probability that no LINEAR correlation exists between the variables = 0.5395)
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
1988	228	6:34:39	1.85 +/-	0.15	113.0 +/-	0.5	SMM
1988	228	6:42:53	2.00 +/-	0.10	115.0 +/-	0.5	SMM
1988	228	6:51:13	2.25 +/-	0.10	115.0 +/-	0.5	SMM
1988	228	6:59:34	2.40 +/-	0.10	115.0 +/-	0.5	SMM

Structure being measured:
Bright Top of Prominence

OUTPUT:

START TIME:

Event began at t = 0 + -0.268E+02 +/- 0.824E+02 [minutes]
In more convenient units:
Event began at DOY 228 6: 5 +/- 0.824E+02 [minutes]

Origin defined at DOY228 6:30

RADIAL INFORMATION:

RADIAL ACCELERATION = -0.209E-01 +/- 0.969E-01 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.171E+01 +/- 0.769E-01 [solar radii]
c(2) = 0.251E-01 +/- 0.935E-02 [radii/min]
c(2) = 0.292E+03 +/- 0.108E+03 [km/sec]
c(3) = -0.540E-04 +/- 0.251E-03 [radii/min**2]
c(3) = -0.209E-01 +/- 0.969E-01 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.83636E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.40469E-01 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.11625E-01 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.60368E-02 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.33191E-03 [radii/min**2] Bevington pg 154 (8-30)
Exact error in c(3) = 0.16560E-03 [radii/min**2] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

ANGULAR ACCELERATION= -0.7049E-07 +/- 0.2255E-07[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 112. +/- 1. [degrees]
a(2) = 0.321E+00 +/- 0.814E-01 [degrees/min]
a(2) = 0.933E-04 +/- 0.237E-04 [rad/sec]
a(3) = -0.727E-02 +/- 0.233E-02 [degrees/min**2]
a(3) = -0.705E-07 +/- 0.225E-07 [rad/sec**2]

The RADIAL velocity at 6:34 = 286. km/sec

The RADIAL velocity at 6:42 = 276. km/sec

The RADIAL velocity at 6:51 = 265. km/sec

The RADIAL velocity at 6:59 = 255. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.25

Standard Deviation in start time measurement = 0.929E+01

Value of reduced Chi Squared returned from nllst2 = 0.107E-02

Reduced Chi Squared = 0.468E-02

Chi Squared = 0.468E-02

The probability for exceeding chi square = 0.974E+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 = 0.9277E+00

The correlation between the data and the time**2 term = 0.9524E+00

The correlation between the data and the complete equation of motion=0.9901E+00

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