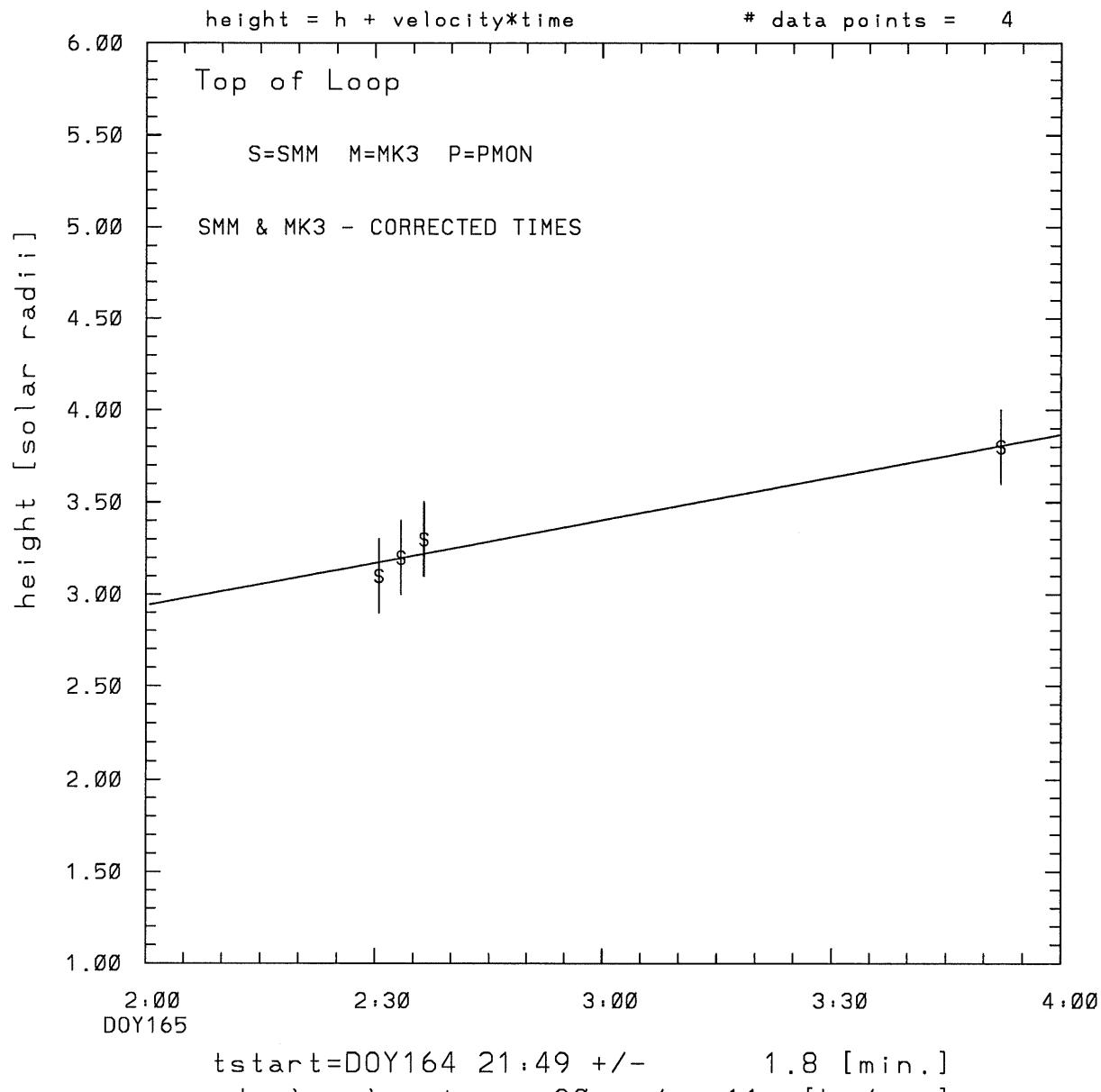
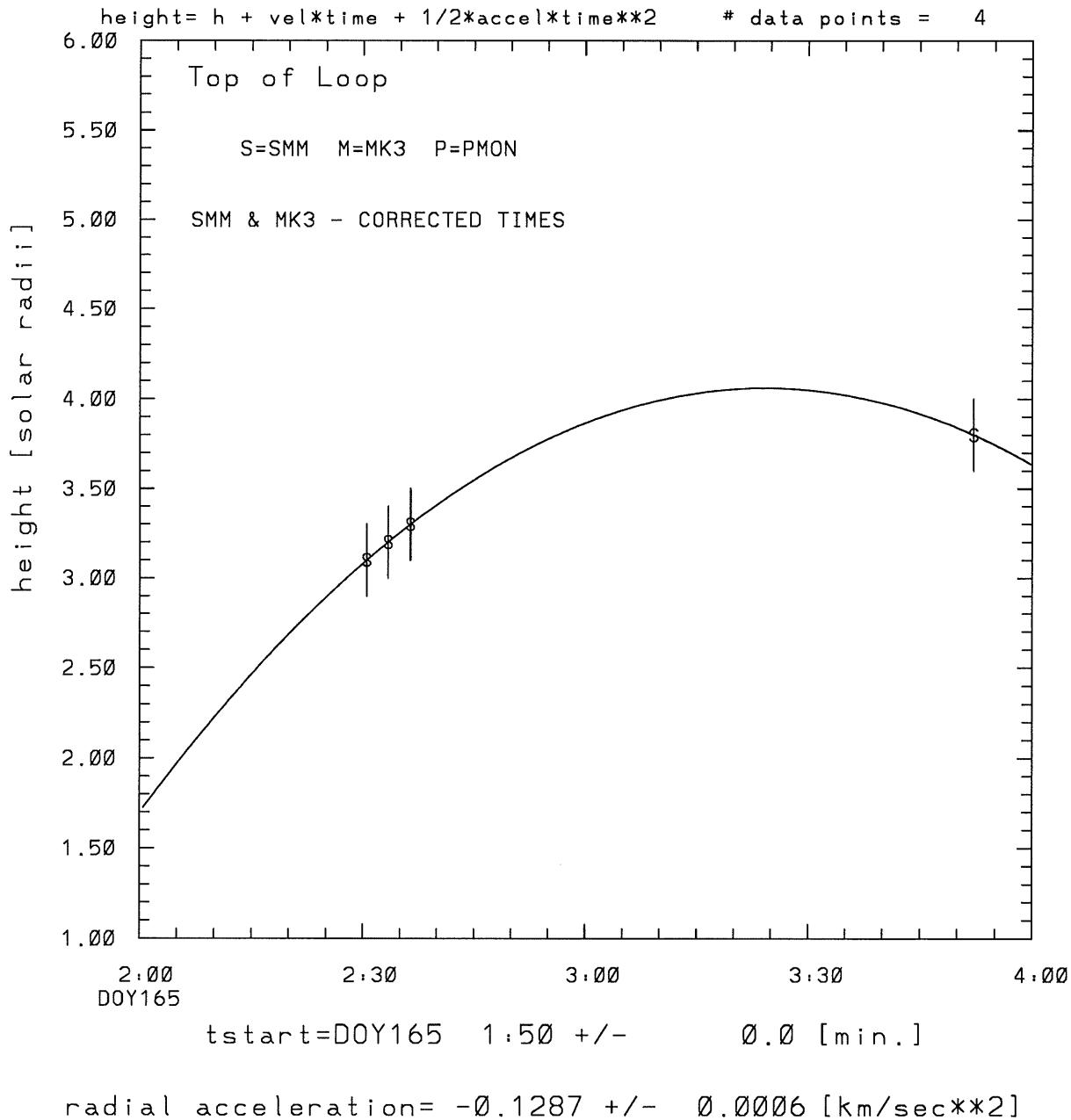


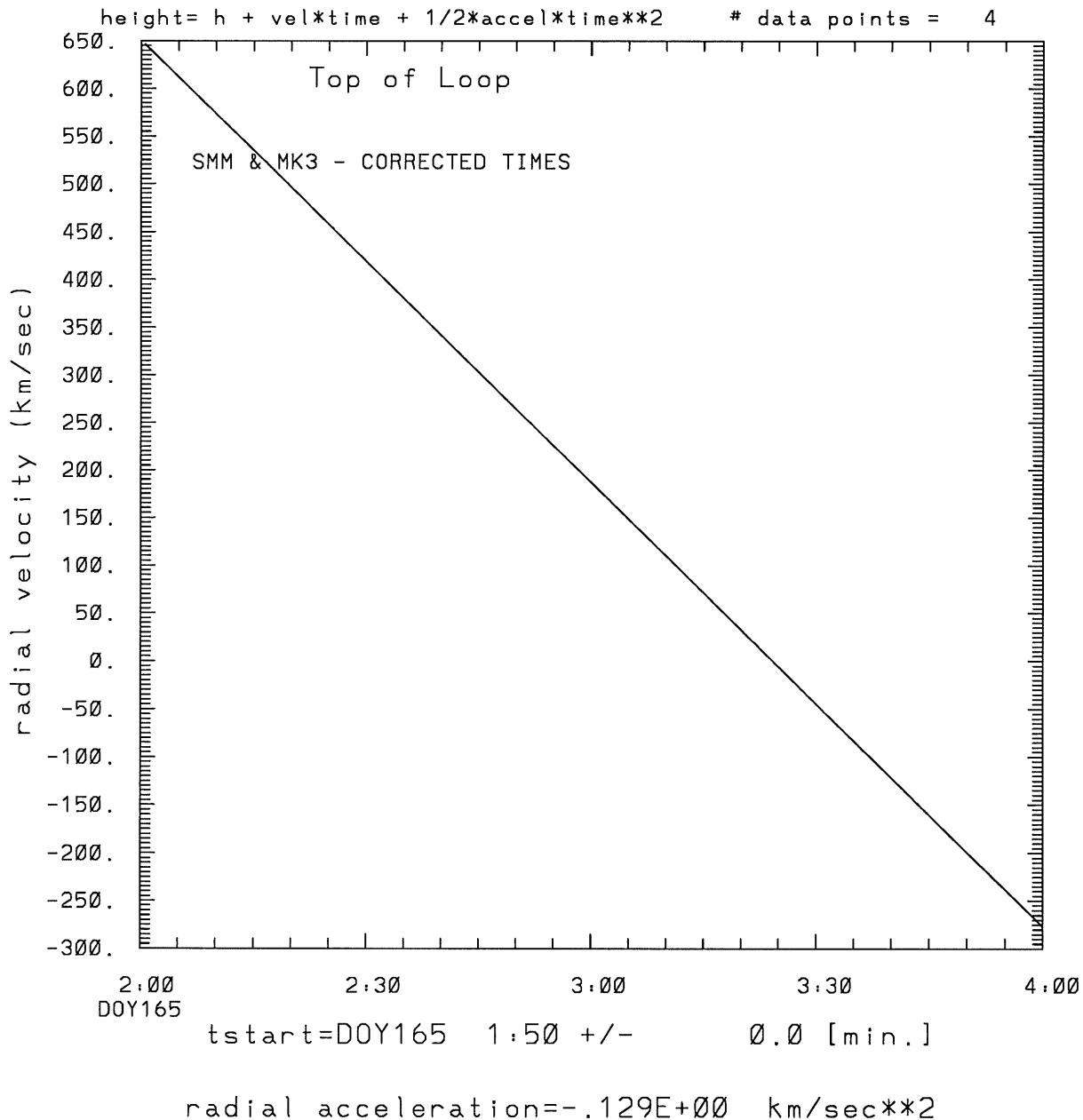
SMM C/P 1986 DOY165 100 +/- 0 degrees



SMM C/P 1986 DOY165 100 +/- 0 degrees



SMM C/P 1986 DOY165 100 +/- 0 degrees



This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in radii	angle	error in angle	datatype
1986	165	2:30:30	3.10	+/- 0.20	100.0	+/- 1.0	SMM	
1986	165	2:33:24	3.20	+/- 0.20	100.0	+/- 1.0	SMM	
1986	165	2:36:25	3.30	+/- 0.20	100.0	+/- 1.0	SMM	
1986	165	3:52:11	3.80	+/- 0.20	100.0	+/- 1.0	SMM	

Structure being measured:

Top of Loop

OUTPUT:

START TIME:

Event began at t = 0 + -0.251E+03 +/- 0.183E+01 [minutes]

In more convenient units:

Event began at DOY 164 21:49 +/- 0.183E+01 [minutes]

Origin defined at DOY165 2: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 90. +/- 11. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.294E+01 +/- 0.584E-01 [solar radii]
c(2) = 0.772E-02 +/- 0.924E-03 [radii/min]
c(2) = 0.895E+02 +/- 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)= 0.71472E-01 [radii] see Bevington pg. 114

error in c(2)= 0.11316E-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) = 100. +/- 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 2:30 = 0.000E+00 km/sec

The TOTAL velocity at 2:30 = 90. km/sec

The TANGENTIAL velocity at 2:33 = 0.000E+00 km/sec

The TOTAL velocity at 2:33 = 90. km/sec

The TANGENTIAL velocity at 2:36 = 0.000E+00 km/sec

The TOTAL velocity at 2:36 = 90. km/sec

The TANGENTIAL velocity at 3:52 = 0.000E+00 km/sec

The TOTAL velocity at 3:52 = 90. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.31

Standard Deviation in start time measurement = 0.342E+02

Error in time = 0.14167E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.398E-02

Reduced Chi Squared = 0.123E-01

Chi Squared = 0.245E-01

The probability for exceeding chi square = 0.996E+00

The correlation coefficient = 0.979E+00

The probability that no LINEAR correlation exists between the variables = 0.2083E-01

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

This is a 2 order run

INPUT:

year	doy	time	radii	radius	error in radii	angle	error in angle	datatype
1986	165	2:30:30	3.10	+/- 0.20	100.0	+/- 1.0	SMM	
1986	165	2:33:24	3.20	+/- 0.20	100.0	+/- 1.0	SMM	
1986	165	2:36:25	3.30	+/- 0.20	100.0	+/- 1.0	SMM	
1986	165	3:52:11	3.80	+/- 0.20	100.0	+/- 1.0	SMM	

Structure being measured:

Top of Loop

OUTPUT:

START TIME:

Event began at t = 0 + -0.117E+02 +/- 0.155E-01 [minutes]

In more convenient units:

Event began at DOY 165 1:50 +/- 0.155E-01 [minutes]

Origin defined at DOY165 2: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = -0.129E+00 +/- 0.640E-03 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.170E+01 +/- 0.619E-02 [solar radii]
c(2) = 0.561E-01 +/- 0.240E-03 [radii/min]
c(2) = 0.651E+03 +/- 0.279E+01 [km/sec]
c(3) = -0.333E-03 +/- 0.165E-05 [radii/min**2]
c(3) = -0.129E+00 +/- 0.640E-03 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.87488E-02 [radii] Bevington pg 154 (8-30)

Exact error in c(1) = 0.11049E-02 [radii] Bevington pg 154 (8-28)

Approximate error in c(2) = 0.34000E-03 [radii/min] Bevington pg 154 (8-30)

Exact error in c(2) = 0.42286E-04 [radii/min] Bevington pg 154 (8-28)

Approximate error in c(3) = 0.23395E-05 [radii/min**] Bevington pg 154 (8-30)

Exact error in c(3) = 0.29165E-06 [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) = 100. +/- 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 2:30 = 0.000E+00 km/sec

The TOTAL velocity at 2:30 = 415. km/sec

The TANGENTIAL velocity at 2:33 = 0.000E+00 km/sec

The TOTAL velocity at 2:33 = 393. km/sec

The TANGENTIAL velocity at 2:36 = 0.000E+00 km/sec

The TOTAL velocity at 2:36 = 369. km/sec

The TANGENTIAL velocity at 3:52 = 0.000E+00 km/sec

The TOTAL velocity at 3:52 = -216. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.31

Standard Deviation in start time measurement = 0.342E+02

Value of reduced Chi Squared returned from nllst2 = 0.295E-06

Reduced Chi Squared = 0.119E-05

Chi Squared = 0.119E-05

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 = 0.9792E+00

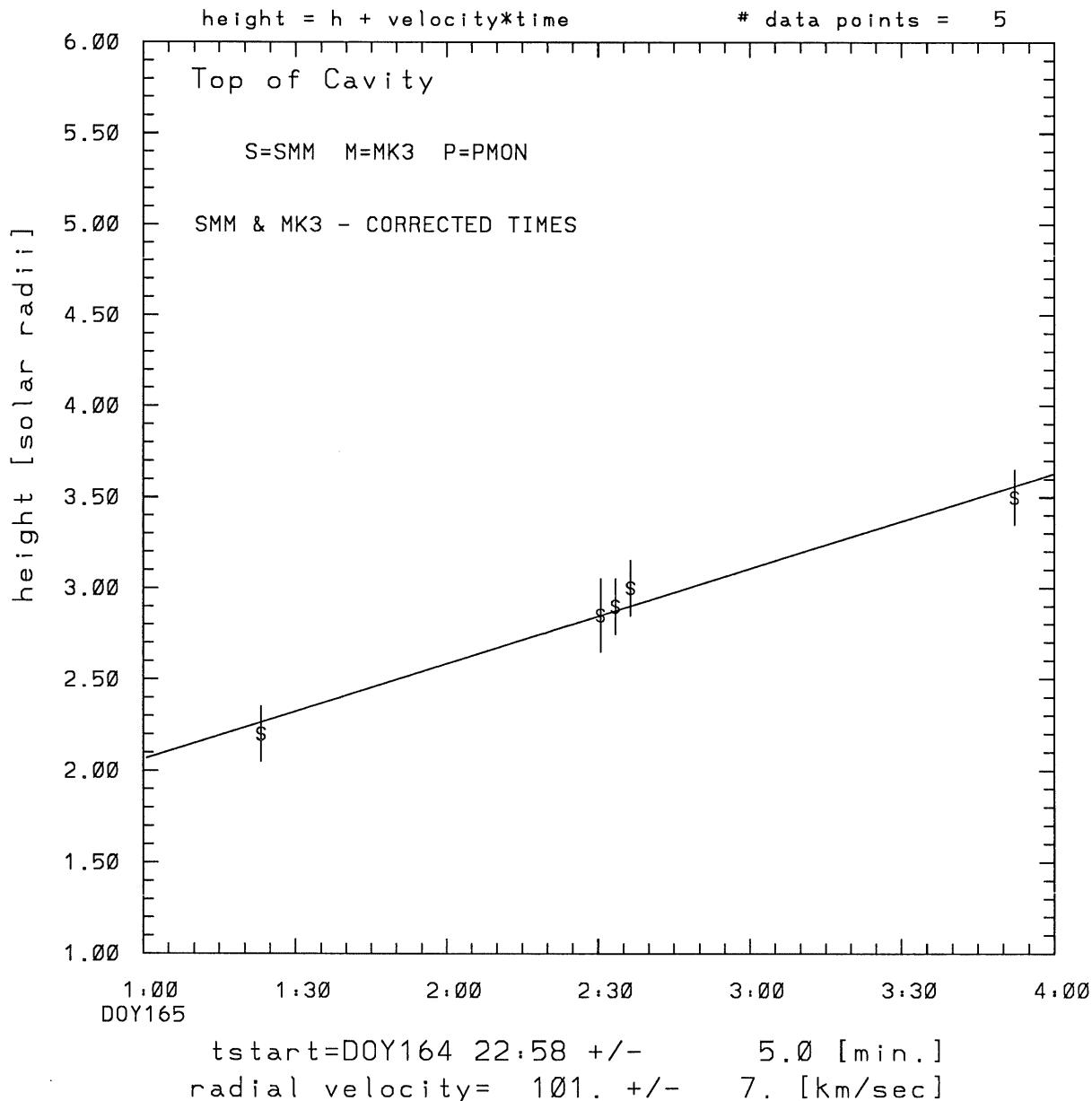
The correlation between the data and the time **2 term = 0.9719E+00

The correlation between the data and the complete equation of motion = 0.1000E+01

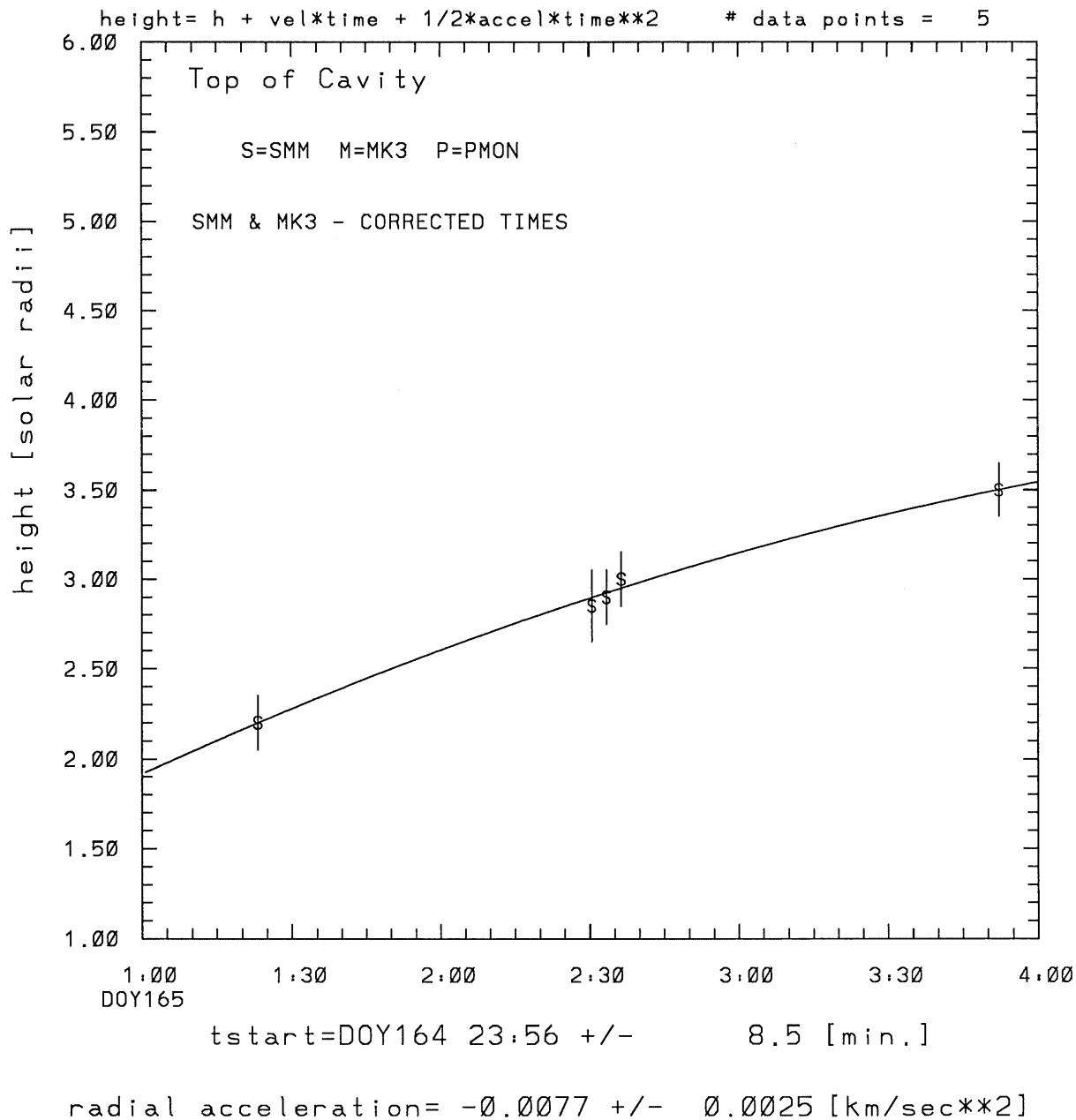
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]



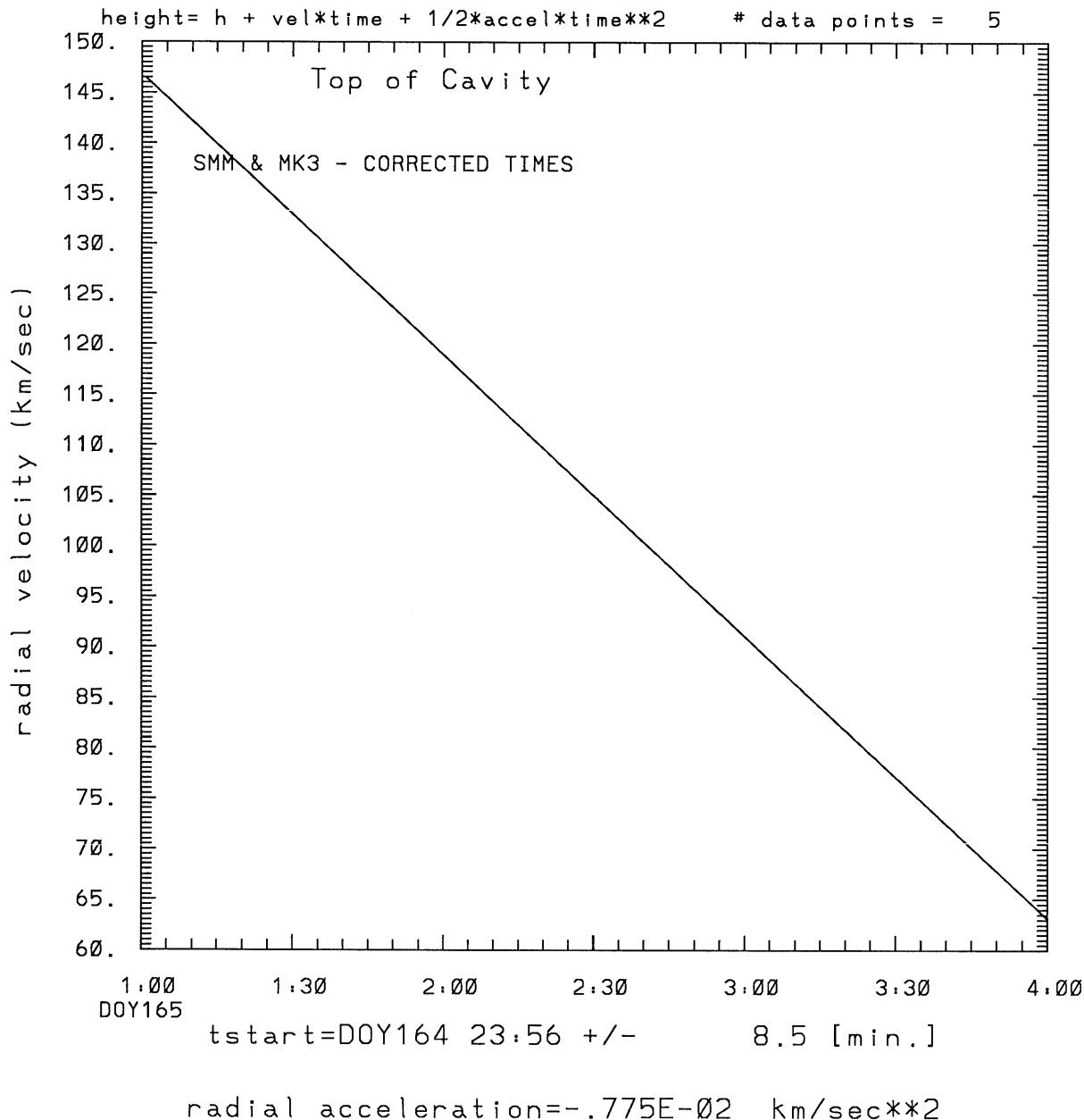
SMM C/P 1986 DOY165 100 +/- 0 degrees



SMM C/P 1986 DOY165 100 +/- 0 degrees



SMM C/P 1986 DOY165 100 +/- 0 degrees



This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in radii	error in radius	angle	angle	datatype
1986	165	1:23: 9	2.20	+/- 0.15	100.0	+/- 0.5	100.0	+/- 0.5	SMM
1986	165	2:30:30	2.85	+/- 0.20	100.0	+/- 0.5	100.0	+/- 0.5	SMM
1986	165	2:33:24	2.90	+/- 0.15	100.0	+/- 0.5	100.0	+/- 0.5	SMM
1986	165	2:36:25	3.00	+/- 0.15	100.0	+/- 1.0	100.0	+/- 1.0	SMM
1986	165	3:52:11	3.50	+/- 0.15	100.0	+/- 1.0	100.0	+/- 1.0	SMM

Structure being measured:

Top of Cavity

OUTPUT:

START TIME:

Event began at t = 0 + -0.122E+03 +/- 0.503E+01 [minutes]

In more convenient units:

Event began at DOY 164 22:58 +/- 0.503E+01 [minutes]

Origin defined at DOY165 1: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 101. +/- 7. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.206E+01 +/- 0.686E-01 [solar radii]
c(2) = 0.870E-02 +/- 0.638E-03 [radii/min]
c(2) = 0.101E+03 +/- 0.740E+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)= 0.78143E-01 [radii] see Bevington pg. 114

error in c(2)= 0.73581E-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) = 100. +/- 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 1:23 = 0.000E+00 km/sec

The TOTAL velocity at 1:23 = 101. km/sec

The TANGENTIAL velocity at 2:30 = 0.000E+00 km/sec

The TOTAL velocity at 2:30 = 101. km/sec

The TANGENTIAL velocity at 2:33 = 0.000E+00 km/sec

The TOTAL velocity at 2:33 = 101. km/sec

The TANGENTIAL velocity at 2:36 = 0.000E+00 km/sec

The TOTAL velocity at 2:36 = 101. km/sec

The TANGENTIAL velocity at 3:52 = 0.000E+00 km/sec

The TOTAL velocity at 3:52 = 101. 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 = 0.472E+02

Error in time = 0.15461E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.496E-02

Reduced Chi Squared = 0.211E-01

Chi Squared = 0.633E-01

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.989E+00

The probability that no LINEAR correlation exists between the variables = 0.1300E-02

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

This is a 2 order run

INPUT:

year	doy	time	radii	radius	error in radii	error in radius	angle	angle	datatype
1986	165	1:23: 9	2.20	+/- 0.15	100.0	+/- 0.5	100.0	+/- 0.5	SMM
1986	165	2:30:30	2.85	+/- 0.20	100.0	+/- 0.5	100.0	+/- 0.5	SMM
1986	165	2:33:24	2.90	+/- 0.15	100.0	+/- 0.5	100.0	+/- 0.5	SMM
1986	165	2:36:25	3.00	+/- 0.15	100.0	+/- 1.0	100.0	+/- 1.0	SMM
1986	165	3:52:11	3.50	+/- 0.15	100.0	+/- 1.0	100.0	+/- 1.0	SMM

Structure being measured:

Top of Cavity

OUTPUT:

START TIME:

Event began at t = 0 + -0.656E+02 +/- 0.850E+01 [minutes]

In more convenient units:

Event began at DOY 164 23:56 +/- 0.850E+01 [minutes]

Origin defined at DOY165 1: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = -0.775E-02 +/- 0.250E-02 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.192E+01 +/- 0.609E-01 [solar radii]
c(2) = 0.127E-01 +/- 0.133E-02 [radii/min]
c(2) = 0.147E+03 +/- 0.154E+02 [km/sec]
c(3) = -0.200E-04 +/- 0.646E-05 [radii/min**2]
c(3) = -0.775E-02 +/- 0.250E-02 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.82363E-01 [radii] Bevington pg 154 (8-30)

Exact error in c(1) = 0.10041E-01 [radii] Bevington pg 154 (8-28)

Approximate error in c(2) = 0.17504E-02 [radii/min] Bevington pg 154 (8-30)

Exact error in c(2) = 0.48471E-03 [radii/min] Bevington pg 154 (8-28)

Approximate error in c(3) = 0.84981E-05 [radii/min**2] Bevington pg 154 (8-30)

Exact error in c(3) = 0.24801E-05 [radii/min**2] 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) = 100. +/- 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 1:23 = 0.000E+00 km/sec

The TOTAL velocity at 1:23 = 136. km/sec

The TANGENTIAL velocity at 2:30 = 0.000E+00 km/sec

The TOTAL velocity at 2:30 = 105. km/sec

The TANGENTIAL velocity at 2:33 = 0.000E+00 km/sec

The TOTAL velocity at 2:33 = 103. km/sec

The TANGENTIAL velocity at 2:36 = 0.000E+00 km/sec

The TOTAL velocity at 2:36 = 102. km/sec

The TANGENTIAL velocity at 3:52 = 0.000E+00 km/sec

The TOTAL velocity at 3:52 = 67. 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 = 0.472E+02

Value of reduced Chi Squared returned from nllst2 = 0.157E-02

Reduced Chi Squared = 0.805E-02

Chi Squared = 0.161E-01

The probability for exceeding chi square = 0.998E+00

For a second order fit 3 correlation coefficients are given:

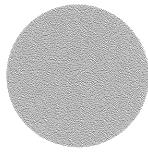
(Using equation of motion: $r = a + bt + at^{**2}$)

The correlation between the data and the term linear in time = 0.1035E+01

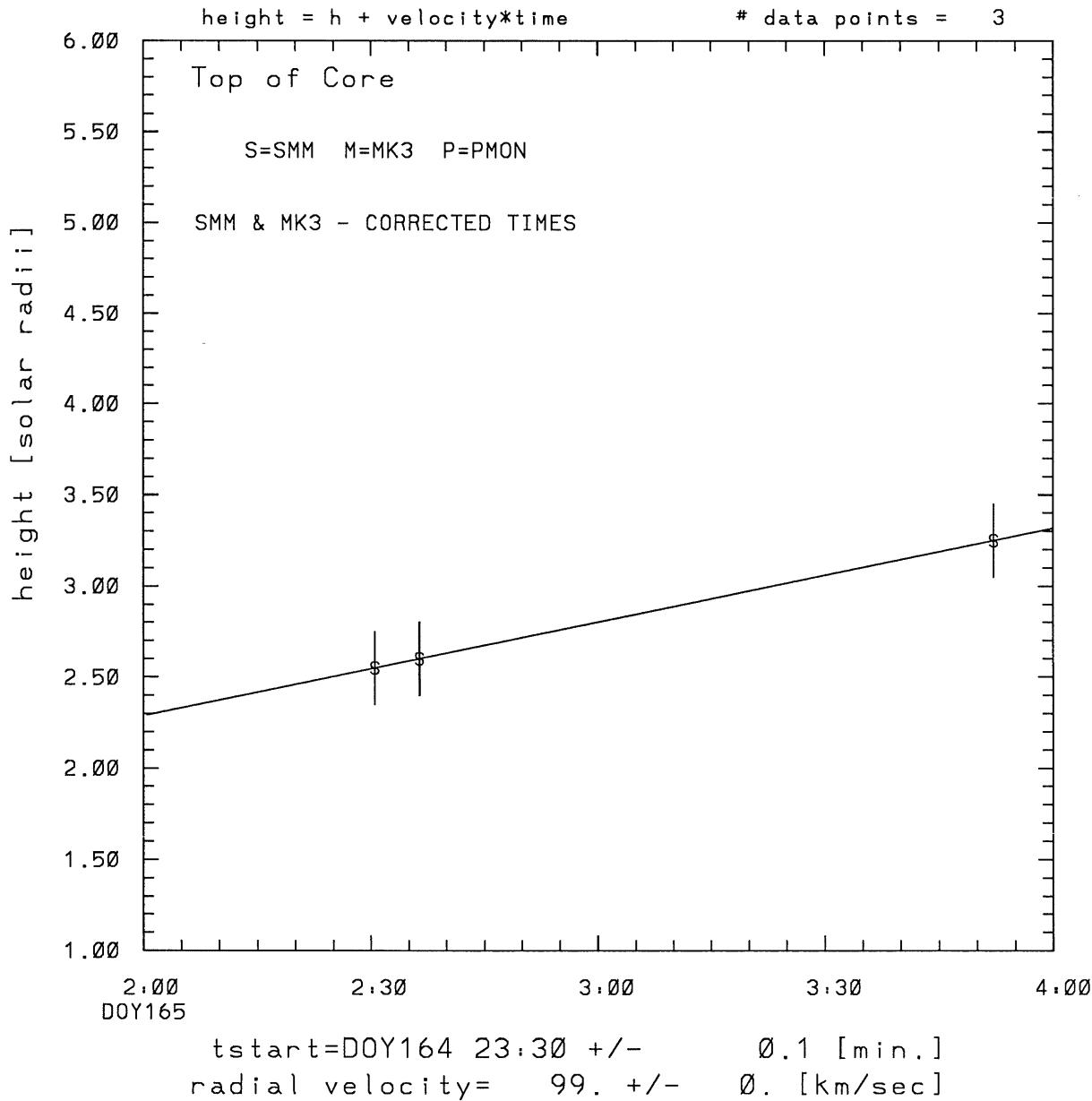
The correlation between the data and the time **2 term = 0.9568E+00

The correlation between the data and the complete equation of motion = 0.9949E+00

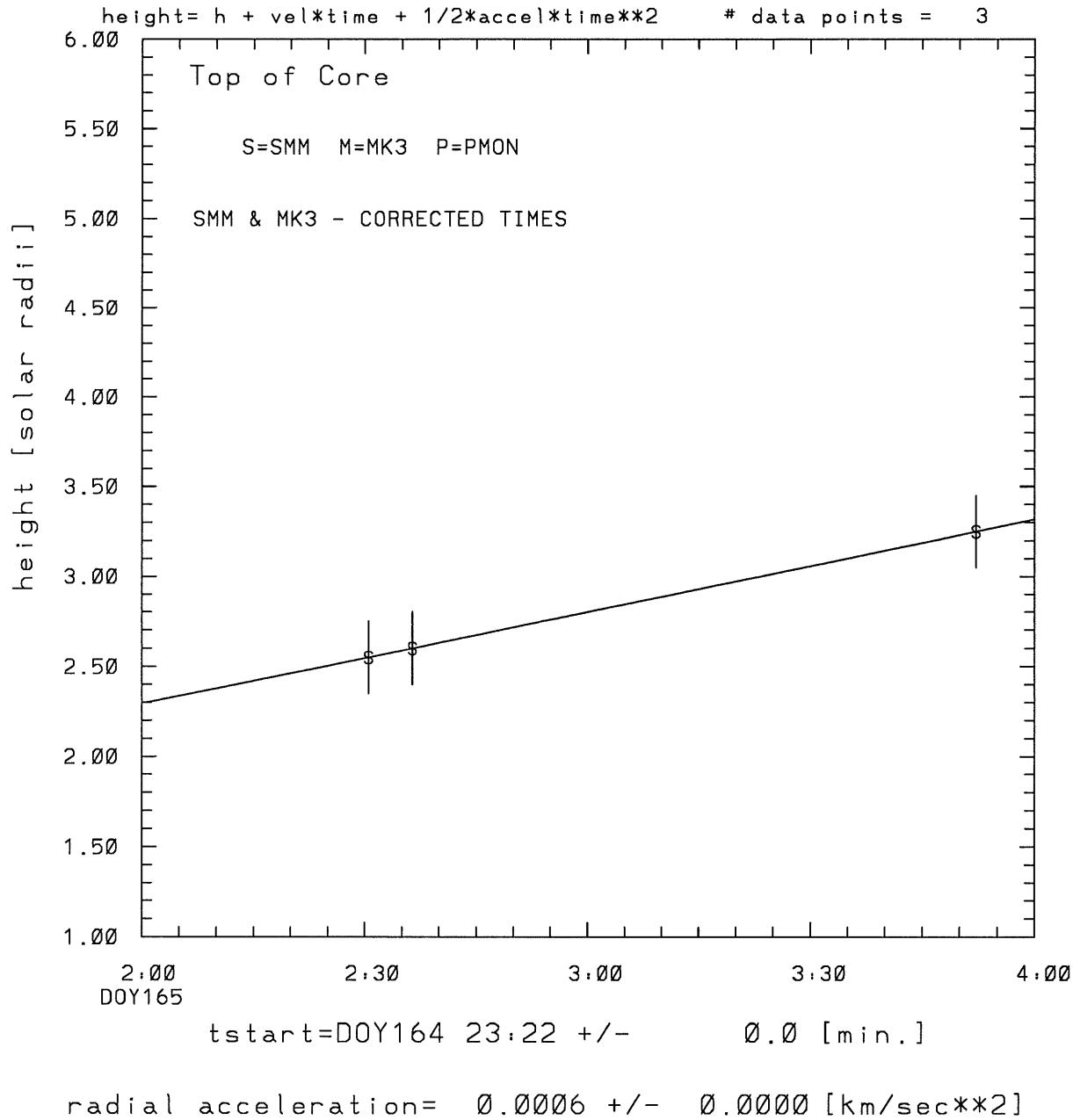
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]



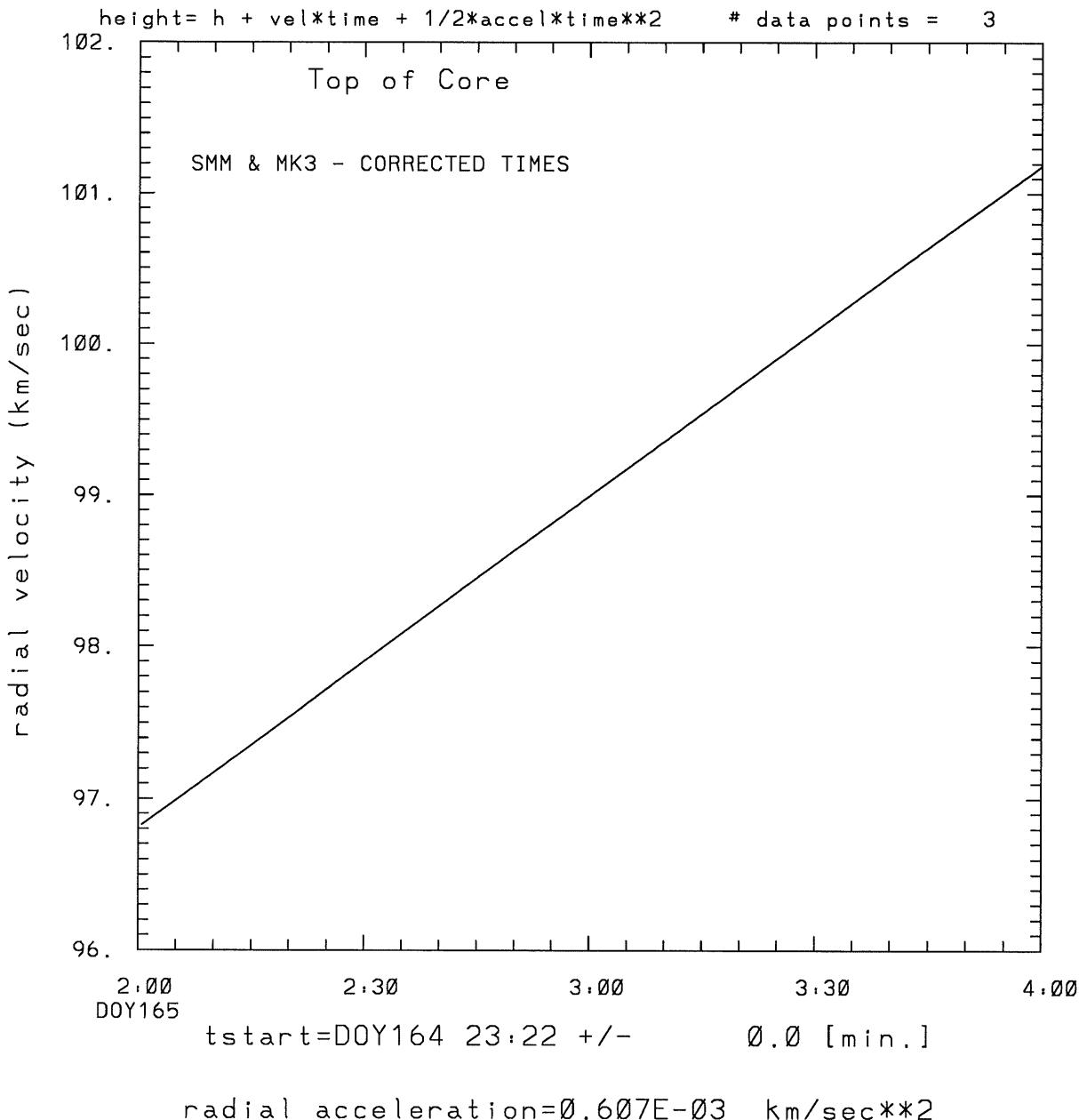
SMM C/P 1986 DOY165 100 +/- 0 degrees



SMM C/P 1986 DOY165 100 +/- 0 degrees



SMM C/P 1986 DOY165 100 +/- 0 degrees



This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in angle	error in angle	datatype
1986	165	2:30:30	2.55	+/- 0.20	100.0	+/- 0.5	SMM
1986	165	2:36:25	2.60	+/- 0.20	100.0	+/- 0.5	SMM
1986	165	3:52:11	3.25	+/- 0.20	100.0	+/- 1.0	SMM

Structure being measured:

Top of Core

OUTPUT:

START TIME:

Event began at t = 0 + -0.150E+03 +/- 0.621E-01 [minutes]

In more convenient units:

Event began at DOY 164 23:30 +/- 0.621E-01 [minutes]

Origin defined at DOY165 2: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 99. +/- 0. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.229E+01 +/- 0.398E-03 [solar radii]
c(2) = 0.857E-02 +/- 0.566E-05 [radii/min]
c(2) = 0.995E+02 +/- 0.656E-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)= 0.56292E-03 [radii] see Bevington pg. 114

error in c(2)= 0.80033E-05 [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) = 100. +/- 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 2:30 = 0.000E+00 km/sec

The TOTAL velocity at 2:30 = 99. km/sec

The TANGENTIAL velocity at 2:36 = 0.000E+00 km/sec

The TOTAL velocity at 2:36 = 99. km/sec

The TANGENTIAL velocity at 3:52 = 0.000E+00 km/sec

The TOTAL velocity at 3:52 = 99. 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 = 0.372E+02

Error in time = 0.60135E-01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.133E-06

Reduced Chi Squared = 0.409E-06

Chi Squared = 0.409E-06

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.100E+01

The probability that no LINEAR correlation exists between the variables = 0.1717E-02

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

This is a 2 order run

INPUT:

year	doy	time	error in radii	radius	error in angle	angle	datatype
1986	165	2:30:30	2.55	+/- 0.20	100.0	+/- 0.5	SMM
1986	165	2:36:25	2.60	+/- 0.20	100.0	+/- 0.5	SMM
1986	165	3:52:11	3.25	+/- 0.20	100.0	+/- 1.0	SMM

Structure being measured:

Top of Core

OUTPUT:

START TIME:

Event began at t = 0 + -0.160E+03 +/- 0.000E+00 [minutes]

In more convenient units:

Event began at DOY 164 23:22 +/- 0.000E+00 [minutes]

Origin defined at DOY165 2: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.607E-03 +/- 0.281E-06 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.229E+01 +/- 0.272E-05 [solar radii]
c(2) = 0.835E-02 +/- 0.106E-06 [radii/min]
c(2) = 0.968E+02 +/- 0.122E-02 [km/sec]
c(3) = 0.157E-05 +/- 0.726E-09 [radii/min**2]
c(3) = 0.607E-03 +/- 0.281E-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) = 100. +/- 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 2:30 = 0.000E+00 km/sec
The TOTAL velocity at 2:30 = 98. km/sec

The TANGENTIAL velocity at 2:36 = 0.000E+00 km/sec
The TOTAL velocity at 2:36 = 98. km/sec

The TANGENTIAL velocity at 3:52 = 0.000E+00 km/sec
The TOTAL velocity at 3:52 = 101. 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!