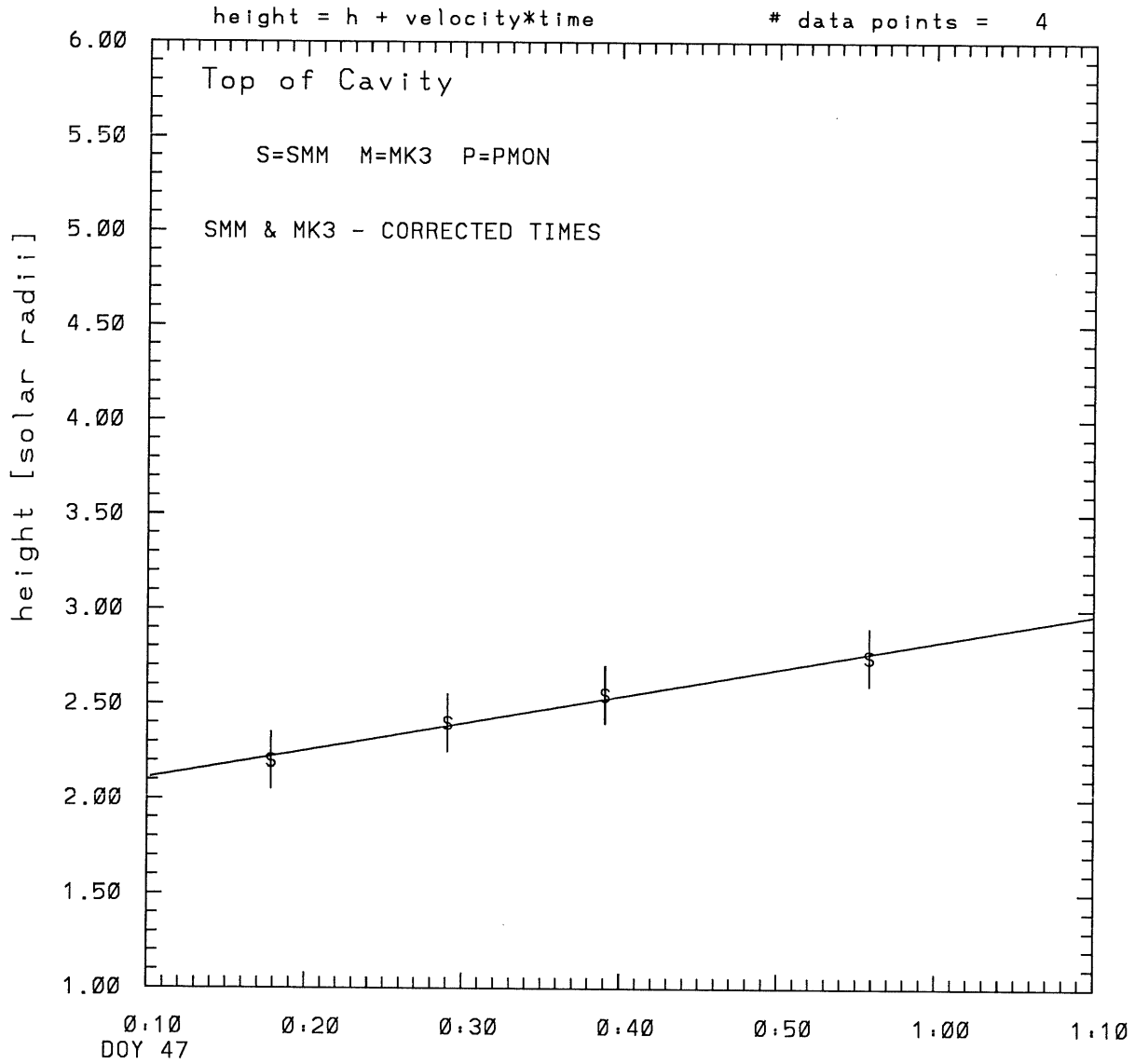
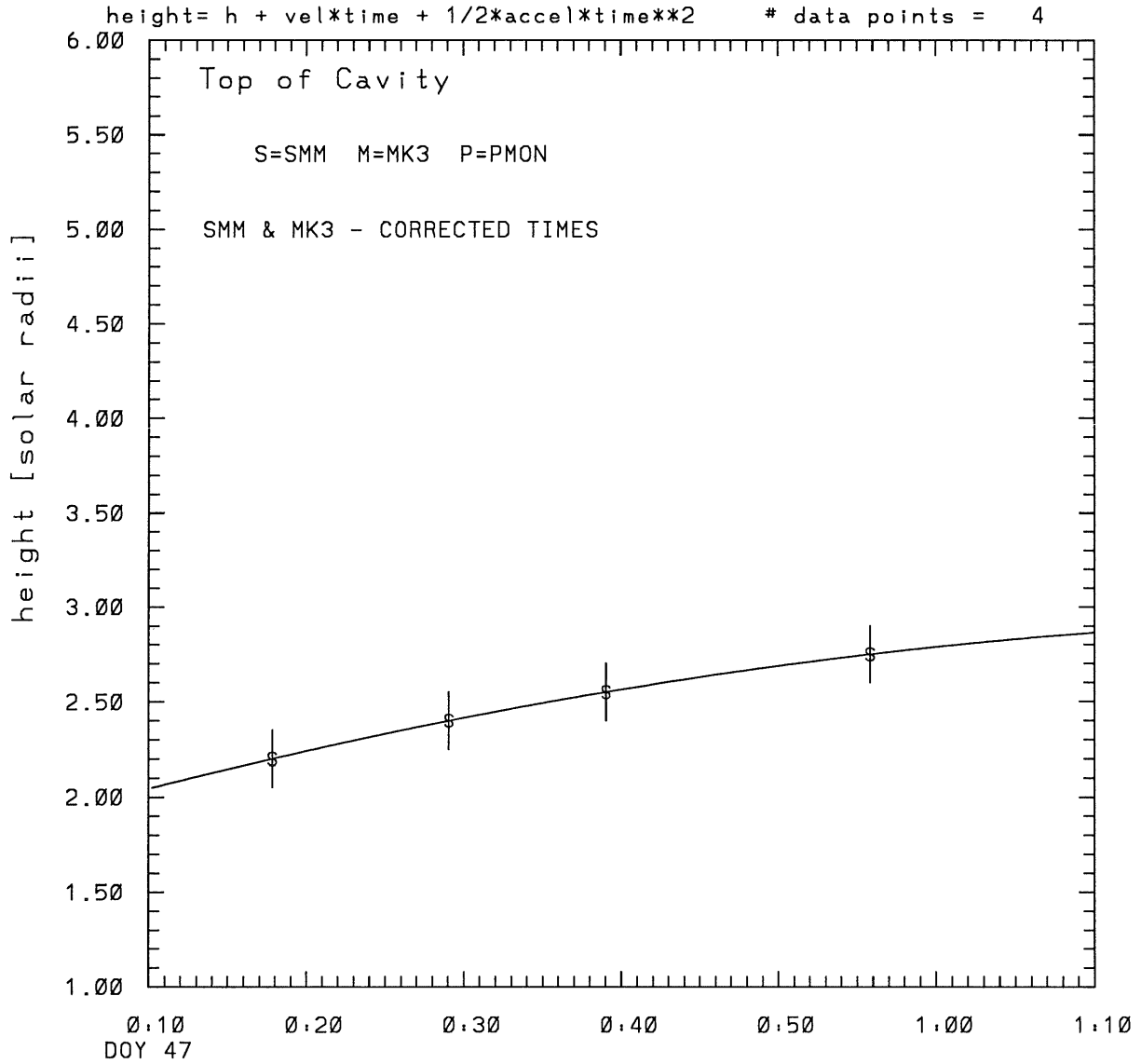


SMM C/P 1986 DOY 47 280 +/- 0 degrees



tstart=DOY 46 22:53 +/- 2.7 [min.]  
radial velocity= 167. +/- 10. [km/sec]

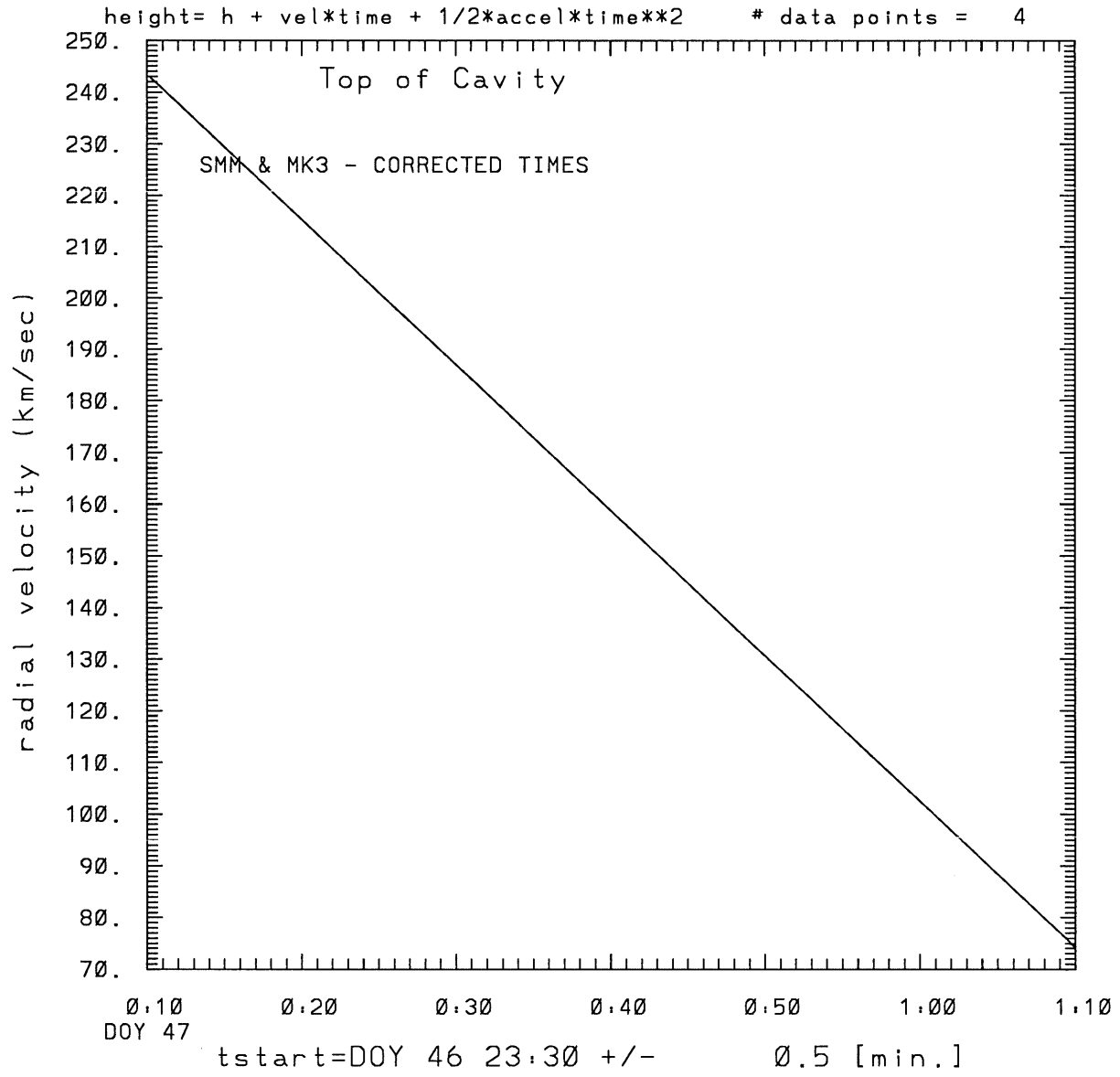
SMM C/P 1986 DOY 47 280 +/- 0 degrees



tstart=DOY 46 23.30 +/- 0.5 [min.]

radial acceleration = -0.0470 +/- 0.0008 [km/sec\*\*2]

SMM C/P 1986 DOY 47 280 +/- 0 degrees



radial acceleration =  $-.470E-01$  km/sec\*\*2

\*\*\*\*\*

This is a 1 order run

\*\*\*\*\*

\*\*\*\*\*

INPUT:

\*\*\*\*\*

			error in	error in		
year	doy	time	radii radius	anglc angle	datatype	
1986	47	0:17:50	2.20 +/- 0.15	280.0 +/- 0.5	SMM	
1986	47	0:29: 4	2.40 +/- 0.15	280.0 +/- 0.5	SMM	
1986	47	0:39: 4	2.55 +/- 0.15	280.0 +/- 0.5	SMM	
1986	47	0:55:50	2.75 +/- 0.15	280.0 +/- 0.5	SMM	

\*\*\*\*\*

Structure being measured:

Top of Cavity

\*\*\*\*\*

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OUTPUT:

\*\*\*\*\*

START TIME:

Event began at  $t = 0 + -0.772E+02 +/- 0.267E+01$  [minutes]

In more convenient units:

Event began at DOY 46 22:53 +/- 0.267E+01 [minutes]

Origin defined at DOY 47 0:10

RADIAL INFORMATION:

RADIAL VELOCITY = 167. +/- 10. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.211E+01 +/- 0.241E-01$  [solar radii]  
 $c(2) = 0.144E-01 +/- 0.829E-03$  [radii/min]  
 $c(2) = 0.167E+03 +/- 0.962E+01$  [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  $c(1) = 0.29480E-01$  [radii] see Bevington pg. 114

error in  $c(2) = 0.10156E-02$  [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) = 280. +/- 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 0:17 = 0.000E+00 km/sec

The TOTAL velocity at 0:17 = 167. km/sec

The TANGENTIAL velocity at 0:29 = 0.000E+00 km/sec

The TOTAL velocity at 0:29 = 167. km/sec

The TANGENTIAL velocity at 0:39 = 0.000E+00 km/sec

The TOTAL velocity at 0:39 = 167. km/sec

The TANGENTIAL velocity at 0:55 = 0.000E+00 km/sec

The TOTAL velocity at 0:55 = 167. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.23

Standard Deviation in start time measurement = 0.140E+02

Error in time = 0.27916E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.536E-03

Reduced Chi Squared = 0.195E-02

Chi Squared = 0.390E-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 = 0.4957E-02

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

\*\*\*\*\*

This is a 2 order run

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\*\*\*\*\*

INPUT:

\*\*\*\*\*

year	doy	time	error in radii	error in radius	error in angle	error in angle	datatype
1986	47	0:17:50	2.20 +/- 0.15		280.0 +/- 0.5		SMM
1986	47	0:29: 4	2.40 +/- 0.15		280.0 +/- 0.5		SMM
1986	47	0:39: 4	2.55 +/- 0.15		280.0 +/- 0.5		SMM
1986	47	0:55:50	2.75 +/- 0.15		280.0 +/- 0.5		SMM

\*\*\*\*\*

Structure being measured:

Top of Cavity

\*\*\*\*\*

\*\*\*\*\*

OUTPUT:

\*\*\*\*\*

START TIME:

Event began at t = 0 + -0.403E+02 +/- 0.519E+00 [minutes]

In more convenient units:

Event began at DOY 46 23:30 +/- 0.519E+00 [minutes]

Origin defined at DOY 47 0:10

RADIAL INFORMATION:

RADIAL ACCELERATION = -0.470E-01 +/- 0.834E-03 km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.204E+01 +/- 0.139E-02 [solar radii]  
c(2) = 0.210E-01 +/- 0.120E-03 [radii/min]  
c(2) = 0.243E+03 +/- 0.139E+01 [km/sec]  
c(3) = -0.122E-03 +/- 0.216E-05 [radii/min\*\*2]  
c(3) = -0.470E-01 +/- 0.834E-03 [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.19602E-02 [radii] Bevington pg 154 (8-30)  
Exact error in c(1) = 0.67377E-03 [radii] Bevington pg 154 (8-28)  
Approximate error in c(2) = 0.16996E-03 [radii/min] Bevington pg 154 (8-30)  
Exact error in c(2) = 0.81606E-04 [radii/min] Bevington pg 154 (8-28)  
Approximate error in c(3) = 0.30489E-05 [radii/min\*\*] Bevington pg 154 (8-30)  
Exact error in c(3) = 0.14907E-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) = 280. +/- 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 0:17 = 0.000E+00 km/sec

The TOTAL velocity at 0:17 = 221. km/sec

The TANGENTIAL velocity at 0:29 = 0.000E+00 km/sec

The TOTAL velocity at 0:29 = 190. km/sec

The TANGENTIAL velocity at 0:39 = 0.000E+00 km/sec

The TOTAL velocity at 0:39 = 161. km/sec

The TANGENTIAL velocity at 0:55 = 0.000E+00 km/sec

The TOTAL velocity at 0:55 = 114. km/sec

\*\*\*\*\*  
The following info is for estimating goodness of the fit  
\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.23  
Standard Deviation in start time measurement = 0.140E+02  
Value of reduced Chi Squared returned from nllst2 = 0.506E-06  
Reduced Chi Squared = 0.239E-05  
Chi Squared = 0.239E-05  
The probability for exceeding chi square = 0.999E+00

For a second order fit 3 correlation coefficients are given:

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

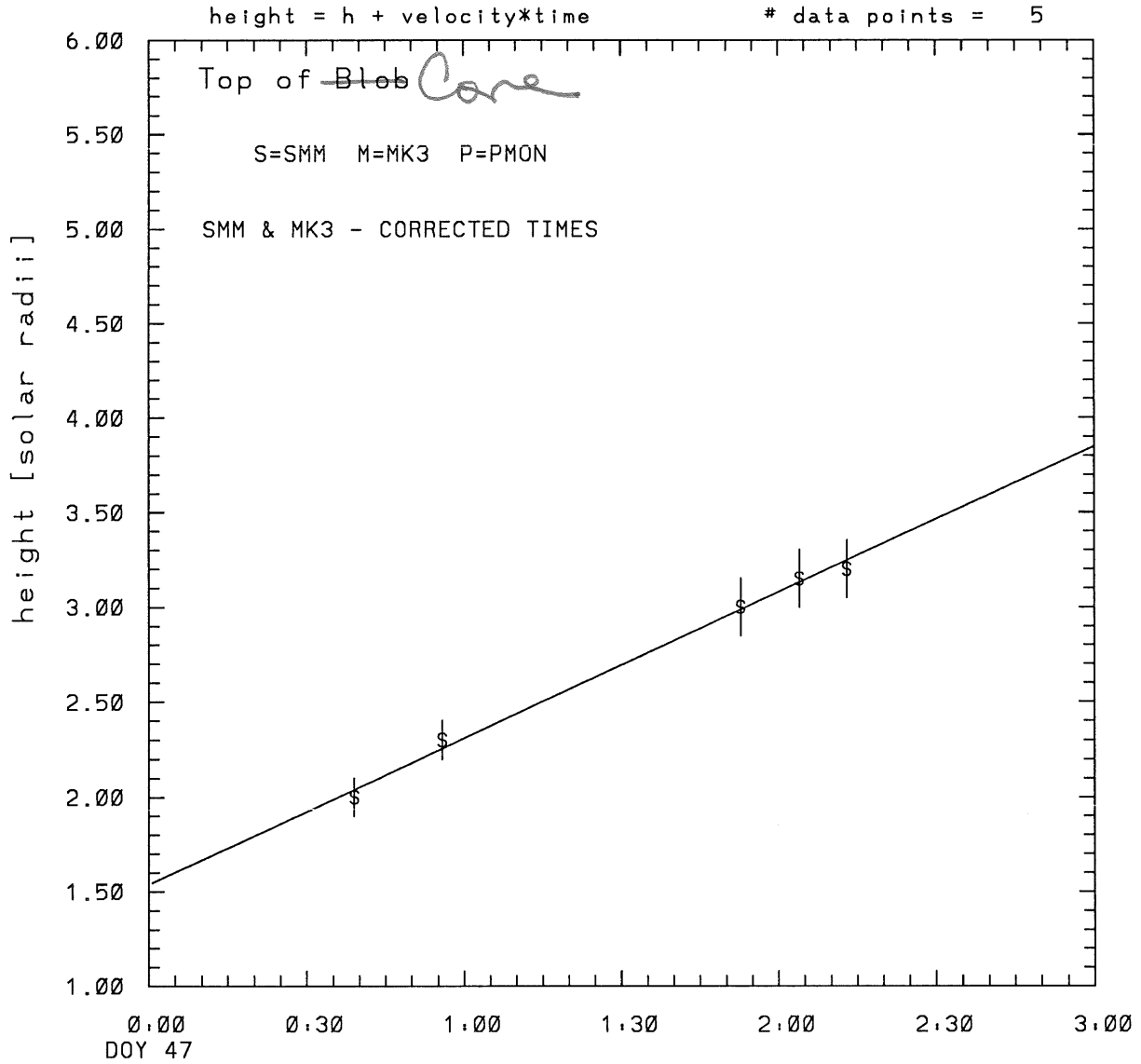
The correlation between the data and the term linear in time = 0.9950E+00

The correlation between the data and the time\*\*2 term = 0.9514E+00

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

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

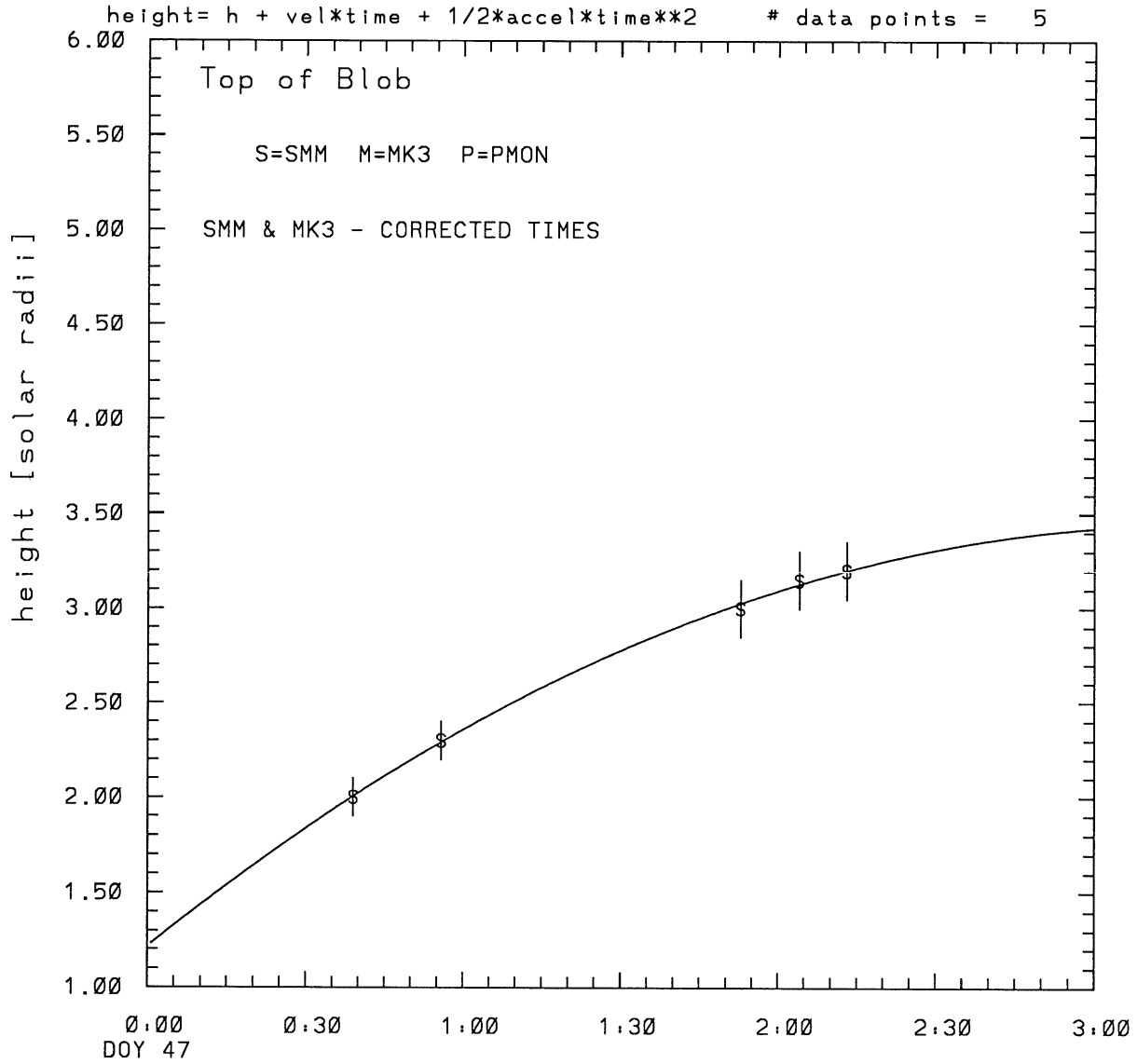
SMM C/P 1986 DOY 47 280 +/- 0 degrees



tstart=DOY 46 23:20 +/- 1.1 [min.]  
radial velocity= 149. +/- 6. [km/sec]



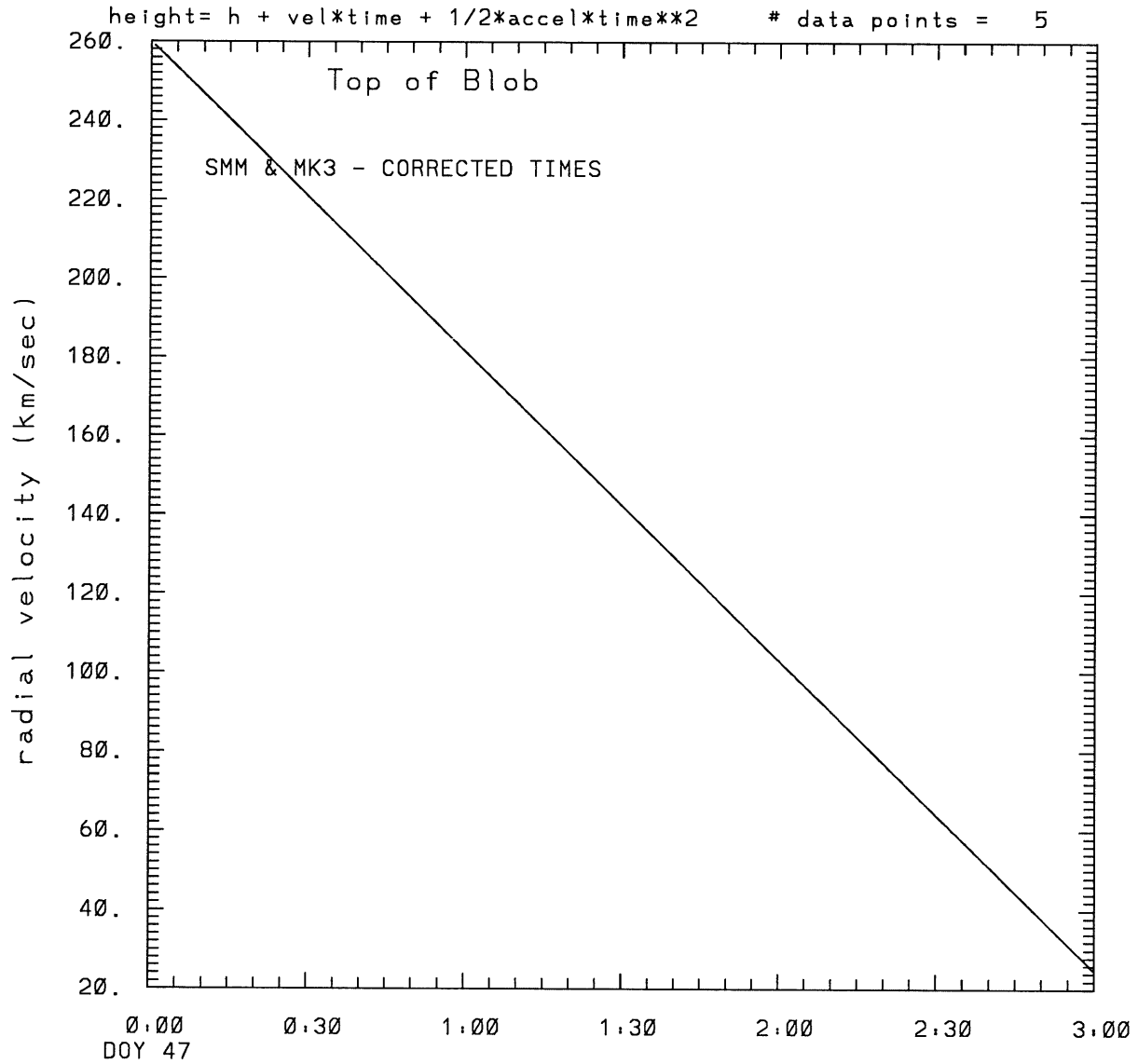
SMM C/P 1986 DOY 47 280 +/- 0 degrees



tstart=DOY 46 23:51 +/- 0.9 [min.]

radial acceleration = -0.0218 +/- 0.0049 [km/sec\*\*2]

SMM C/P 1986 DOY 47 280 +/- 0 degrees



0.00  
DOY 47

tstart=DOY 46 23:51 +/- 0.9 [min.]

radial acceleration =  $-.218E-01$  km/sec\*\*2

\*\*\*\*\*

This is a 1 order run

\*\*\*\*\*

\*\*\*\*\*

INPUT:

\*\*\*\*\*

			error in	error in	
year	doy	time	radii radius	angle angle	datatype
1986	47	0:39: 4	2.00 +/- 0.10	280.0 +/- 0.5	SMM
1986	47	0:55:50	2.30 +/- 0.10	280.0 +/- 0.5	SMM
1986	47	1:52:49	3.00 +/- 0.15	280.0 +/- 1.0	SMM
1986	47	2: 4: 3	3.15 +/- 0.15	280.0 +/- 1.0	SMM
1986	47	2:13: 4	3.20 +/- 0.15	280.0 +/- 1.0	SMM

\*\*\*\*\*

Structure being measured:

Top of Blob

\*\*\*\*\*

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OUTPUT:

\*\*\*\*\*

START TIME:

Event began at  $t = 0 + -0.419E+02 \pm 0.110E+01$  [minutes]

In more convenient units:

Event began at DOY 46 23:20  $\pm 0.110E+01$  [minutes]

Origin defined at DOY 47 0: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 149.  $\pm$  6. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.154E+01  $\pm$  0.432E-01 [solar radii]  
c(2) = 0.128E-01  $\pm$  0.499E-03 [radii/min]  
c(2) = 0.149E+03  $\pm$  0.579E+01 [km/sec]  
c(3) = 0.000E+00  $\pm$  0.000E+00 [radii/min\*\*2]  
c(3) = 0.000E+00  $\pm$  0.000E+00 [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

error in c(1)= 0.54144E-01 [radii] see Bevington pg. 114

error in c(2)= 0.53893E-03 [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = 0.0000E+00  $\pm$  0.0000E+00[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 280. +/- 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 0:39 = 0.000E+00 km/sec

The TOTAL velocity at 0:39 = 149. km/sec

The TANGENTIAL velocity at 0:55 = 0.000E+00 km/sec

The TOTAL velocity at 0:55 = 149. km/sec

The TANGENTIAL velocity at 1:52 = 0.000E+00 km/sec

The TOTAL velocity at 1:52 = 149. km/sec

The TANGENTIAL velocity at 2: 4 = 0.000E+00 km/sec

The TOTAL velocity at 2: 4 = 149. km/sec

The TANGENTIAL velocity at 2:13 = 0.000E+00 km/sec

The TOTAL velocity at 2:13 = 149. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.54

Standard Deviation in start time measurement = 0.381E+02

Error in time = 0.61908E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.180E-02

Reduced Chi Squared = 0.616E-02

Chi Squared = 0.185E-01

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.997E+00

The probability that no LINEAR correlation exists between the variables = 0.1629E-03

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

\*\*\*\*\*

This is a 2 order run

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\*\*\*\*\*

INPUT:

\*\*\*\*\*

year	doy	time	radii	error in radius	angle	error in angle	datatype
1986	47	0:39: 4	2.00	+/- 0.10	280.0	+/- 0.5	SMM
1986	47	0:55:50	2.30	+/- 0.10	280.0	+/- 0.5	SMM
1986	47	1:52:49	3.00	+/- 0.15	280.0	+/- 1.0	SMM
1986	47	2: 4: 3	3.15	+/- 0.15	280.0	+/- 1.0	SMM
1986	47	2:13: 4	3.20	+/- 0.15	280.0	+/- 1.0	SMM

\*\*\*\*\*

Structure being measured:

Top of Blob

\*\*\*\*\*

\*\*\*\*\*

OUTPUT:

\*\*\*\*\*

START TIME:

Event began at  $t = 0 + -0.940E+01 +/- 0.890E+00$  [minutes]

In more convenient units:

Event began at DOY 46 23:51 +/- 0.890E+00 [minutes]

Origin defined at DOY 47 0: 0

RADIAL INFORMATION:

RADIAL ACCELERATION =  $-0.218E-01 +/- 0.486E-02$  km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.122E+01 +/- 0.740E-01$  [solar radii]  
 $c(2) = 0.224E-01 +/- 0.214E-02$  [radii/min]  
 $c(2) = 0.260E+03 +/- 0.249E+02$  [km/sec]  
 $c(3) = -0.563E-04 +/- 0.126E-04$  [radii/min\*\*2]  
 $c(3) = -0.218E-01 +/- 0.486E-02$  [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in  $c(1) = 0.10958E+00$  [radii] Bevington pg 154 (8-30)

Exact error in  $c(1) = 0.27274E-01$  [radii] Bevington pg 154 (8-28)

Approximate error in  $c(2) = 0.31083E-02$  [radii/min] Bevington pg 154 (8-30)

Exact error in  $c(2) = 0.83257E-03$  [radii/min] Bevington pg 154 (8-28)

Approximate error in  $c(3) = 0.18052E-04$  [radii/min\*\*] Bevington pg 154 (8-30)

Exact error in  $c(3) = 0.47348E-05$  [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) = 280. +/- 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 0:39 = 0.000E+00 km/sec

The TOTAL velocity at 0:39 = 209. km/sec

The TANGENTIAL velocity at 0:55 = 0.000E+00 km/sec

The TOTAL velocity at 0:55 = 187. km/sec

The TANGENTIAL velocity at 1:52 = 0.000E+00 km/sec

The TOTAL velocity at 1:52 = 113. km/sec

The TANGENTIAL velocity at 2: 4 = 0.000E+00 km/sec

The TOTAL velocity at 2: 4 = 98. km/sec

The TANGENTIAL velocity at 2:13 = 0.000E+00 km/sec

The TOTAL velocity at 2:13 = 86. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.54

Standard Deviation in start time measurement = 0.381E+02

Value of reduced Chi Squared returned from nllst2 = 0.312E-03

Reduced Chi Squared = 0.207E-02

Chi Squared = 0.414E-02

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 = 0.1074E+01

The correlation between the data and the time\*\*2 term = 0.1054E+01

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

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