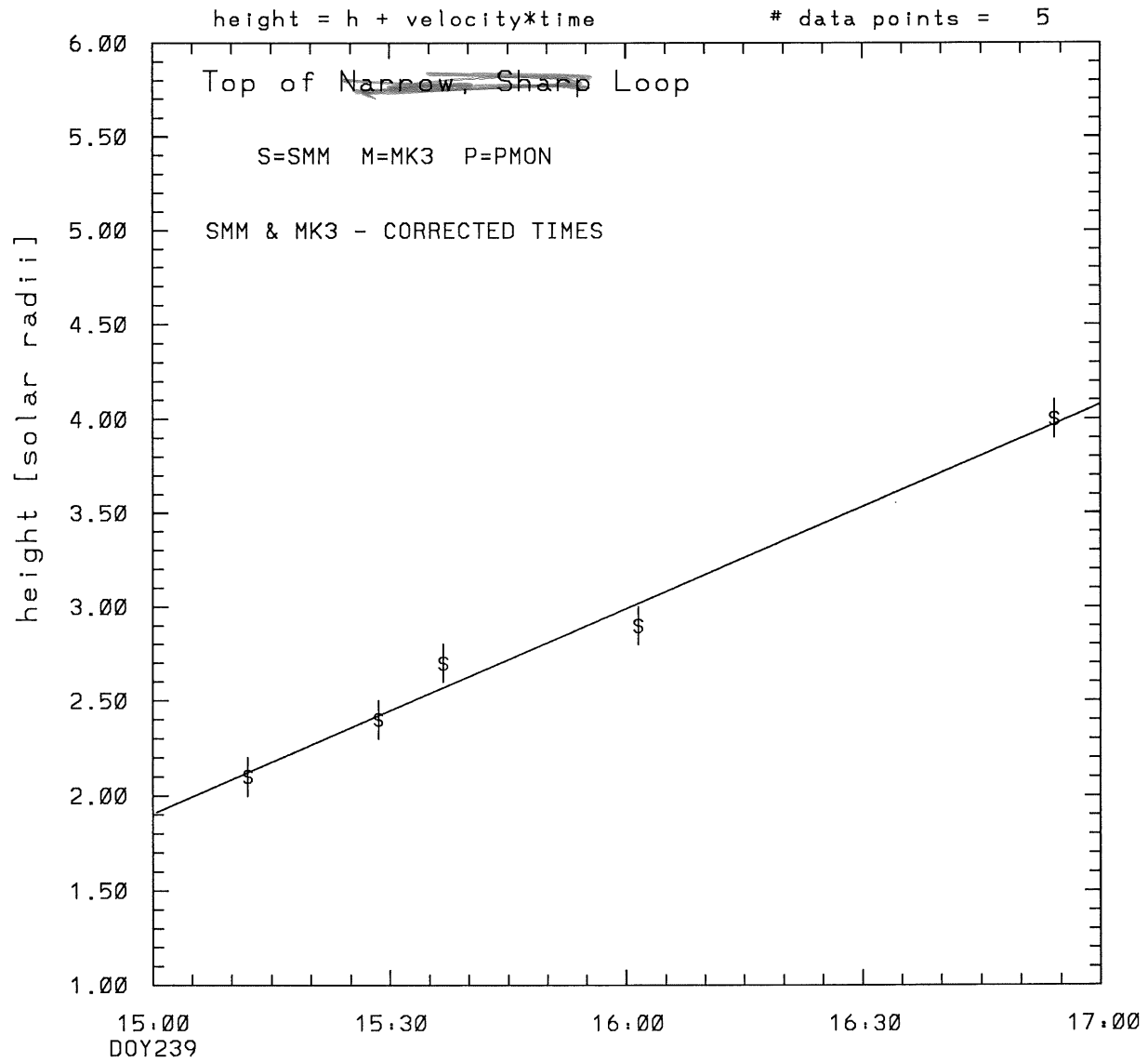
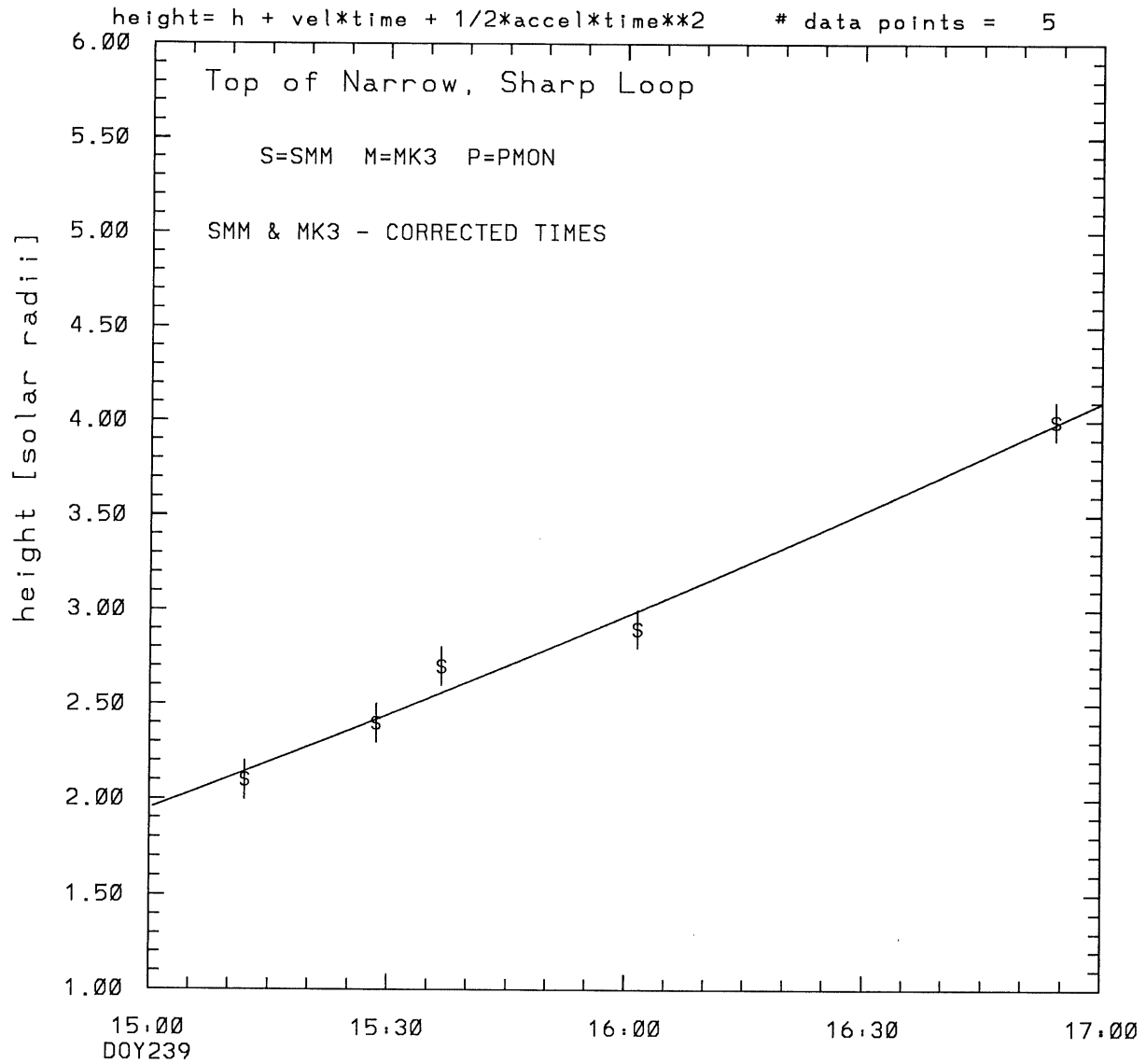


SMM C/P 1988 DOY239 314 +/- 0 degrees



tstart=DOY239 14.12 +/- 0.6 [min.]
radial velocity= 210. +/- 13. [km/sec]

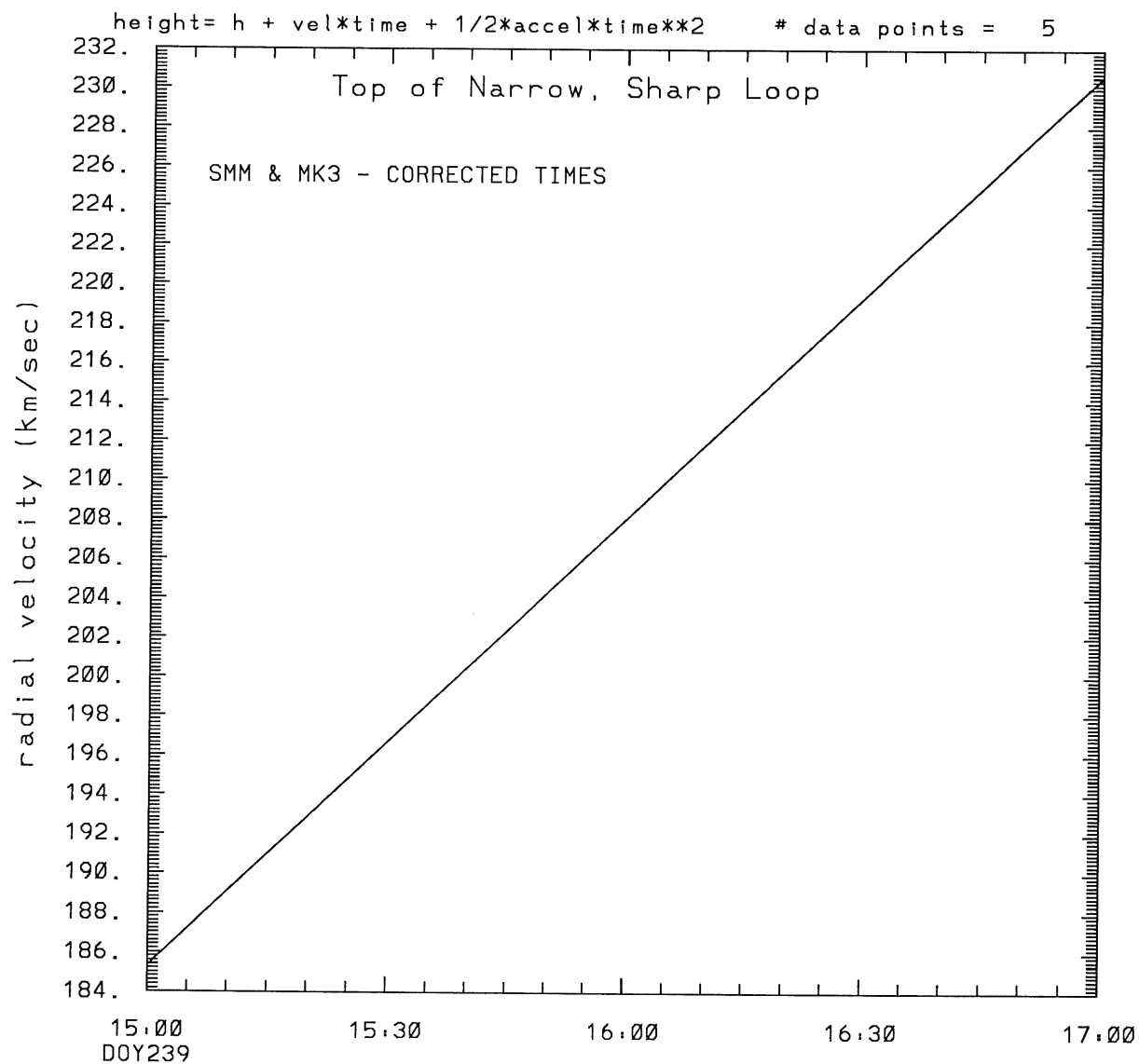
SMM C/P 1988 DOY239 314 +/- 0 degrees



tstart=DOY239 13:58 +/- 68.6 [min.]

radial acceleration = 0.0063 ± 0.0171 [km/sec**2]

SMM C/P 1988 DOY239 314 +/- 0 degrees



tstart=DOY239 13:58 +/- 68.6 [min.]

radial acceleration= $0.630E-02$ km/sec**2

This is a 1 order run

INPUT:

year	day	time	radii	error in radius	angle	error in angle	datatype
1988	239	15:12: 0	2.10	+/- 0.10	314.0	+/- 0.5	SMM
1988	239	15:28:31	2.40	+/- 0.10	314.0	+/- 0.5	SMM
1988	239	15:36:47	2.70	+/- 0.10	314.0	+/- 0.5	SMM
1988	239	16: 1:32	2.90	+/- 0.10	314.0	+/- 0.5	SMM
1988	239	16:54:11	4.00	+/- 0.10	314.0	+/- 1.0	SMM

Structure being measured:

Top of Narrow, Sharp Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.499\text{E}+02 \pm 0.607\text{E}+00$ [minutes]

In more convenient units:

Event began at DOY 239 14:12 $\pm 0.607\text{E}+00$ [minutes]

Origin defined at DOY239 15: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 210. \pm 13. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.190\text{E}+01 \pm 0.701\text{E}-01$ [solar radii]
 $c(2) = 0.181\text{E}-01 \pm 0.113\text{E}-02$ [radii/min]
 $c(2) = 0.210\text{E}+03 \pm 0.131\text{E}+02$ [km/sec]
 $c(3) = 0.000\text{E}+00 \pm 0.000\text{E}+00$ [radii/min**2]
 $c(3) = 0.000\text{E}+00 \pm 0.000\text{E}+00$ [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

error in $c(1) = 0.80968\text{E}-01$ [radii] see Bevington pg. 114

error in $c(2) = 0.13088\text{E}-02$ [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

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

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 314. +/- 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 15:12 = 0. km/sec

The TOTAL velocity at 15:12 = 210. km/sec

The TANGENTIAL velocity at 15:28 = 0. km/sec

The TOTAL velocity at 15:28 = 210. km/sec

The TANGENTIAL velocity at 15:36 = 0. km/sec

The TOTAL velocity at 15:36 = 210. km/sec

The TANGENTIAL velocity at 16: 1 = 0. km/sec

The TOTAL velocity at 16: 1 = 210. km/sec

The TANGENTIAL velocity at 16:54 = 0. km/sec

The TOTAL velocity at 16:54 = 210. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.73

Standard Deviation in start time measurement = 0.356E+02

Error in time = 0.99623E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.813E-02

Reduced Chi Squared = 0.373E-01

Chi Squared = 0.112E+00

The probability for exceeding chi square = 0.999E+00

The correlation coefficient = 0.992E+00

The probability that no LINEAR correlation exists between the variables = 0.8177E-03

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	239	15:12: 0	2.10 +/- 0.10		314.0 +/- 0.5		SMM
1988	239	15:28:31	2.40 +/- 0.10		314.0 +/- 0.5		SMM
1988	239	15:36:47	2.70 +/- 0.10		314.0 +/- 0.5		SMM
1988	239	16: 1:32	2.90 +/- 0.10		314.0 +/- 0.5		SMM
1988	239	16:54:11	4.00 +/- 0.10		314.0 +/- 1.0		SMM

Structure being measured:

Top of Narrow, Sharp Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.635\text{E}+02 \pm 0.686\text{E}+02$ [minutes]

In more convenient units:

Event began at DOY 239 13:58 $\pm 0.686\text{E}+02$ [minutes]

Origin defined at DOY239 15: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = $0.630\text{E}-02 \pm 0.171\text{E}-01$ km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.195\text{E}+01 \pm 0.147\text{E}+00$ [solar radii]
 $c(2) = 0.160\text{E}-01 \pm 0.593\text{E}-02$ [radii/min]
 $c(2) = 0.185\text{E}+03 \pm 0.688\text{E}+02$ [km/sec]
 $c(3) = 0.163\text{E}-04 \pm 0.443\text{E}-04$ [radii/min**2]
 $c(3) = 0.630\text{E}-02 \pm 0.171\text{E}-01$ [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in $c(1) = 0.17989\text{E}+00$ [radii] Bevington pg 154 (8-30)

Exact error in $c(1) = 0.53176\text{E}-01$ [radii] Bevington pg 154 (8-28)

Approximate error in $c(2) = 0.72680\text{E}-02$ [radii/min] Bevington pg 154 (8-30)

Exact error in $c(2) = 0.24309\text{E}-02$ [radii/min] Bevington pg 154 (8-28)

Approximate error in $c(3) = 0.54255\text{E}-04$ [radii/min**] Bevington pg 154 (8-30)

Exact error in $c(3) = 0.17392\text{E}-04$ [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) = 314. +/- 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 15:12 = 0. km/sec

The TOTAL velocity at 15:12 = 190. km/sec

The TANGENTIAL velocity at 15:28 = 0. km/sec

The TOTAL velocity at 15:28 = 196. km/sec

The TANGENTIAL velocity at 15:36 = 0. km/sec

The TOTAL velocity at 15:36 = 199. km/sec

The TANGENTIAL velocity at 16: 1 = 0. km/sec

The TOTAL velocity at 16: 1 = 209. km/sec

The TANGENTIAL velocity at 16:54 = 0. km/sec

The TOTAL velocity at 16:54 = 228. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.73

Standard Deviation in start time measurement = 0.356E+02

Value of reduced Chi Squared returned from nllst2 = 0.104E-01

Reduced Chi Squared = 0.493E-01

Chi Squared = 0.986E-01

The probability for exceeding chi square = 0.990E+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 = 0.9923E+00

The correlation between the data and the time**2 term = 0.9744E+00

0The correlation between the data and the complete equation of motion = 0.9852E+00

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