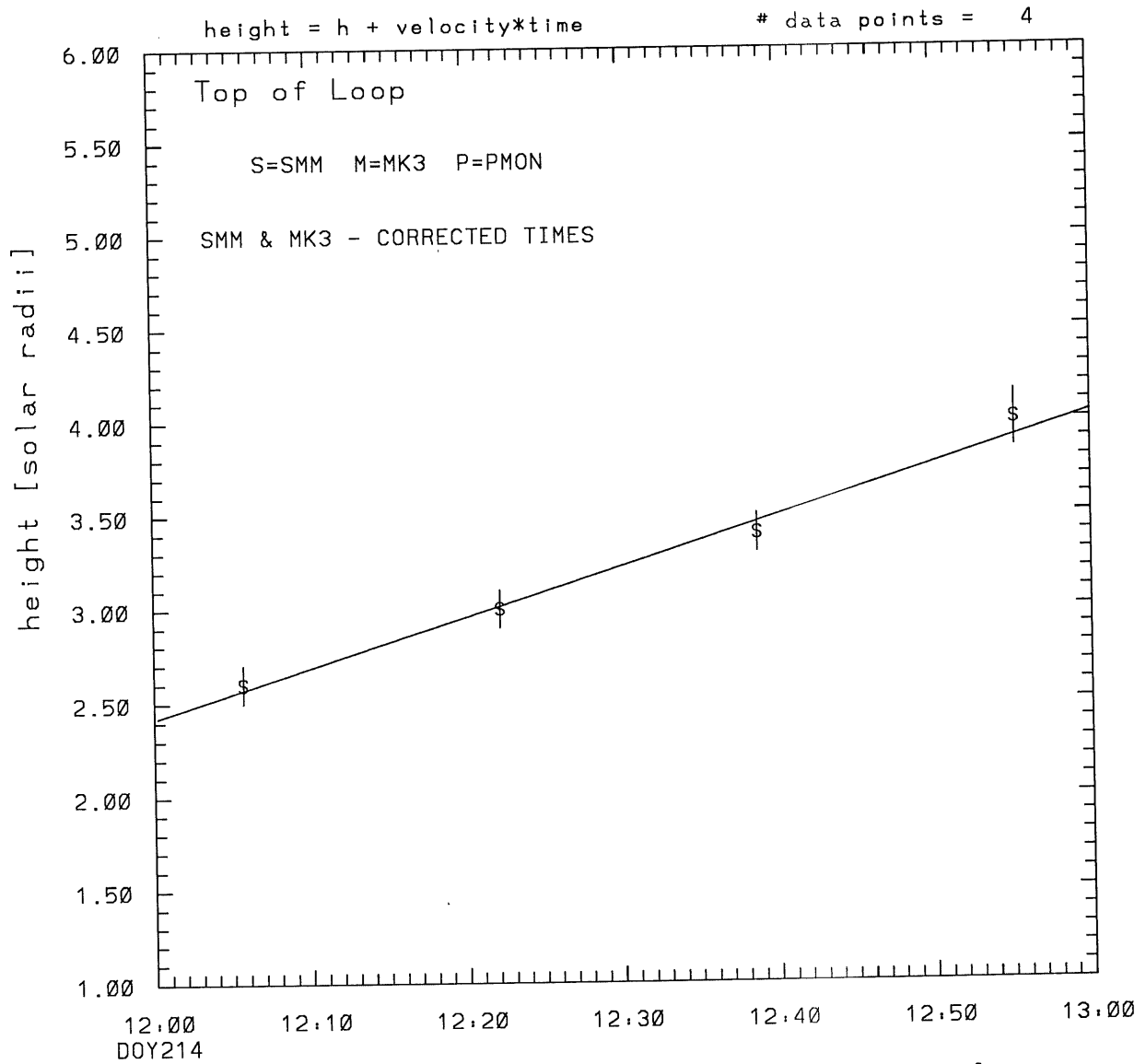
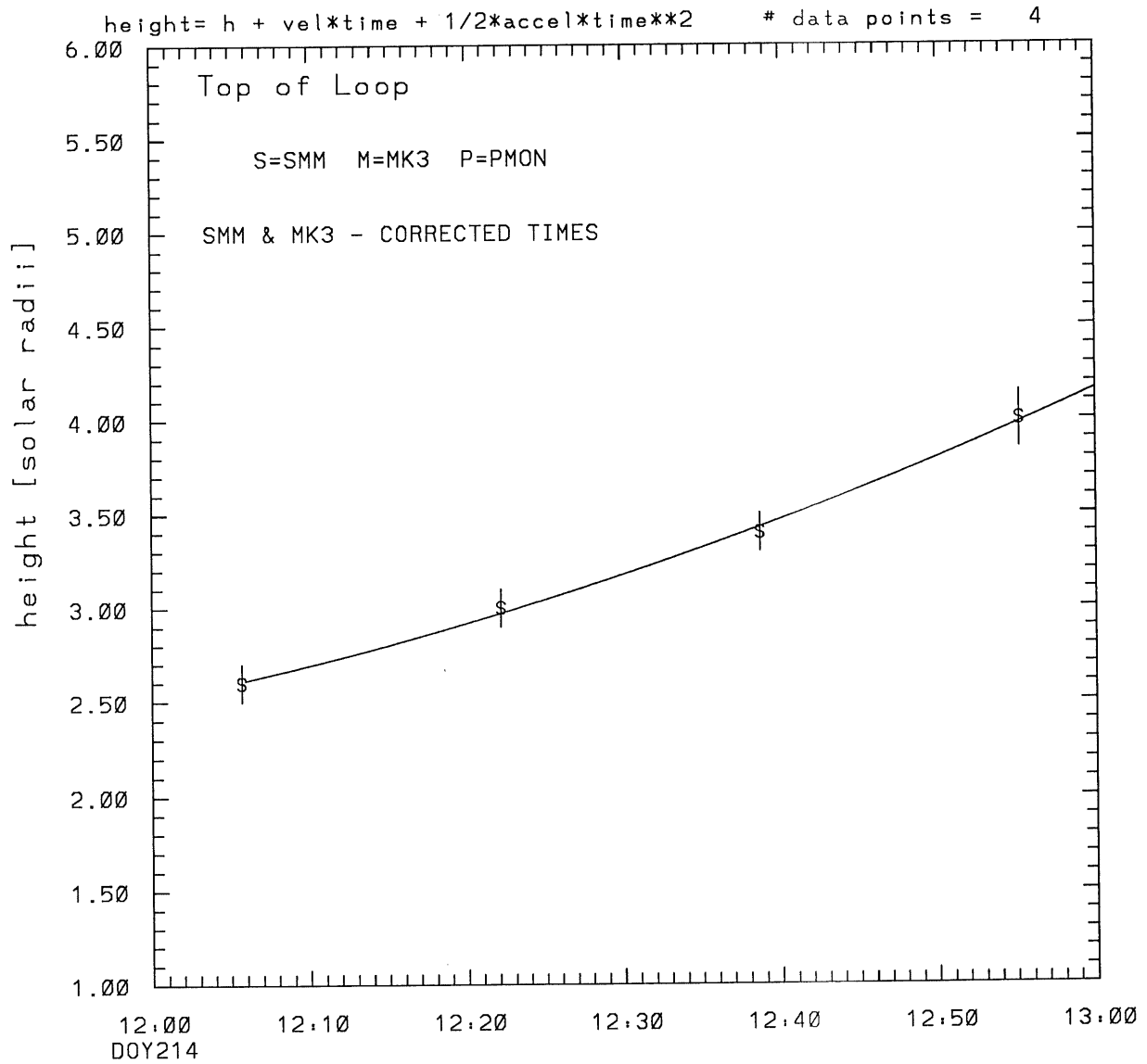


SMM C/P 1987 DOY214 340 +/- 0 degrees



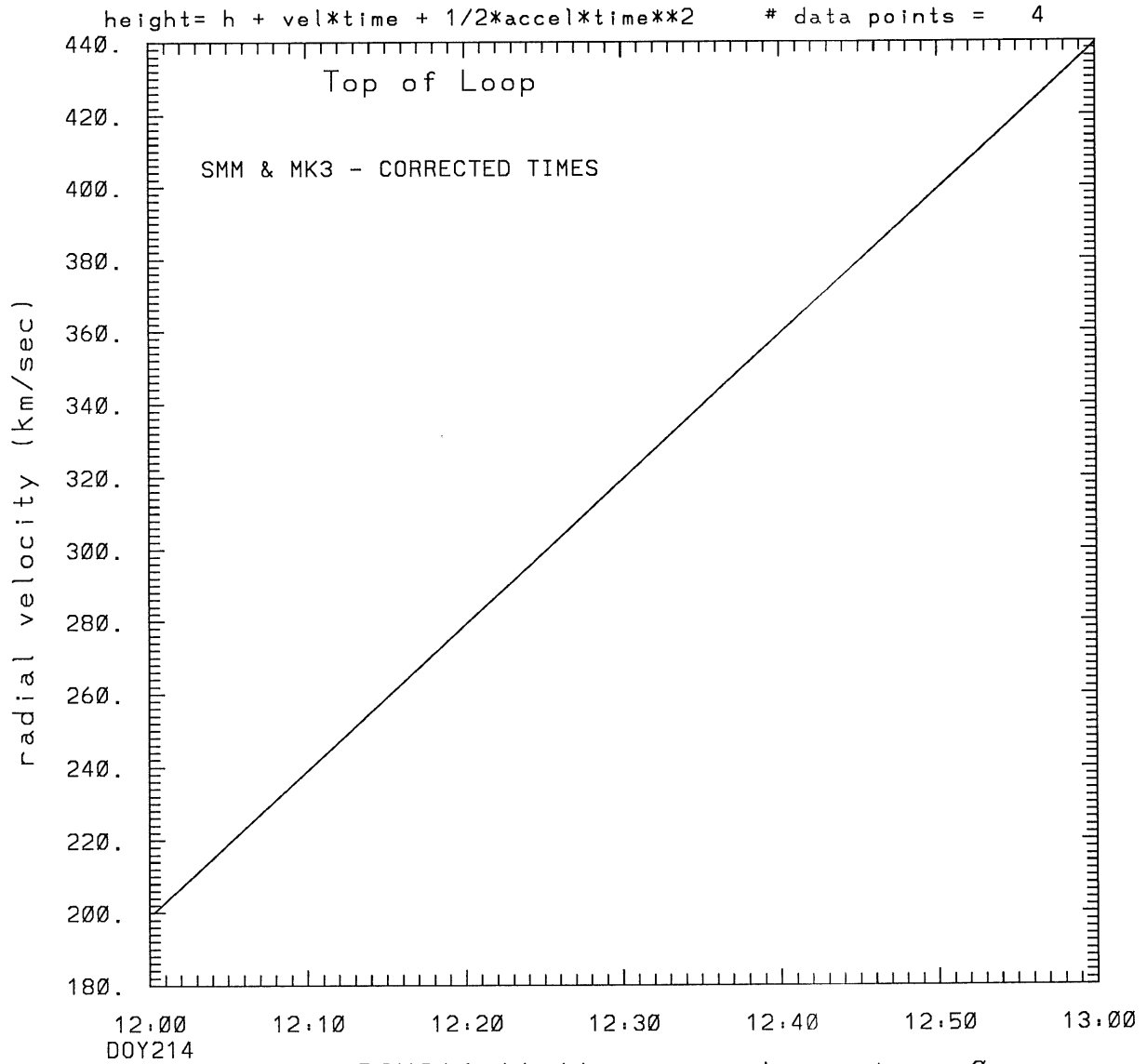
tstart=DOY214 11: 9 +/- 2.0 [min.]  
radial velocity= 312. +/- 20. [km/sec]

SMM C/P 1987 DOY214 340 +/- 0 degrees



tstart=DOY214 11:11 from derivative=0  
Event begins at 2.08 Solar Radii  
radial acceleration = 0.0668 +/- 0.0251 [km/sec\*\*2]

SMM C/P 1987 DOY214 340 +/- 0 degrees



tstart=DOY214 11:11 from derivative=0  
Event begins at 2.08 Solar Radii  
radial acceleration=0.668E-01 km/sec\*\*2

\*\*\*\*\*  
This is a 1 order run  
\*\*\*\*\*

\*\*\*\*\*  
INPUT:  
\*\*\*\*\*

year	doy	time	radii	radius	error in	angle	angle	error in	datatype
1987	214	12: 5:40	2.60	+/- 0.10	340.0	+/- 0.5			SMM
1987	214	12:22: 9	3.00	+/- 0.10	340.0	+/- 1.0			SMM
1987	214	12:38:41	3.40	+/- 0.10	340.0	+/- 1.0			SMM
1987	214	12:55:10	4.00	+/- 0.15	340.0	+/- 1.0			SMM

\*\*\*\*\*  
Structure being measured:  
Top of Loop  
\*\*\*\*\*

\*\*\*\*\*  
OUTPUT:  
\*\*\*\*\*

START TIME:

Event began at  $t = 0 + -0.528E+02 \pm 0.203E+01$  [minutes]  
In more convenient units:  
Event began at DOY 214 11: 9  $\pm 0.203E+01$  [minutes]

Origin defined at DOY214 12: 0

RADIAL INFORMATION:

RADIAL VELOCITY =  $312. \pm 20.$  km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.242E+01 \pm 0.544E-01$  [solar radii]  
 $c(2) = 0.269E-01 \pm 0.174E-02$  [radii/min]  
 $c(2) = 0.312E+03 \pm 0.202E+02$  [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  $c(1) = 0.81084E-01$  [radii] see Bevington pg. 114

error in  $c(2) = 0.22792E-02$  [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) = 340. +/- 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 12: 5 = 0.000E+00 km/sec

The TOTAL velocity at 12: 5 = 312. km/sec

The TANGENTIAL velocity at 12:22 = 0.000E+00 km/sec

The TOTAL velocity at 12:22 = 312. km/sec

The TANGENTIAL velocity at 12:38 = 0.000E+00 km/sec

The TOTAL velocity at 12:38 = 312. km/sec

The TANGENTIAL velocity at 12:55 = 0.000E+00 km/sec

The TOTAL velocity at 12:55 = 312. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.60

Standard Deviation in start time measurement = 0.185E+02

Error in time = 0.44253E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.339E-02

Reduced Chi Squared = 0.251E-01

Chi Squared = 0.503E-01

The probability for exceeding chi square = 0.997E+00

The correlation coefficient = 0.994E+00

The probability that no LINEAR correlation exists between the variables = 0.5649E-02

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	datatype
1987	214	12: 5:40	2.60	+/- 0.10	340.0	+/- 0.5	SMM	
1987	214	12:22: 9	3.00	+/- 0.10	340.0	+/- 1.0	SMM	
1987	214	12:38:41	3.40	+/- 0.10	340.0	+/- 1.0	SMM	
1987	214	12:55:10	4.00	+/- 0.15	340.0	+/- 1.0	SMM	

\*\*\*\*\*

Structure being measured:

Top of Loop

\*\*\*\*\*

\*\*\*\*\*

OUTPUT:

\*\*\*\*\*

START TIME:

tstart=DOY214 11:11 from derivative = 0

Event begins at 2.08 Solar Radii

Origin defined at DOY214 12: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.668E-01 +/- 0.251E-01 km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.251E+01 +/- 0.456E-01 [solar radii]  
c(2) = 0.171E-01 +/- 0.380E-02 [radii/min]  
c(2) = 0.199E+03 +/- 0.440E+02 [km/sec]  
c(3) = 0.173E-03 +/- 0.650E-04 [radii/min\*\*2]  
c(3) = 0.668E-01 +/- 0.251E-01 [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.67580E-01 [radii] Bevington pg 154 (8-30)  
Exact error in c(1) = 0.18118E-01 [radii] Bevington pg 154 (8-28)  
Approximate error in c(2) = 0.53846E-02 [radii/min] Bevington pg 154 (8-30)  
Exact error in c(2) = 0.24956E-02 [radii/min] Bevington pg 154 (8-28)  
Approximate error in c(3) = 0.86023E-04 [radii/min\*\*] Bevington pg 154 (8-30)  
Exact error in c(3) = 0.42923E-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) = 340. +/- 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 12: 5 = 0.000E+00 km/sec

The TOTAL velocity at 12: 5 = 222. km/sec

The TANGENTIAL velocity at 12:22 = 0.000E+00 km/sec

The TOTAL velocity at 12:22 = 288. km/sec

The TANGENTIAL velocity at 12:38 = 0.000E+00 km/sec

The TOTAL velocity at 12:38 = 354. km/sec

The TANGENTIAL velocity at 12:55 = 0.000E+00 km/sec

The TOTAL velocity at 12:55 = 420. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.60

Standard Deviation in start time measurement = 0.185E+02

Value of reduced Chi Squared returned from nllst2 = 0.112E-02

Reduced Chi Squared = 0.604E-02

Chi Squared = 0.604E-02

The probability for exceeding chi square = 0.973E+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 = 0.9275E+00

The correlation between the data and the time\*\*2 term = 0.8698E+00

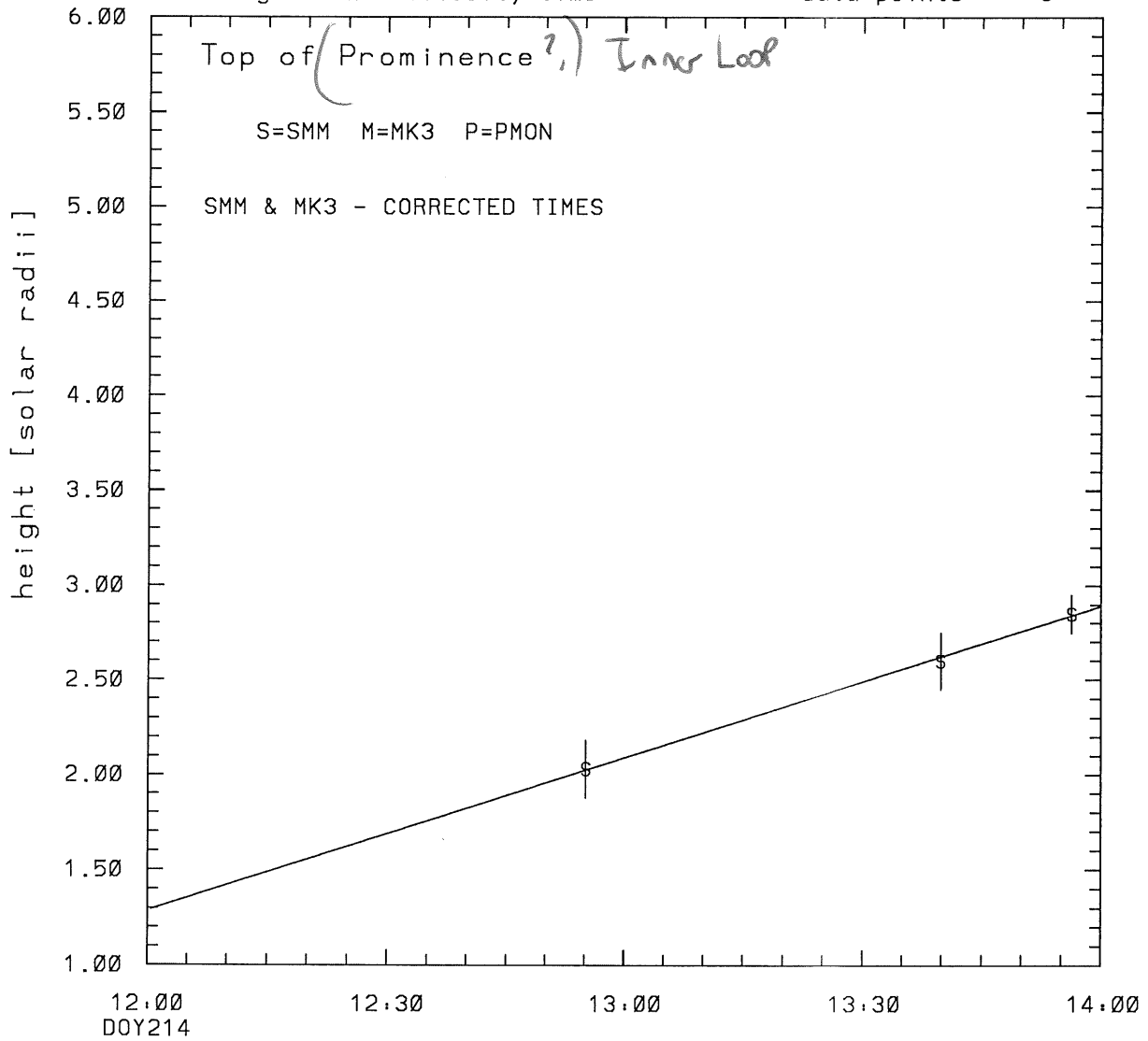
The correlation between the data and the complete equation of motion = 0.9958E+00

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

SMM C/P 1987 DOY214 319 +/- 0 degrees

height = h + velocity\*time

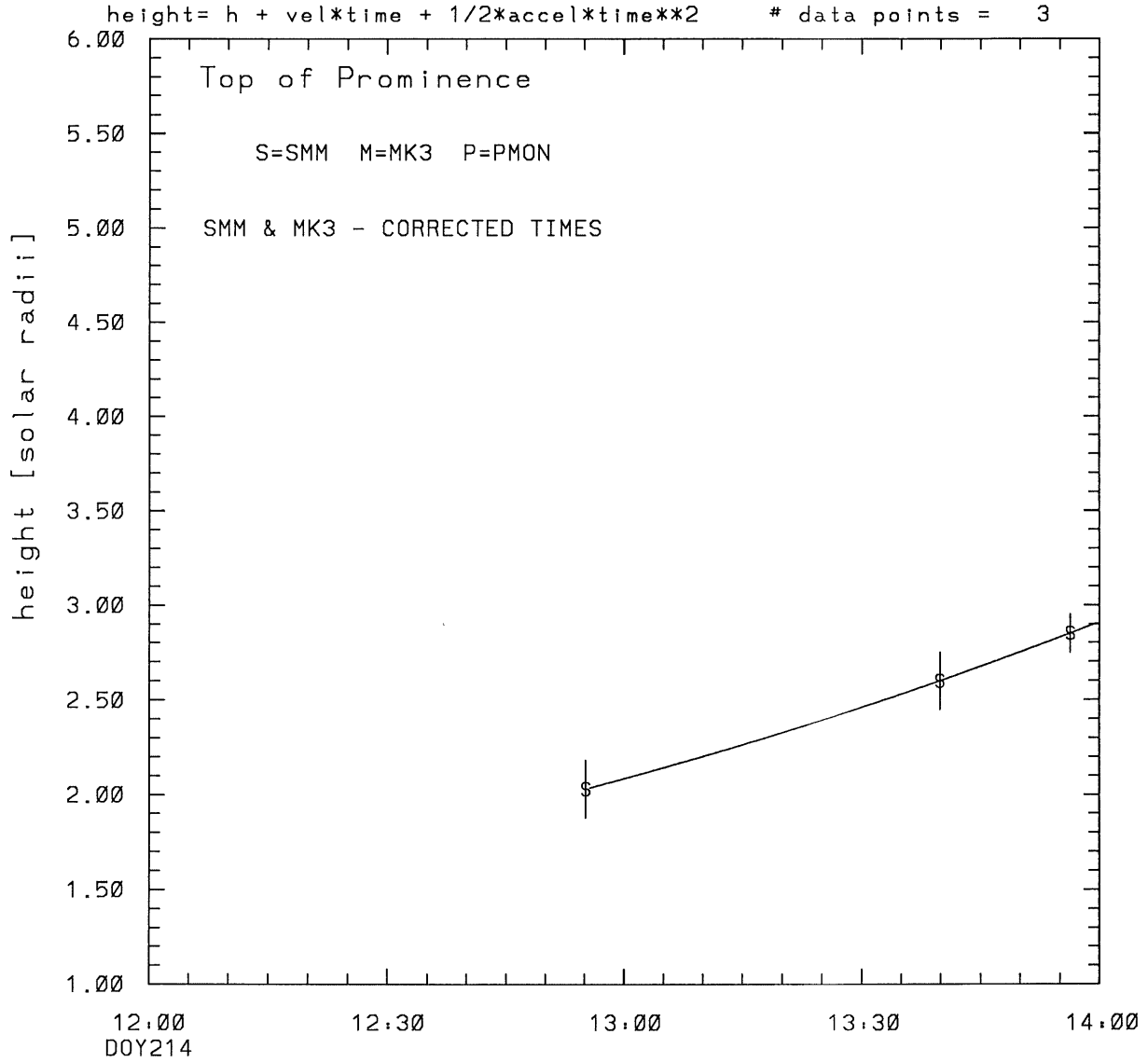
# data points = 3



tstart=DOY214 11:39 +/- 0.3 [min.]  
radial velocity= 155. +/- 4. [km/sec]

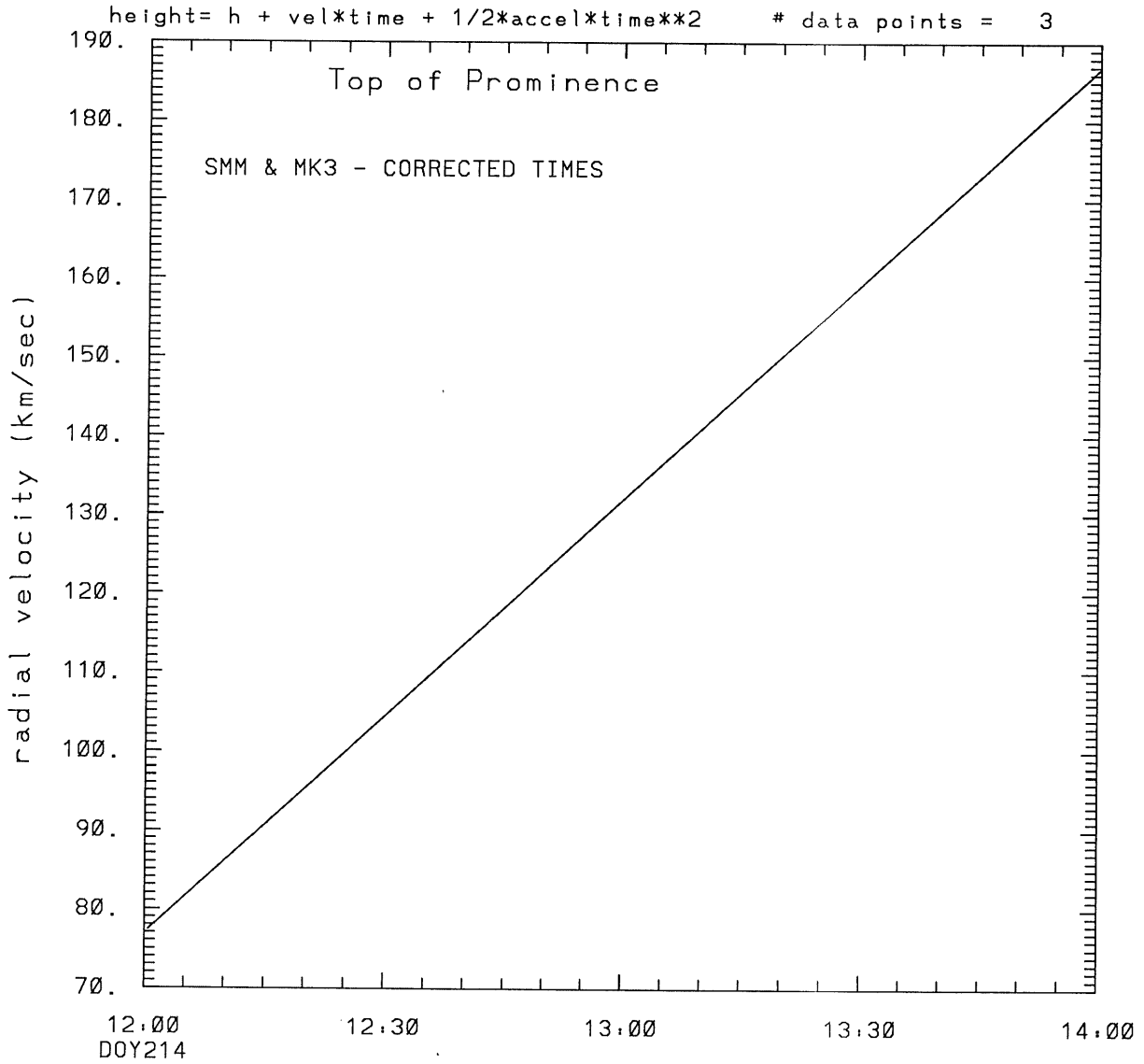


SMM C/P 1987 DOY214 319 +/- 0 degrees



tstart=DOY214 10:36 from derivative=0  
Event begins at 1.27 Solar Radii  
radial acceleration = 0.0153 +/- 0.0000 [km/sec\*\*2]

SMM C/P 1987 DOY214 319 +/- 0 degrees



12:00 DOY214      12:30      13:00      13:30      14:00

tstart=DOY214 10:36 from derivative=0  
Event begins at 1.27 Solar Radii  
radial acceleration=0.153E-01 km/sec\*\*2

\*\*\*\*\*

This is a 1 order run

\*\*\*\*\*

\*\*\*\*\*

INPUT:

\*\*\*\*\*

year	day	time	radii	error in radius	angle	error in angle	datatype
1987	214	12:55:10	2.03	+/- 0.15	319.0	+/- 0.5	SMM
1987	214	13:39:52	2.60	+/- 0.15	319.0	+/- 0.5	SMM
1987	214	13:56:21	2.85	+/- 0.10	319.0	+/- 0.5	SMM

\*\*\*\*\*

Structure being measured:

Top of Prominence 3) Inner Loop

\*\*\*\*\*

\*\*\*\*\*

OUTPUT:

\*\*\*\*\*

START TIME:

Event began at  $t = 0 + -0.214E+02 +/- 0.325E+00$  [minutes]

In more convenient units:

Event began at DOY 214 11:39 +/- 0.325E+00 [minutes]

Origin defined at DOY214 12: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 155. +/- 4. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.129E+01 +/- 0.357E-01 [solar radii]  
c(2) = 0.134E-01 +/- 0.353E-03 [radii/min]  
c(2) = 0.155E+03 +/- 0.409E+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)= 0.50646E-01 [radii] see Bevington pg. 114

error in c(2)= 0.53832E-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) = 319. +/- 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 12:55 = 0.000E+00 km/sec

The TOTAL velocity at 12:55 = 155. km/sec

The TANGENTIAL velocity at 13:39 = 0.000E+00 km/sec

The TOTAL velocity at 13:39 = 155. km/sec

The TANGENTIAL velocity at 13:56 = 0.000E+00 km/sec

The TOTAL velocity at 13:56 = 155. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.42

Standard Deviation in start time measurement = 0.258E+02

Error in time = 0.18010E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.228E-03

Reduced Chi Squared = 0.118E-02

Chi Squared = 0.118E-02

The probability for exceeding chi square = 0.988E+00

The correlation coefficient = 0.999E+00

The probability that no LINEAR correlation exists between the variables = 0.2459E-01

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

\*\*\*\*\*  
This is a 2 order run  
\*\*\*\*\*

\*\*\*\*\*  
INPUT:  
\*\*\*\*\*

year	day	time	radii	radius	error in	angle	error in	datatype
1987	214	12:55:10	2.03	+/- 0.15	319.0	+/- 0.5	SMM	
1987	214	13:39:52	2.60	+/- 0.15	319.0	+/- 0.5	SMM	
1987	214	13:56:21	2.85	+/- 0.10	319.0	+/- 0.5	SMM	

\*\*\*\*\*  
Structure being measured:  
Top of Prominence  
\*\*\*\*\*

\*\*\*\*\*  
OUTPUT:  
\*\*\*\*\*

START TIME:

tstart=DOY214 10:36 from derivative = 0  
Event begins at 1.27 Solar Radii  
Origin defined at DOY214 12: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.153E-01 +/- 0.241E-06 km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.154E+01 +/- 0.415E-05 [solar radii]  
c(2) = 0.663E-02 +/- 0.107E-06 [radii/min]  
c(2) = 0.769E+02 +/- 0.124E-02 [km/sec]  
c(3) = 0.395E-04 +/- 0.623E-09 [radii/min\*\*2]  
c(3) = 0.153E-01 +/- 0.241E-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) = 319. +/- 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 12:55 = 0.000E+00 km/sec

The TOTAL velocity at 12:55 = 127. km/sec

The TANGENTIAL velocity at 13:39 = 0.000E+00 km/sec

The TOTAL velocity at 13:39 = 168. km/sec

The TANGENTIAL velocity at 13:56 = 0.000E+00 km/sec

The TOTAL velocity at 13:56 = 183. 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!