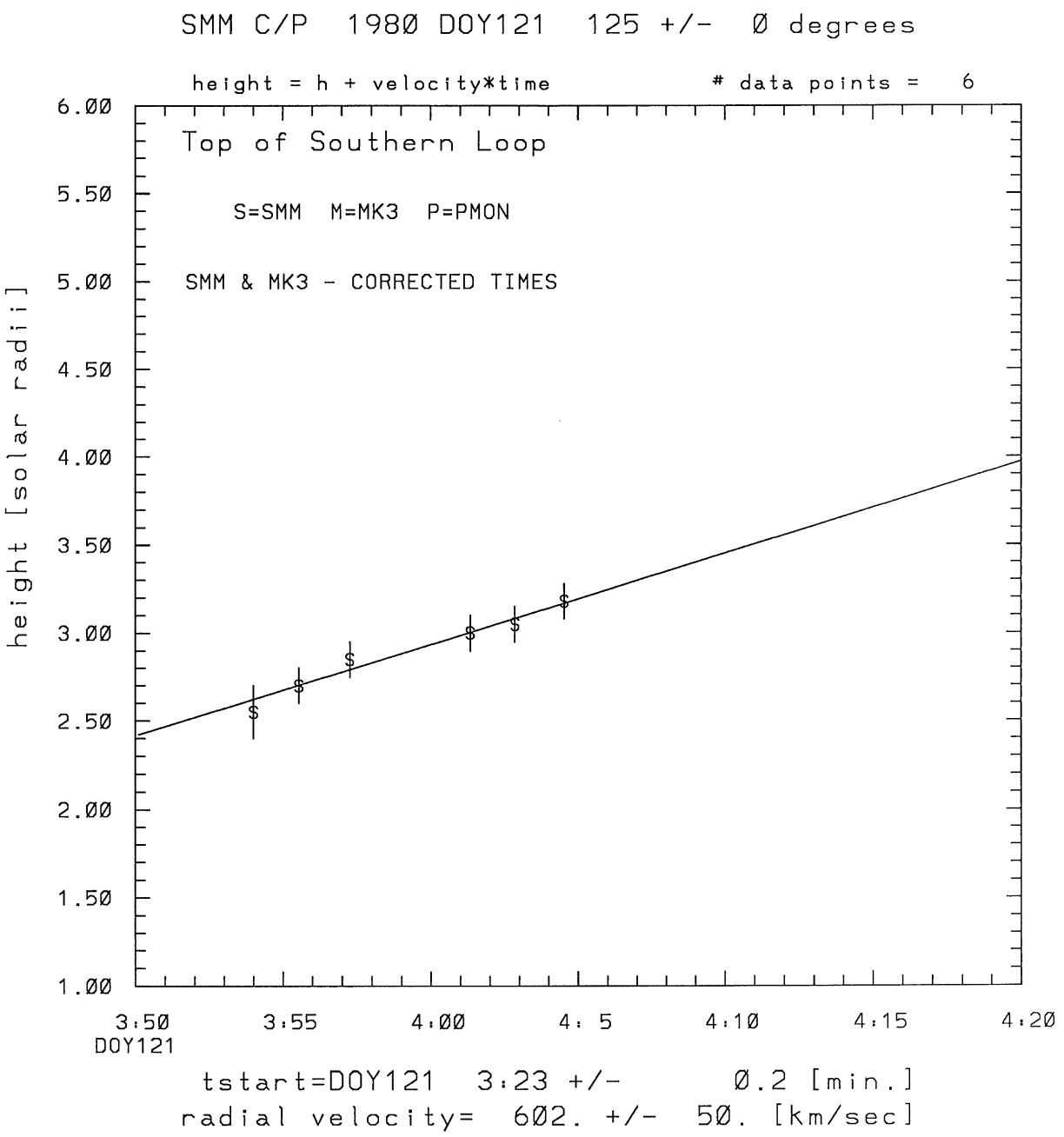
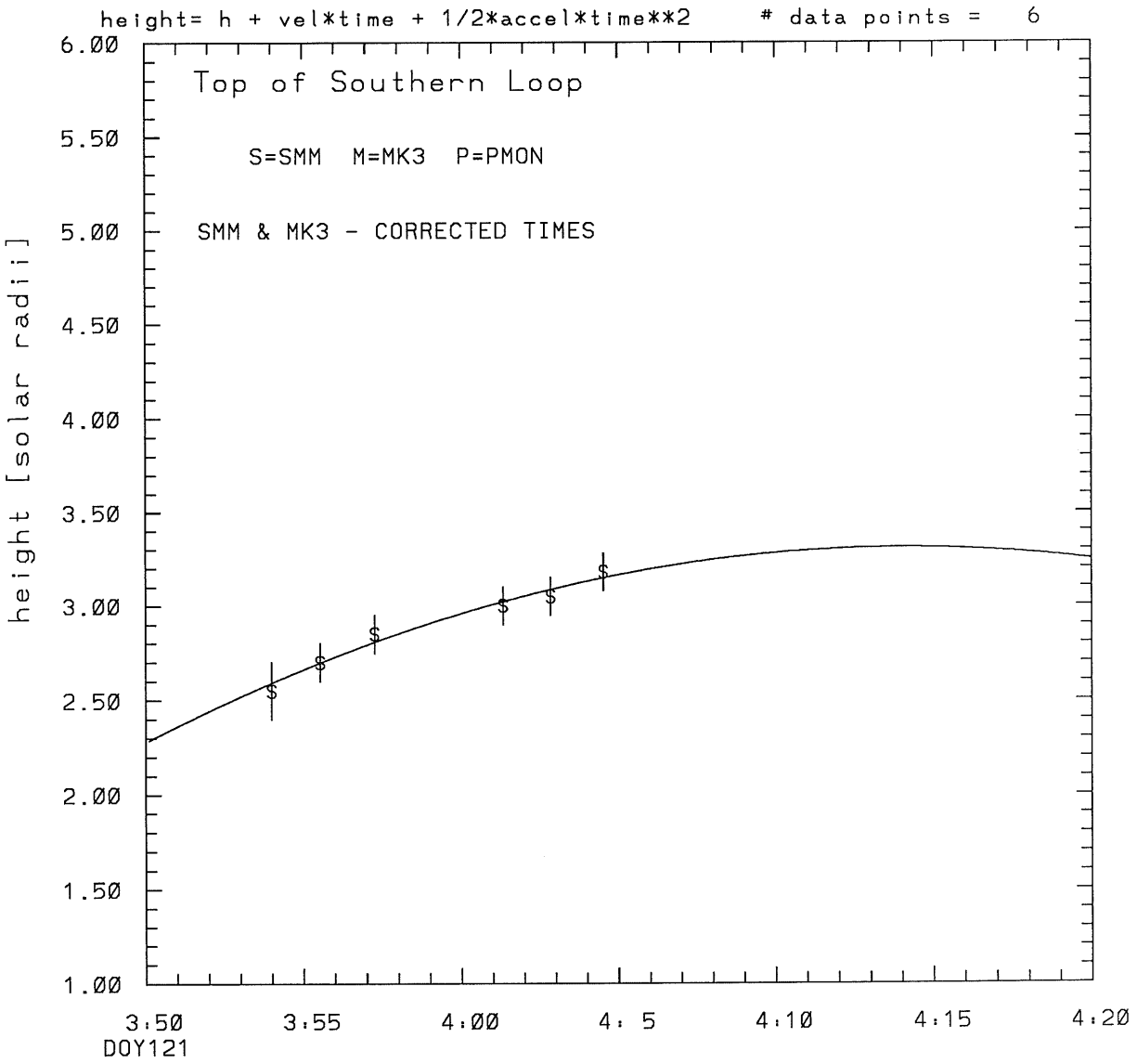
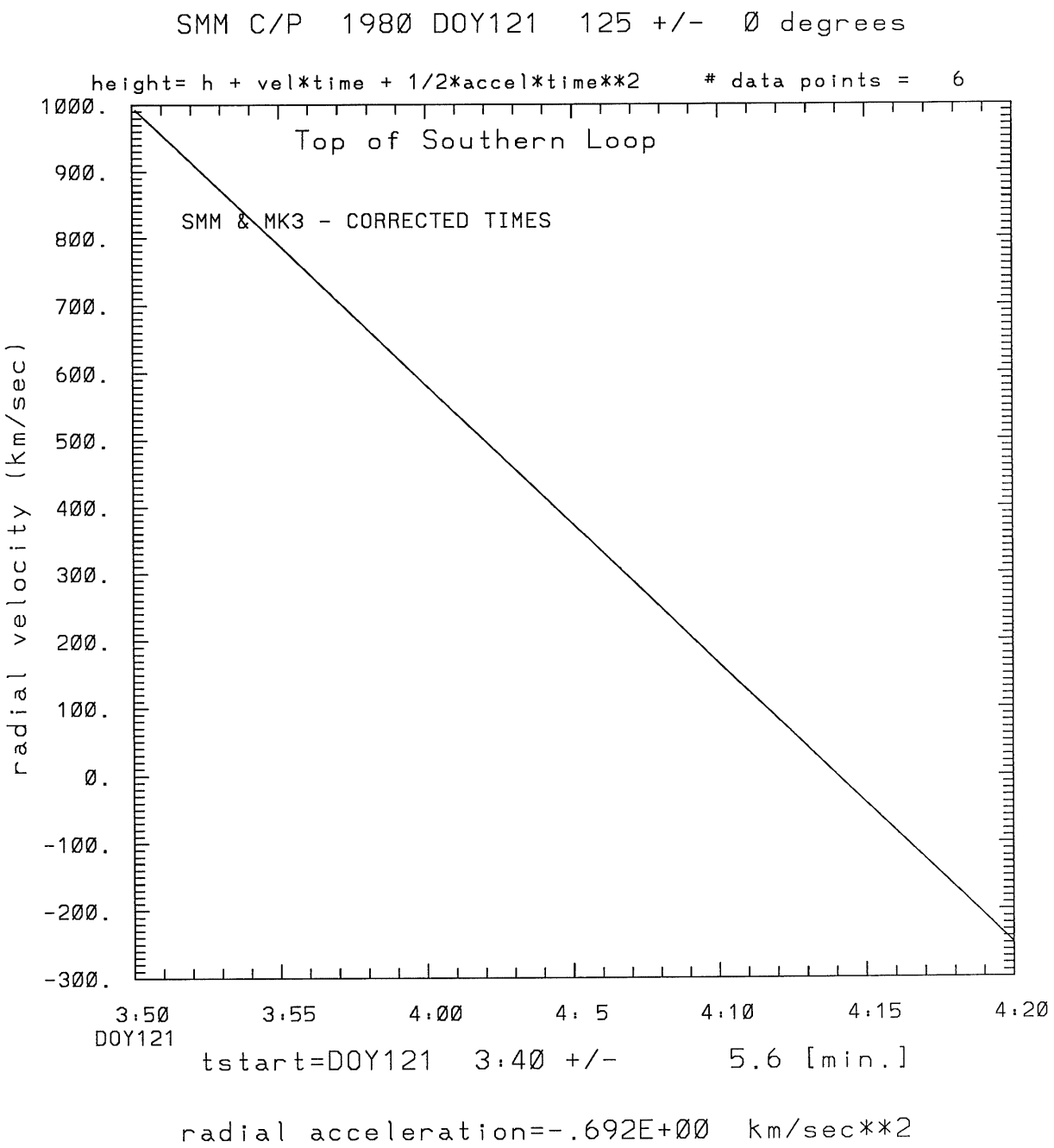

SMM C/P 1980 DOY121 125 +/- 0 degrees
height = h + velocity*time
# data points = 6
Top of Southern Loop
S=SMM M=MK3 P=PMON
SMM & MK3 - CORRECTED TIMES
height [solar radii]
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
3:50
DOY121
3:55
4:00
4: 5
4:10
4:15
4:20
tstart=DOY121 3:23 +/- 0.2 [min.]
radial velocity= 602. +/- 50. [km/sec]

SMM C/P 1980 DOY121 125 +/- 0 degrees



tstart=DOY121 3:40 +/- 5.6 [min.]

radial acceleration=-0.6922 +/- 0.6695 [km/sec**2]


SMM C/P 1980 DOY121 125 +/- 0 degrees
height= h + vel*time + 1/2*accel*time**2
# data points = 6
Top of Southern Loop
SMM & MK3 - CORRECTED TIMES
radial velocity (km/sec)
1000.
900.
800.
700.
600.
500.
400.
300.
200.
100.
0.
-100.
-200.
-300.
3:50
DOY121
3:55
4:00
4: 5
4:10
4:15
4:20
tstart=DOY121 3:40 +/- 5.6 [min.]
radial acceleration=-.692E+00 km/sec**2

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

****
INPUT:
****

year	doy	time	radii	error in radius	angle	error in angle	datatype
1980	121	3:54: 0	2.55	+/- 0.15	125.0	+/- 0.5	SMM
1980	121	3:55:32	2.70	+/- 0.10	125.0	+/- 0.5	SMM
1980	121	3:57:16	2.85	+/- 0.10	125.0	+/- 0.5	SMM
1980	121	4: 1:20	3.00	+/- 0.10	125.0	+/- 0.5	SMM
1980	121	4: 2:51	3.05	+/- 0.10	125.0	+/- 0.5	SMM
1980	121	4: 4:32	3.18	+/- 0.10	125.0	+/- 0.5	SMM

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

****
OUTPUT:
****

START TIME:

Event began at t = 0 + -0.273E+02 +/- 0.155E+00 [minutes]
In more convenient units:
Event began at DOY 121 3:23 +/- 0.155E+00 [minutes]

Origin defined at DOY121 3:50

RADIAL INFORMATION:

RADIAL VELOCITY = 602. +/- 50. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.242E+01 +/- 0.451E-01 [solar radii]
c(2) = 0.519E-01 +/- 0.431E-02 [radii/min]
c(2) = 0.602E+03 +/- 0.500E+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)= 0.52106E-01 [radii] see Bevington pg. 114
error in c(2)= 0.51925E-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) = 125. +/- 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 3:54 = 0.000E+00 km/sec
The TOTAL velocity at 3:54 = 602. km/sec

The TANGENTIAL velocity at 3:55 = 0.000E+00 km/sec
The TOTAL velocity at 3:55 = 602. km/sec

The TANGENTIAL velocity at 3:57 = 0.000E+00 km/sec
The TOTAL velocity at 3:57 = 602. km/sec

The TANGENTIAL velocity at 4: 1 = 0.000E+00 km/sec
The TOTAL velocity at 4: 1 = 602. km/sec

The TANGENTIAL velocity at 4: 2 = 0.000E+00 km/sec
The TOTAL velocity at 4: 2 = 602. km/sec

The TANGENTIAL velocity at 4: 4 = 0.000E+00 km/sec
The TOTAL velocity at 4: 4 = 602. 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 = 0.388E+01
Error in time = 0.19046E+01 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.151E-02
Reduced Chi Squared = 0.528E-02
Chi Squared = 0.211E-01
The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.984E+00
The probability that no LINEAR correlation exists between the variables = 0.4056E-03
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

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

****
INPUT:
****

year	doy	time	radii	error in radius	angle	error in angle	datatype
1980	121	3:54: 0	2.55	+/- 0.15	125.0	+/- 0.5	SMM
1980	121	3:55:32	2.70	+/- 0.10	125.0	+/- 0.5	SMM
1980	121	3:57:16	2.85	+/- 0.10	125.0	+/- 0.5	SMM
1980	121	4: 1:20	3.00	+/- 0.10	125.0	+/- 0.5	SMM
1980	121	4: 2:51	3.05	+/- 0.10	125.0	+/- 0.5	SMM
1980	121	4: 4:32	3.18	+/- 0.10	125.0	+/- 0.5	SMM

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

****
OUTPUT:
****

START TIME:

Event began at t = 0 + -0.119E+02 +/- 0.555E+01 [minutes]
In more convenient units:
Event began at DOY 121 3:40 +/- 0.555E+01 [minutes]

Origin defined at DOY121 3:50

RADIAL INFORMATION:

RADIAL ACCELERATION = -0.692E+00 +/- 0.669E+00 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.228E+01 +/- 0.141E+00 [solar radii]
c(2) = 0.860E-01 +/- 0.332E-01 [radii/min]
c(2) = 0.997E+03 +/- 0.385E+03 [km/sec]
c(3) = -0.179E-02 +/- 0.173E-02 [radii/min**2]
c(3) = -0.692E+00 +/- 0.669E+00 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.14500E+00 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.55900E-01 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.36206E-01 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.14375E-01 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.19405E-02 [radii/min**] Bevington pg 154 (8-30)

Exact error in c(3) = 0.77793E-03 [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) = 125. +/- 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 3:54 = 0.000E+00 km/sec
The TOTAL velocity at 3:54 = 831. km/sec

The TANGENTIAL velocity at 3:55 = 0.000E+00 km/sec
The TOTAL velocity at 3:55 = 767. km/sec

The TANGENTIAL velocity at 3:57 = 0.000E+00 km/sec
The TOTAL velocity at 3:57 = 695. km/sec

The TANGENTIAL velocity at 4: 1 = 0.000E+00 km/sec
The TOTAL velocity at 4: 1 = 526. km/sec

The TANGENTIAL velocity at 4: 2 = 0.000E+00 km/sec
The TOTAL velocity at 4: 2 = 463. km/sec

The TANGENTIAL velocity at 4: 4 = 0.000E+00 km/sec
The TOTAL velocity at 4: 4 = 393. 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 = 0.388E+01
Value of reduced Chi Squared returned from nllst2 = 0.149E-02
Reduced Chi Squared = 0.722E-02
Chi Squared = 0.217E-01
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 = 0.9406E+00
The correlation between the data and the time**2 term = 0.9454E+00
The correlation between the data and the complete equation of motion = 0.9710E+00

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