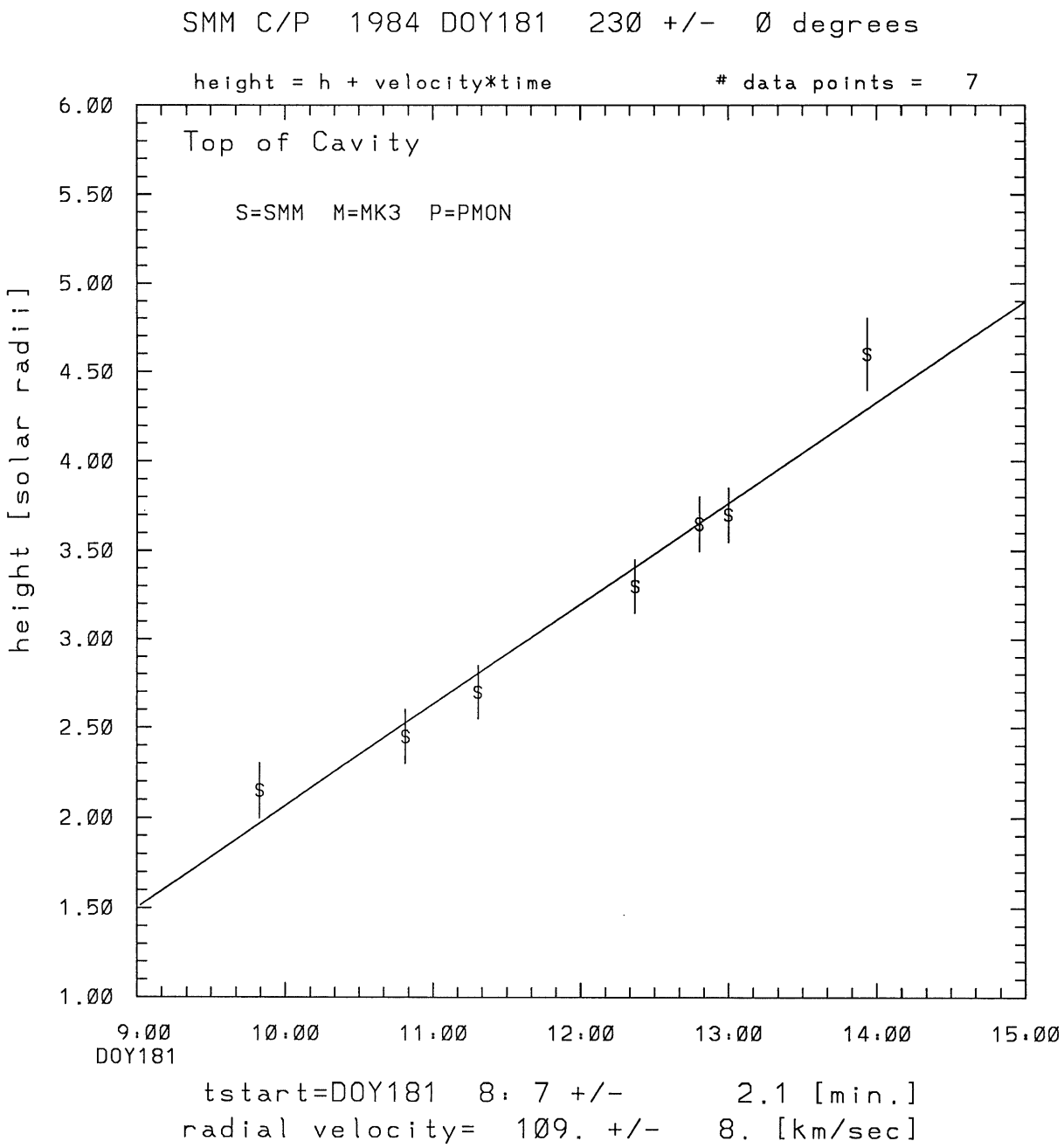
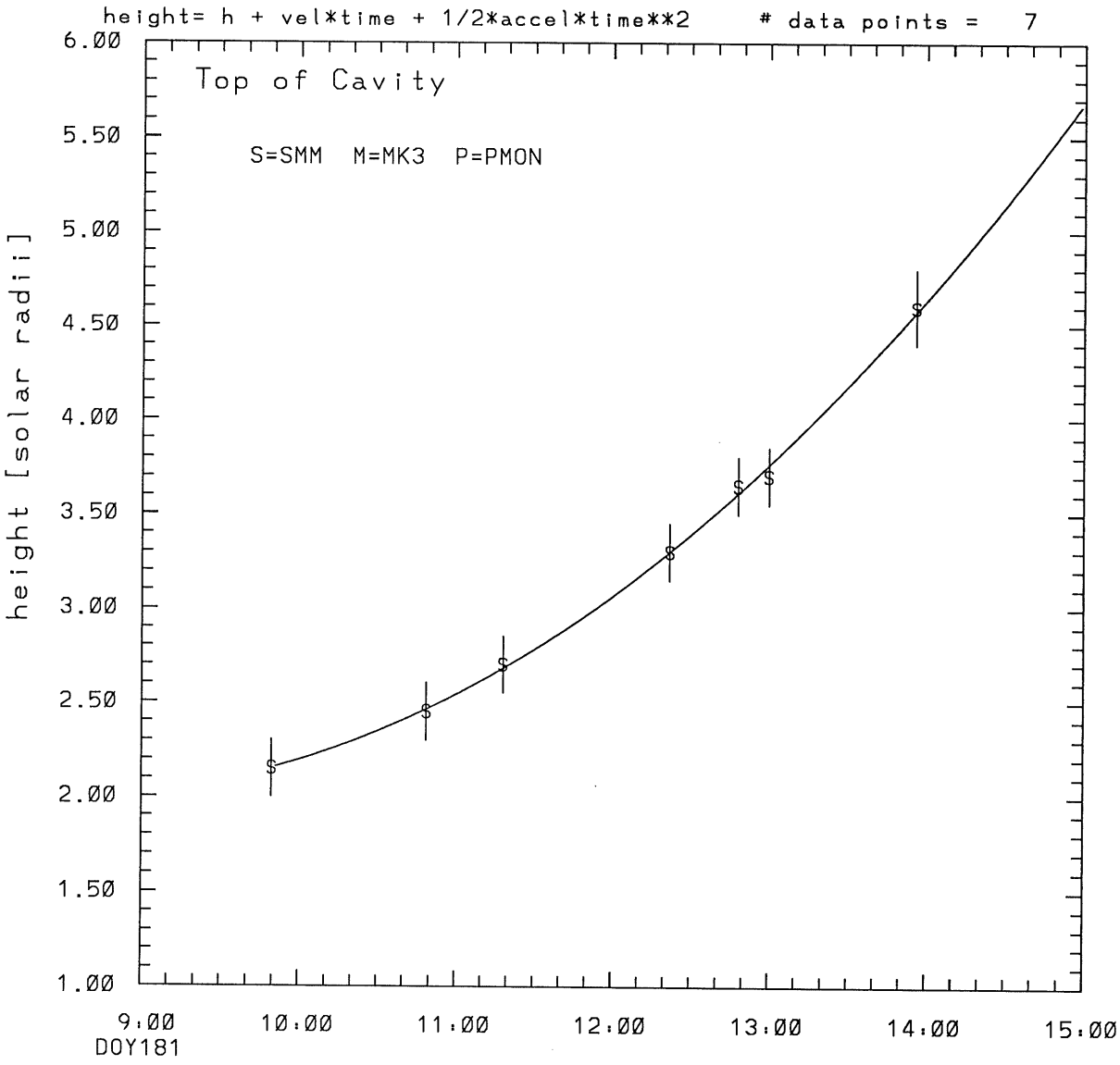

SMM C/P 1984 DOY181 230 +/- 0 degrees
height = h + velocity*time
# data points = 7
Top of Cavity
S=SMM M=MK3 P=PMON
height [solar radii]
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
9:00
DOY181
10:00
11:00
12:00
13:00
14:00
15:00
tstart=DOY181 8: 7 +/- 2.1 [min.]
radial velocity= 109. +/- 8. [km/sec]

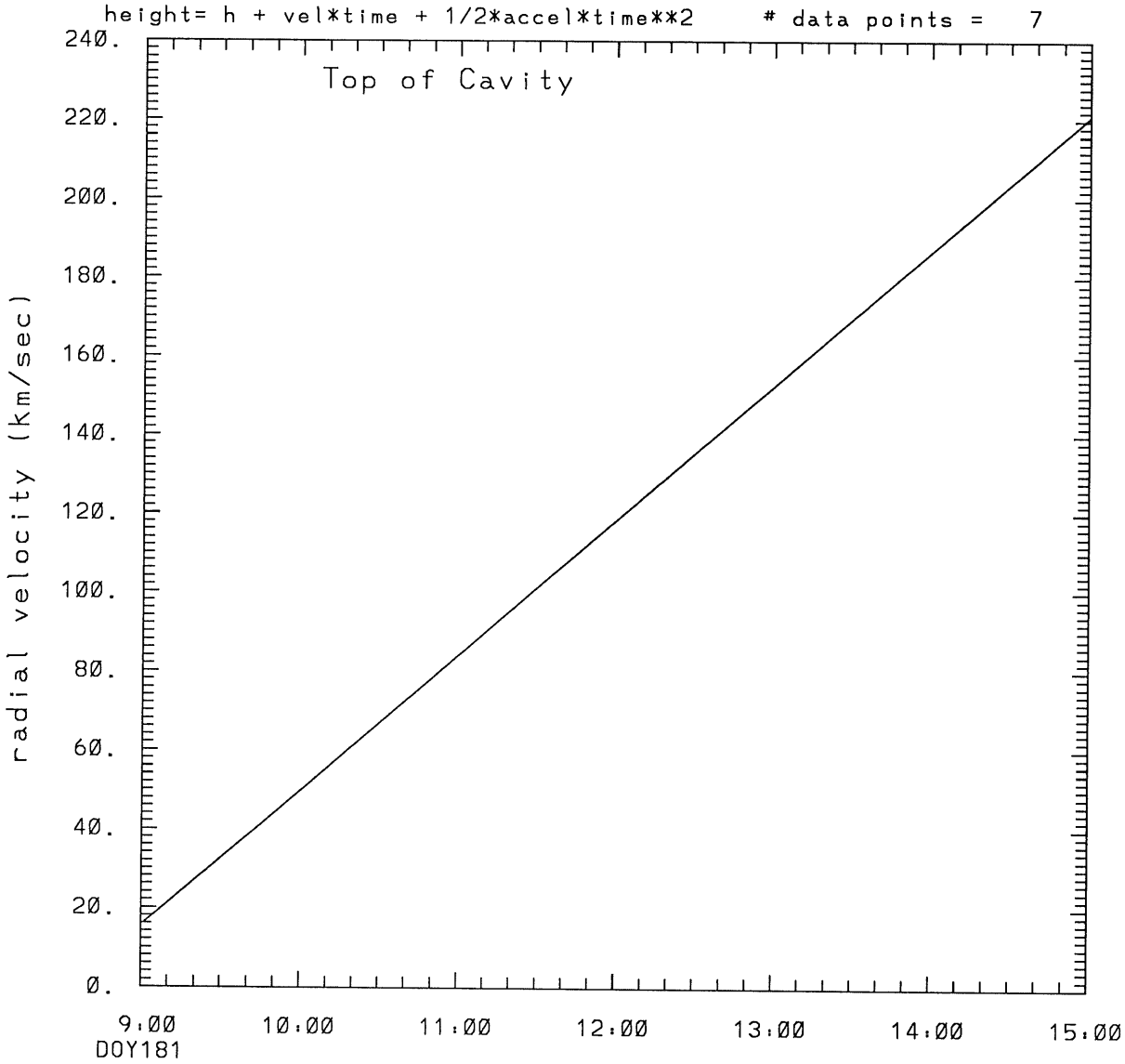


tstart=DOY181 8:34 from derivative=0

Event begins at 2.01 Solar Radii

radial acceleration= 0.0095 +/- 0.0010 [km/sec**2]

SMM C/P 1984 DOY181 230 +/- Ø degrees



tstart=DOY181 8:34 from derivative=Ø

Event begins at 2.Ø1 Solar Radii

radial acceleration=Ø.952E-Ø2 km/sec**2

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

****
INPUT:
****

year	doy	time	radii	error in radius	angle	error in angle	datatype
1984	181	9:49:35	2.15	+/- 0.15	230.0	+/- 0.5	SMM
1984	181	10:48:46	2.45	+/- 0.15	230.0	+/- 0.5	SMM
1984	181	11:18:11	2.70	+/- 0.15	230.0	+/- 0.5	SMM
1984	181	12:22: 7	3.30	+/- 0.15	230.0	+/- 1.0	SMM
1984	181	12:48:10	3.65	+/- 0.15	230.0	+/- 1.0	SMM
1984	181	12:59:52	3.70	+/- 0.15	230.0	+/- 1.0	SMM
1984	181	13:56: 1	4.60	+/- 0.20	230.0	+/- 1.0	SMM

****
Structure being measured:
Top of Cavity
****

****
OUTPUT:
****

START TIME:

Event began at t = 0 + -0.532E+02 +/- 0.213E+01 [minutes]
In more convenient units:
Event began at DOY 181 8: 7 +/- 0.213E+01 [minutes]

Origin defined at DOY181 9: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 109. +/- 8. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.150E+01 +/- 0.137E+00 [solar radii]
c(2) = 0.943E-02 +/- 0.725E-03 [radii/min]
c(2) = 0.109E+03 +/- 0.842E+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)= 0.16834E+00 [radii] see Bevington pg. 114
error in c(2)= 0.85483E-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) = 230. +/- 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 9:49 = 0.000E+00 km/sec
The TOTAL velocity at 9:49 = 109. km/sec

The TANGENTIAL velocity at 10:48 = 0.000E+00 km/sec
The TOTAL velocity at 10:48 = 109. km/sec

The TANGENTIAL velocity at 11:18 = 0.000E+00 km/sec
The TOTAL velocity at 11:18 = 109. km/sec

The TANGENTIAL velocity at 12:22 = 0.000E+00 km/sec
The TOTAL velocity at 12:22 = 109. km/sec

The TANGENTIAL velocity at 12:48 = 0.000E+00 km/sec
The TOTAL velocity at 12:48 = 109. km/sec

The TANGENTIAL velocity at 12:59 = 0.000E+00 km/sec
The TOTAL velocity at 12:59 = 109. km/sec

The TANGENTIAL velocity at 13:56 = 0.000E+00 km/sec
The TOTAL velocity at 13:56 = 109. km/sec

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

Fit is ok [ier=1]

Standard Deviation in the height = 0.85
Standard Deviation in start time measurement = 0.790E+02
Error in time = 0.42369E+02 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.210E-01
Reduced Chi Squared = 0.162E+00
Chi Squared = 0.809E+00
The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.982E+00
The probability that no LINEAR correlation exists between the variables = 0.7852E-04
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
1984	181	9:49:35	2.15	+/- 0.15	230.0	+/- 0.5	SMM
1984	181	10:48:46	2.45	+/- 0.15	230.0	+/- 0.5	SMM
1984	181	11:18:11	2.70	+/- 0.15	230.0	+/- 0.5	SMM
1984	181	12:22: 7	3.30	+/- 0.15	230.0	+/- 1.0	SMM
1984	181	12:48:10	3.65	+/- 0.15	230.0	+/- 1.0	SMM
1984	181	12:59:52	3.70	+/- 0.15	230.0	+/- 1.0	SMM
1984	181	13:56: 1	4.60	+/- 0.20	230.0	+/- 1.0	SMM

****
Structure being measured:
Top of Cavity
****

****
OUTPUT:
****

START TIME:

tstart=DOY181 8:34 from derivative = 0
Event begins at 2.01 Solar Radii
Origin defined at DOY181 9: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.952E-02 +/- 0.997E-03 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.203E+01 +/- 0.646E-01 [solar radii]
c(2) = 0.133E-02 +/- 0.867E-03 [radii/min]
c(2) = 0.154E+02 +/- 0.101E+02 [km/sec]
c(3) = 0.246E-04 +/- 0.258E-05 [radii/min**2]
c(3) = 0.952E-02 +/- 0.997E-03 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.71126E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.47293E-02 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.91925E-03 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.11206E-03 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.26264E-05 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.44203E-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) = 230. +/- 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 9:49 = 0.000E+00 km/sec
The TOTAL velocity at 9:49 = 44. km/sec

The TANGENTIAL velocity at 10:48 = 0.000E+00 km/sec
The TOTAL velocity at 10:48 = 78. km/sec

The TANGENTIAL velocity at 11:18 = 0.000E+00 km/sec
The TOTAL velocity at 11:18 = 94. km/sec

The TANGENTIAL velocity at 12:22 = 0.000E+00 km/sec
The TOTAL velocity at 12:22 = 131. km/sec

The TANGENTIAL velocity at 12:48 = 0.000E+00 km/sec
The TOTAL velocity at 12:48 = 146. km/sec

The TANGENTIAL velocity at 12:59 = 0.000E+00 km/sec
The TOTAL velocity at 12:59 = 152. km/sec

The TANGENTIAL velocity at 13:56 = 0.000E+00 km/sec
The TOTAL velocity at 13:56 = 185. km/sec

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

Fit is ok [ier=1]

Standard Deviation in the height = 0.85
Standard Deviation in start time measurement = 0.790E+02
Value of reduced Chi Squared returned from nllst2 = 0.131E-02
Reduced Chi Squared = 0.887E-02
Chi Squared = 0.355E-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 = 0.9445E+00
The correlation between the data and the time**2 term = 0.9254E+00

The correlation between the data and the complete equation of motion = 0.9980E+00
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]