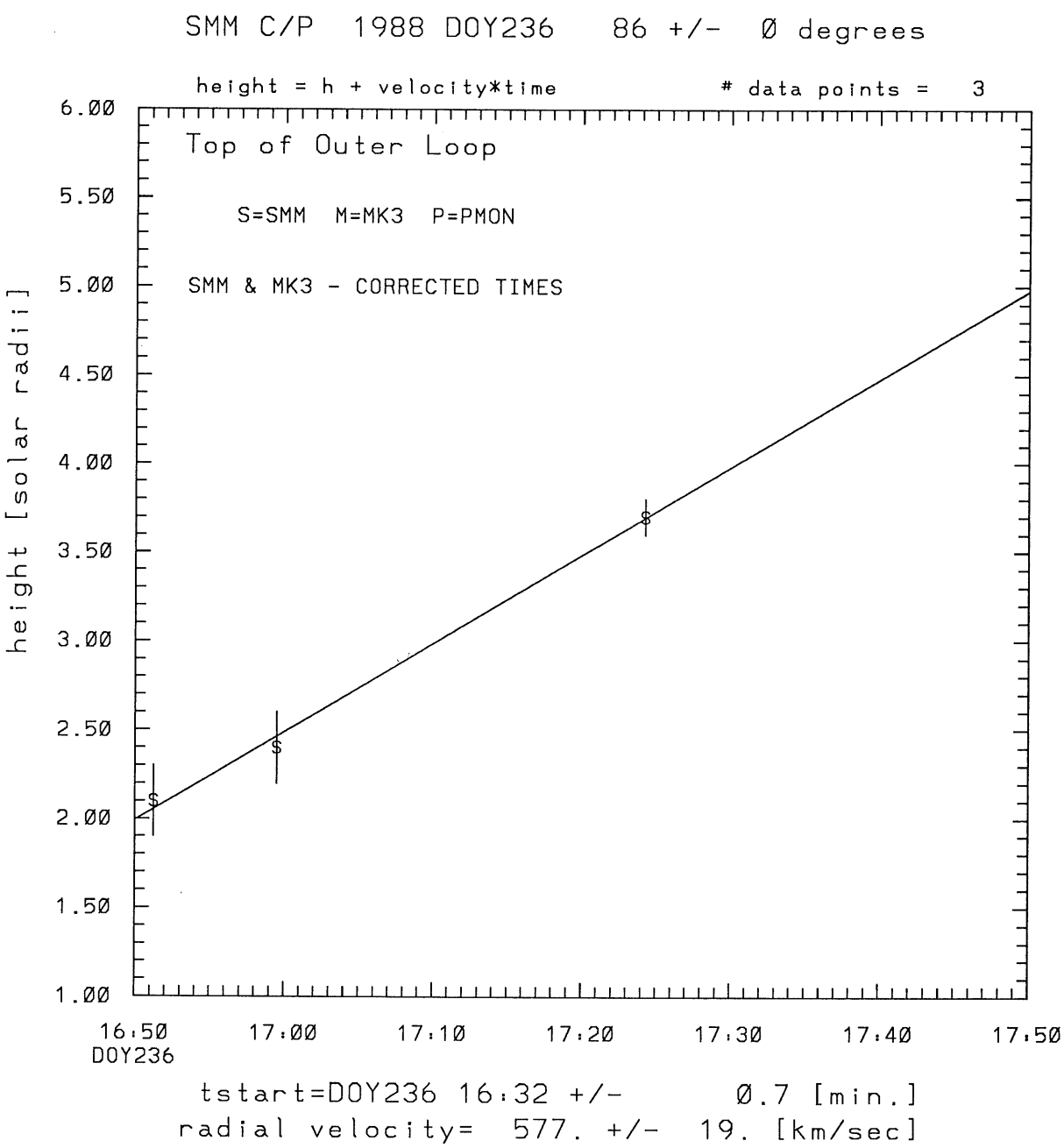
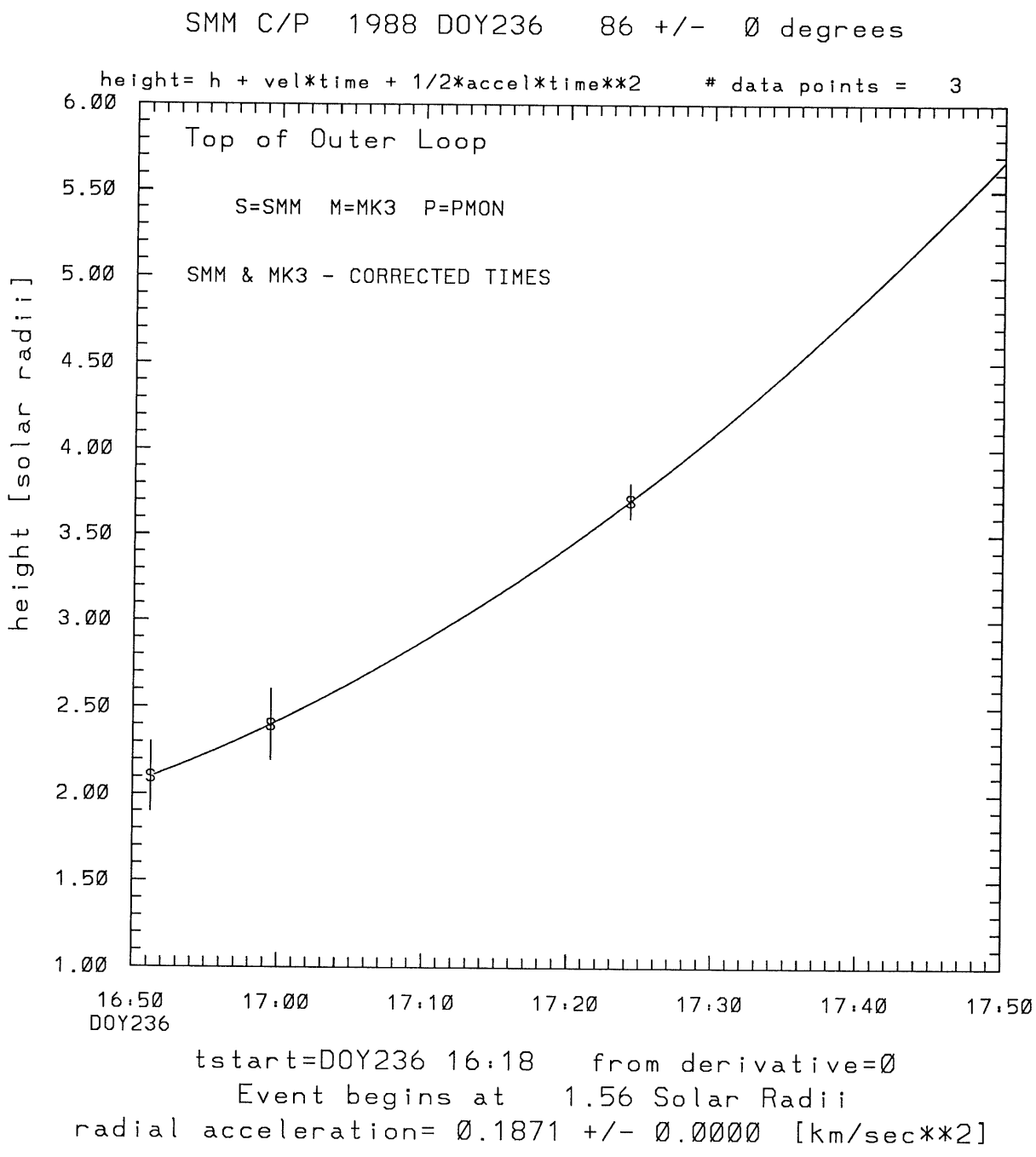

SMM C/P 1988 DOY236 86 +/- Ø degrees
height = h + velocity*time
# data points = 3
Top of Outer Loop
S=SMM M=MK3 P=PMON
SMM & MK3 - CORRECTED TIMES
height [solar radii]
6.ØØ
5.5Ø
5.ØØ
4.5Ø
4.ØØ
3.5Ø
3.ØØ
2.5Ø
2.ØØ
1.5Ø
1.ØØ
16:5Ø
DOY236
17:ØØ
17:1Ø
17:2Ø
17:3Ø
17:4Ø
17:5Ø
tstart=DOY236 16:32 +/- Ø.7 [min.]
radial velocity= 577. +/- 19. [km/sec]

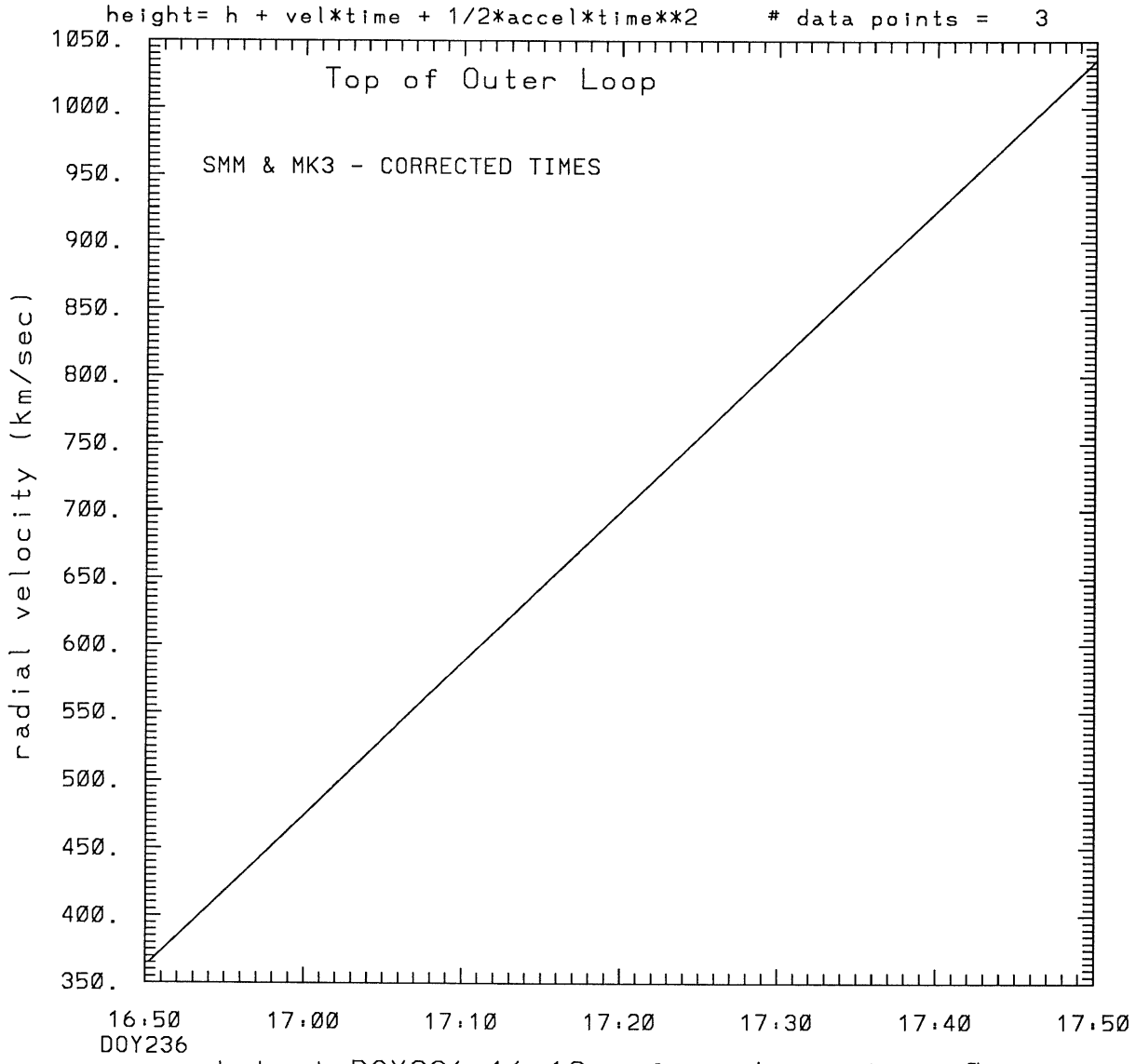


tstart=DOY236 16:18 from derivative=Ø

Event begins at 1.56 Solar Radii

radial acceleration= Ø.1871 +/- Ø.ØØØØ [km/sec**2]

SMM C/P 1988 DOY236 86 +/- Ø degrees



tstart=DOY236 16:18 from derivative=Ø

Event begins at 1.56 Solar Radii

radial acceleration=Ø.187E+ØØ km/sec**2

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

****
INPUT:
****

year	doy	time	radii	error in radius	angle	error in angle	datatype
1988	236	16:51:15	2.10 +/-	0.20	86.0 +/-	0.5	SMM
1988	236	16:59:29	2.40 +/-	0.20	86.0 +/-	0.5	SMM
1988	236	17:24:17	3.70 +/-	0.10	86.0 +/-	1.0	SMM

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

****
OUTPUT:
****

START TIME:

Event began at t = 0 + -0.199E+02 +/- 0.655E+00 [minutes]
In more convenient units:
Event began at DOY 236 16:32 +/- 0.655E+00 [minutes]

Origin defined at DOY236 16:50

RADIAL INFORMATION:

RADIAL VELOCITY = 577. +/- 19. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.199E+01 +/- 0.464E-01 [solar radii]
c(2) = 0.497E-01 +/- 0.164E-02 [radii/min]
c(2) = 0.577E+03 +/- 0.190E+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)= 0.66186E-01 [radii] see Bevington pg. 114
error in c(2)= 0.32208E-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) = 86. +/- 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 16:51 = 0. km/sec
The TOTAL velocity at 16:51 = 577. km/sec

The TANGENTIAL velocity at 16:59 = 0. km/sec
The TOTAL velocity at 16:59 = 577. km/sec

The TANGENTIAL velocity at 17:24 = 0. km/sec
The TOTAL velocity at 17:24 = 577. 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 = 0.140E+02
Error in time = 0.15746E+01 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.154E-02
Reduced Chi Squared = 0.101E-01
Chi Squared = 0.101E-01
The probability for exceeding chi square = 0.969E+00

The correlation coefficient = 0.998E+00
The probability that no LINEAR correlation exists between the variables = 0.4104E-01
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
1988	236	16:51:15	2.10	+/- 0.20	86.0	+/- 0.5	SMM
1988	236	16:59:29	2.40	+/- 0.20	86.0	+/- 0.5	SMM
1988	236	17:24:17	3.70	+/- 0.10	86.0	+/- 1.0	SMM

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

****
OUTPUT:
****

START TIME:

tstart=DOY236 16:18 from derivative = 0
Event begins at 1.56 Solar Radii
Origin defined at DOY236 16:50

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.187E+00 +/- 0.481E-05 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.206E+01 +/- 0.246E-05 [solar radii]
c(2) = 0.312E-01 +/- 0.480E-06 [radii/min]
c(2) = 0.362E+03 +/- 0.556E-02 [km/sec]
c(3) = 0.484E-03 +/- 0.125E-07 [radii/min**2]
c(3) = 0.187E+00 +/- 0.481E-05 [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) = 86. +/- 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 16:51 = 0. km/sec
The TOTAL velocity at 16:51 = 376. km/sec

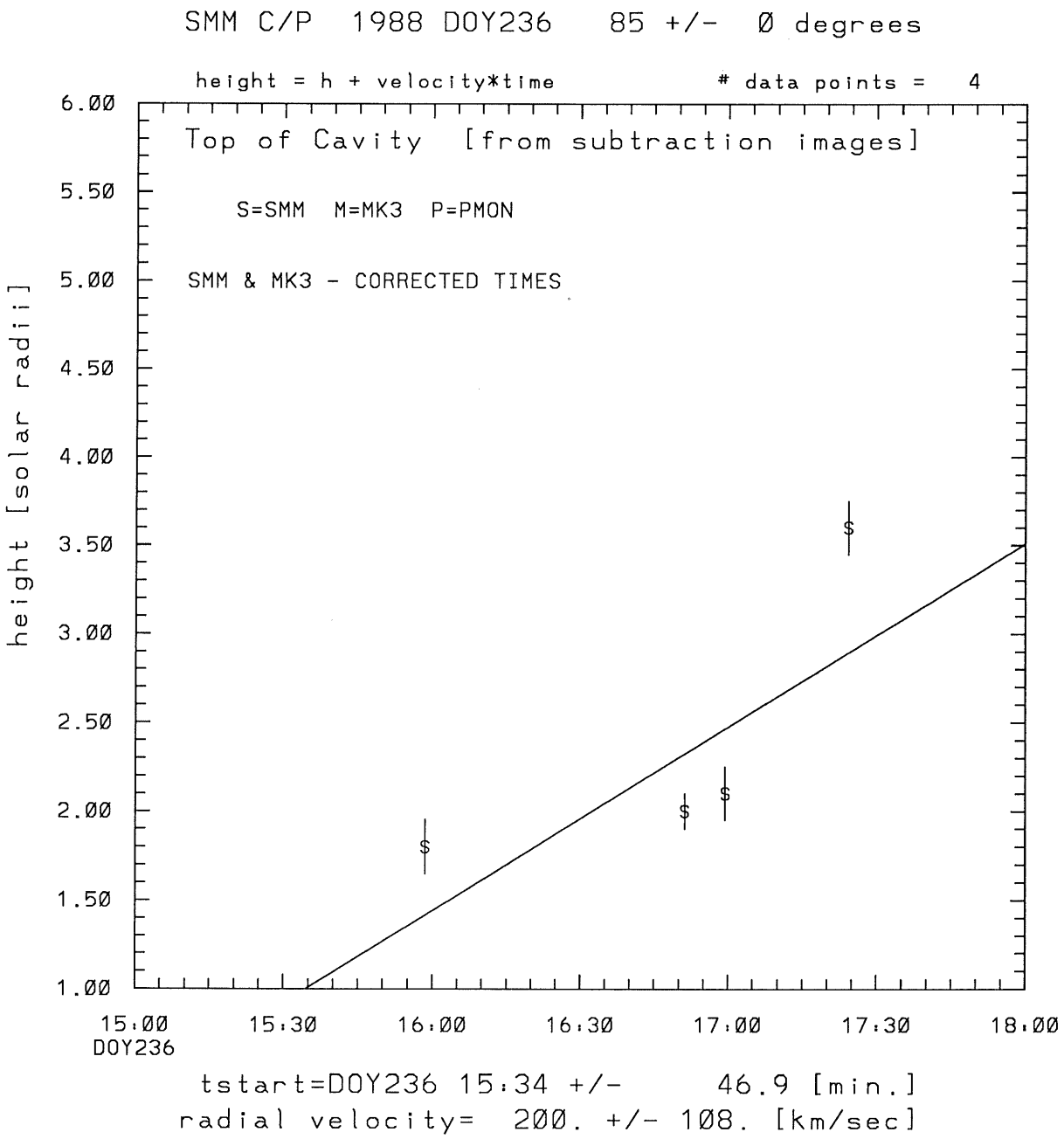
The TANGENTIAL velocity at 16:59 = 0. km/sec
The TOTAL velocity at 16:59 = 469. km/sec

The TANGENTIAL velocity at 17:24 = 0. km/sec
The TOTAL velocity at 17:24 = 747. km/sec

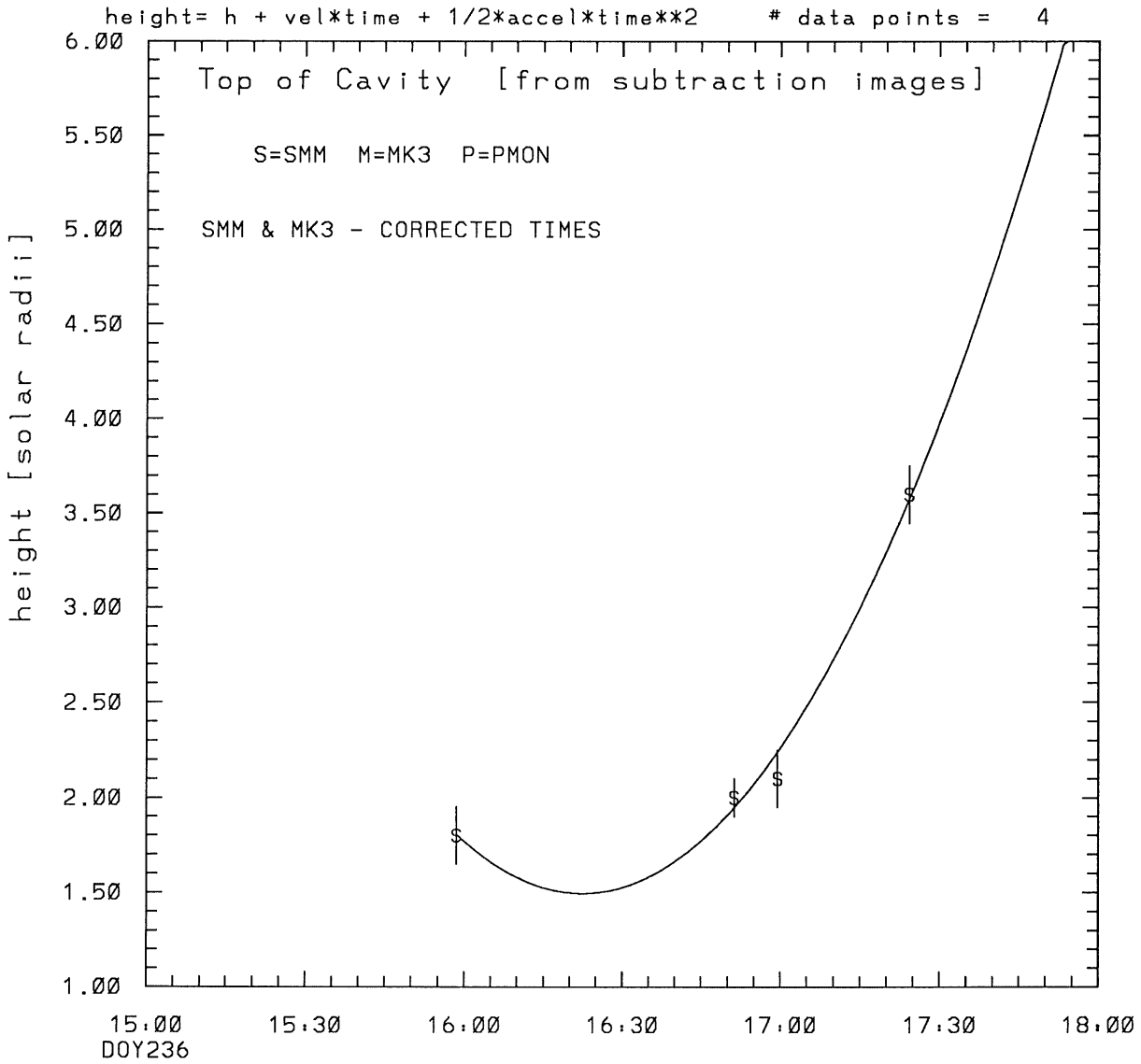
****
The following info is for estimating goodness of the fit
****

Number data points = number of coefficients. No error analysis is possible.

Correlation coefficient is not computable!


SMM C/P 1988 DOY236 85 +/- Ø degrees
height = h + velocity*time
# data points = 4
Top of Cavity [from subtraction images]
S=SMM M=MK3 P=PMON
SMM & MK3 - CORRECTED TIMES
height [solar radii]
6.ØØ
5.5Ø
5.ØØ
4.5Ø
4.ØØ
3.5Ø
3.ØØ
2.5Ø
2.ØØ
1.5Ø
1.ØØ
15:ØØ
DOY236
15:3Ø
16:ØØ
16:3Ø
17:ØØ
17:3Ø
18:ØØ
tstart=DOY236 15:34 +/- 46.9 [min.]
radial velocity= 2ØØ. +/- 1Ø8. [km/sec]

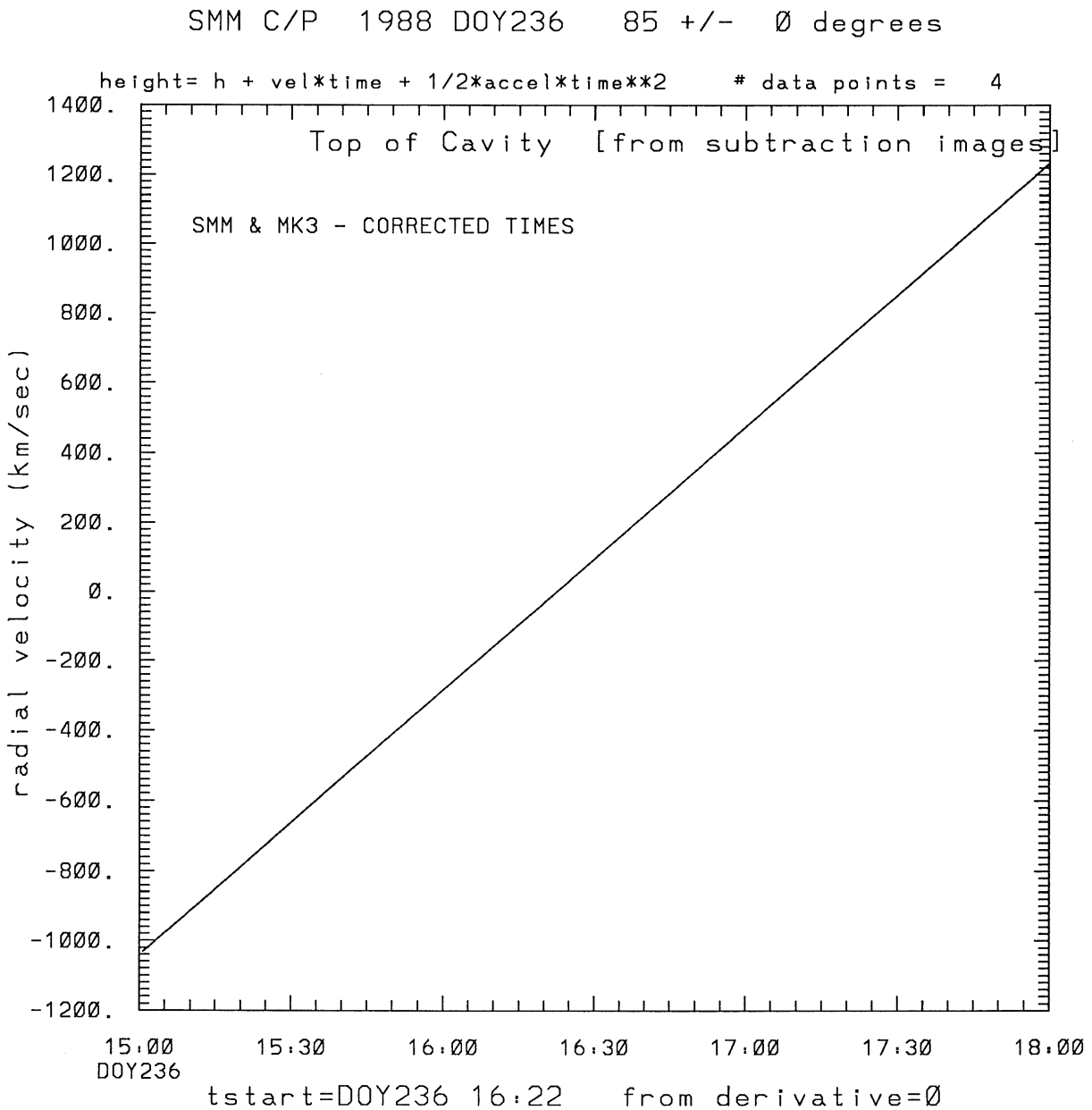
SMM C/P 1988 DOY236 85 +/- Ø degrees



tstart=DOY236 16:22 from derivative=Ø

Event begins at 1.49 Solar Radii

radial acceleration= Ø.21Ø4 +/- Ø.Ø246 [km/sec**2]



tstart=DOY236 16:22 from derivative=Ø

Event begins at 1.49 Solar Radii

radial acceleration=Ø.21ØE+ØØ km/sec**2

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

****
INPUT:
****

year	doy	time	radii	error in radius	angle	error in angle	datatype
1988	236	15:58:30	1.80	+/- 0.15	85.0	+/- 0.5	SMM
1988	236	16:51:15	2.00	+/- 0.10	85.0	+/- 0.5	SMM
1988	236	16:59:29	2.10	+/- 0.15	85.0	+/- 0.5	SMM
1988	236	17:24:17	3.60	+/- 0.15	85.0	+/- 1.0	SMM

****
Structure being measured:
Top of Cavity [from subtraction images]
****

****
OUTPUT:
****

START TIME:

Event began at t = 0 + 0.345E+02 +/- 0.469E+02 [minutes]
In more convenient units:
Event began at DOY 236 15:34 +/- 0.469E+02 [minutes]

Origin defined at DOY236 15: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 200. +/- 108. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.406E+00 +/- 0.105E+01 [solar radii]
c(2) = 0.172E-01 +/- 0.931E-02 [radii/min]
c(2) = 0.200E+03 +/- 0.108E+03 [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)= 0.12016E+01 [radii] see Bevington pg. 114
error in c(2)= 0.10652E-01 [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) = 85. +/- 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 15:58 = 0. km/sec
The TOTAL velocity at 15:58 = 200. km/sec

The TANGENTIAL velocity at 16:51 = 0. km/sec
The TOTAL velocity at 16:51 = 200. km/sec

The TANGENTIAL velocity at 16:59 = 0. km/sec
The TOTAL velocity at 16:59 = 200. km/sec

The TANGENTIAL velocity at 17:24 = 0. km/sec
The TOTAL velocity at 17:24 = 200. km/sec

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

Fit is ok [ier=1]

Standard Deviation in the height = 0.83
Standard Deviation in start time measurement = 0.313E+02
Error in time = 0.54640E+02 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.258E+00
Reduced Chi Squared = 0.138E+01
Chi Squared = 0.276E+01
The probability for exceeding chi square = 0.772E+00

The correlation coefficient = 0.766E+00
The probability that no LINEAR correlation exists between the variables = 0.2339E+00
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
1988	236	15:58:30	1.80 +/-	0.15	85.0 +/-	0.5	SMM
1988	236	16:51:15	2.00 +/-	0.10	85.0 +/-	0.5	SMM
1988	236	16:59:29	2.10 +/-	0.15	85.0 +/-	0.5	SMM
1988	236	17:24:17	3.60 +/-	0.15	85.0 +/-	1.0	SMM

****
Structure being measured:
Top of Cavity [from subtraction images]
****

****
OUTPUT:
****

START TIME:

tstart=DOY236 16:22 from derivative = 0
Event begins at 1.49 Solar Radii
Origin defined at DOY236 15: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.210E+00 +/- 0.246E-01 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.519E+01 +/- 0.598E+00 [solar radii]
c(2) = -0.897E-01 +/- 0.126E-01 [radii/min]
c(2) = -0.104E+04 +/- 0.147E+03 [km/sec]
c(3) = 0.544E-03 +/- 0.636E-04 [radii/min**2]
c(3) = 0.210E+00 +/- 0.246E-01 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.87301E+00 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.25730E+00 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.19040E-01 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.61970E-02 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.95748E-04 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.30931E-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) = 85. +/- 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 15:58 = 0. km/sec
The TOTAL velocity at 15:58 = -302. km/sec

The TANGENTIAL velocity at 16:51 = 0. km/sec
The TOTAL velocity at 16:51 = 364. km/sec

The TANGENTIAL velocity at 16:59 = 0. km/sec
The TOTAL velocity at 16:59 = 468. km/sec

The TANGENTIAL velocity at 17:24 = 0. km/sec
The TOTAL velocity at 17:24 = 781. km/sec

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

Fit is ok [ier=1]

Standard Deviation in the height = 0.83
Standard Deviation in start time measurement = 0.313E+02
Value of reduced Chi Squared returned from nllst2 = 0.103E-01
Reduced Chi Squared = 0.678E-01
Chi Squared = 0.678E-01
The probability for exceeding chi square = 0.919E+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 = 0.6291E+00
The correlation between the data and the time**2 term = 0.7124E+00
0The correlation between the data and the complete equation of motion = 0.9914E+00
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]