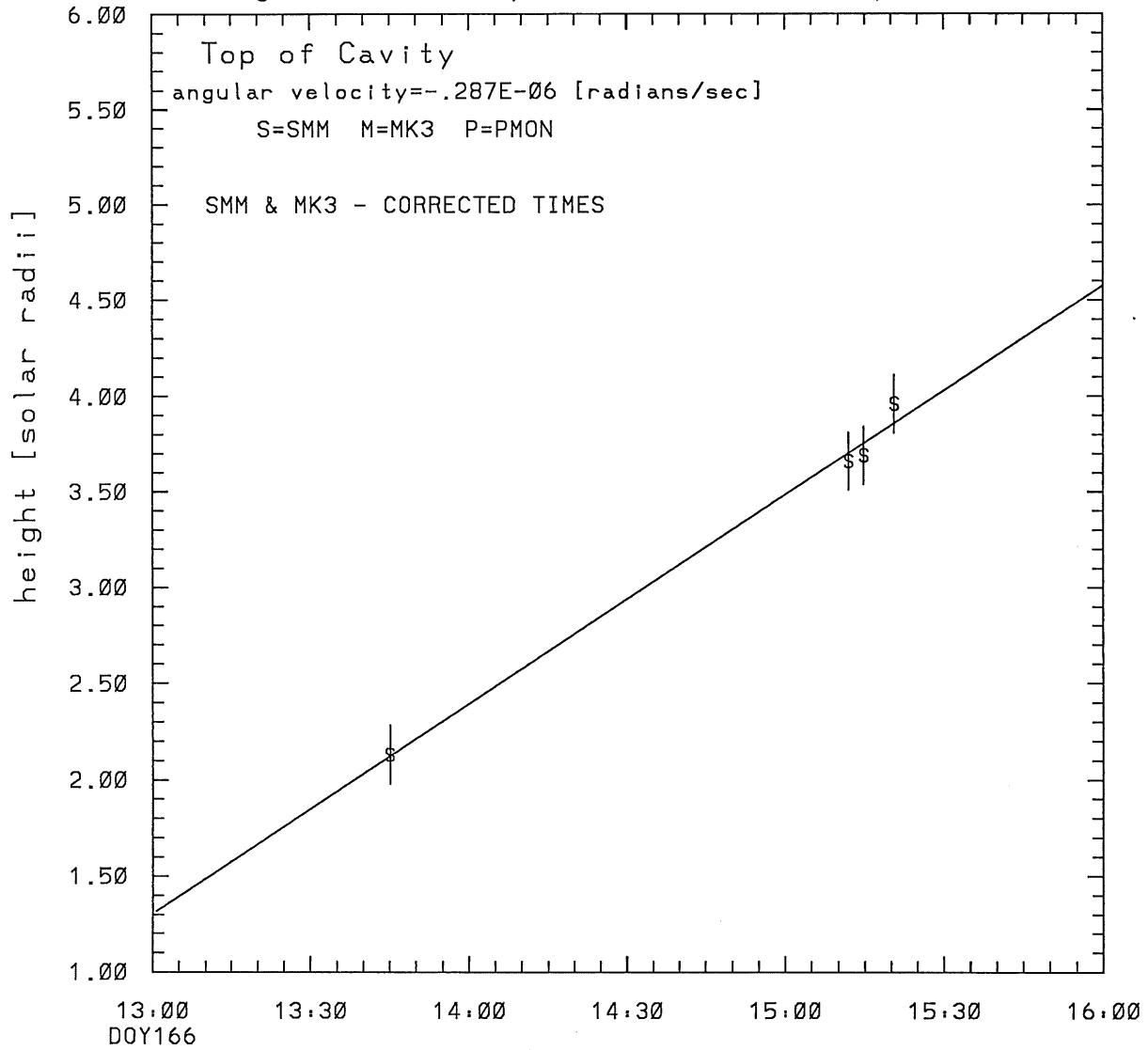


SMM C/P 1984 DOY166 114 +/- 1 degrees

height = h + velocity*time

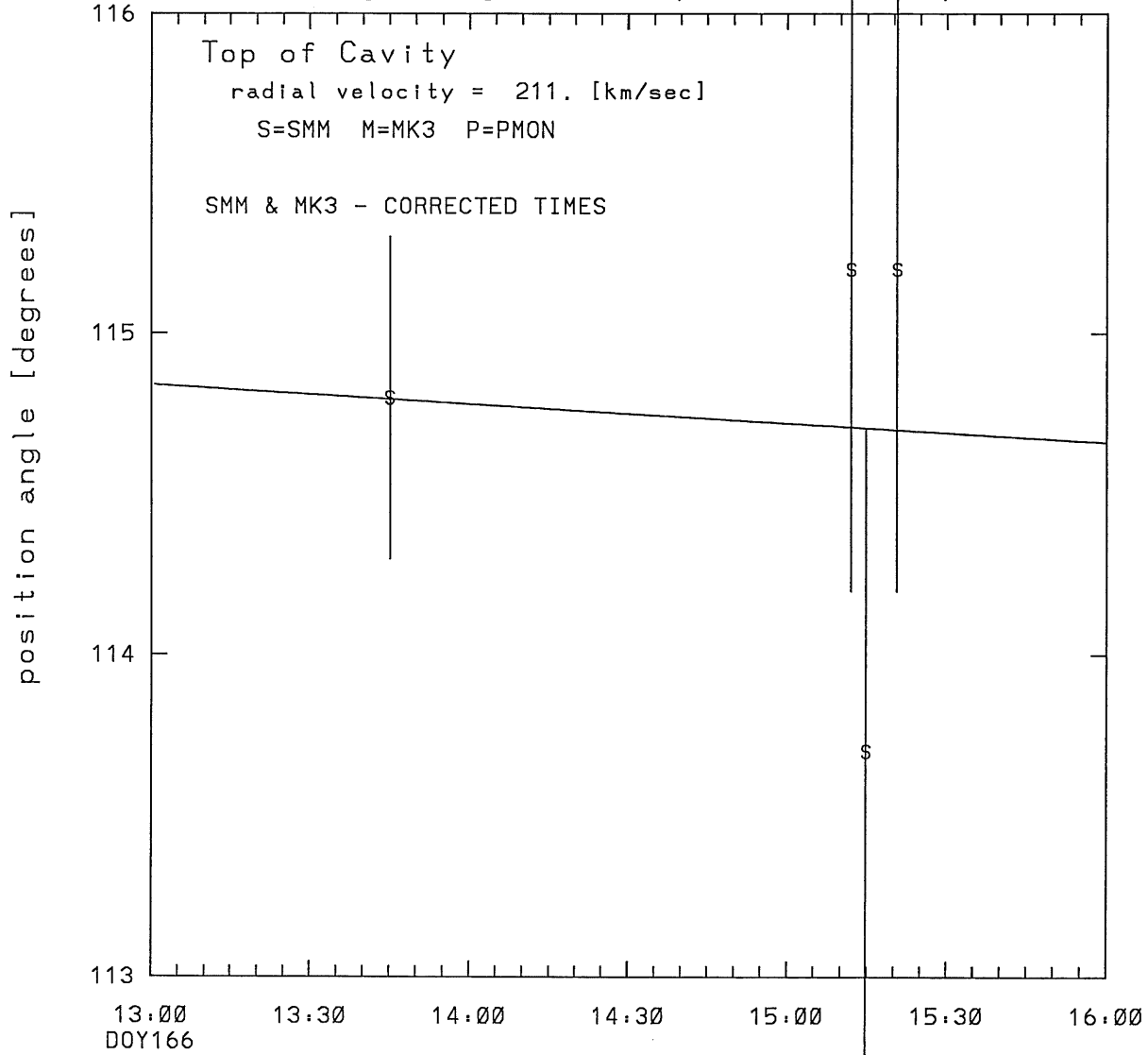
data points = 4



tstart=DOY166 12:45 +/- 0.3 [min.]
radial velocity= 211. +/- 11. [km/sec]

SMM C/P 1984 DOY166 114 +/- 1 degrees

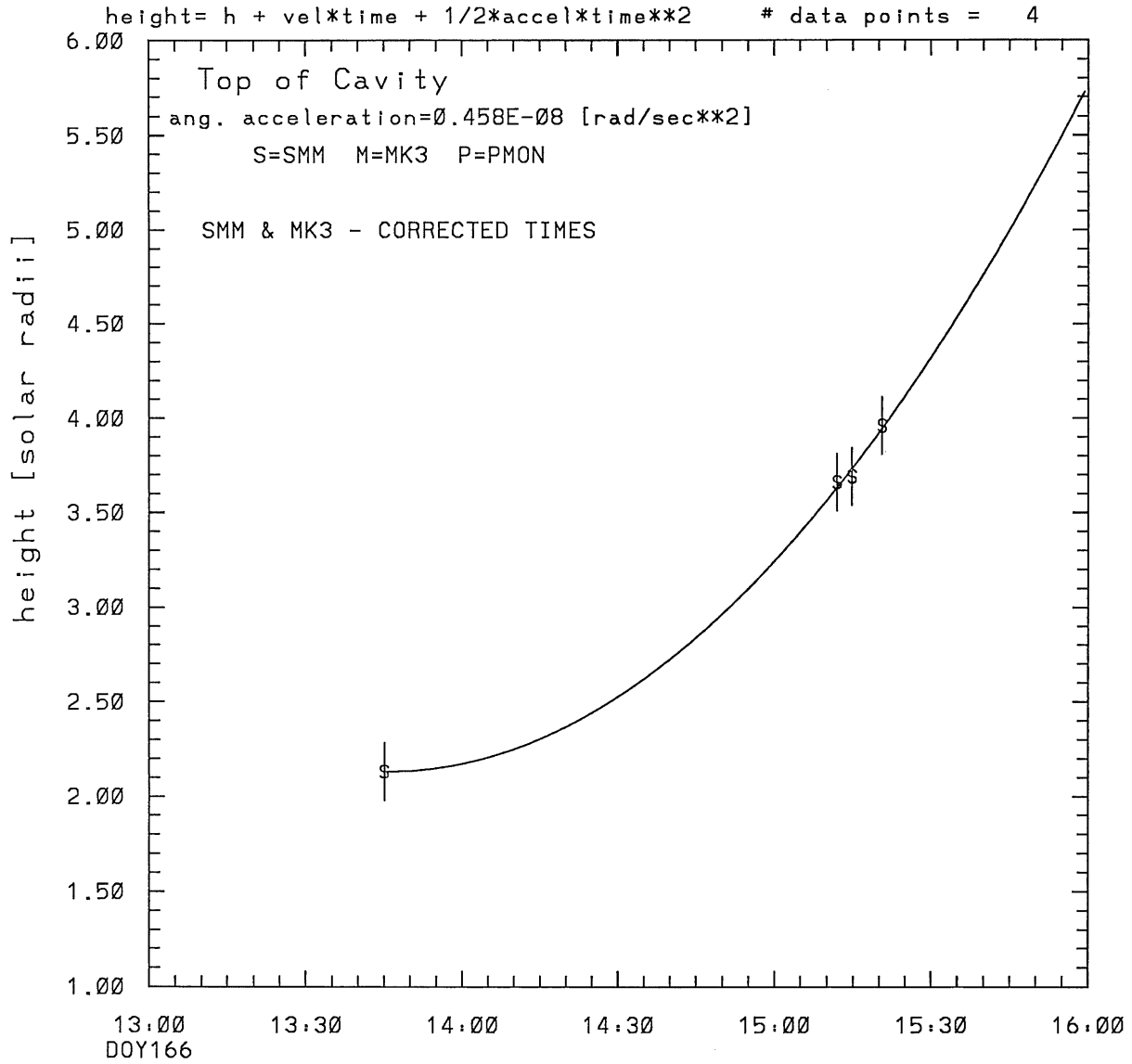
angle = initial angle + angular velocity * time # data points = 4



tstart=DOY166 12.45 +/- 0.3 [min.]

angular velocity = $-.287E-06$ +/- $0.173E-05$ [rad/sec]

SMM C/P 1984 DOY166 114 +/- 1 degrees

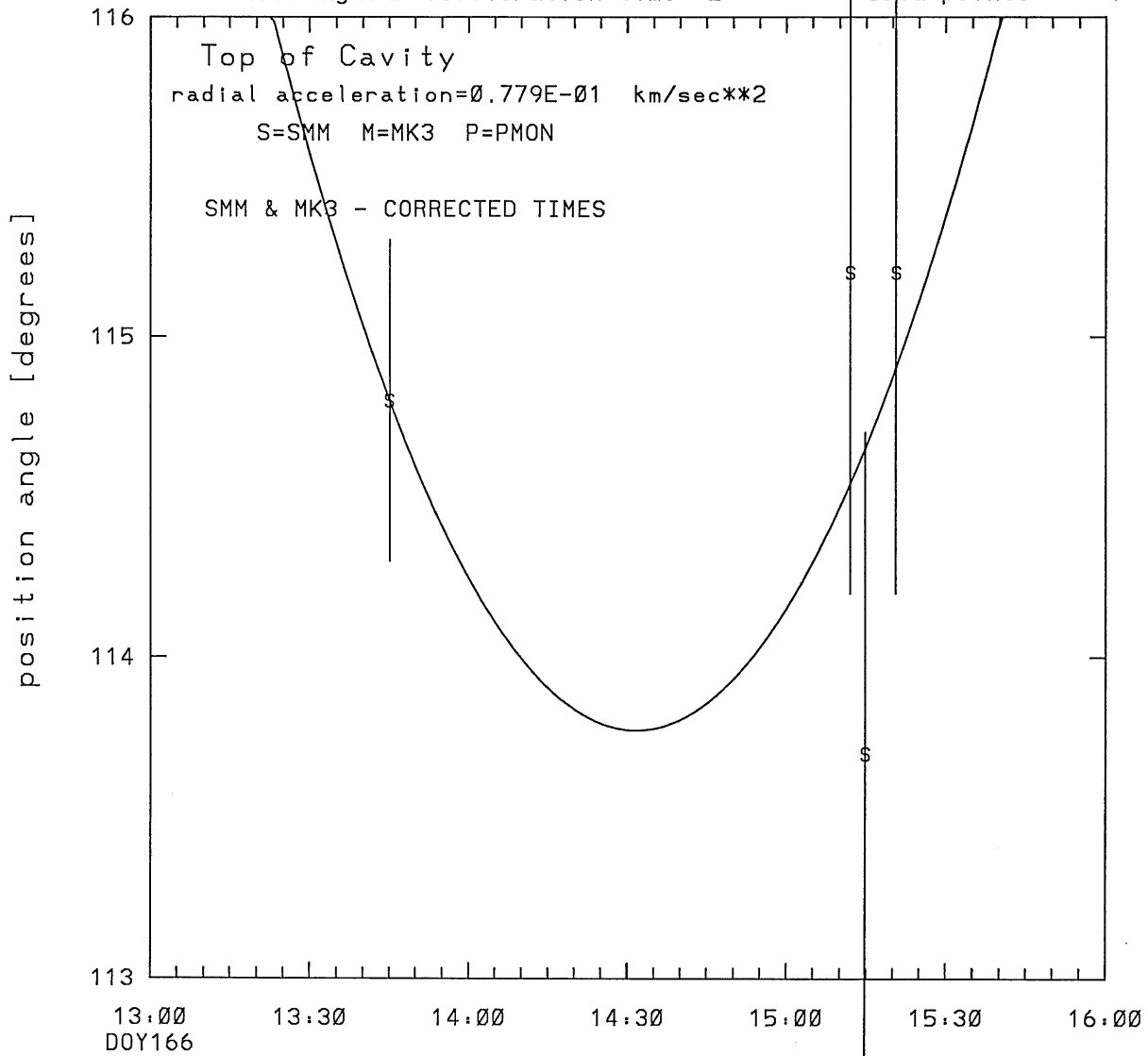


tstart=DOY166 13:45 from derivative=0
Event begins at 2.13 Solar Radii
radial acceleration = $0.0779 +/- 0.0251$ [km/sec**2]

SMM C/P 1984 DOY166 114 +/- 1 degrees

angle = initial angle + angular velocity*time
+ 1/2 angular acceleration*time**2

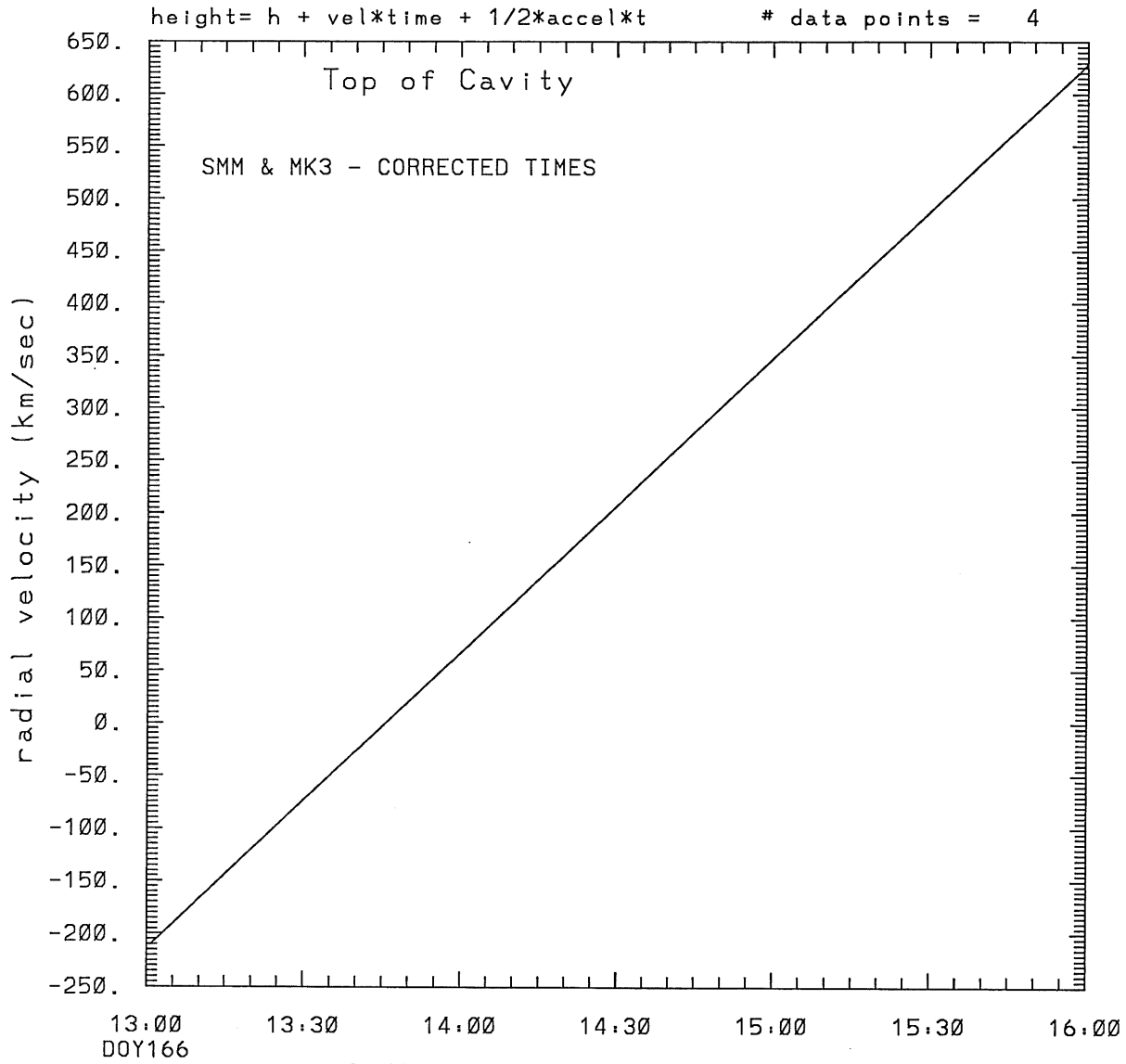
data points = 4



tstart=DOY166 13:45 from derivative=0

angular acceleration=0.458E-08 +/- 0.143E-07 [rad/sec**2]

SMM C/P 1984 DOY166 114 +/- 1 degrees

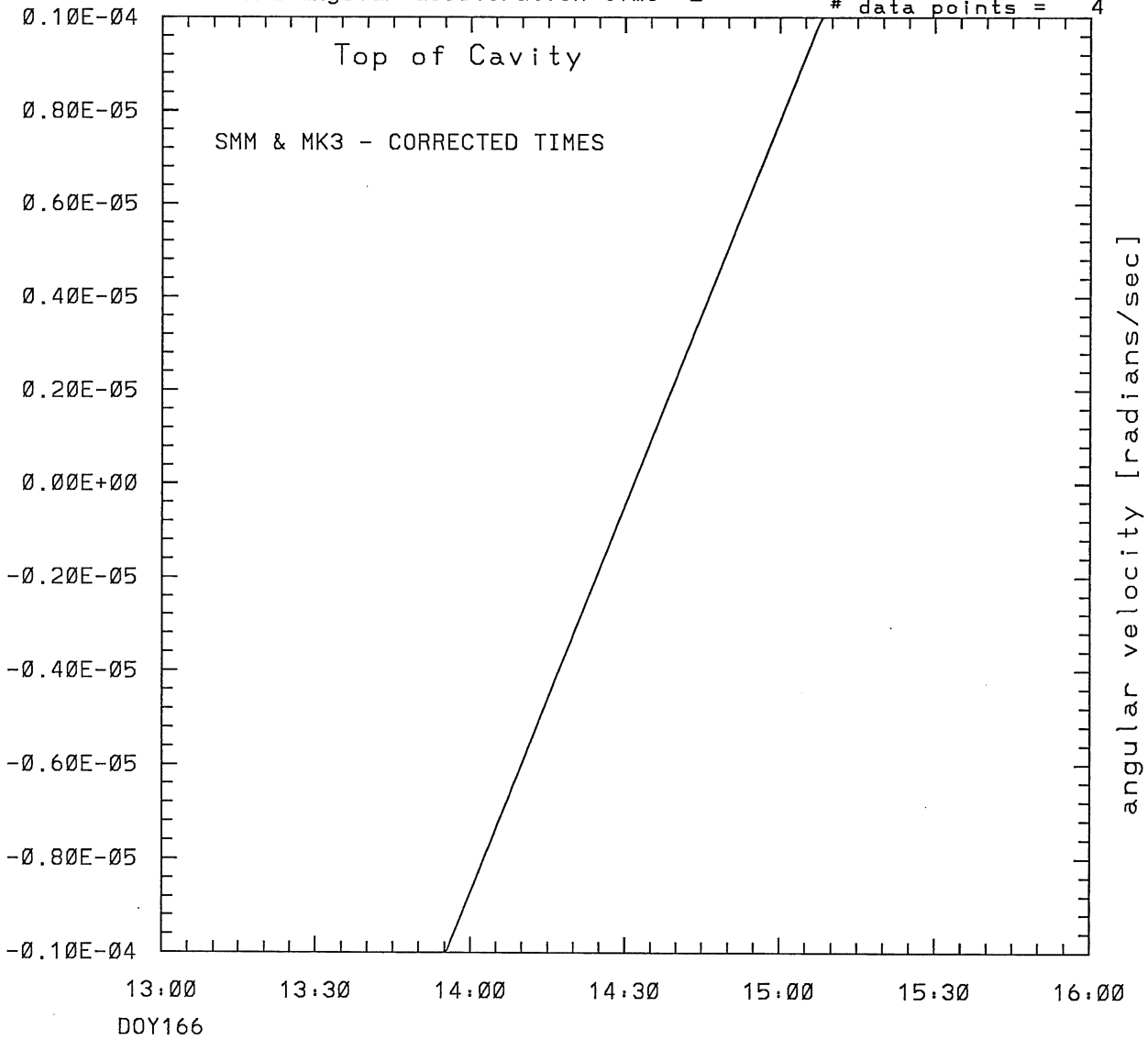


tstart=DOY166 13:45 from derivative=0
Event begins at 2.13 Solar Radii
radial acceleration= $0.779E-01$ km/sec**2

SMM C/P 1984 DOY166 114 +/- 1 degrees

$$\text{angle} = \text{initial angle} + \text{angular velocity} * \text{time} + \frac{1}{2} \text{angular acceleration} * \text{time} ** 2$$

data points = 4



tstart=DOY166 13:45 from derivative=0
angular acceleration=0.458E-08 +/-
0.143E-07 [rad/sec**2]

This is a 1 order run

INPUT:

year	day	time	radii	radius	angle	error in angle	datatype
1984	166	13:45: 2	2.13 +/-	0.15	114.8 +/-	0.5	SMM
1984	166	15:12: 0	3.66 +/-	0.15	115.2 +/-	1.0	SMM
1984	166	15:14:51	3.69 +/-	0.15	113.7 +/-	1.0	SMM
1984	166	15:20:39	3.96 +/-	0.15	115.2 +/-	1.0	SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

Event began at t = 0 + -0.167E+02 +/- 0.315E+00 [minutes]
In more convenient units:
Event began at DOY 166 12:45 +/- 0.315E+00 [minutes]

Origin defined at DOY166 13: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 211. +/- 11. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.130E+01 +/- 0.111E+00 [solar radii]
c(2) = 0.182E-01 +/- 0.928E-03 [radii/min]
c(2) = 0.211E+03 +/- 0.108E+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)= 0.13612E+00 [radii] see Bevington pg. 114
error in c(2)= 0.11361E-02 [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = -0.2875E-06 +/- 0.1730E-05[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 115. +/- 1. [degrees]
a(2) = -0.988E-03 +/- 0.595E-02 [degrees/min]
a(2) = -0.287E-06 +/- 0.173E-05 [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 RADIAL velocity at 13:45 = 211. km/sec

The RADIAL velocity at 15:12 = 211. km/sec

The RADIAL velocity at 15:14 = 211. km/sec

The RADIAL velocity at 15:20 = 211. 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 = 0.394E+02
Error in time = 0.69728E+01 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.535E-02
Reduced Chi Squared = 0.281E-01
Chi Squared = 0.562E-01
The probability for exceeding chi square = 0.995E+00

The correlation coefficient = 0.996E+00
The probability that no LINEAR correlation exists between the variables = 0.3884
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 angle	datatype
1984	166	13:45: 2	2.13 +/- 0.15	114.8 +/- 0.5			SMM
1984	166	15:12: 0	3.66 +/- 0.15	115.2 +/- 1.0			SMM
1984	166	15:14:51	3.69 +/- 0.15	113.7 +/- 1.0			SMM
1984	166	15:20:39	3.96 +/- 0.15	115.2 +/- 1.0			SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

tstart=DOY166 13:45 from derivative = 0
Event begins at 2.13 Solar Radii
Origin defined at DOY166 13: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.779E-01 +/- 0.251E-01 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.255E+01 +/- 0.405E+00 [solar radii]
c(2) = -0.184E-01 +/- 0.118E-01 [radii/min]
c(2) = -0.214E+03 +/- 0.137E+03 [km/sec]
c(3) = 0.202E-03 +/- 0.649E-04 [radii/min**2]
c(3) = 0.779E-01 +/- 0.251E-01 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.57318E+00 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.18276E+00 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.16668E-01 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.53715E-02 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.91719E-04 [radii/min**2] Bevington pg 154 (8-30)
Exact error in c(3) = 0.29169E-04 [radii/min**2] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

ANGULAR ACCELERATION= 0.4581E-08 +/- 0.1431E-07[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 118. +/- 9. [degrees]
a(2) = -0.866E-01 +/- 0.268E+00 [degrees/min]
a(2) = -0.252E-04 +/- 0.778E-04 [rad/sec]
a(3) = 0.472E-03 +/- 0.148E-02 [degrees/min**2]
a(3) = 0.458E-08 +/- 0.143E-07 [rad/sec**2]

The RADIAL velocity at 13:45 = -3. km/sec

The RADIAL velocity at 15:12 = 404. km/sec

The RADIAL velocity at 15:14 = 417. km/sec

The RADIAL velocity at 15:20 = 444. 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 = 0.394E+02

Value of reduced Chi Squared returned from nllst2 = 0.138E-02

Reduced Chi Squared = 0.760E-02

Chi Squared = 0.760E-02

The probability for exceeding chi square = 0.970E+00

For a second order fit 3 correlation coefficients are given:

(Using equation of motion: $r = a + bt + at^2$)

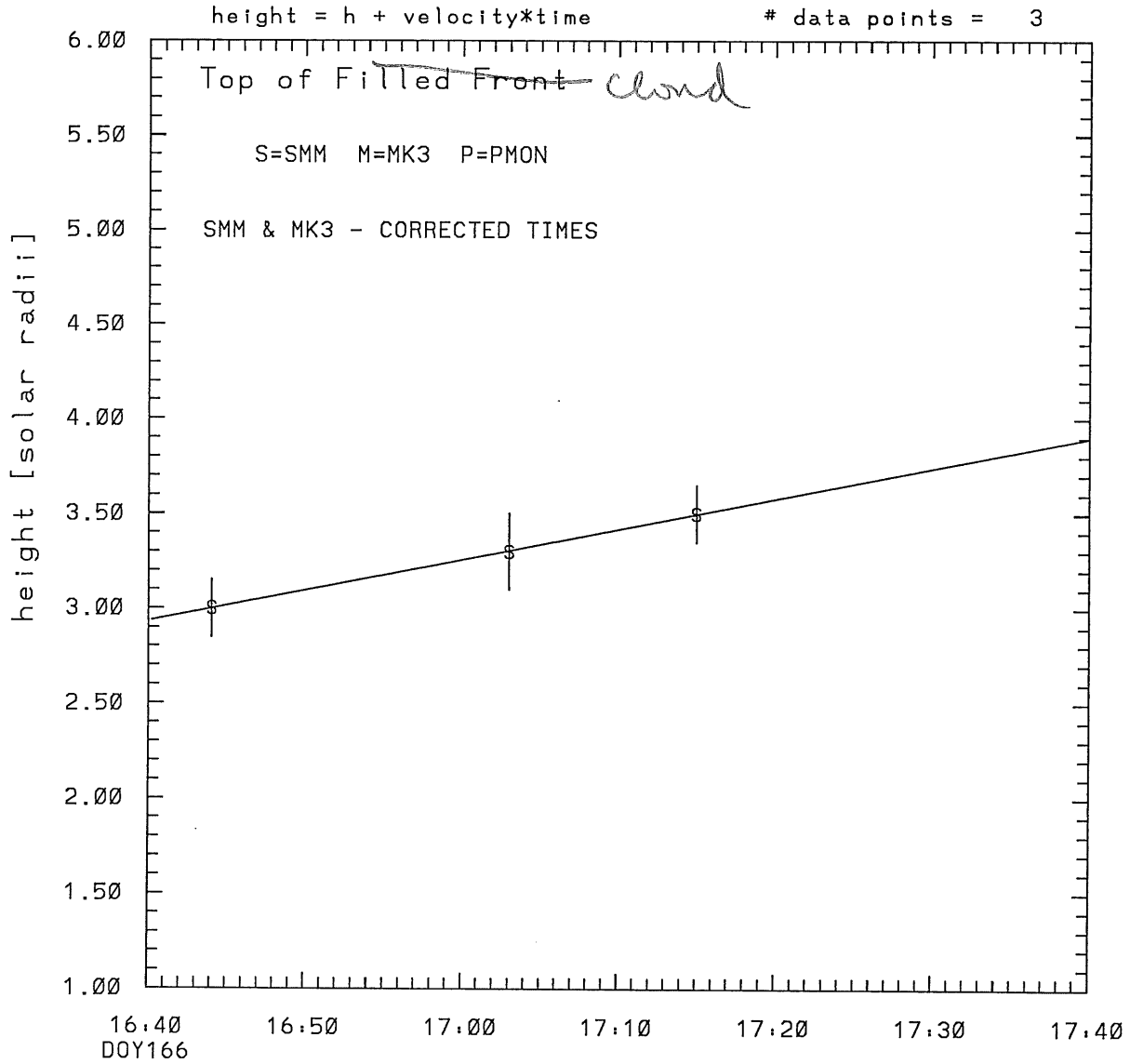
The correlation between the data and the term linear in time = 0.9961E+00

The correlation between the data and the time**2 term = 0.9985E+00

The correlation between the data and the complete equation of motion=0.9987E+00

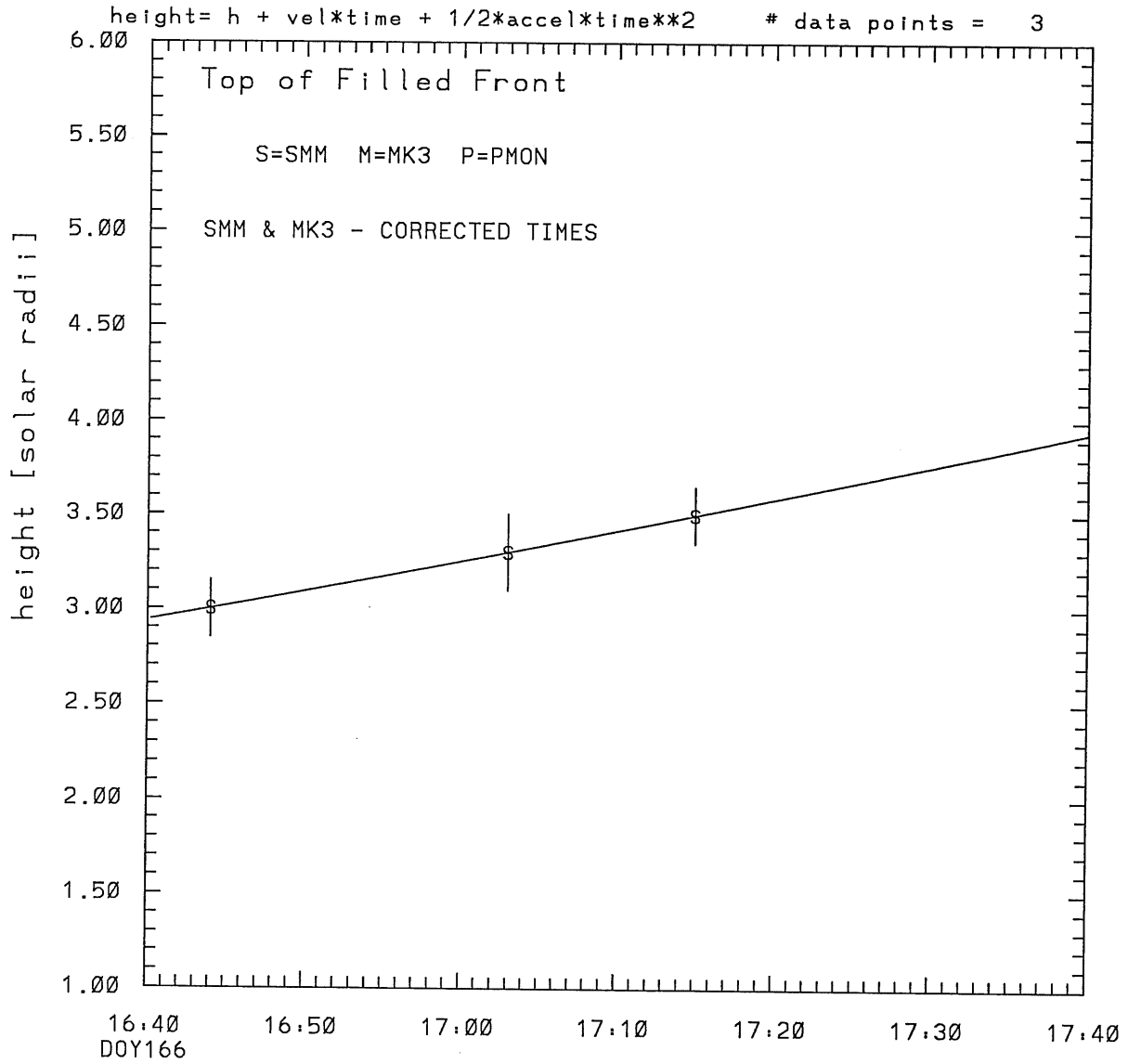
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

SMM C/P 1984 DOY166 95 +/- 0 degrees



tstart=DOY166 14:42 +/- 0.5 [min.]
radial velocity= 187. +/- 2. [km/sec]

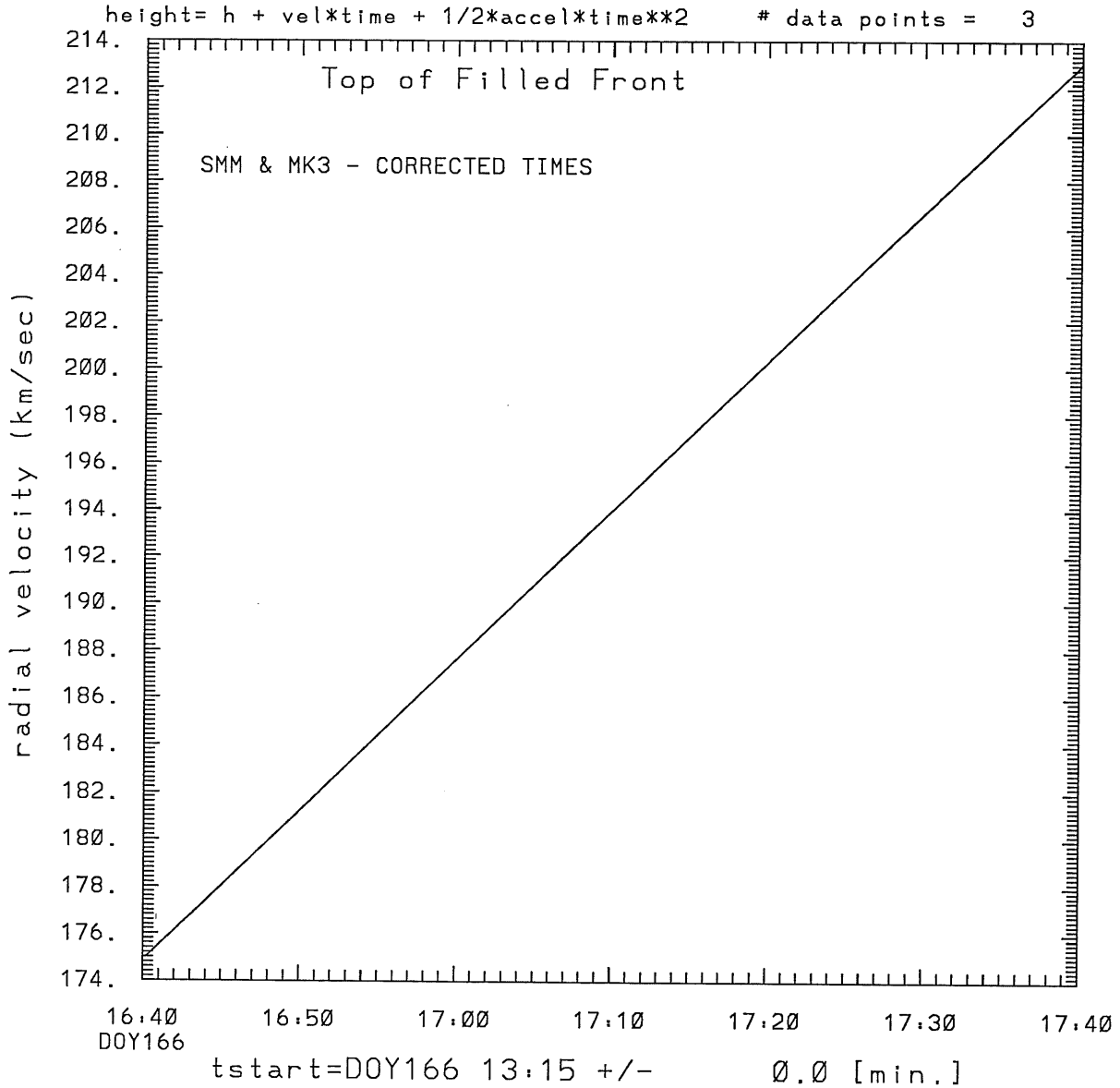
SMM C/P 1984 DOY166 95 +/- 0 degrees



tstart=DOY166 13:15 +/- 0.0 [min.]

radial acceleration = 0.0106 +/- 0.0000 [km/sec**2]

SMM C/P 1984 DOY166 95 +/- 0 degrees



radial acceleration=0.106E-01 km/sec**2

This is a 1 order run

INPUT:

year	day	time	radii	error in radius	angle	error in angle	datatype
1984	166	16:44: 3	3.00	+/- 0.15	95.0	+/- 1.0	SMM
1984	166	17: 3: 1	3.30	+/- 0.20	95.0	+/- 1.0	SMM
1984	166	17:15: 1	3.50	+/- 0.15	95.0	+/- 1.0	SMM

Structure being measured:

Top of Filled Front

OUTPUT:

START TIME:

Event began at $t = 0 + -0.120E+03 +/- 0.470E+00$ [minutes]

In more convenient units:

Event began at DOY 166 14:42 +/- 0.470E+00 [minutes]

Origin defined at DOY166 16:40

RADIAL INFORMATION:

RADIAL VELOCITY = 187. +/- 2. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.293E+01 +/- 0.324E-02$ [solar radii]
 $c(2) = 0.161E-01 +/- 0.132E-03$ [radii/min]
 $c(2) = 0.187E+03 +/- 0.153E+01$ [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 $c(1) = 0.57288E-02$ [radii] see Bevington pg. 114

error in $c(2) = 0.23570E-03$ [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) = 95. +/- 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 16:44 = 0.000E+00 km/sec

The TOTAL velocity at 16:44 = 187. km/sec

The TANGENTIAL velocity at 17: 3 = 0.000E+00 km/sec

The TOTAL velocity at 17: 3 = 187. km/sec

The TANGENTIAL velocity at 17:15 = 0.000E+00 km/sec

The TOTAL velocity at 17:15 = 187. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.25

Standard Deviation in start time measurement = 0.127E+02

Error in time = 0.32272E+00 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.991E-05

Reduced Chi Squared = 0.558E-04

Chi Squared = 0.558E-04

The probability for exceeding chi square = 0.997E+00

The correlation coefficient = 0.100E+01

The probability that no LINEAR correlation exists between the variables = 0.8934E-02

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

This is a 2 order run

INPUT:

year	day	time	radii	error in radius	angle	error in angle	datatype
1984	166	16:44: 3	3.00	+/- 0.15	95.0	+/- 1.0	SMM
1984	166	17: 3: 1	3.30	+/- 0.20	95.0	+/- 1.0	SMM
1984	166	17:15: 1	3.50	+/- 0.15	95.0	+/- 1.0	SMM

Structure being measured:

Top of Filled Front

OUTPUT:

START TIME:

Event began at $t = 0 + -0.205E+03 +/- 0.000E+00$ [minutes]

In more convenient units:

Event began at DOY 166 13:15 +/- 0.000E+00 [minutes]

Origin defined at DOY166 16:40

RADIAL INFORMATION:

RADIAL ACCELERATION = $0.106E-01 +/- 0.000E+00$ km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = $0.294E+01 +/- 0.000E+00$ [solar radii]
c(2) = $0.151E-01 +/- 0.000E+00$ [radii/min]
c(2) = $0.175E+03 +/- 0.000E+00$ [km/sec]
c(3) = $0.274E-04 +/- 0.000E+00$ [radii/min**2]
c(3) = $0.106E-01 +/- 0.000E+00$ [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) = $95. +/- 0.$ [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 16:44 = 0.000E+00 km/sec

The TOTAL velocity at 16:44 = 177. km/sec

The TANGENTIAL velocity at 17: 3 = 0.000E+00 km/sec

The TOTAL velocity at 17: 3 = 190. km/sec

The TANGENTIAL velocity at 17:15 = 0.000E+00 km/sec

The TOTAL velocity at 17:15 = 197. 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!