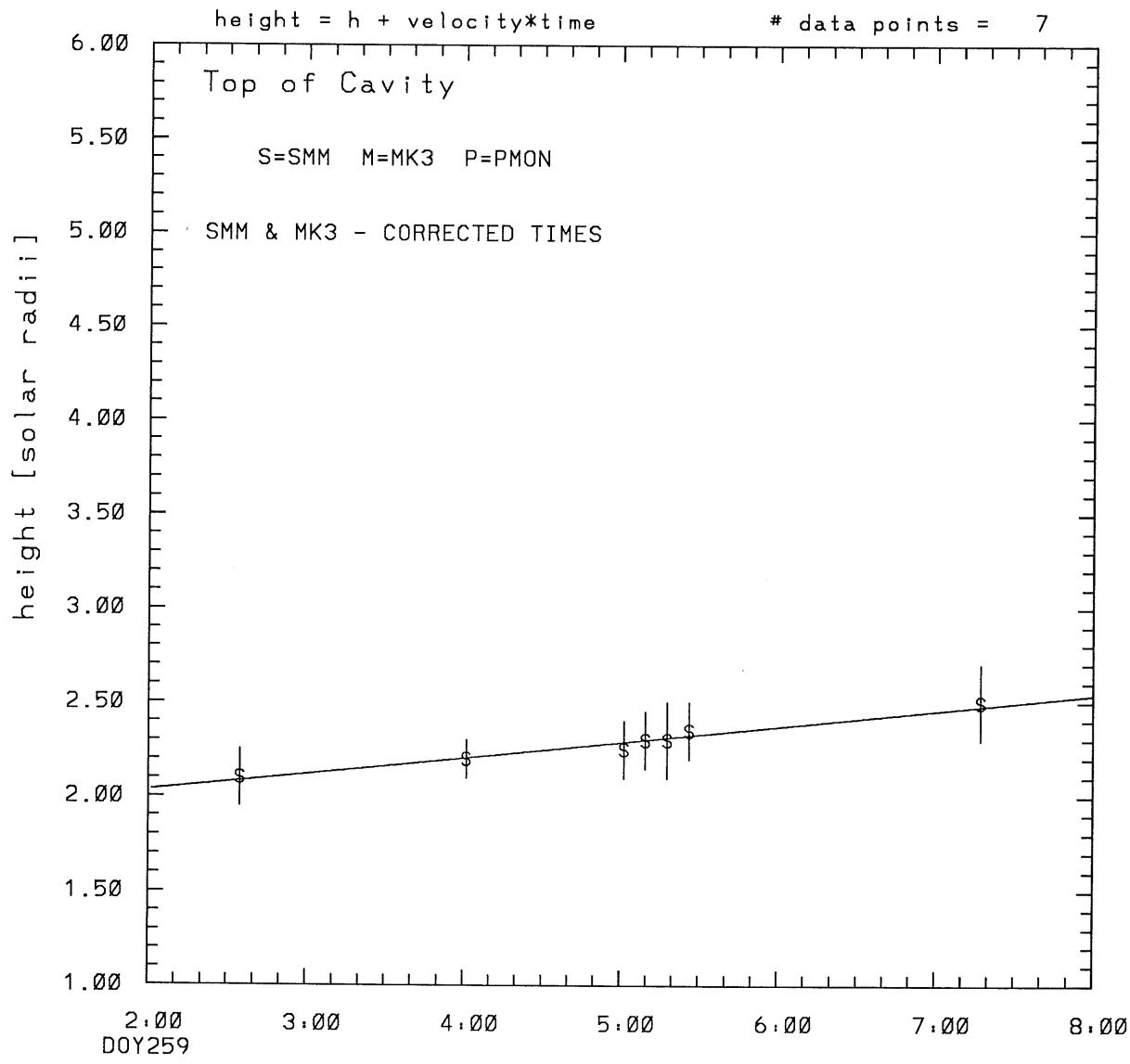


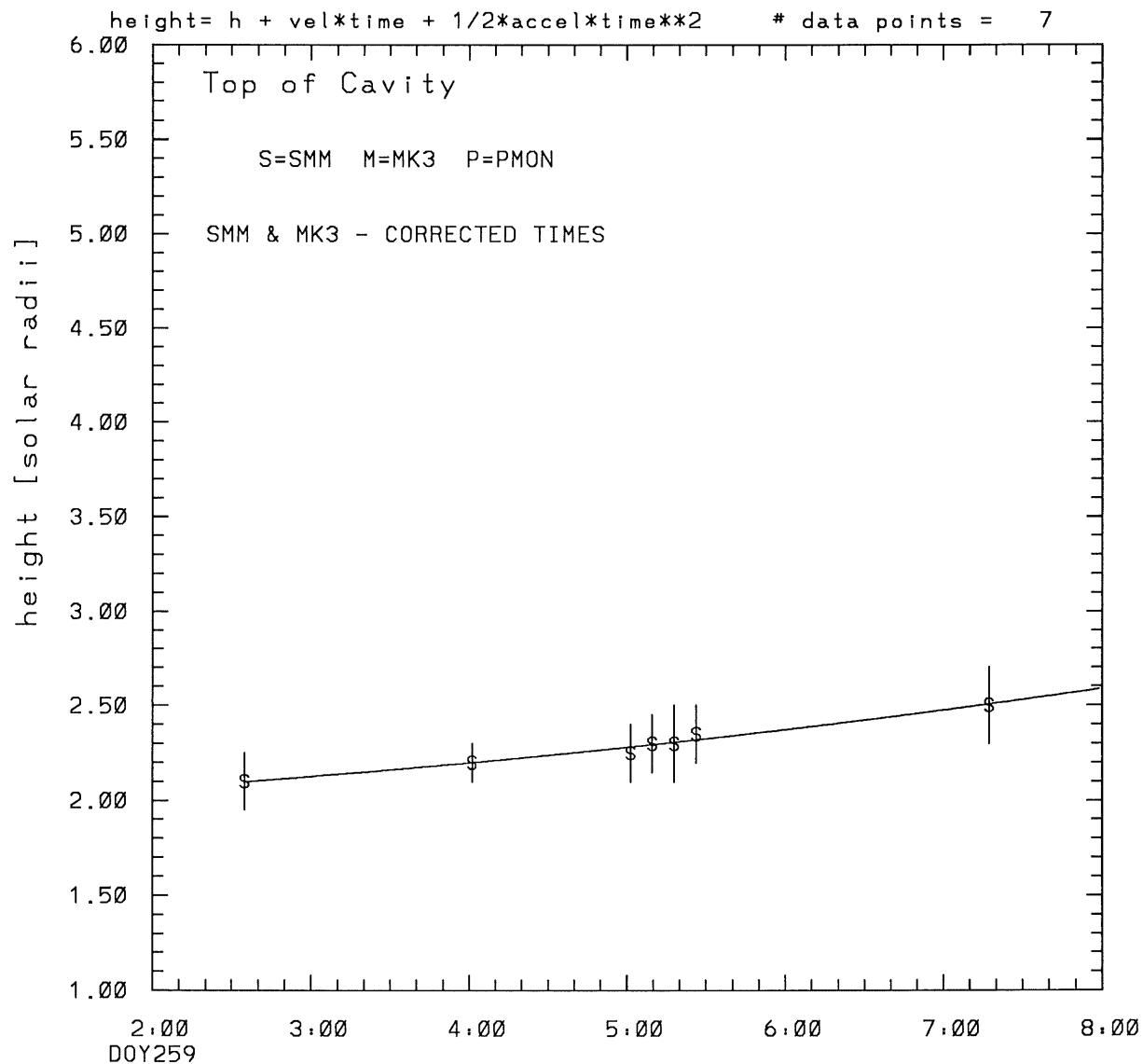


SMM C/P 1988 DOY259 105 +/- 0 degrees



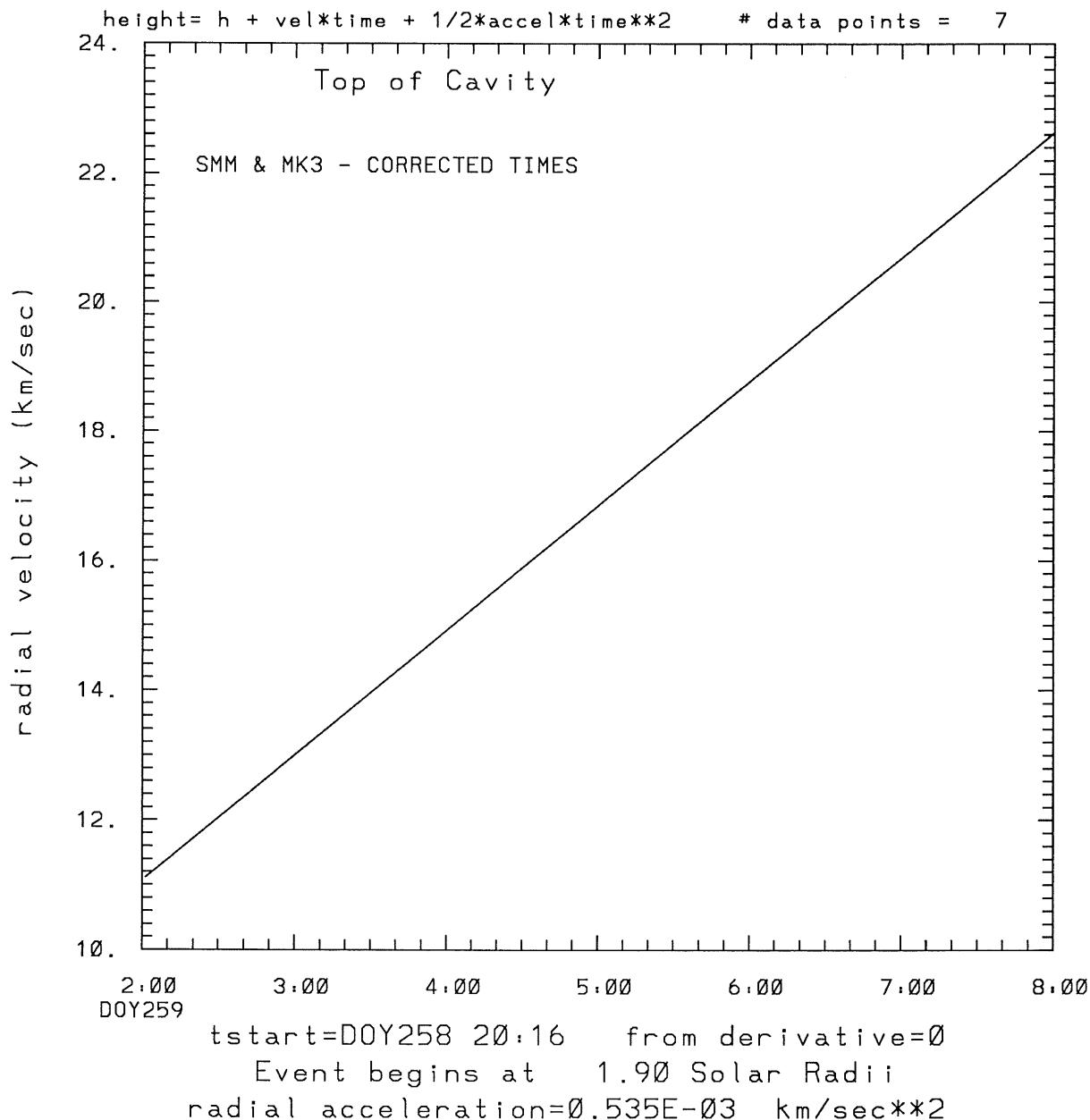
tstart=DOY258 13:46 +/- 11.3 [min.]
radial velocity= 16. +/- 1. [km/sec]

SMM C/P 1988 DOY259 105 +/- 0 degrees



tstart=DOY258 20:16 from derivative=0
Event begins at 1.90 Solar Radii
radial acceleration= 0.0005 +/- 0.0004 [km/sec**2]

SMM C/P 1988 DOY259 105 +/- 0 degrees



This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in radii	error in radius	angle	angle	datatype
1988	259	2:34:48	2.10	+/- 0.15	105.0	+/- 0.5	SMM		
1988	259	4: 1: 5	2.20	+/- 0.10	105.0	+/- 0.5	SMM		
1988	259	5: 1:28	2.25	+/- 0.15	105.0	+/- 0.5	SMM		
1988	259	5: 9:41	2.30	+/- 0.15	105.0	+/- 0.5	SMM		
1988	259	5:18: 2	2.30	+/- 0.20	105.0	+/- 0.5	SMM		
1988	259	5:26:23	2.35	+/- 0.15	105.0	+/- 0.5	SMM		
1988	259	7:17:15	2.50	+/- 0.20	105.0	+/- 0.5	SMM		

Structure being measured:

Top of Cavity

OUTPUT:

START TIME:

Event began at t = 0 + -0.734E+03 +/- 0.113E+02 [minutes]

In more convenient units:

Event began at DOY 258 13:46 +/- 0.113E+02 [minutes]

Origin defined at DOY259 2: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 16. +/- 1. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.203E+01 +/- 0.197E-01 [solar radii]

c(2) = 0.141E-02 +/- 0.113E-03 [radii/min]

c(2) = 0.163E+02 +/- 0.131E+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)= 0.22925E-01 [radii] see Bevington pg. 114

error in c(2)= 0.11733E-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) = 105. +/- 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 2:34 = 0. km/sec

The TOTAL velocity at 2:34 = 16. km/sec

The TANGENTIAL velocity at 4: 1 = 0. km/sec

The TOTAL velocity at 4: 1 = 16. km/sec

The TANGENTIAL velocity at 5: 1 = 0. km/sec

The TOTAL velocity at 5: 1 = 16. km/sec

The TANGENTIAL velocity at 5: 9 = 0. km/sec

The TOTAL velocity at 5: 9 = 16. km/sec

The TANGENTIAL velocity at 5:18 = 0. km/sec

The TOTAL velocity at 5:18 = 16. km/sec

The TANGENTIAL velocity at 5:26 = 0. km/sec

The TOTAL velocity at 5:26 = 16. km/sec

The TANGENTIAL velocity at 7:17 = 0. km/sec

The TOTAL velocity at 7:17 = 16. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.12

Standard Deviation in start time measurement = 0.797E+02

Error in time = 0.39307E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.449E-03

Reduced Chi Squared = 0.250E-02

Chi Squared = 0.125E-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 = 0.6516E-04

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
1988	259	2:34:48	2.10	+/- 0.15	105.0	+/- 0.5	SMM
1988	259	4: 1: 5	2.20	+/- 0.10	105.0	+/- 0.5	SMM
1988	259	5: 1:28	2.25	+/- 0.15	105.0	+/- 0.5	SMM
1988	259	5: 9:41	2.30	+/- 0.15	105.0	+/- 0.5	SMM
1988	259	5:18: 2	2.30	+/- 0.20	105.0	+/- 0.5	SMM
1988	259	5:26:23	2.35	+/- 0.15	105.0	+/- 0.5	SMM
1988	259	7:17:15	2.50	+/- 0.20	105.0	+/- 0.5	SMM

Structure being measured:

Top of Cavity

OUTPUT:

START TIME:

tstart=DOY258 20:16 from derivative = 0

Event begins at 1.90 Solar Radii

Origin defined at DOY259 2: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.535E-03 +/- 0.387E-03 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.206E+01 +/- 0.284E-01 [solar radii]

c(2) = 0.954E-03 +/- 0.344E-03 [radii/min]

c(2) = 0.111E+02 +/- 0.399E+01 [km/sec]

c(3) = 0.138E-05 +/- 0.100E-05 [radii/min**2]

c(3) = 0.535E-03 +/- 0.387E-03 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.31791E-01 [radii] Bevington pg 154 (8-30)

Exact error in c(1) = 0.12829E-02 [radii] Bevington pg 154 (8-28)

Approximate error in c(2) = 0.36366E-03 [radii/min] Bevington pg 154 (8-30)

Exact error in c(2) = 0.17577E-04 [radii/min] Bevington pg 154 (8-28)

Approximate error in c(3) = 0.10007E-05 [radii/min**2] Bevington pg 154 (8-30)

Exact error in c(3) = 0.62530E-07 [radii/min**2] 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) = 105. +/- 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 2:34 = 0. km/sec

The TOTAL velocity at 2:34 = 12. km/sec

The TANGENTIAL velocity at 4: 1 = 0. km/sec

The TOTAL velocity at 4: 1 = 15. km/sec

The TANGENTIAL velocity at 5: 1 = 0. km/sec

The TOTAL velocity at 5: 1 = 17. km/sec

The TANGENTIAL velocity at 5: 9 = 0. km/sec

The TOTAL velocity at 5: 9 = 17. km/sec

The TANGENTIAL velocity at 5:18 = 0. km/sec

The TOTAL velocity at 5:18 = 17. km/sec

The TANGENTIAL velocity at 5:26 = 0. km/sec

The TOTAL velocity at 5:26 = 18. km/sec

The TANGENTIAL velocity at 7:17 = 0. km/sec

The TOTAL velocity at 7:17 = 21. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.12

Standard Deviation in start time measurement = 0.797E+02

Value of reduced Chi Squared returned from nllst2 = 0.390E-03

Reduced Chi Squared = 0.233E-02

Chi Squared = 0.931E-02

The probability for exceeding chi square = 0.100E+01

For a second order fit 3 correlation coefficients are given:

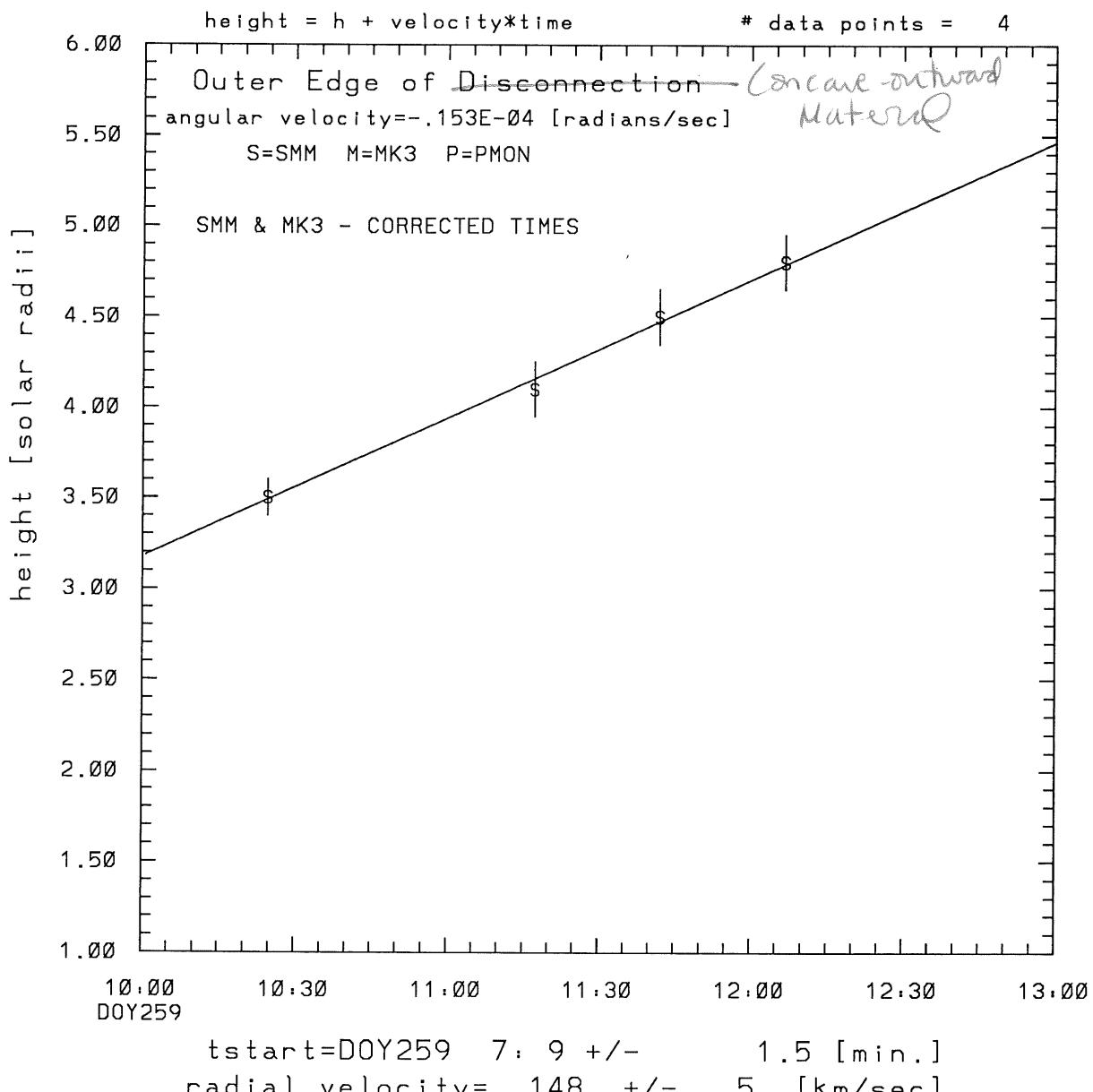
(Using equation of motion: $r = a + bt + at^{**2}$)

The correlation between the data and the term linear in time = 0.9076E+00

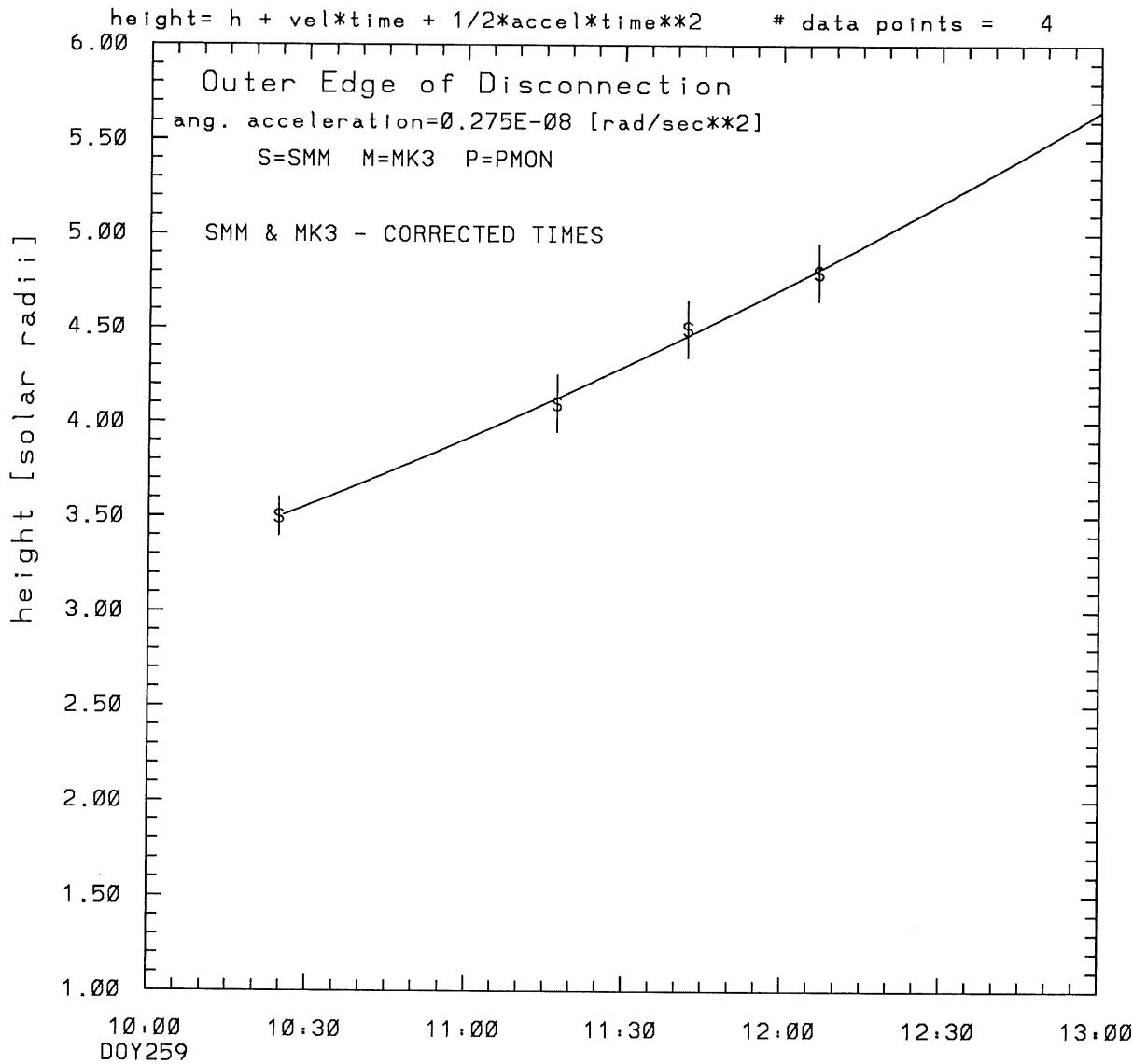
The correlation between the data and the time^{**2} term = 0.8572E+00

The correlation between the data and the complete equation of motion = 0.9773E+00
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

SMM C/P 1988 DOY259 106 +/- 4 degrees

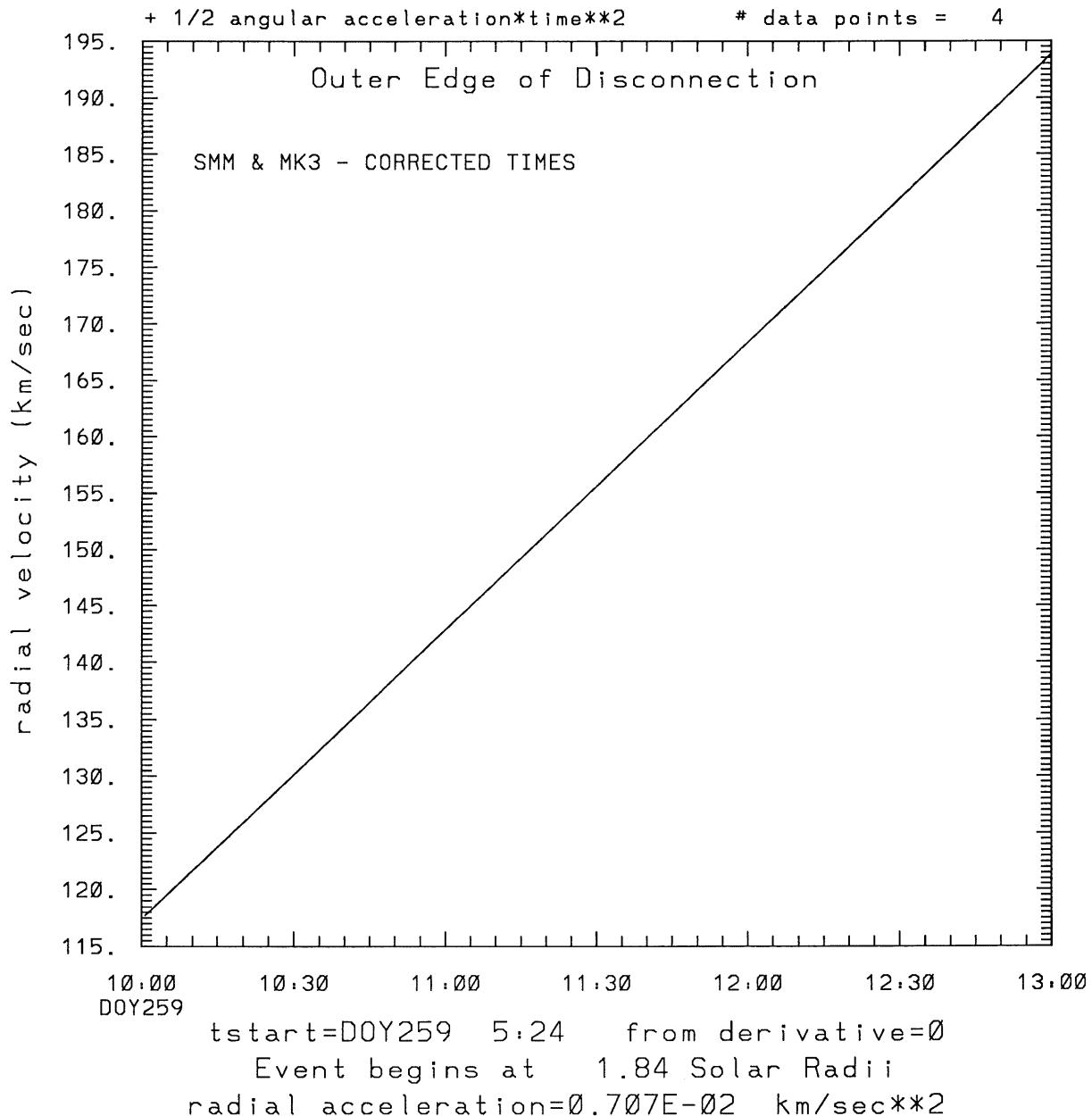


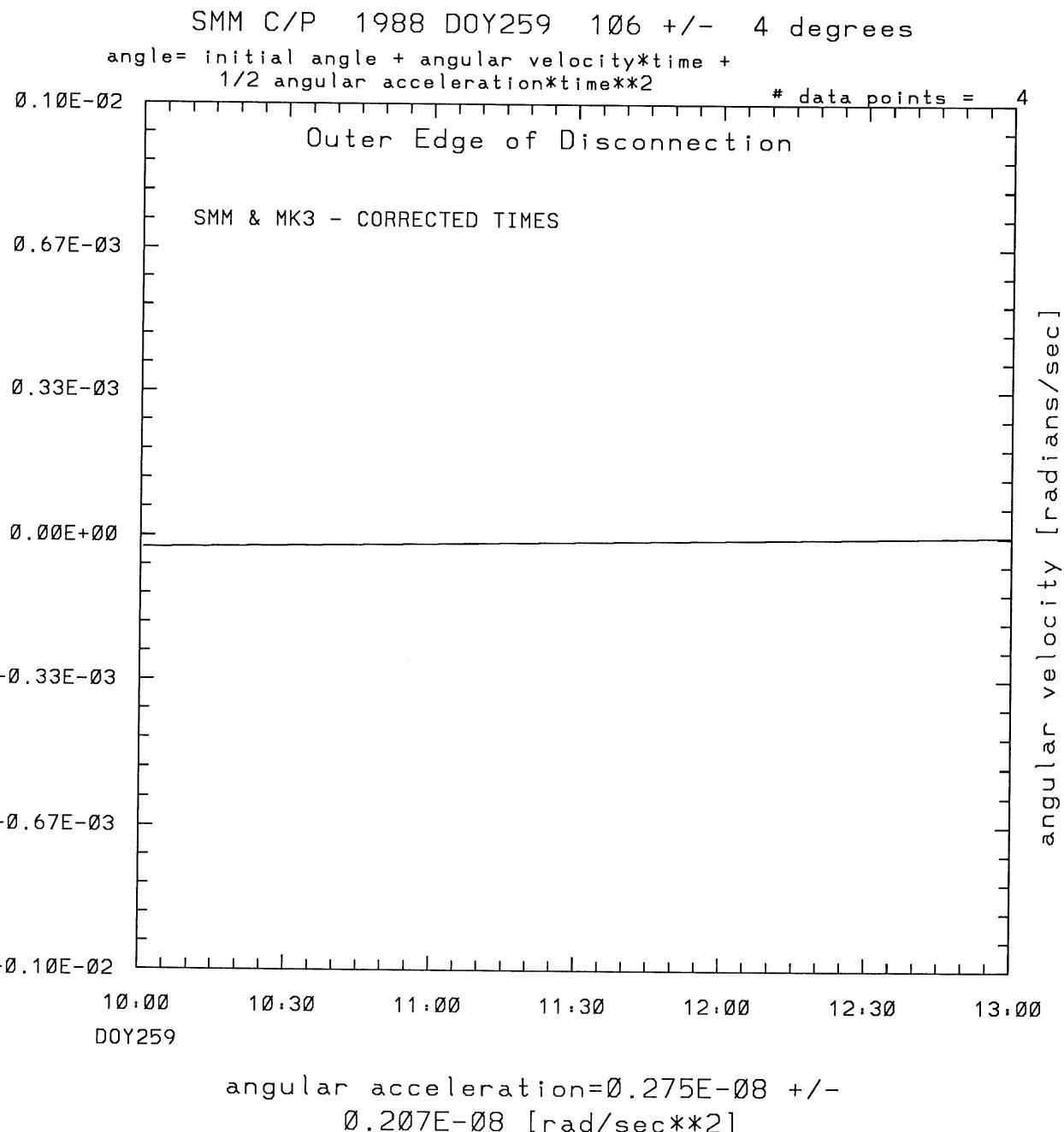
SMM C/P 1988 DOY259 106 +/- 4 degrees

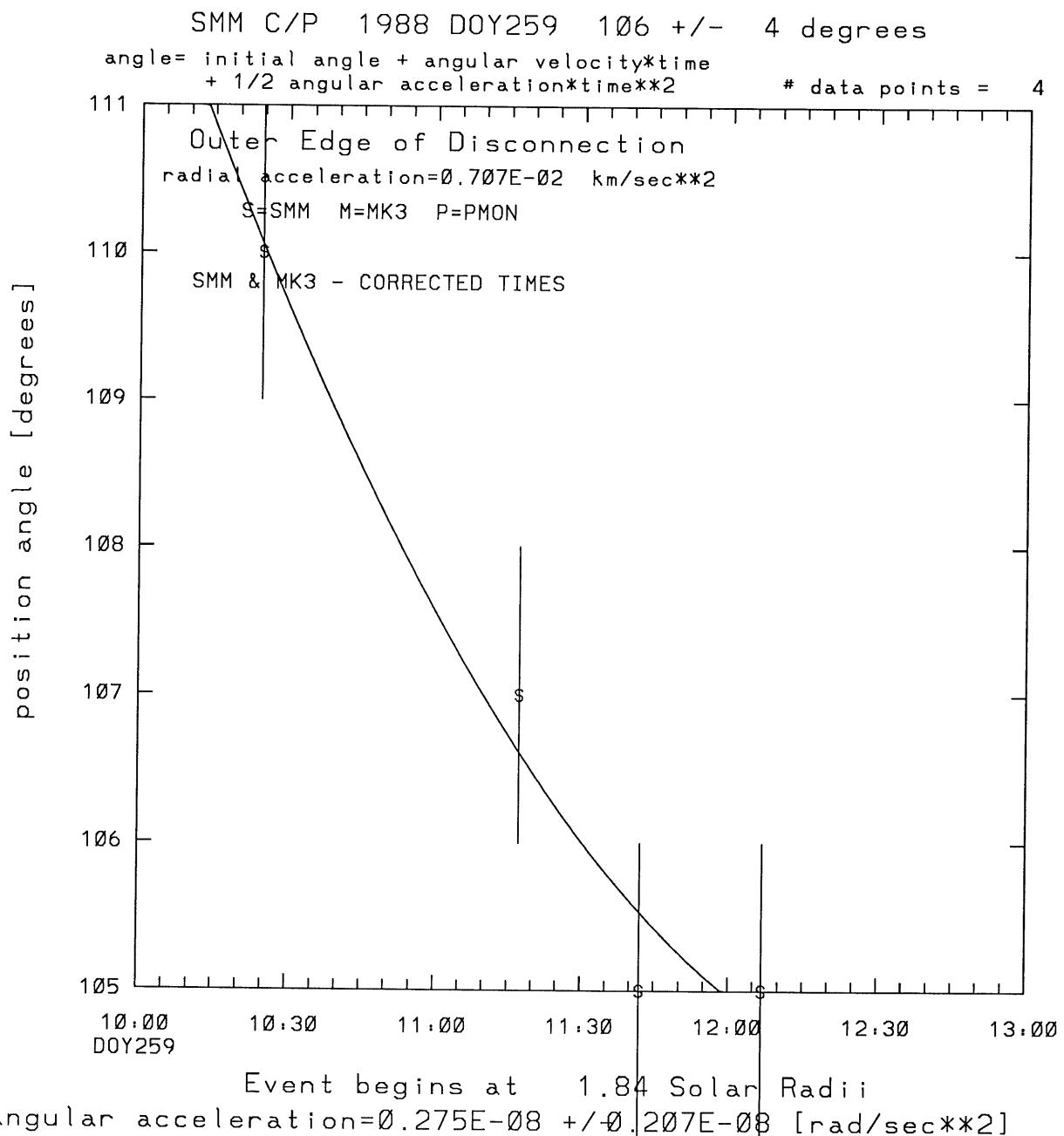


tstart=DOY259 5:24 from derivative=0
Event begins at 1.84 Solar Radii
radial acceleration= 0.0071 +/- 0.0058 [km/sec**2]

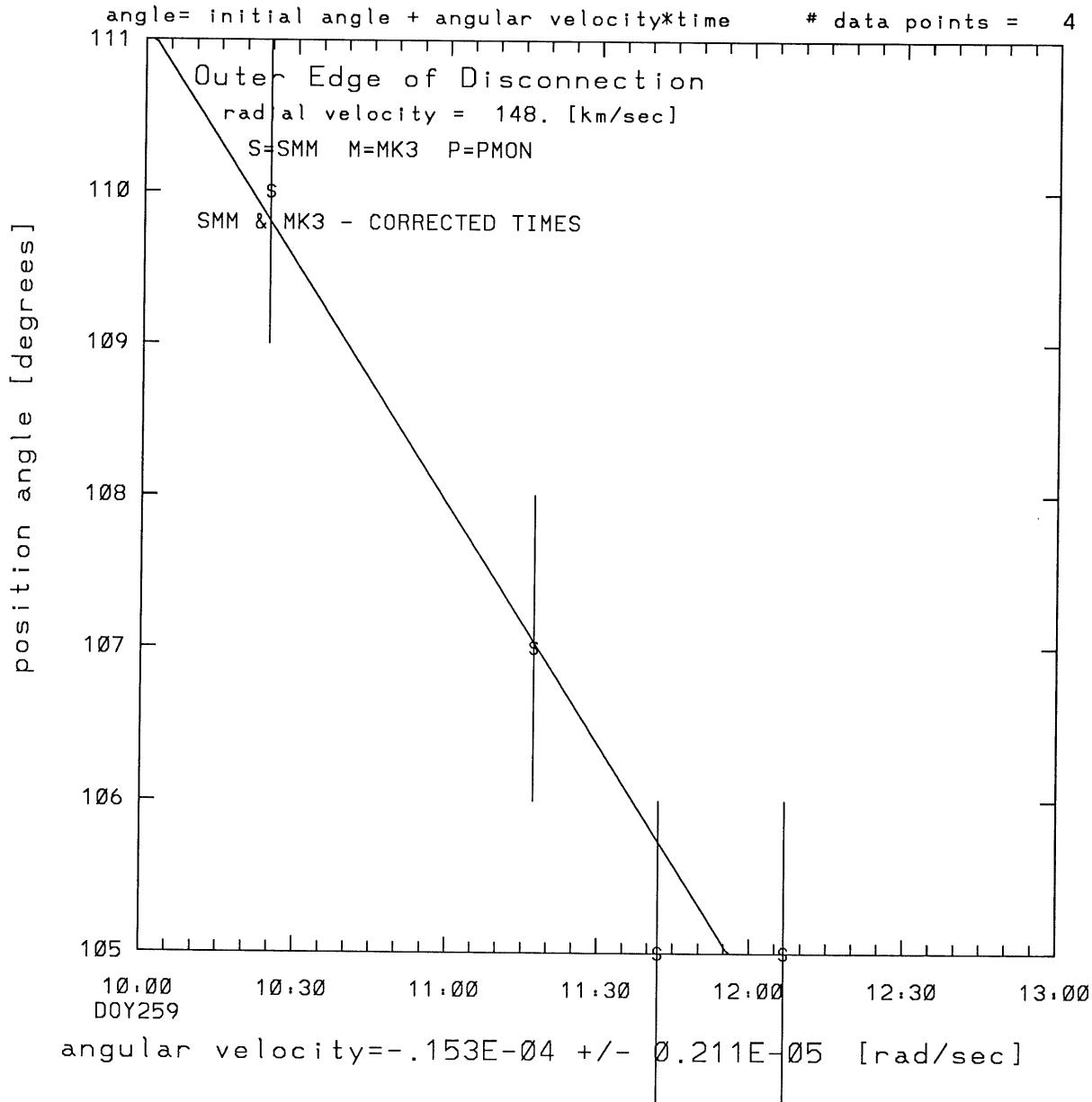
SMM C/P 1988 DOY259 106 +/- 4 degrees







SMM C/P 1988 DOY259 106 +/- 4 degrees



This is a 1 order run

INPUT:

year	doy	time	radii	radius	angle	angle	datatype
1988	259	10:24:38	3.50	+/- 0.10	110.0	+/- 1.0	SMM
1988	259	11:17:16	4.10	+/- 0.15	107.0	+/- 1.0	SMM
1988	259	11:42: 2	4.50	+/- 0.15	105.0	+/- 1.0	SMM
1988	259	12: 6:47	4.80	+/- 0.15	105.0	+/- 1.0	SMM

Structure being measured:
~~Outer Edge of Disconnection~~ → Concave-Outward Material

OUTPUT:

START TIME:

Event began at $t = 0 + -0.171E+03 +/ - 0.145E+01$ [minutes]
In more convenient units:
Event began at DOY 259 7: 9 +/ - 0.145E+01 [minutes]

Origin defined at DOY259 10: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 148. +/ - 5. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.318E+01 +/ - 0.330E-01 [solar radii]
c(2) = 0.127E-01 +/ - 0.411E-03 [radii/min]
c(2) = 0.148E+03 +/ - 0.477E+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)= 0.56402E-01 [radii] see Bevington pg. 114
error in c(2)= 0.62039E-03 [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = -0.1531E-04 +/ - 0.2107E-05[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 111. +/ - 1. [degrees]
a(2) = -0.526E-01 +/ - 0.724E-02 [degrees/min]
a(2) = -0.153E-04 +/ - 0.211E-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 10:24 = 148. km/sec

The RADIAL velocity at 11:17 = 148. km/sec

The RADIAL velocity at 11:42 = 148. km/sec

The RADIAL velocity at 12: 6 = 148. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.56

Standard Deviation in start time measurement = 0.378E+02

Error in time = 0.52174E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.115E-02

Reduced Chi Squared = 0.481E-02

Chi Squared = 0.961E-02

The probability for exceeding chi square = 0.999E+00

The correlation coefficient = 0.998E+00

The probability that no LINEAR correlation exists between the variables = 0.22521
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

This is a 2 order run

INPUT:

year	doy	time	radii	radius	angle	angle	datatype
1988	259	10:24:38	3.50	+/- 0.10	110.0	+/- 1.0	SMM
1988	259	11:17:16	4.10	+/- 0.15	107.0	+/- 1.0	SMM
1988	259	11:42: 2	4.50	+/- 0.15	105.0	+/- 1.0	SMM
1988	259	12: 6:47	4.80	+/- 0.15	105.0	+/- 1.0	SMM

Structure being measured:
Outer Edge of Disconnection

OUTPUT:

START TIME:

tstart=DOY259 5:24 from derivative = 0
Event begins at 1.84 Solar Radii
Origin defined at DOY259 10: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.707E-02 +/- 0.582E-02 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.324E+01 +/- 0.587E-01 [solar radii]
c(2) = 0.101E-01 +/- 0.217E-02 [radii/min]
c(2) = 0.117E+03 +/- 0.251E+02 [km/sec]
c(3) = 0.183E-04 +/- 0.150E-04 [radii/min**2]
c(3) = 0.707E-02 +/- 0.582E-02 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.10653E+00 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.31549E-01 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.33445E-02 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.15287E-02 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.22224E-04 [radii/min**2] Bevington pg 154 (8-30)
Exact error in c(3) = 0.10379E-04 [radii/min**2] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

ANGULAR ACCELERATION= 0.2750E-08 +/- 0.2066E-08[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 112. +/- 1. [degrees]
a(2) = -0.945E-01 +/- 0.321E-01 [degrees/min]
a(2) = -0.275E-04 +/- 0.933E-05 [rad/sec]
a(3) = 0.284E-03 +/- 0.213E-03 [degrees/min**2]
a(3) = 0.275E-08 +/- 0.207E-08 [rad/sec**2]

The RADIAL velocity at 10:24 = 128. km/sec

The RADIAL velocity at 11:17 = 150. km/sec

The RADIAL velocity at 11:42 = 161. km/sec

The RADIAL velocity at 12: 6 = 171. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.56

Standard Deviation in start time measurement = 0.378E+02

Value of reduced Chi Squared returned from nllst2 = 0.991E-03

Reduced Chi Squared = 0.717E-02

Chi Squared = 0.717E-02

The probability for exceeding chi square = 0.975E+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 = 0.1149E+01

The correlation between the data and the $time^{**2}$ term = 0.1081E+01

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

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