

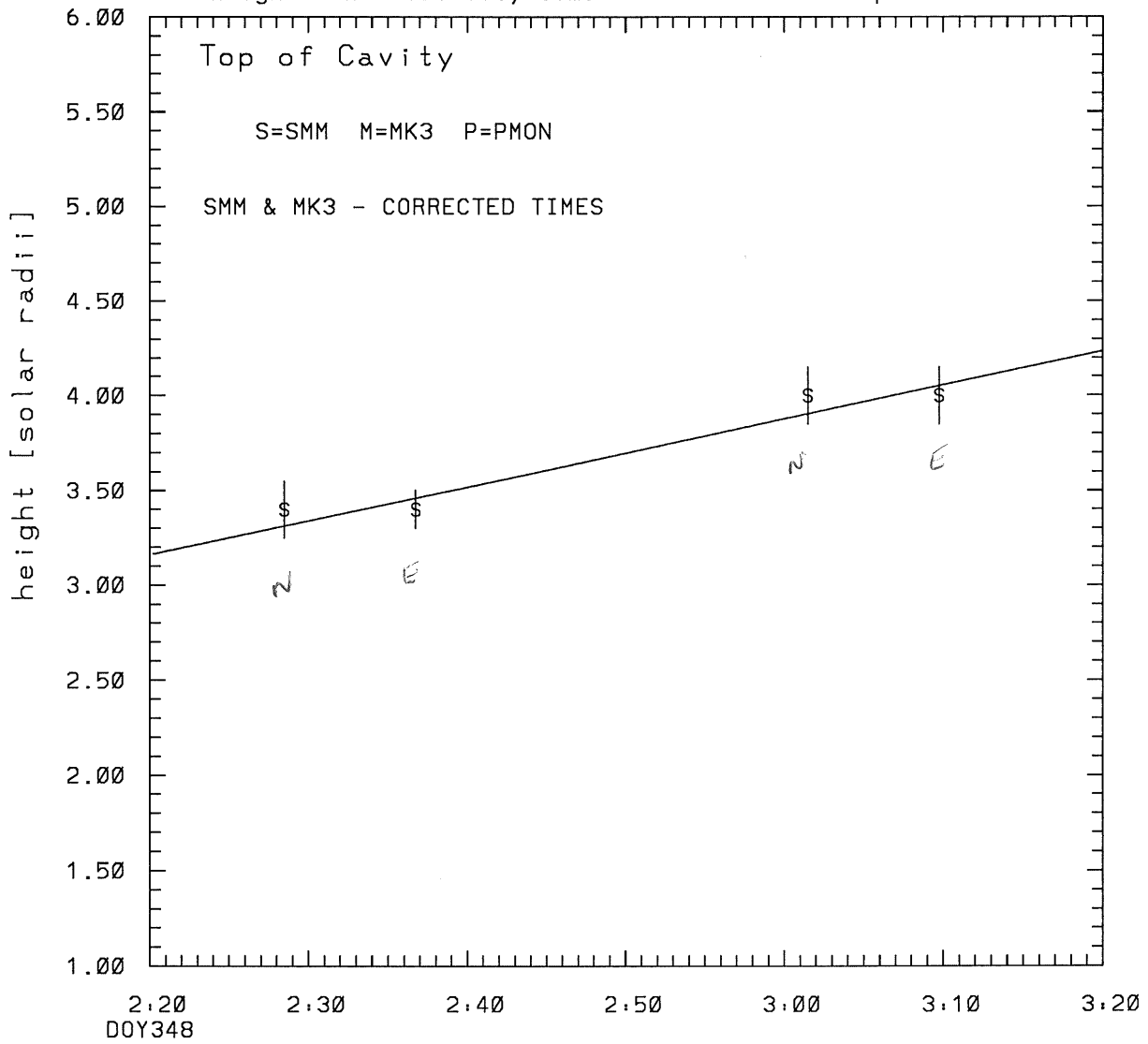
Different sectors used



SMM C/P 1987 DOY348 63 +/- 0 degrees

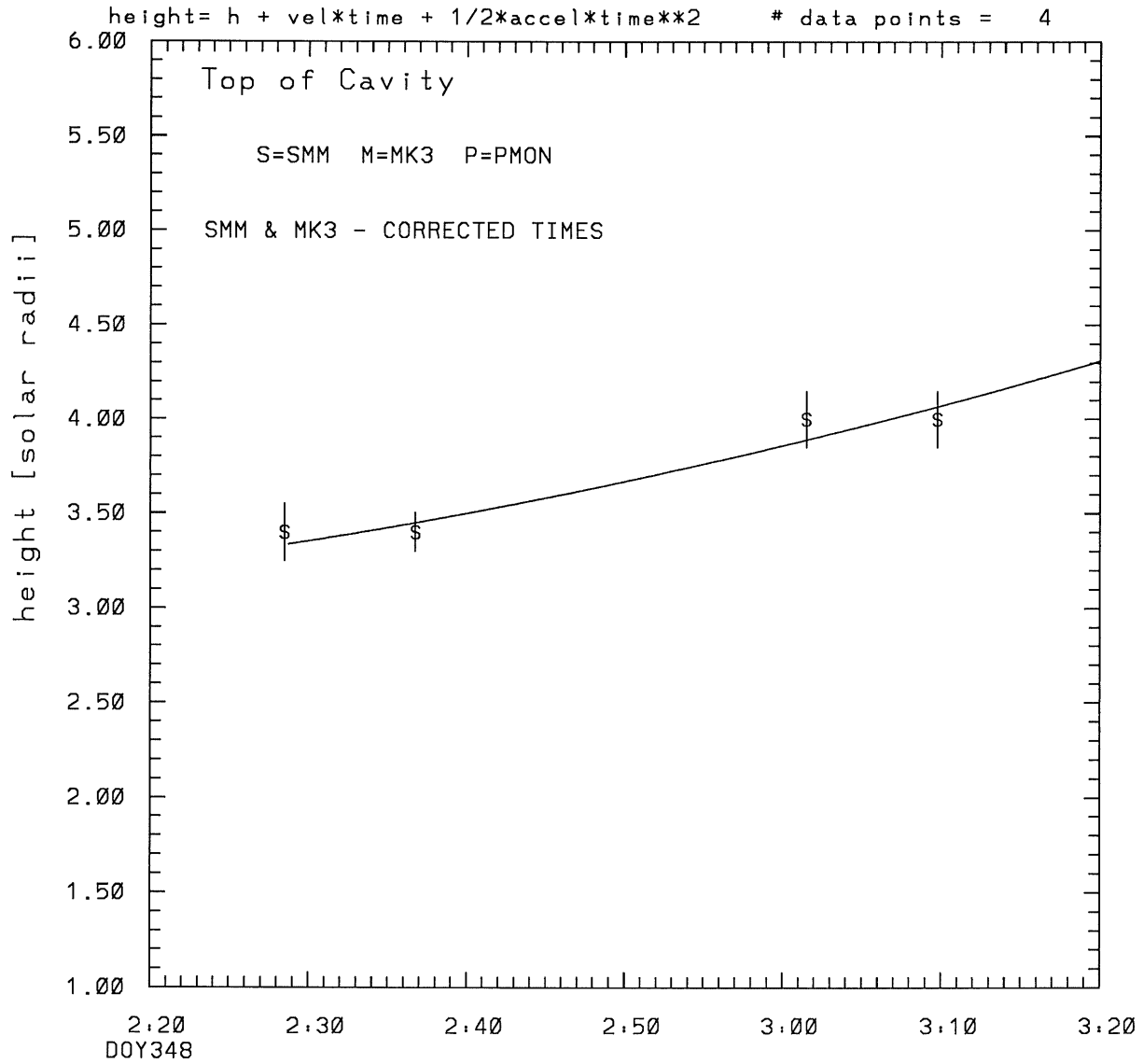
height = h + velocity*time

data points = 4



tstart=DOY348 0:21 +/- 9.4 [min.]
radial velocity= 208. +/- 31. [km/sec]

SMM C/P 1987 DOY348 63 +/- 0 degrees

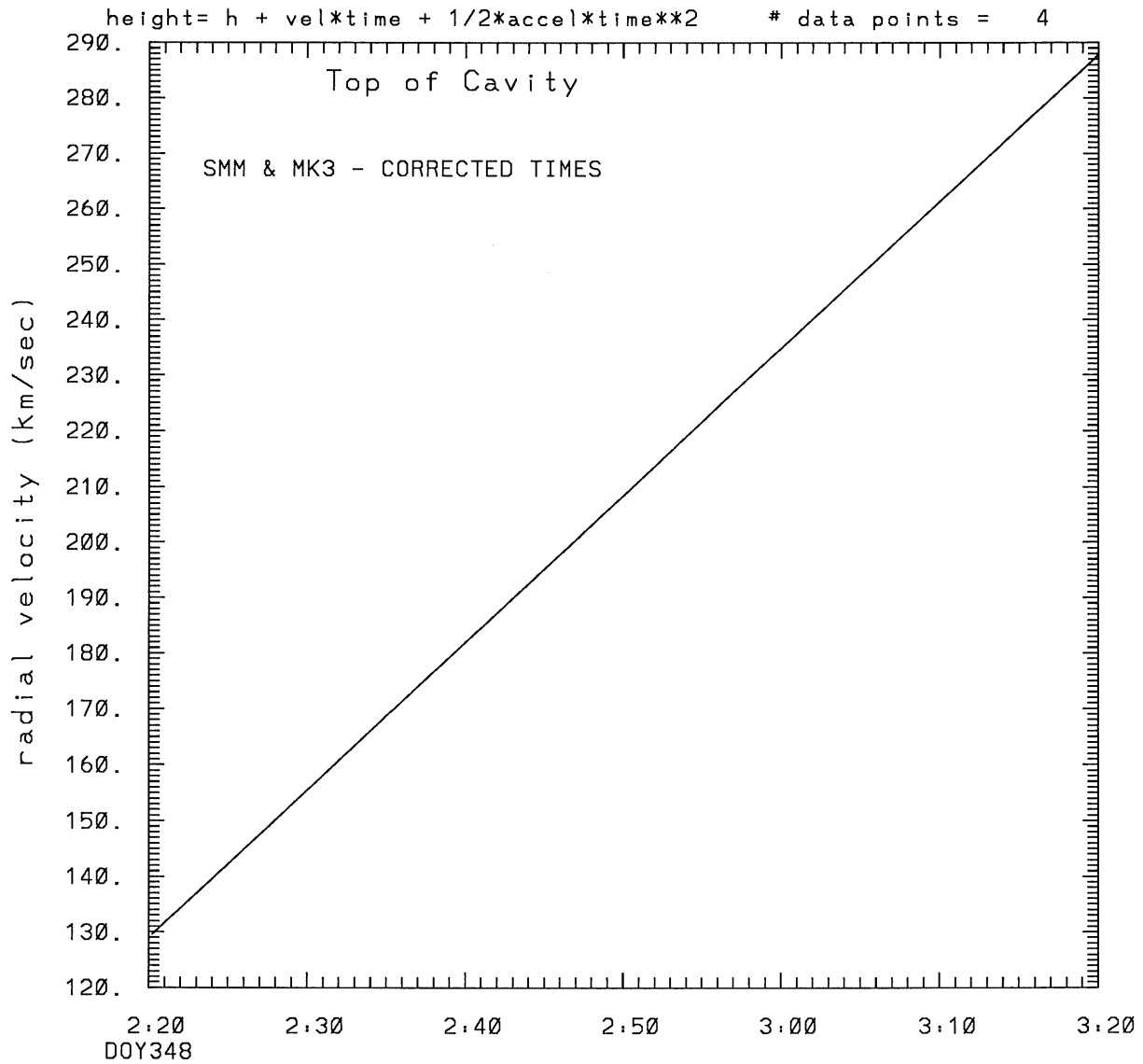


tstart=DOY348 1.32 from derivative=0

Event begins at 2.96 Solar Radii

radial acceleration = 0.0441 +/- 0.1487 [km/sec**2]

SMM C/P 1987 D0Y348 63 +/- 0 degrees



tstart=DOY348 1.32 from derivative=0
Event begins at 2.96 Solar Radii
radial acceleration=0.441E-01 km/sec**2

This is a 1 order run

INPUT:

year doy	time	radii	error in radius	error in angle	datatype
1987 348	2:28:29	3.40	+/- 0.15	63.0 +/- 1.0	SMM
1987 348	2:36:45	3.40	+/- 0.10	63.0 +/- 1.0	SMM
1987 348	3: 1:30	4.00	+/- 0.15	63.0 +/- 1.0	SMM
1987 348	3: 9:45	4.00	+/- 0.15	63.0 +/- 1.0	SMM

Structure being measured:

Top of Cavity

OUTPUT:

START TIME:

Event began at $t = 0 + -0.121E+03 +/- 0.940E+01$ [minutes]

In more convenient units:

Event began at DOY 348 0:21 +/- 0.940E+01 [minutes]

Origin defined at DOY348 2:20

RADIAL INFORMATION:

RADIAL VELOCITY = 208. +/- 31. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.316E+01 +/- 0.815E-01$ [solar radii]
 $c(2) = 0.179E-01 +/- 0.267E-02$ [radii/min]
 $c(2) = 0.208E+03 +/- 0.309E+02$ [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 $c(1) = 0.10708E+00$ [radii] see Bevington pg. 114

error in $c(2) = 0.31751E-02$ [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) = 63. +/- 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 2:28 = 0.000E+00 km/sec

The TOTAL velocity at 2:28 = 208. km/sec

The TANGENTIAL velocity at 2:36 = 0.000E+00 km/sec

The TOTAL velocity at 2:36 = 208. km/sec

The TANGENTIAL velocity at 3: 1 = 0.000E+00 km/sec

The TOTAL velocity at 3: 1 = 208. km/sec

The TANGENTIAL velocity at 3: 9 = 0.000E+00 km/sec

The TOTAL velocity at 3: 9 = 208. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.35

Standard Deviation in start time measurement = 0.170E+02

Error in time = 0.85329E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.706E-02

Reduced Chi Squared = 0.267E-01

Chi Squared = 0.535E-01

The probability for exceeding chi square = 0.993E+00

The correlation coefficient = 0.970E+00

The probability that no LINEAR correlation exists between the variables = 0.2990E-01

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

This is a 2 order run

INPUT:

year	day	time	radii	radius	error in	angle	error in	datatype
1987	348	2:28:29	3.40	+/- 0.15	63.0	+/- 1.0	SMM	
1987	348	2:36:45	3.40	+/- 0.10	63.0	+/- 1.0	SMM	
1987	348	3: 1:30	4.00	+/- 0.15	63.0	+/- 1.0	SMM	
1987	348	3: 9:45	4.00	+/- 0.15	63.0	+/- 1.0	SMM	

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

tstart=DOY348 1:32 from derivative = 0
Event begins at 2.96 Solar Radii
Origin defined at DOY348 2:20

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.441E-01 +/- 0.149E+00 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.323E+01 +/- 0.259E+00 [solar radii]
c(2) = 0.111E-01 +/- 0.231E-01 [radii/min]
c(2) = 0.129E+03 +/- 0.268E+03 [km/sec]
c(3) = 0.114E-03 +/- 0.385E-03 [radii/min**2]
c(3) = 0.441E-01 +/- 0.149E+00 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.34965E+00 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.16343E+00 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.33133E-01 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.15033E-01 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.56364E-03 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.24686E-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) = 63. +/- 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 2:28 = 0.000E+00 km/sec

The TOTAL velocity at 2:28 = 151. km/sec

The TANGENTIAL velocity at 2:36 = 0.000E+00 km/sec

The TOTAL velocity at 2:36 = 173. km/sec

The TANGENTIAL velocity at 3: 1 = 0.000E+00 km/sec

The TOTAL velocity at 3: 1 = 239. km/sec

The TANGENTIAL velocity at 3: 9 = 0.000E+00 km/sec

The TOTAL velocity at 3: 9 = 261. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.35

Standard Deviation in start time measurement = 0.170E+02

Value of reduced Chi Squared returned from nllst2 = 0.101E-01

Reduced Chi Squared = 0.640E-01

Chi Squared = 0.640E-01

The probability for exceeding chi square = 0.920E+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 = 0.9123E+00

The correlation between the data and the time**2 term = 0.9363E+00

The correlation between the data and the complete equation of motion = 0.9314E+00

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