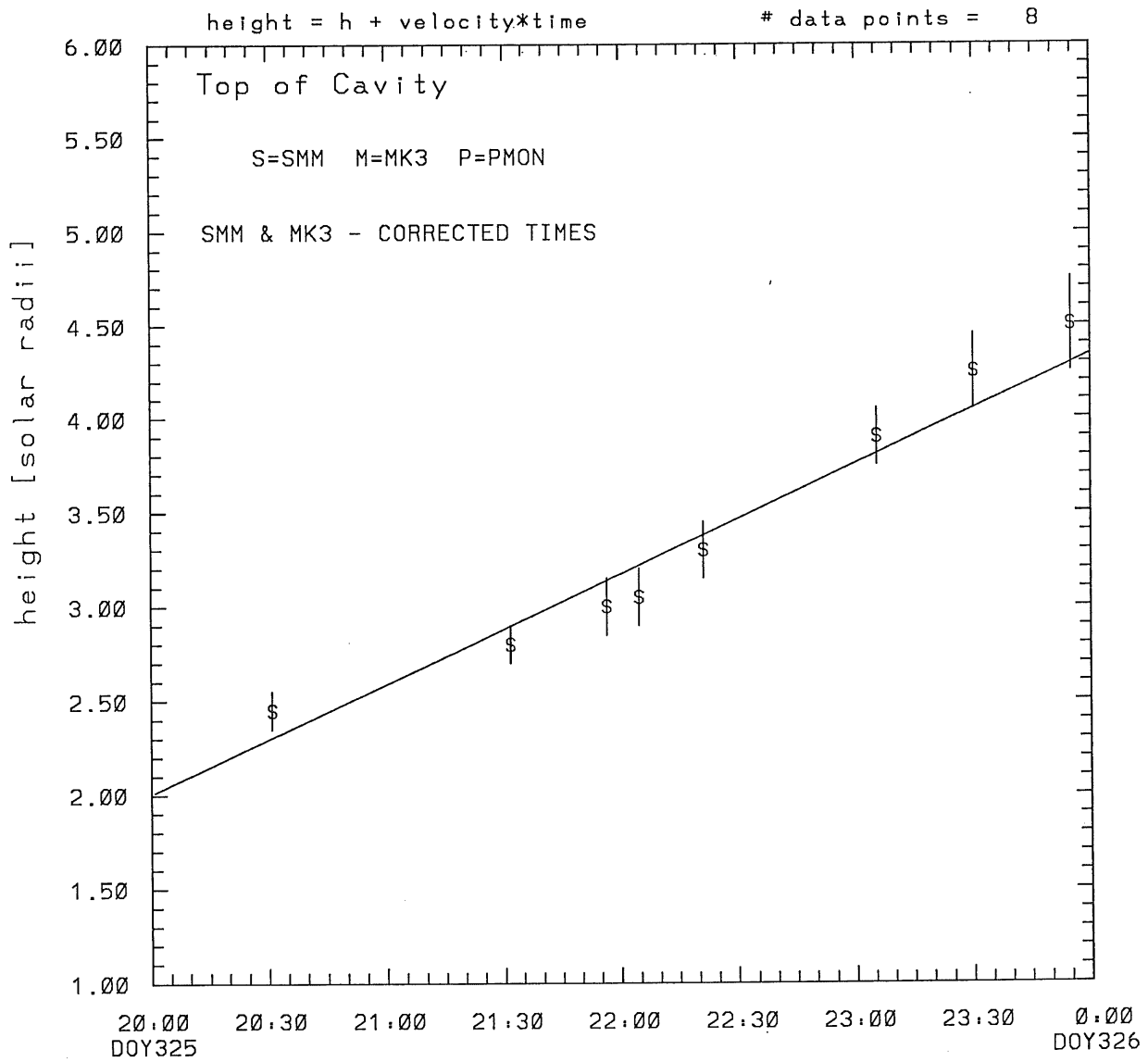
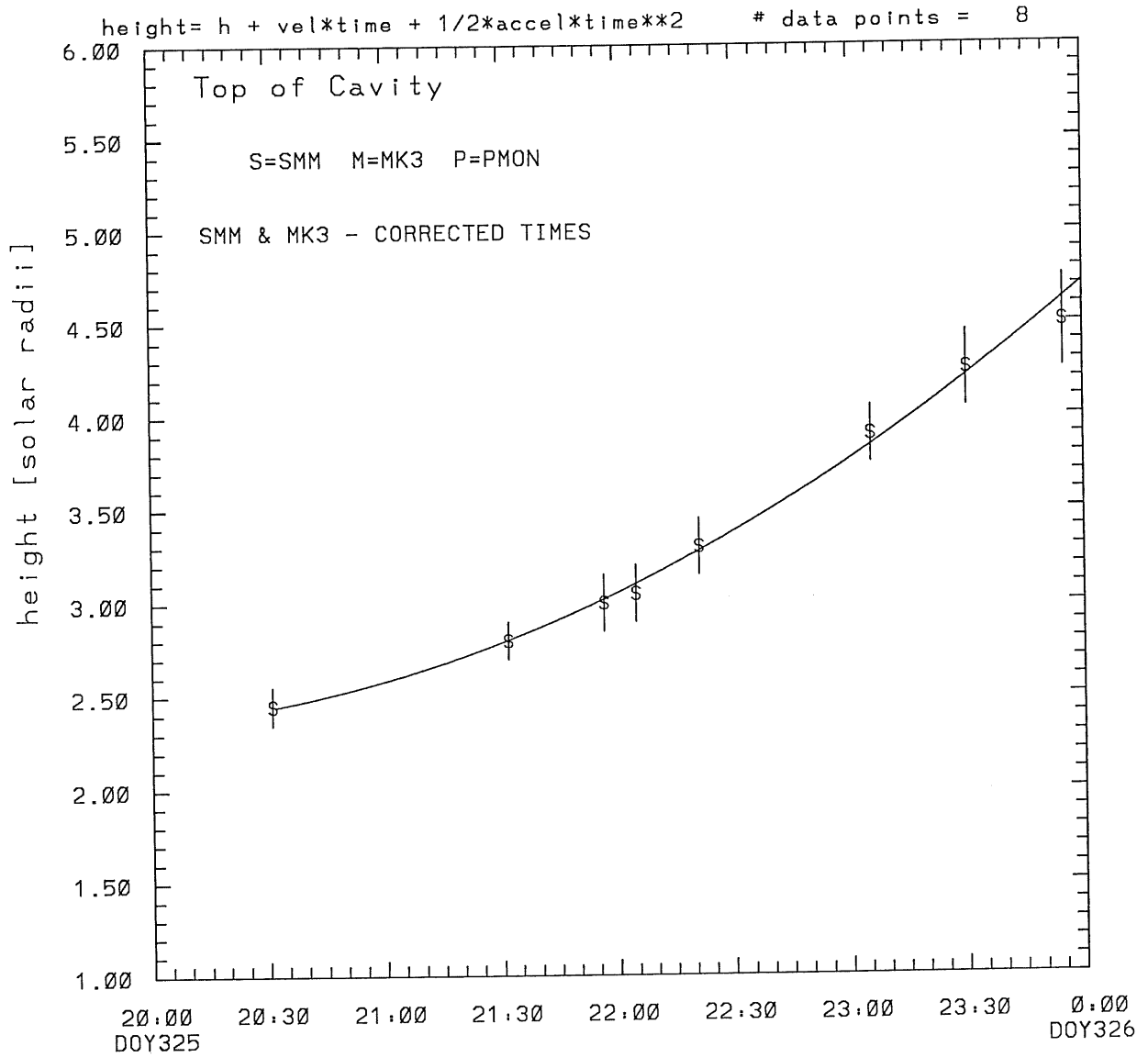


SMM C/P 1988 DOY325 230 +/- 0 degrees



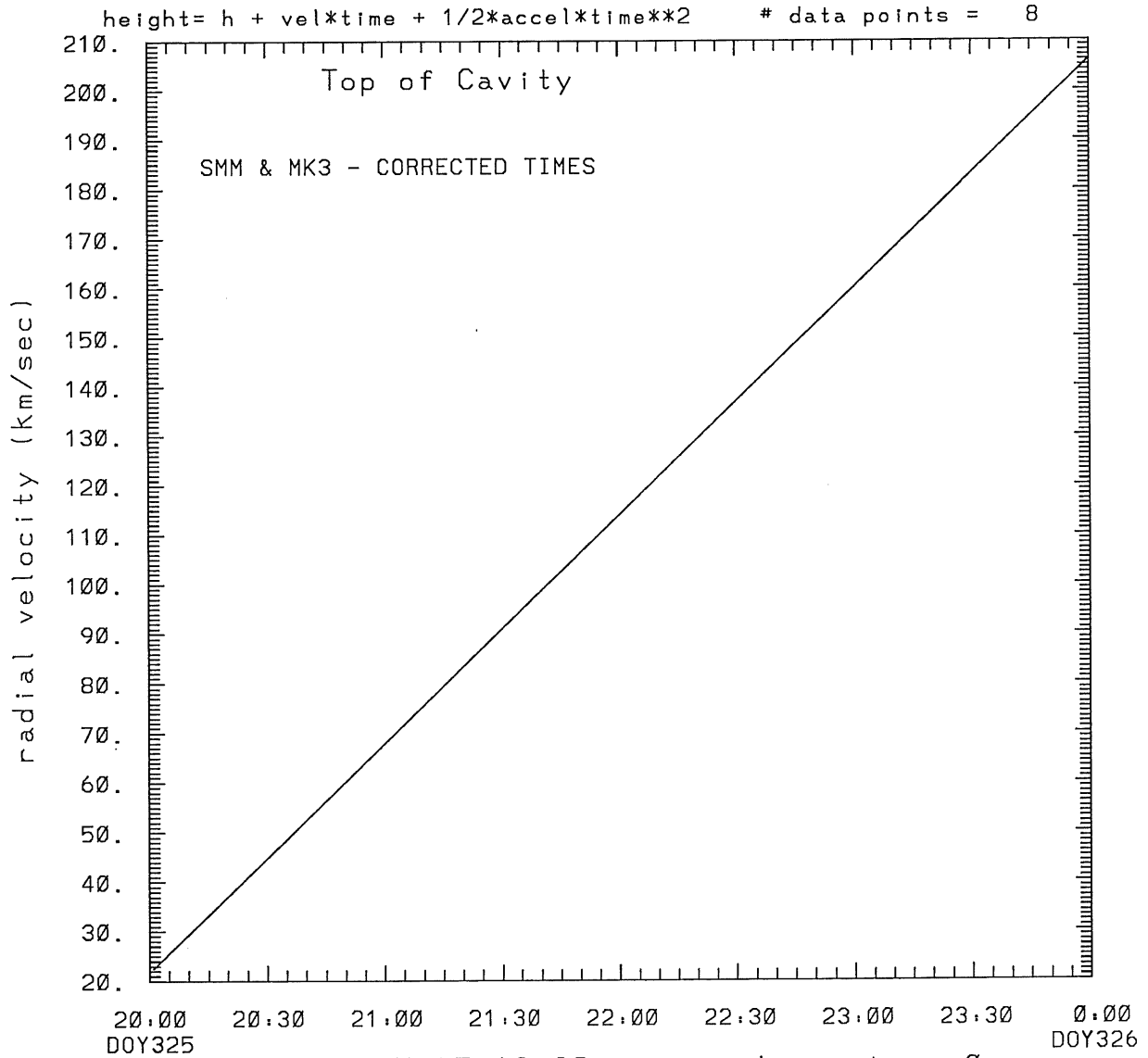
tstart=DOY325 18:17 +/- 4.4 [min.]
radial velocity= 113. +/- 10. [km/sec]

SMM C/P 1988 DOY325 230 +/- 0 degrees



tstart=DOY325 19:32 from derivative=0
Event begins at 2.33 Solar Radii
radial acceleration = 0.0128 ± 0.0016 [km/sec**2]

SMM C/P 1988 DOY325 230 +/- 0 degrees



tstart=DOY325 19:32 from derivative=0
Event begins at 2.33 Solar Radii
radial acceleration=0.128E-01 km/sec**2

This is a 1 order run

INPUT:

year	day	time	radii	error in radius	angle	error in angle	datatype
1988	325	20:30:59	2.45	+/- 0.10	230.0	+/- 0.5	SMM
1988	325	21:31:40	2.80	+/- 0.10	230.0	+/- 0.5	SMM
1988	325	21:56:28	3.00	+/- 0.15	230.0	+/- 1.0	SMM
1988	325	22: 4:45	3.05	+/- 0.15	230.0	+/- 1.0	SMM
1988	325	22:21:13	3.30	+/- 0.15	230.0	+/- 1.0	SMM
1988	325	23: 5:26	3.90	+/- 0.15	230.0	+/- 1.0	SMM
1988	325	23:30:14	4.25	+/- 0.20	230.0	+/- 1.0	SMM
1988	325	23:54:59	4.50	+/- 0.25	230.0	+/- 1.0	SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

Event began at $t = 0 + -0.103E+03 +/- 0.442E+01$ [minutes]
In more convenient units:
Event began at DOY 325 18:17 +/- 0.442E+01 [minutes]

Origin defined at DOY325 20: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 113. +/- 10. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

- $c(1) = 0.200E+01 +/- 0.107E+00$ [solar radii]
- $c(2) = 0.973E-02 +/- 0.852E-03$ [radii/min]
- $c(2) = 0.113E+03 +/- 0.988E+01$ [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 $c(1) = 0.15047E+00$ [radii] see Bevington pg. 114
- error in $c(2) = 0.97069E-03$ [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 20:30 = 0. km/sec
The TOTAL velocity at 20:30 = 113. km/sec

The TANGENTIAL velocity at 21:31 = 0. km/sec
The TOTAL velocity at 21:31 = 113. km/sec

The TANGENTIAL velocity at 21:56 = 0. km/sec
The TOTAL velocity at 21:56 = 113. km/sec

The TANGENTIAL velocity at 22: 4 = 0. km/sec
The TOTAL velocity at 22: 4 = 113. km/sec

The TANGENTIAL velocity at 22:21 = 0. km/sec
The TOTAL velocity at 22:21 = 113. km/sec

The TANGENTIAL velocity at 23: 5 = 0. km/sec
The TOTAL velocity at 23: 5 = 113. km/sec

The TANGENTIAL velocity at 23:30 = 0. km/sec
The TOTAL velocity at 23:30 = 113. km/sec

The TANGENTIAL velocity at 23:54 = 0. km/sec
The TOTAL velocity at 23:54 = 113. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.73
Standard Deviation in start time measurement = 0.622E+02
Error in time = 0.43009E+02 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.203E-01
Reduced Chi Squared = 0.153E+00
Chi Squared = 0.917E+00
The probability for exceeding chi square = 0.100E+01

The correlation coefficient = $0.981E+00$

The probability that no LINEAR correlation exists between the variables = $0.1600E-04$

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	datatype
1988	325	20:30:59	2.45	+/- 0.10	230.0	+/- 0.5	SMM	
1988	325	21:31:40	2.80	+/- 0.10	230.0	+/- 0.5	SMM	
1988	325	21:56:28	3.00	+/- 0.15	230.0	+/- 1.0	SMM	
1988	325	22: 4:45	3.05	+/- 0.15	230.0	+/- 1.0	SMM	
1988	325	22:21:13	3.30	+/- 0.15	230.0	+/- 1.0	SMM	
1988	325	23: 5:26	3.90	+/- 0.15	230.0	+/- 1.0	SMM	
1988	325	23:30:14	4.25	+/- 0.20	230.0	+/- 1.0	SMM	
1988	325	23:54:59	4.50	+/- 0.25	230.0	+/- 1.0	SMM	

Structure being measured:

Top of Cavity

OUTPUT:

START TIME:

tstart=DOY325 19:32 from derivative = 0

Event begins at 2.33 Solar Radii

Origin defined at DOY325 20: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.128E-01 +/- 0.156E-02 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.235E+01 +/- 0.538E-01 [solar radii]
c(2) = 0.187E-02 +/- 0.992E-03 [radii/min]
c(2) = 0.217E+02 +/- 0.115E+02 [km/sec]
c(3) = 0.331E-04 +/- 0.403E-05 [radii/min**2]
c(3) = 0.128E-01 +/- 0.156E-02 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.10680E+00 [radii] Bevington pg 154 (8-30)

Exact error in c(1) = 0.62479E-02 [radii] Bevington pg 154 (8-28)

Approximate error in c(2) = 0.16673E-02 [radii/min] Bevington pg 154 (8-30)

Exact error in c(2) = 0.13177E-03 [radii/min] Bevington pg 154 (8-28)

Approximate error in c(3) = 0.59170E-05 [radii/min**] Bevington pg 154 (8-30)

Exact error in c(3) = 0.76114E-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 20:30 = 0. km/sec
The TOTAL velocity at 20:30 = 46. km/sec

The TANGENTIAL velocity at 21:31 = 0. km/sec
The TOTAL velocity at 21:31 = 92. km/sec

The TANGENTIAL velocity at 21:56 = 0. km/sec
The TOTAL velocity at 21:56 = 111. km/sec

The TANGENTIAL velocity at 22: 4 = 0. km/sec
The TOTAL velocity at 22: 4 = 118. km/sec

The TANGENTIAL velocity at 22:21 = 0. km/sec
The TOTAL velocity at 22:21 = 130. km/sec

The TANGENTIAL velocity at 23: 5 = 0. km/sec
The TOTAL velocity at 23: 5 = 164. km/sec

The TANGENTIAL velocity at 23:30 = 0. km/sec
The TOTAL velocity at 23:30 = 183. km/sec

The TANGENTIAL velocity at 23:54 = 0. km/sec
The TOTAL velocity at 23:54 = 202. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.73
Standard Deviation in start time measurement = 0.622E+02
Value of reduced Chi Squared returned from nllst2 = 0.193E-02
Reduced Chi Squared = 0.332E-01
Chi Squared = 0.166E+00
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 = 0.1051E+01

The correlation between the data and the time**2 term = 0.9502E+00

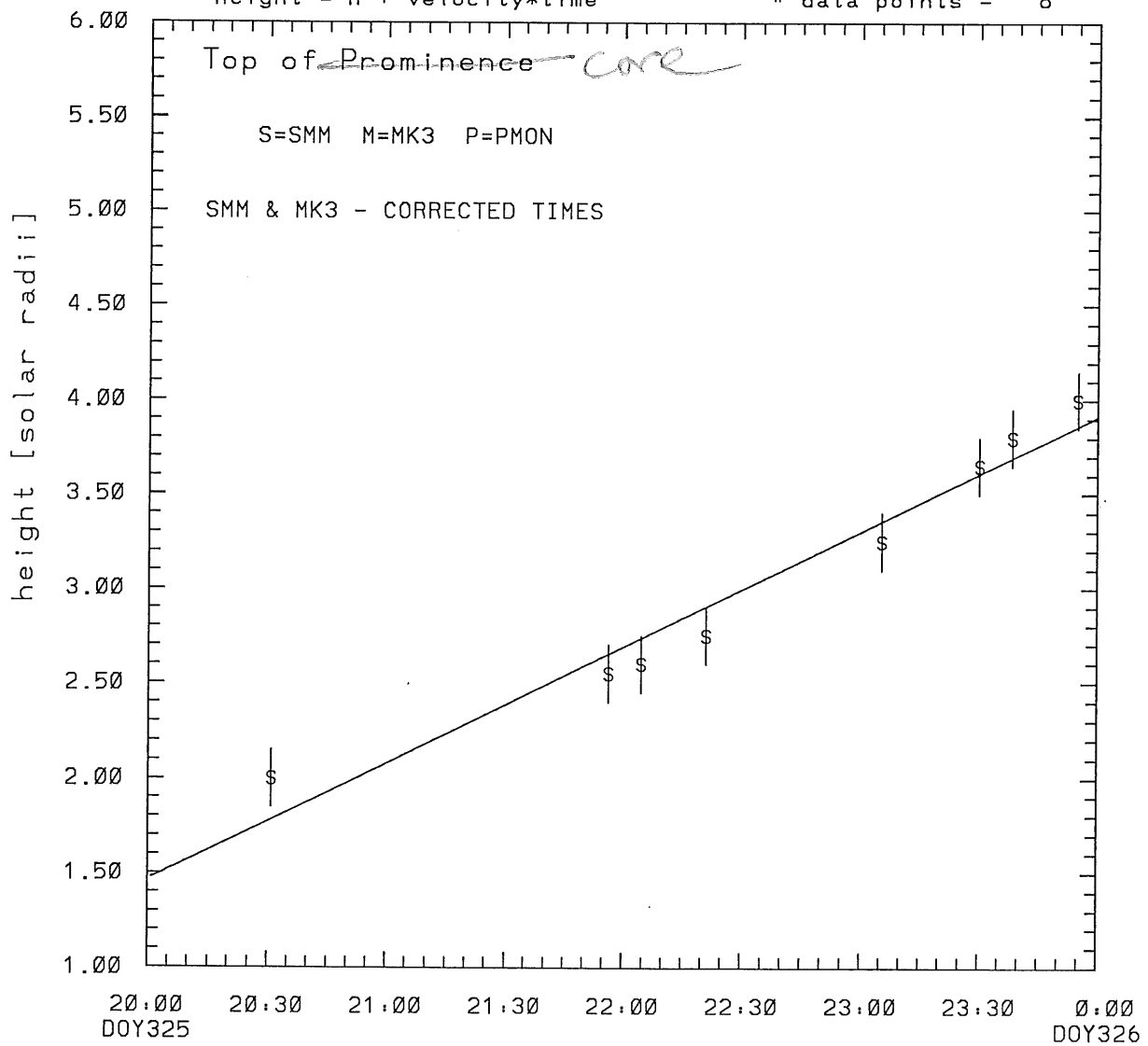
The correlation between the data and the complete equation of motion = 0.1003E+01

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

SMM C/P 1988 DOY325 230 +/- 0 degrees

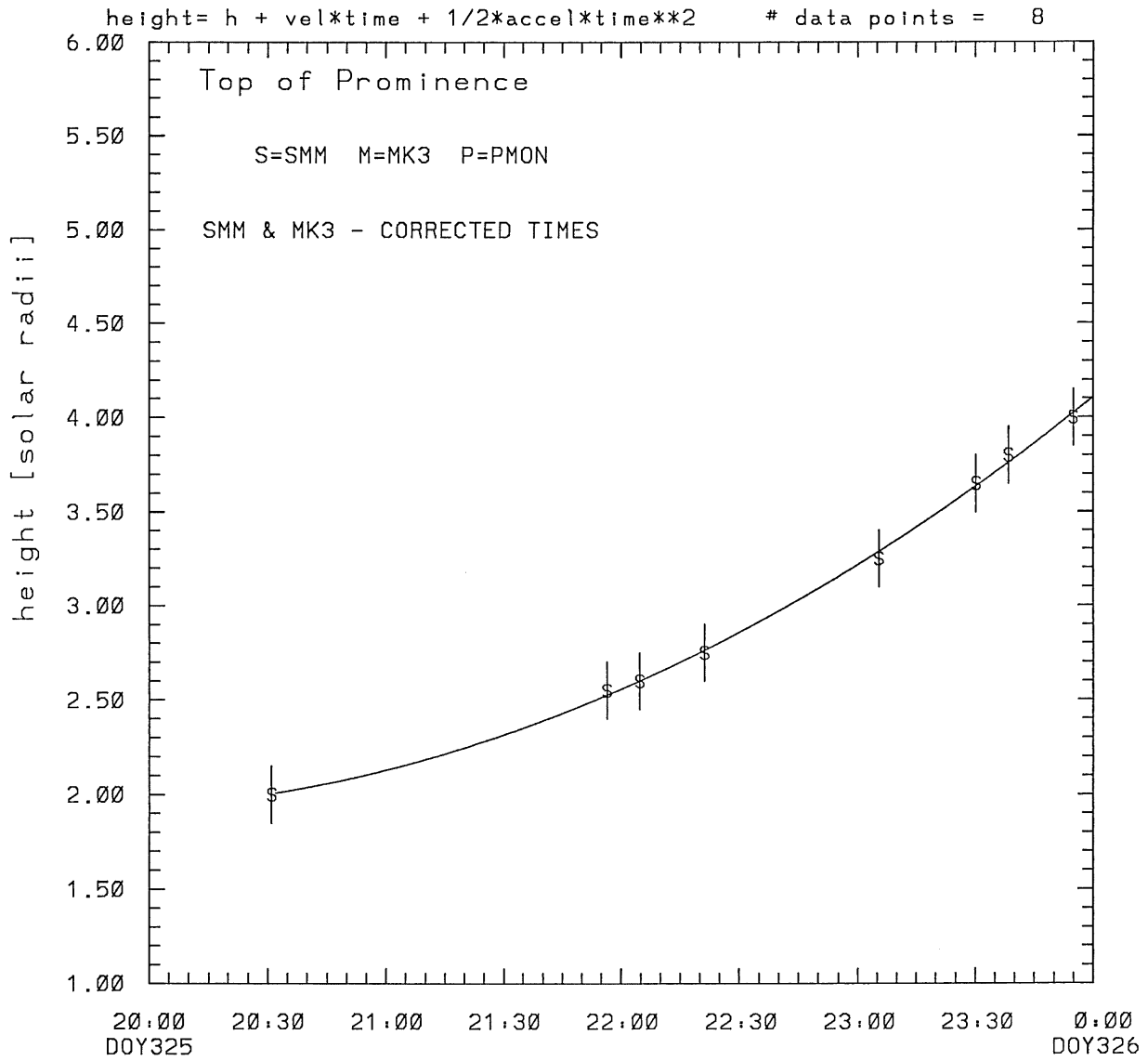
height = h + velocity*time

data points = 8



tstart=DOY325 19:16 +/- 2.3 [min.]
radial velocity= 118. +/- 9. [km/sec]

SMM C/P 1988 DOY325 230 +/- 0 degrees

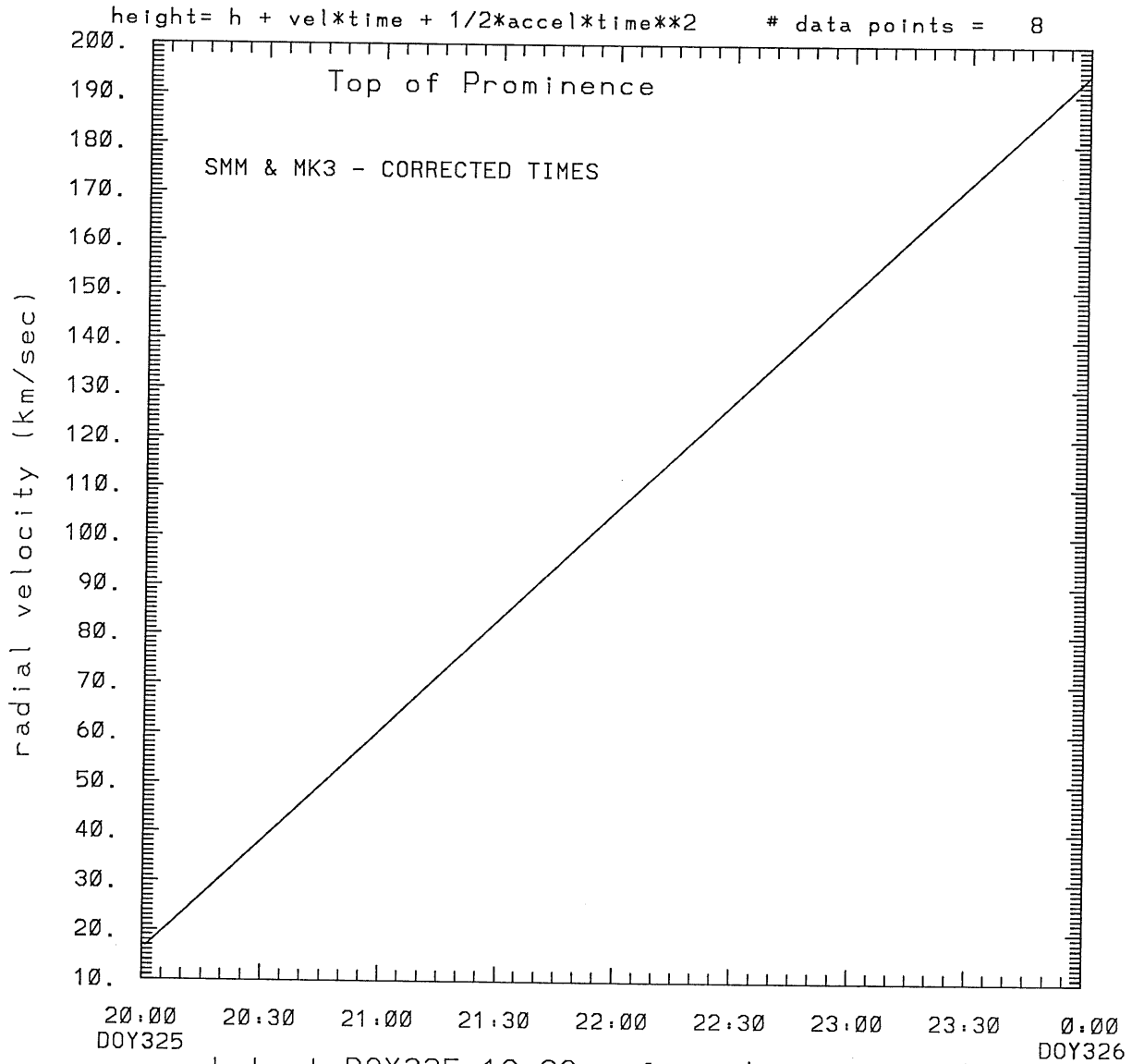


tstart=DOY325 19:39 from derivative=0

Event begins at 1.92 Solar Radii

radial acceleration = 0.0124 ± 0.0009 [km/sec**2]

SMM C/P 1988 DOY325 230 +/- 0 degrees



tstart=DOY325 19:39 from derivative=0
Event begins at 1.92 Solar Radii
radial acceleration=0.124E-01 km/sec**2

This is a 1 order run

INPUT:

year	day	time	radii	radius	error in	angle	error in	angle	datatype
1988	325	20:30:59	2.00	+/- 0.15	230.0	+/- 0.5			SMM
1988	325	21:56:28	2.55	+/- 0.15	230.0	+/- 0.5			SMM
1988	325	22: 4:45	2.60	+/- 0.15	230.0	+/- 0.5			SMM
1988	325	22:21:13	2.75	+/- 0.15	230.0	+/- 0.5			SMM
1988	325	23: 5:26	3.25	+/- 0.15	230.0	+/- 1.0			SMM
1988	325	23:30:14	3.65	+/- 0.15	230.0	+/- 1.0			SMM
1988	325	23:38:30	3.80	+/- 0.15	230.0	+/- 1.0			SMM
1988	325	23:54:59	4.00	+/- 0.15	230.0	+/- 1.0			SMM

Structure being measured:
Top of Prominence - *core*

OUTPUT:

START TIME:

Event began at $t = 0 + -0.457E+02 +/- 0.231E+01$ [minutes]
In more convenient units:
Event began at DOY 325 19:16 +/- 0.231E+01 [minutes]

Origin defined at DOY325 20: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 118. +/- 9. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.147E+01 +/- 0.136E+00 [solar radii]
c(2) = 0.102E-01 +/- 0.801E-03 [radii/min]
c(2) = 0.118E+03 +/- 0.929E+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)= 0.14711E+00 [radii] see Bevington pg. 114
error in c(2)= 0.86469E-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 20:30 = 0. km/sec

The TOTAL velocity at 20:30 = 118. km/sec

The TANGENTIAL velocity at 21:56 = 0. km/sec

The TOTAL velocity at 21:56 = 118. km/sec

The TANGENTIAL velocity at 22: 4 = 0. km/sec

The TOTAL velocity at 22: 4 = 118. km/sec

The TANGENTIAL velocity at 22:21 = 0. km/sec

The TOTAL velocity at 22:21 = 118. km/sec

The TANGENTIAL velocity at 23: 5 = 0. km/sec

The TOTAL velocity at 23: 5 = 118. km/sec

The TANGENTIAL velocity at 23:30 = 0. km/sec

The TOTAL velocity at 23:30 = 118. km/sec

The TANGENTIAL velocity at 23:38 = 0. km/sec

The TOTAL velocity at 23:38 = 118. km/sec

The TANGENTIAL velocity at 23:54 = 0. km/sec

The TOTAL velocity at 23:54 = 118. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.71

Standard Deviation in start time measurement = 0.636E+02

Error in time = 0.37337E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.207E-01

Reduced Chi Squared = 0.869E-01

Chi Squared = 0.521E+00

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = $0.979E+00$

The probability that no LINEAR correlation exists between the variables = $0.2239E-04$

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	datatype
1988	325	20:30:59	2.00	+/- 0.15	230.0	+/- 0.5	SMM	
1988	325	21:56:28	2.55	+/- 0.15	230.0	+/- 0.5	SMM	
1988	325	22: 4:45	2.60	+/- 0.15	230.0	+/- 0.5	SMM	
1988	325	22:21:13	2.75	+/- 0.15	230.0	+/- 0.5	SMM	
1988	325	23: 5:26	3.25	+/- 0.15	230.0	+/- 1.0	SMM	
1988	325	23:30:14	3.65	+/- 0.15	230.0	+/- 1.0	SMM	
1988	325	23:38:30	3.80	+/- 0.15	230.0	+/- 1.0	SMM	
1988	325	23:54:59	4.00	+/- 0.15	230.0	+/- 1.0	SMM	

Structure being measured:

Top of Prominence

OUTPUT:

START TIME:

tstart=DOY325 19:39 from derivative = 0

Event begins at 1.92 Solar Radii

Origin defined at DOY325 20: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.124E-01 +/- 0.902E-03 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.193E+01 +/- 0.426E-01 [solar radii]
c(2) = 0.138E-02 +/- 0.660E-03 [radii/min]
c(2) = 0.160E+02 +/- 0.765E+01 [km/sec]
c(3) = 0.320E-04 +/- 0.233E-05 [radii/min**2]
c(3) = 0.124E-01 +/- 0.902E-03 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.46619E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.26829E-02 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.72274E-03 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.55015E-04 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.25549E-05 [radii/min**] Bevington pg 154 (8-30)

Exact error in c(3) = 0.30348E-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 20:30 = 0. km/sec
The TOTAL velocity at 20:30 = 39. km/sec

The TANGENTIAL velocity at 21:56 = 0. km/sec
The TOTAL velocity at 21:56 = 103. km/sec

The TANGENTIAL velocity at 22: 4 = 0. km/sec
The TOTAL velocity at 22: 4 = 109. km/sec

The TANGENTIAL velocity at 22:21 = 0. km/sec
The TOTAL velocity at 22:21 = 121. km/sec

The TANGENTIAL velocity at 23: 5 = 0. km/sec
The TOTAL velocity at 23: 5 = 154. km/sec

The TANGENTIAL velocity at 23:30 = 0. km/sec
The TOTAL velocity at 23:30 = 172. km/sec

The TANGENTIAL velocity at 23:38 = 0. km/sec
The TOTAL velocity at 23:38 = 178. km/sec

The TANGENTIAL velocity at 23:54 = 0. km/sec
The TOTAL velocity at 23:54 = 191. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.71
Standard Deviation in start time measurement = 0.636E+02
Value of reduced Chi Squared returned from nllst2 = 0.745E-03
Reduced Chi Squared = 0.503E-02
Chi Squared = 0.251E-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 = $0.9791E+00$

The correlation between the data and the $time^2$ term = $0.9989E+00$

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

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