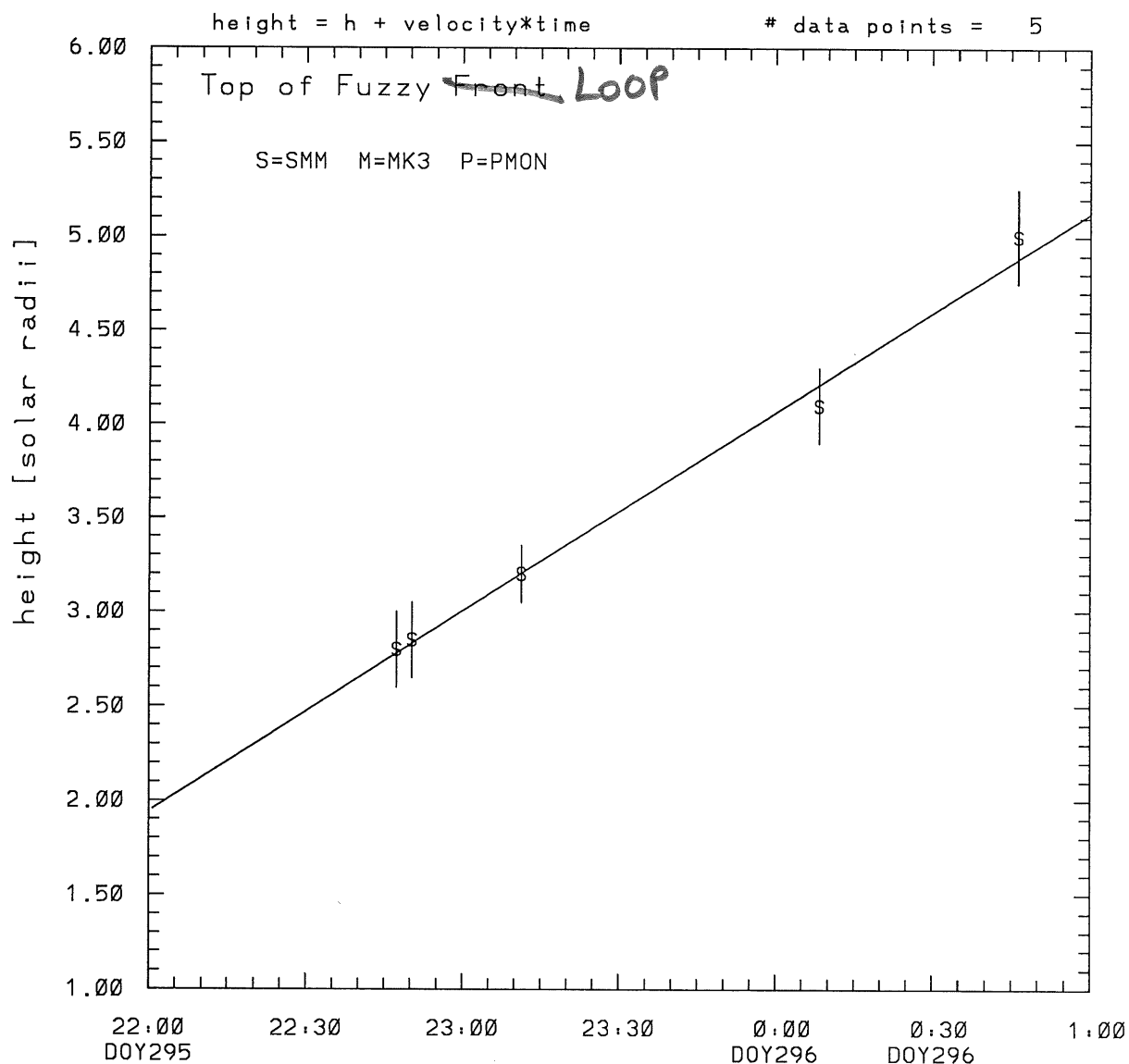
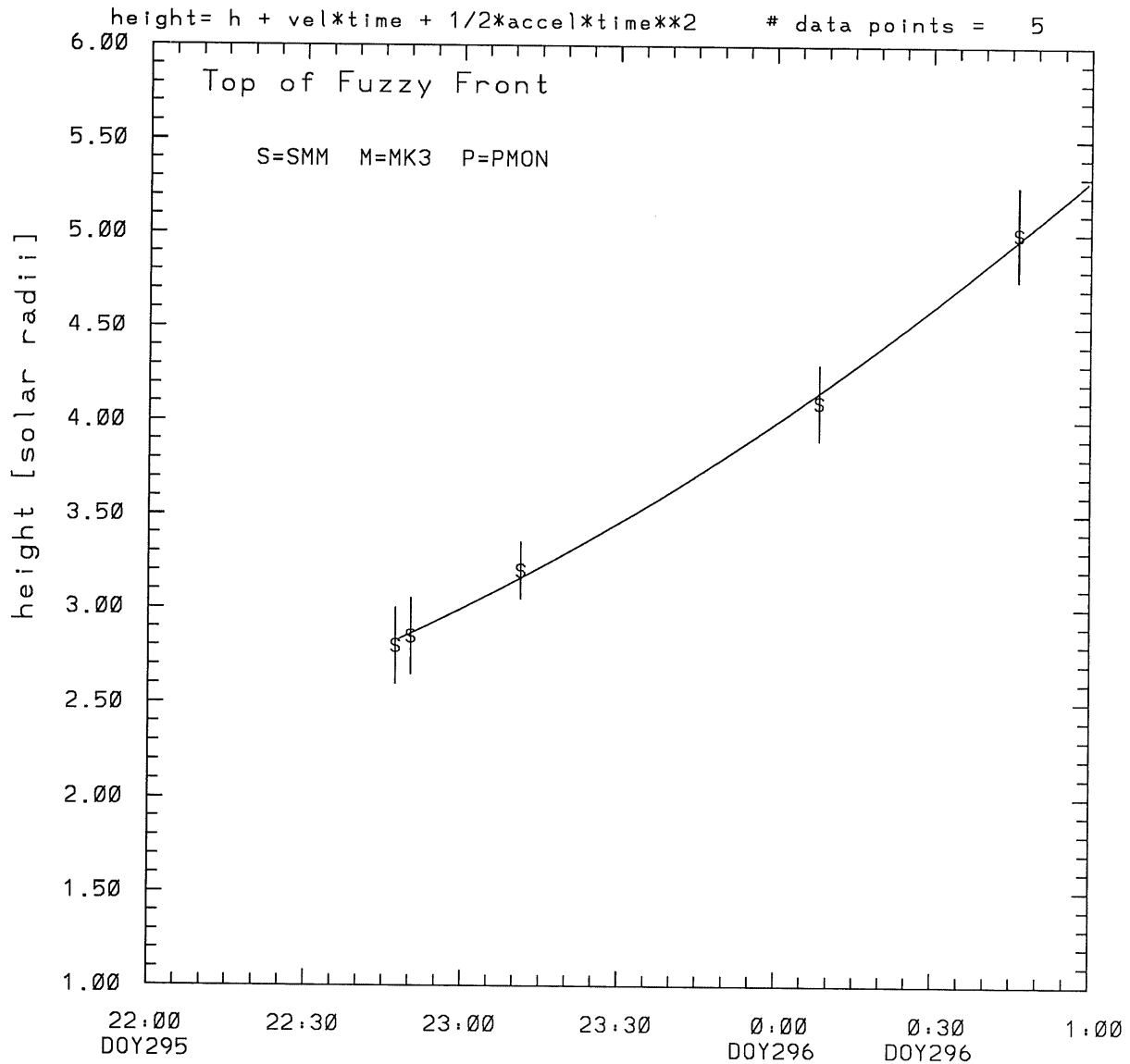


SMM C/P 1984 DOY295 72 +/- 0 degrees



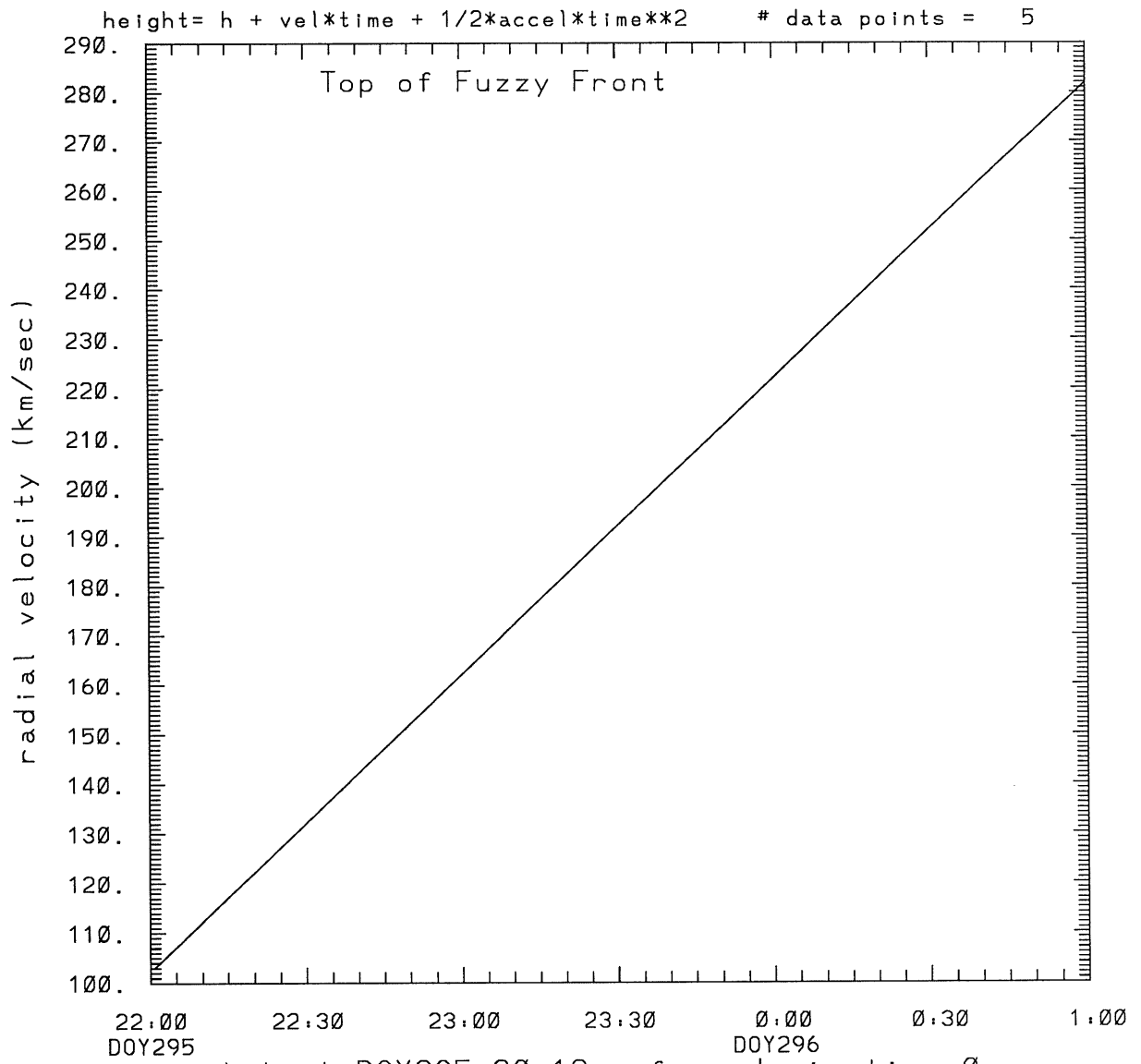
tstart=DOY295 21: 7 +/- 1.1 [min.]  
radial velocity= 205. +/- 9. [km/sec]

SMM C/P 1984 DOY295 72 +/- 0 degrees



tstart=DOY295 20:18 from derivative=0  
Event begins at 1.86 Solar Radii  
radial acceleration =  $0.0166 \pm 0.0067$  [km/sec\*\*2]

SMM C/P 1984 DOY295 72 +/- 0 degrees



tstart=DOY295 20:18 from derivative=0  
Event begins at 1.86 Solar Radii  
radial acceleration=0.166E-01 km/sec\*\*2

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

\*\*\*\*\*  
INPUT:  
\*\*\*\*\*

year	day	time	error in radii	error in radius	error in angle	error in angle	datatype
1984	295	22:47:21	2.80 +/- 0.20	72.0 +/- 0.5			SMM
1984	295	22:50:17	2.85 +/- 0.20	72.0 +/- 0.5			SMM
1984	295	23:11:18	3.20 +/- 0.15	72.0 +/- 1.0			SMM
1984	296	0: 8:18	4.10 +/- 0.20	72.0 +/- 1.0			SMM
1984	296	0:46:17	5.00 +/- 0.25	72.0 +/- 1.0			SMM

\*\*\*\*\*  
Structure being measured:  
Top of Fuzzy Front  
\*\*\*\*\*

\*\*\*\*\*  
OUTPUT:  
\*\*\*\*\*

START TIME:

Event began at  $t = 0 + -0.533E+02 +/- 0.112E+01$  [minutes]

In more convenient units:

Event began at DOY 295 21: 7 +/- 0.112E+01 [minutes]

Origin defined at DOY295 22: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 205. +/- 9. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.194E+01 +/- 0.732E-01$  [solar radii]  
 $c(2) = 0.177E-01 +/- 0.778E-03$  [radii/min]  
 $c(2) = 0.205E+03 +/- 0.902E+01$  [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  $c(1) = 0.93871E-01$  [radii] see Bevington pg. 114

error in  $c(2) = 0.90356E-03$  [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) = 72. +/- 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 22:47 = 0.000E+00 km/sec

The TOTAL velocity at 22:47 = 205. km/sec

The TANGENTIAL velocity at 22:50 = 0.000E+00 km/sec

The TOTAL velocity at 22:50 = 205. km/sec

The TANGENTIAL velocity at 23:11 = 0.000E+00 km/sec

The TOTAL velocity at 23:11 = 205. km/sec

The TANGENTIAL velocity at 0: 8 = 0.000E+00 km/sec

The TOTAL velocity at 0: 8 = 205. km/sec

The TANGENTIAL velocity at 0:46 = 0.000E+00 km/sec

The TOTAL velocity at 0:46 = 205. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.94

Standard Deviation in start time measurement = 0.469E+02

Error in time = 0.92830E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.506E-02

Reduced Chi Squared = 0.399E-01

Chi Squared = 0.120E+00

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.996E+00

The probability that no LINEAR correlation exists between the variables = 0.2592E-03

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
1984	295	22:47:21	2.80	+/- 0.20	72.0	+/- 0.5	SMM
1984	295	22:50:17	2.85	+/- 0.20	72.0	+/- 0.5	SMM
1984	295	23:11:18	3.20	+/- 0.15	72.0	+/- 1.0	SMM
1984	296	0: 8:18	4.10	+/- 0.20	72.0	+/- 1.0	SMM
1984	296	0:46:17	5.00	+/- 0.25	72.0	+/- 1.0	SMM

\*\*\*\*\*  
Structure being measured:  
Top of Fuzzy Front  
\*\*\*\*\*

\*\*\*\*\*  
OUTPUT:  
\*\*\*\*\*

START TIME:

tstart=DOY295 20:18 from derivative = 0  
Event begins at 1.86 Solar Radii  
Origin defined at DOY295 22: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.166E-01 +/- 0.666E-02 km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

- c(1) = 0.231E+01 +/- 0.156E+00 [solar radii]
- c(2) = 0.881E-02 +/- 0.359E-02 [radii/min]
- c(2) = 0.102E+03 +/- 0.416E+02 [km/sec]
- c(3) = 0.430E-04 +/- 0.172E-04 [radii/min\*\*2]
- c(3) = 0.166E-01 +/- 0.666E-02 [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

- Approximate error in c(1) = 0.17827E+00 [radii] Bevington pg 154 (8-30)  
Exact error in c(1) = 0.82952E-01 [radii] Bevington pg 154 (8-28)
- Approximate error in c(2) = 0.41509E-02 [radii/min] Bevington pg 154 (8-30)  
Exact error in c(2) = 0.21088E-02 [radii/min] Bevington pg 154 (8-28)
- Approximate error in c(3) = 0.19657E-04 [radii/min\*\*] Bevington pg 154 (8-30)  
Exact error in c(3) = 0.99920E-05 [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) = 72. +/- 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 22:47 = 0.000E+00 km/sec

The TOTAL velocity at 22:47 = 149. km/sec

The TANGENTIAL velocity at 22:50 = 0.000E+00 km/sec

The TOTAL velocity at 22:50 = 152. km/sec

The TANGENTIAL velocity at 23:11 = 0.000E+00 km/sec

The TOTAL velocity at 23:11 = 173. km/sec

The TANGENTIAL velocity at 0: 8 = 0.000E+00 km/sec

The TOTAL velocity at 0: 8 = 230. km/sec

The TANGENTIAL velocity at 0:46 = 0.000E+00 km/sec

The TOTAL velocity at 0:46 = 268. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.94

Standard Deviation in start time measurement = 0.469E+02

Value of reduced Chi Squared returned from nllst2 = 0.219E-02

Reduced Chi Squared = 0.109E-01

Chi Squared = 0.219E-01

The probability for exceeding chi square = 0.998E+00

For a second order fit 3 correlation coefficients are given:

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

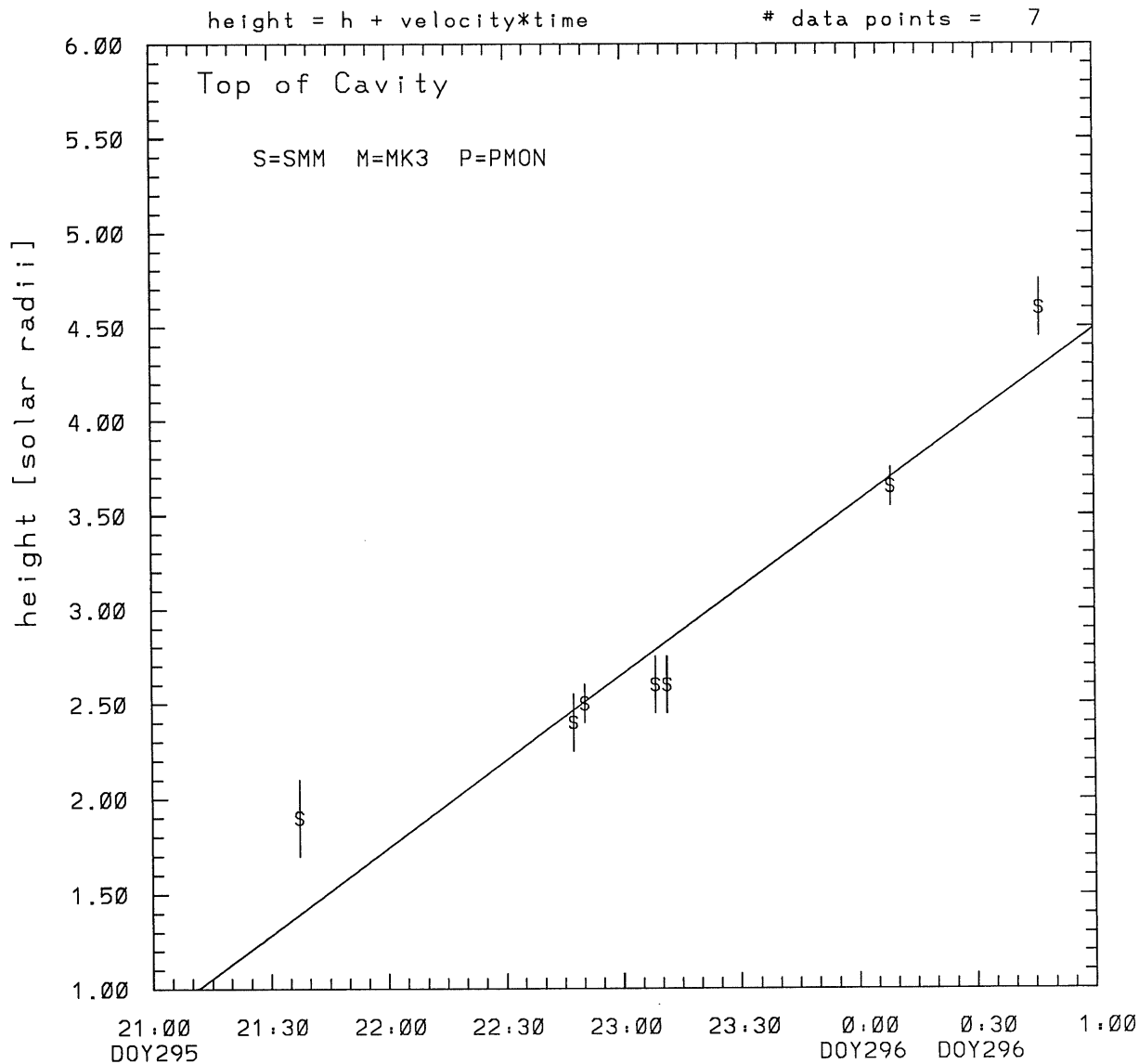
The correlation between the data and the term linear in time = 0.8850E+00

The correlation between the data and the time\*\*2 term = 0.8787E+00

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

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

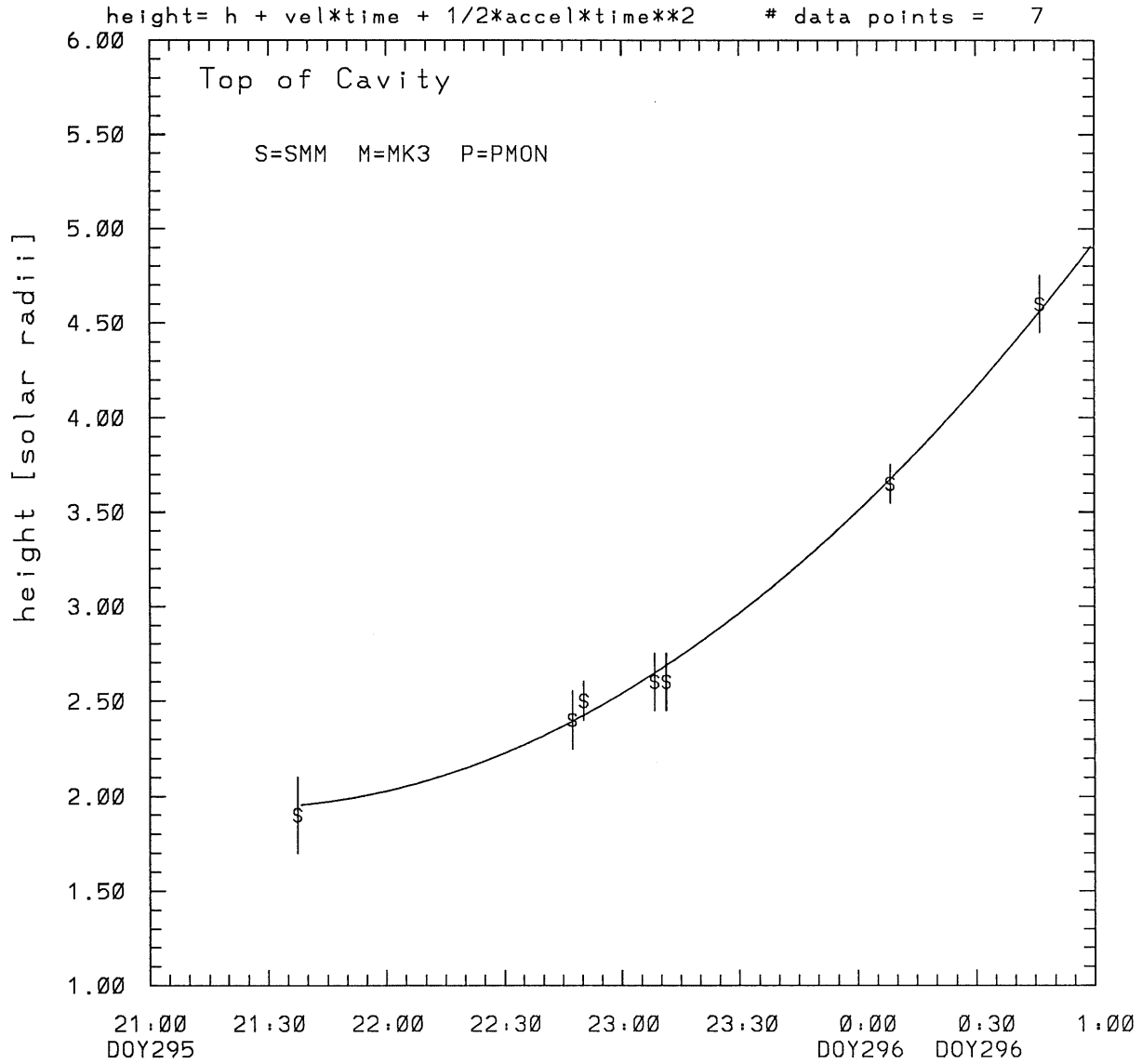
SMM C/P 1984 DOY295 72 +/- 0 degrees



tstart=DOY295 21:11 +/- 0.5 [min.]  
radial velocity= 177. +/- 19. [km/sec]

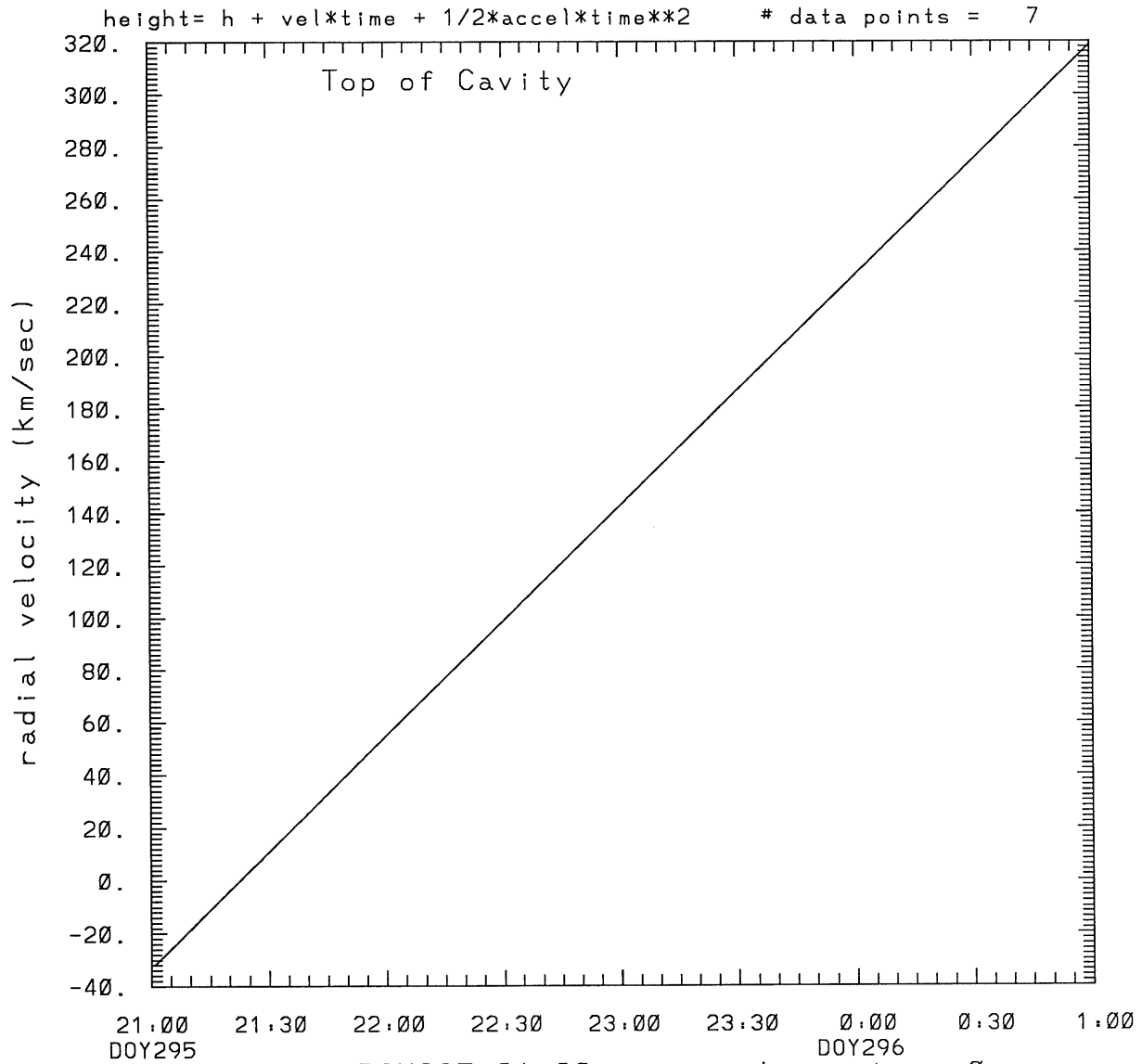


SMM C/P 1984 DOY295 72 +/- 0 degrees



tstart=DOY295 21:22 from derivative=0  
Event begins at 1.94 Solar Radii  
radial acceleration = 0.0244 +/- 0.0032 [km/sec\*\*2]

SMM C/P 1984 DOY295 72 +/- 0 degrees



tstart=DOY295 21:22 from derivative=0  
Event begins at 1.94 Solar Radii  
radial acceleration=0.244E-01 km/sec\*\*2

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

\*\*\*\*\*  
INPUT:  
\*\*\*\*\*

year	day	time	radii	error in radius	angle	error in angle	datatype
1984	295	21:37:16	1.90	+/- 0.20	72.0	+/- 0.5	SMM
1984	295	22:47:21	2.40	+/- 0.15	72.0	+/- 0.5	SMM
1984	295	22:50:17	2.50	+/- 0.10	72.0	+/- 0.5	SMM
1984	295	23: 8:21	2.60	+/- 0.15	72.0	+/- 0.5	SMM
1984	295	23:11:18	2.60	+/- 0.15	72.0	+/- 0.5	SMM
1984	296	0: 8:18	3.65	+/- 0.10	72.0	+/- 1.0	SMM
1984	296	0:46:17	4.60	+/- 0.15	72.0	+/- 1.0	SMM

\*\*\*\*\*  
Structure being measured:  
Top of Cavity  
\*\*\*\*\*

\*\*\*\*\*  
OUTPUT:  
\*\*\*\*\*

START TIME:

Event began at  $t = 0 + 0.114E+02 \pm 0.478E+00$  [minutes]  
In more convenient units:  
Event began at DOY 295 21:11  $\pm 0.478E+00$  [minutes]

Origin defined at DOY295 21: 0

RADIAL INFORMATION:

RADIAL VELOCITY =  $177. \pm 19$  km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.826E+00 \pm 0.243E+00$  [solar radii]  
 $c(2) = 0.153E-01 \pm 0.162E-02$  [radii/min]  
 $c(2) = 0.177E+03 \pm 0.188E+02$  [km/sec]  
 $c(3) = 0.000E+00 \pm 0.000E+00$  [radii/min\*\*2]  
 $c(3) = 0.000E+00 \pm 0.000E+00$  [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

error in  $c(1) = 0.29139E+00$  [radii] see Bevington pg. 114  
error in  $c(2) = 0.20215E-02$  [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) = 72. +/- 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 21:37 = 0.000E+00 km/sec

The TOTAL velocity at 21:37 = 177. km/sec

The TANGENTIAL velocity at 22:47 = 0.000E+00 km/sec

The TOTAL velocity at 22:47 = 177. km/sec

The TANGENTIAL velocity at 22:50 = 0.000E+00 km/sec

The TOTAL velocity at 22:50 = 177. km/sec

The TANGENTIAL velocity at 23: 8 = 0.000E+00 km/sec

The TOTAL velocity at 23: 8 = 177. km/sec

The TANGENTIAL velocity at 23:11 = 0.000E+00 km/sec

The TOTAL velocity at 23:11 = 177. km/sec

The TANGENTIAL velocity at 0: 8 = 0.000E+00 km/sec

The TOTAL velocity at 0: 8 = 177. km/sec

The TANGENTIAL velocity at 0:46 = 0.000E+00 km/sec

The TOTAL velocity at 0:46 = 177. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.92

Standard Deviation in start time measurement = 0.562E+02

Error in time = 0.44063E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.442E-01

Reduced Chi Squared = 0.280E+00

Chi Squared = 0.140E+01

The probability for exceeding chi square = 0.999E+00

The correlation coefficient = 0.957E+00

The probability that no LINEAR correlation exists between the variables = 0.7233E-03

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	295	21:37:16	1.90	+/- 0.20	72.0	+/- 0.5	SMM
1984	295	22:47:21	2.40	+/- 0.15	72.0	+/- 0.5	SMM
1984	295	22:50:17	2.50	+/- 0.10	72.0	+/- 0.5	SMM
1984	295	23: 8:21	2.60	+/- 0.15	72.0	+/- 0.5	SMM
1984	295	23:11:18	2.60	+/- 0.15	72.0	+/- 0.5	SMM
1984	296	0: 8:18	3.65	+/- 0.10	72.0	+/- 1.0	SMM
1984	296	0:46:17	4.60	+/- 0.15	72.0	+/- 1.0	SMM

\*\*\*\*\*  
Structure being measured:  
Top of Cavity  
\*\*\*\*\*

\*\*\*\*\*  
OUTPUT:  
\*\*\*\*\*

START TIME:

tstart=DOY295 21:22 from derivative = 0  
Event begins at 1.94 Solar Radii  
Origin defined at DOY295 21: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.244E-01 +/- 0.317E-02 km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.197E+01 +/- 0.166E+00 [solar radii]  
c(2) = -0.286E-02 +/- 0.240E-02 [radii/min]  
c(2) = -0.332E+02 +/- 0.278E+02 [km/sec]  
c(3) = 0.632E-04 +/- 0.819E-05 [radii/min\*\*2]  
c(3) = 0.244E-01 +/- 0.317E-02 [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.12693E+00 [radii] Bevington pg 154 (8-30)  
Exact error in c(1) = 0.45854E-01 [radii] Bevington pg 154 (8-28)  
Approximate error in c(2) = 0.19751E-02 [radii/min] Bevington pg 154 (8-30)  
Exact error in c(2) = 0.65862E-03 [radii/min] Bevington pg 154 (8-28)  
Approximate error in c(3) = 0.71082E-05 [radii/min\*\*] Bevington pg 154 (8-30)  
Exact error in c(3) = 0.21929E-05 [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) = 72. +/- 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 21:37 = 0.000E+00 km/sec

The TOTAL velocity at 21:37 = 21. km/sec

The TANGENTIAL velocity at 22:47 = 0.000E+00 km/sec

The TOTAL velocity at 22:47 = 124. km/sec

The TANGENTIAL velocity at 22:50 = 0.000E+00 km/sec

The TOTAL velocity at 22:50 = 128. km/sec

The TANGENTIAL velocity at 23: 8 = 0.000E+00 km/sec

The TOTAL velocity at 23: 8 = 155. km/sec

The TANGENTIAL velocity at 23:11 = 0.000E+00 km/sec

The TOTAL velocity at 23:11 = 159. km/sec

The TANGENTIAL velocity at 0: 8 = 0.000E+00 km/sec

The TOTAL velocity at 0: 8 = 243. km/sec

The TANGENTIAL velocity at 0:46 = 0.000E+00 km/sec

The TOTAL velocity at 0:46 = 298. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.92

Standard Deviation in start time measurement = 0.562E+02

Value of reduced Chi Squared returned from nllst2 = 0.411E-02

Reduced Chi Squared = 0.199E-01

Chi Squared = 0.796E-01

The probability for exceeding chi square = 0.100E+01

For a second order fit 3 correlation coefficients are given:

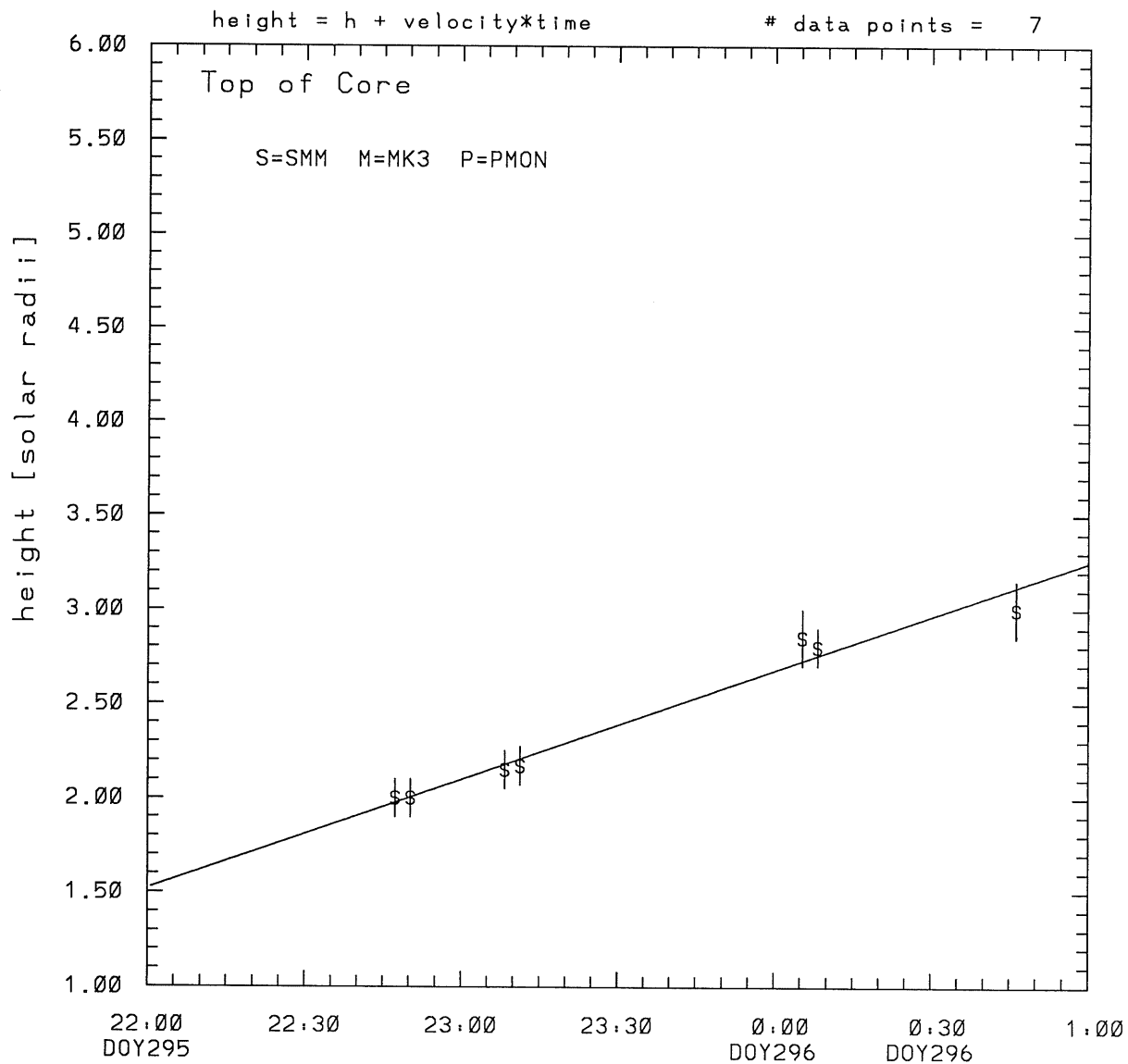
(Using equation of motion:  $r = a + bt + at^{**2}$ )

The correlation between the data and the term linear in time = 0.8594E+00

The correlation between the data and the time\*\*2 term = 0.9254E+00

The correlation between the data and the complete equation of motion = 0.9932E+00  
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

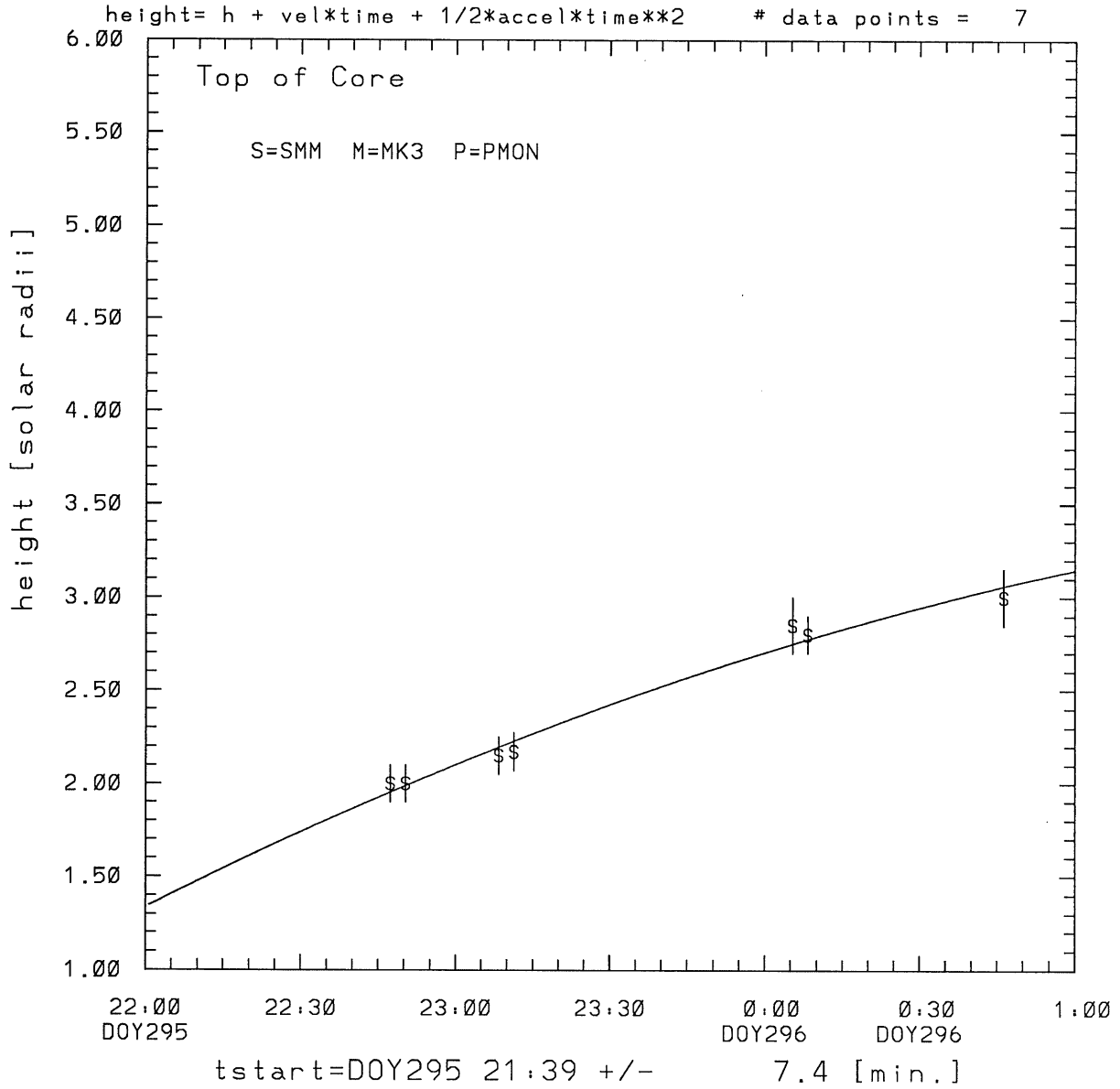
SMM C/P 1984 DOY295 72 +/- 0 degrees



tstart=DOY295 21: 6 +/- 1.2 [min.]  
radial velocity= 112. +/- 7. [km/sec]



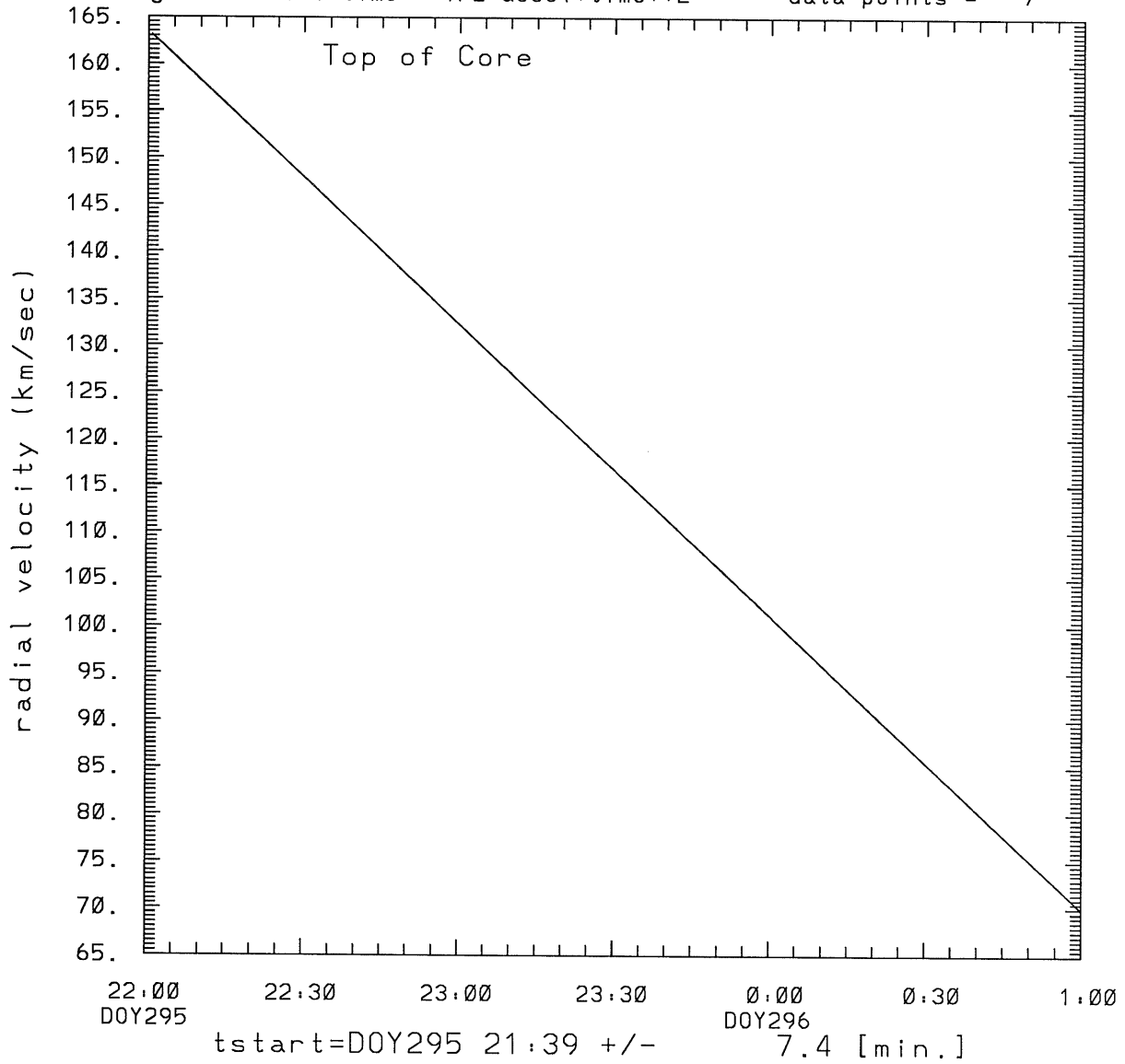
SMM C/P 1984 DOY295 72 +/- 0 degrees



radial acceleration =  $-0.0087 +/- 0.0075$  [km/sec\*\*2]

SMM C/P 1984 DOY295 72 +/- 0 degrees

height= h + vel\*time + 1/2\*accel\*time\*\*2 # data points = 7



radial acceleration=-.866E-02 km/sec\*\*2

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

\*\*\*\*\*  
INPUT:  
\*\*\*\*\*

year	day	time	radii	error in radius	angle	error in angle	datatype
1984	295	22:47:21	2.00	+/- 0.10	72.0	+/- 0.5	SMM
1984	295	22:50:17	2.00	+/- 0.10	72.0	+/- 0.5	SMM
1984	295	23: 8:21	2.15	+/- 0.10	72.0	+/- 0.5	SMM
1984	295	23:11:18	2.17	+/- 0.10	72.0	+/- 0.5	SMM
1984	296	0: 5:22	2.85	+/- 0.15	72.0	+/- 0.5	SMM
1984	296	0: 8:18	2.80	+/- 0.10	72.0	+/- 0.5	SMM
1984	296	0:46:17	3.00	+/- 0.15	72.0	+/- 1.0	SMM

\*\*\*\*\*  
Structure being measured:  
Top of Core  
\*\*\*\*\*

\*\*\*\*\*  
OUTPUT:  
\*\*\*\*\*

START TIME:

Event began at  $t = 0 + -0.541E+02 +/- 0.119E+01$  [minutes]  
In more convenient units:  
Event began at DOY 295 21: 6 +/- 0.119E+01 [minutes]

Origin defined at DOY295 22: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 112. +/- 7. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

- c(1) = 0.152E+01 +/- 0.544E-01 [solar radii]
- c(2) = 0.963E-02 +/- 0.589E-03 [radii/min]
- c(2) = 0.112E+03 +/- 0.683E+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)= 0.76084E-01 [radii] see Bevington pg. 114
- error in c(2)= 0.73823E-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) = 72. +/- 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 22:47 = 0.000E+00 km/sec

The TOTAL velocity at 22:47 = 112. km/sec

The TANGENTIAL velocity at 22:50 = 0.000E+00 km/sec

The TOTAL velocity at 22:50 = 112. km/sec

The TANGENTIAL velocity at 23: 8 = 0.000E+00 km/sec

The TOTAL velocity at 23: 8 = 112. km/sec

The TANGENTIAL velocity at 23:11 = 0.000E+00 km/sec

The TOTAL velocity at 23:11 = 112. km/sec

The TANGENTIAL velocity at 0: 5 = 0.000E+00 km/sec

The TOTAL velocity at 0: 5 = 112. km/sec

The TANGENTIAL velocity at 0: 8 = 0.000E+00 km/sec

The TOTAL velocity at 0: 8 = 112. km/sec

The TANGENTIAL velocity at 0:46 = 0.000E+00 km/sec

The TOTAL velocity at 0:46 = 112. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.44

Standard Deviation in start time measurement = 0.425E+02

Error in time = 0.19286E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.355E-02

Reduced Chi Squared = 0.397E-01

Chi Squared = 0.198E+00

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.985E+00

The probability that no LINEAR correlation exists between the variables = 0.5069E-04

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

\*\*\*\*\*  
This is a 2 order run  
\*\*\*\*\*

\*\*\*\*\*  
INPUT:  
\*\*\*\*\*

year	doy	time	radii	radius	error in	angle	angle	datatype
1984	295	22:47:21	2.00	+/- 0.10	72.0	+/- 0.5	SMM	
1984	295	22:50:17	2.00	+/- 0.10	72.0	+/- 0.5	SMM	
1984	295	23: 8:21	2.15	+/- 0.10	72.0	+/- 0.5	SMM	
1984	295	23:11:18	2.17	+/- 0.10	72.0	+/- 0.5	SMM	
1984	296	0: 5:22	2.85	+/- 0.15	72.0	+/- 0.5	SMM	
1984	296	0: 8:18	2.80	+/- 0.10	72.0	+/- 0.5	SMM	
1984	296	0:46:17	3.00	+/- 0.15	72.0	+/- 1.0	SMM	

\*\*\*\*\*  
Structure being measured:  
Top of Core  
\*\*\*\*\*

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OUTPUT:  
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START TIME:

Event began at  $t = 0 + -0.230E+02 +/- 0.744E+01$  [minutes]  
In more convenient units:  
Event began at DOY 295 21:39 +/- 0.744E+01 [minutes]

Origin defined at DOY295 22: 0

RADIAL INFORMATION:

RADIAL ACCELERATION =  $-0.866E-02 +/- 0.750E-02$  km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.134E+01 +/- 0.169E+00$  [solar radii]  
 $c(2) = 0.141E-01 +/- 0.391E-02$  [radii/min]  
 $c(2) = 0.163E+03 +/- 0.454E+02$  [km/sec]  
 $c(3) = -0.224E-04 +/- 0.194E-04$  [radii/min\*\*2]  
 $c(3) = -0.866E-02 +/- 0.750E-02$  [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in  $c(1) = 0.20247E+00$  [radii] Bevington pg 154 (8-30)  
Exact error in  $c(1) = 0.50277E-01$  [radii] Bevington pg 154 (8-28)  
Approximate error in  $c(2) = 0.45389E-02$  [radii/min] Bevington pg 154 (8-30)  
Exact error in  $c(2) = 0.13092E-02$  [radii/min] Bevington pg 154 (8-28)

Approximate error in c(3) = 0.21728E-04 [radii/min\*\*] Bevington pg 154 (8-30)  
Exact error in c(3) = 0.68922E-05 [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) = 72. +/- 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 22:47 = 0.000E+00 km/sec  
The TOTAL velocity at 22:47 = 139. km/sec

The TANGENTIAL velocity at 22:50 = 0.000E+00 km/sec  
The TOTAL velocity at 22:50 = 137. km/sec

The TANGENTIAL velocity at 23: 8 = 0.000E+00 km/sec  
The TOTAL velocity at 23: 8 = 128. km/sec

The TANGENTIAL velocity at 23:11 = 0.000E+00 km/sec  
The TOTAL velocity at 23:11 = 126. km/sec

The TANGENTIAL velocity at 0: 5 = 0.000E+00 km/sec  
The TOTAL velocity at 0: 5 = 98. km/sec

The TANGENTIAL velocity at 0: 8 = 0.000E+00 km/sec  
The TOTAL velocity at 0: 8 = 97. km/sec

The TANGENTIAL velocity at 0:46 = 0.000E+00 km/sec  
The TOTAL velocity at 0:46 = 77. km/sec

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The following info is for estimating goodness of the fit

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Fit is ok [ier=1]

Standard Deviation in the height = 0.44  
Standard Deviation in start time measurement = 0.425E+02  
Value of reduced Chi Squared returned from nllst2 = 0.337E-02  
Reduced Chi Squared = 0.249E-01  
Chi Squared = 0.996E-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 = 0.9195E+00

The correlation between the data and the time\*\*2 term = 0.8735E+00

The correlation between the data and the complete equation of motion = 0.9817E+00

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