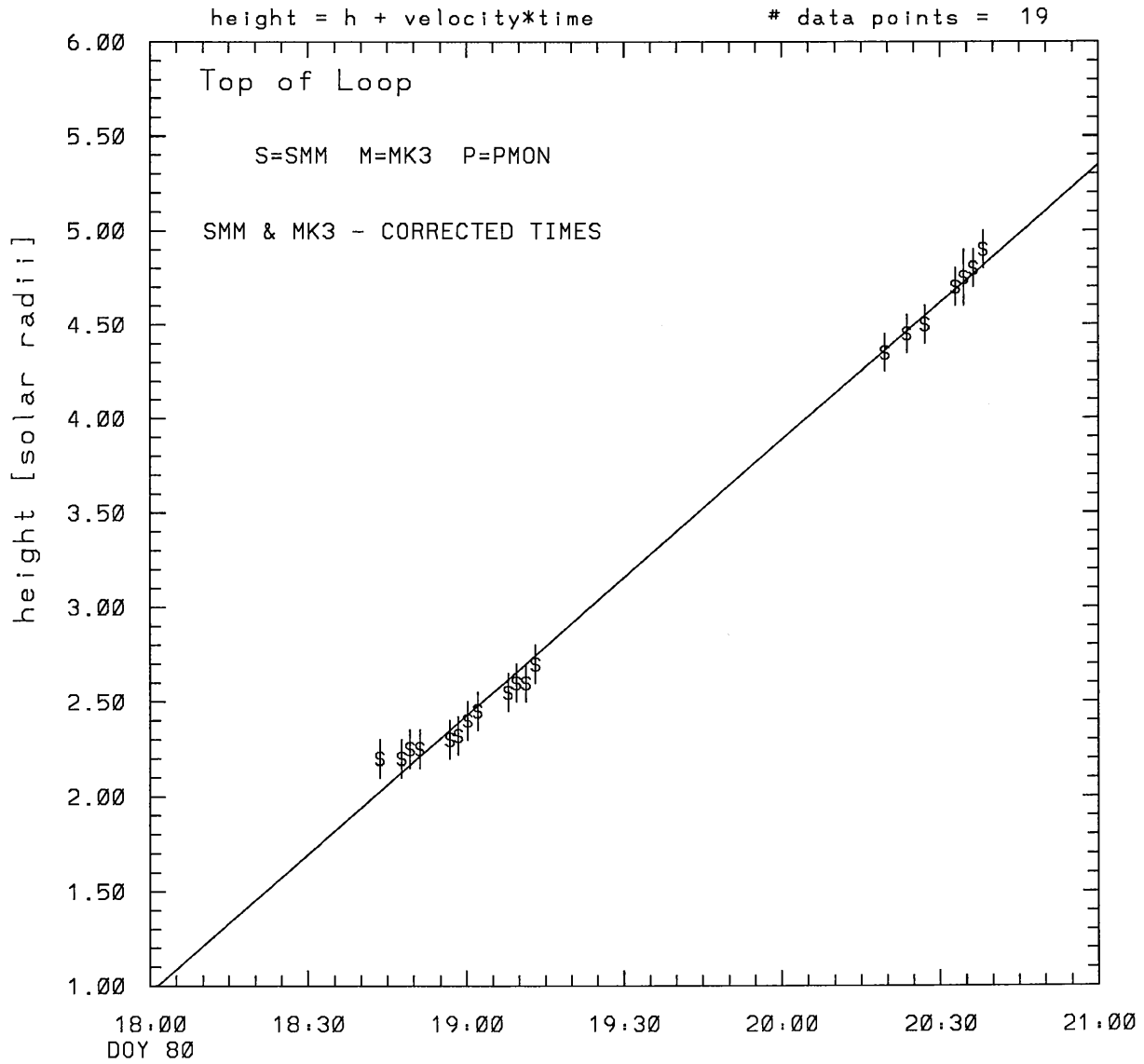
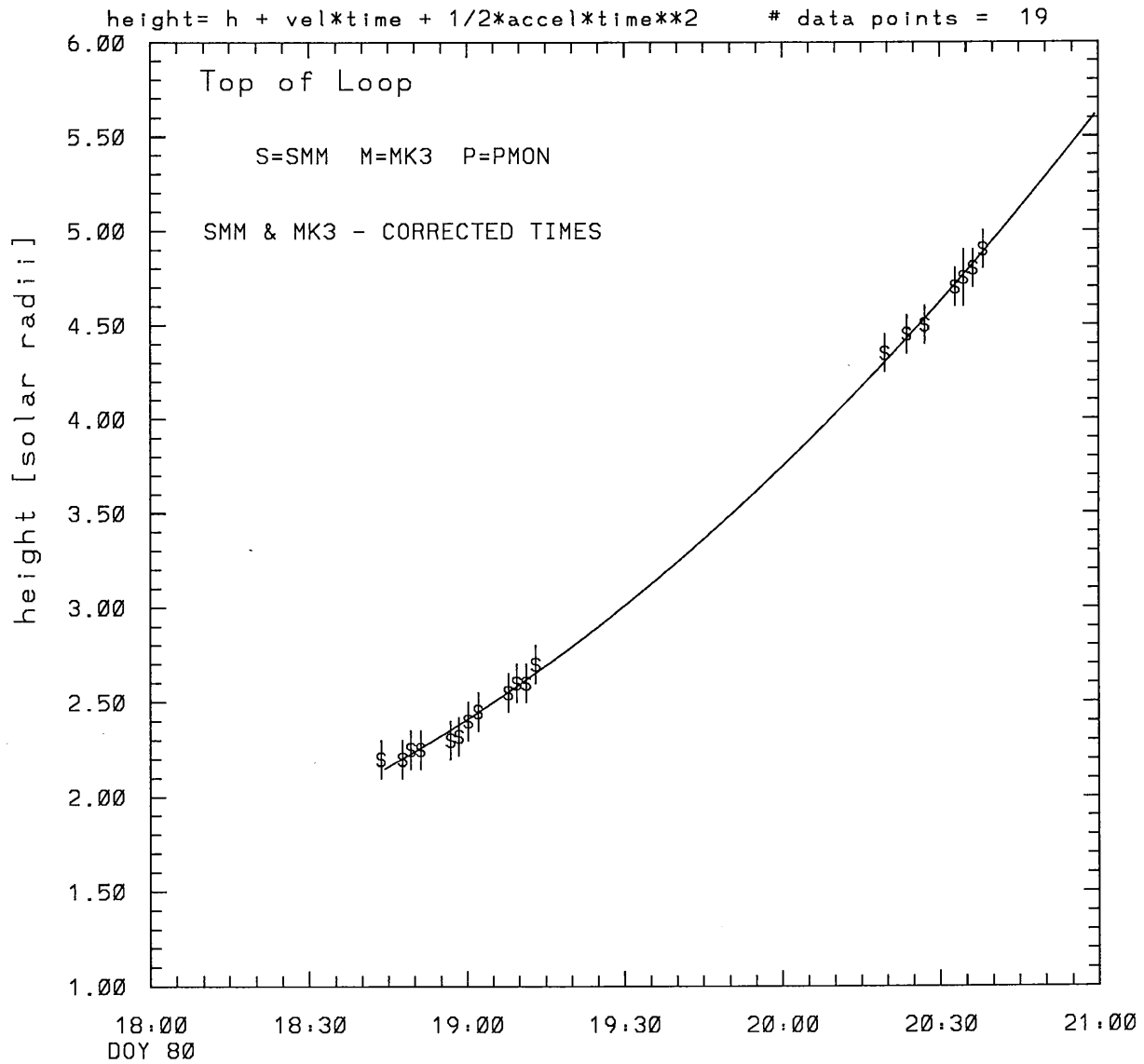


SMM C/P 1980 DOY 80 235 +/- 0 degrees



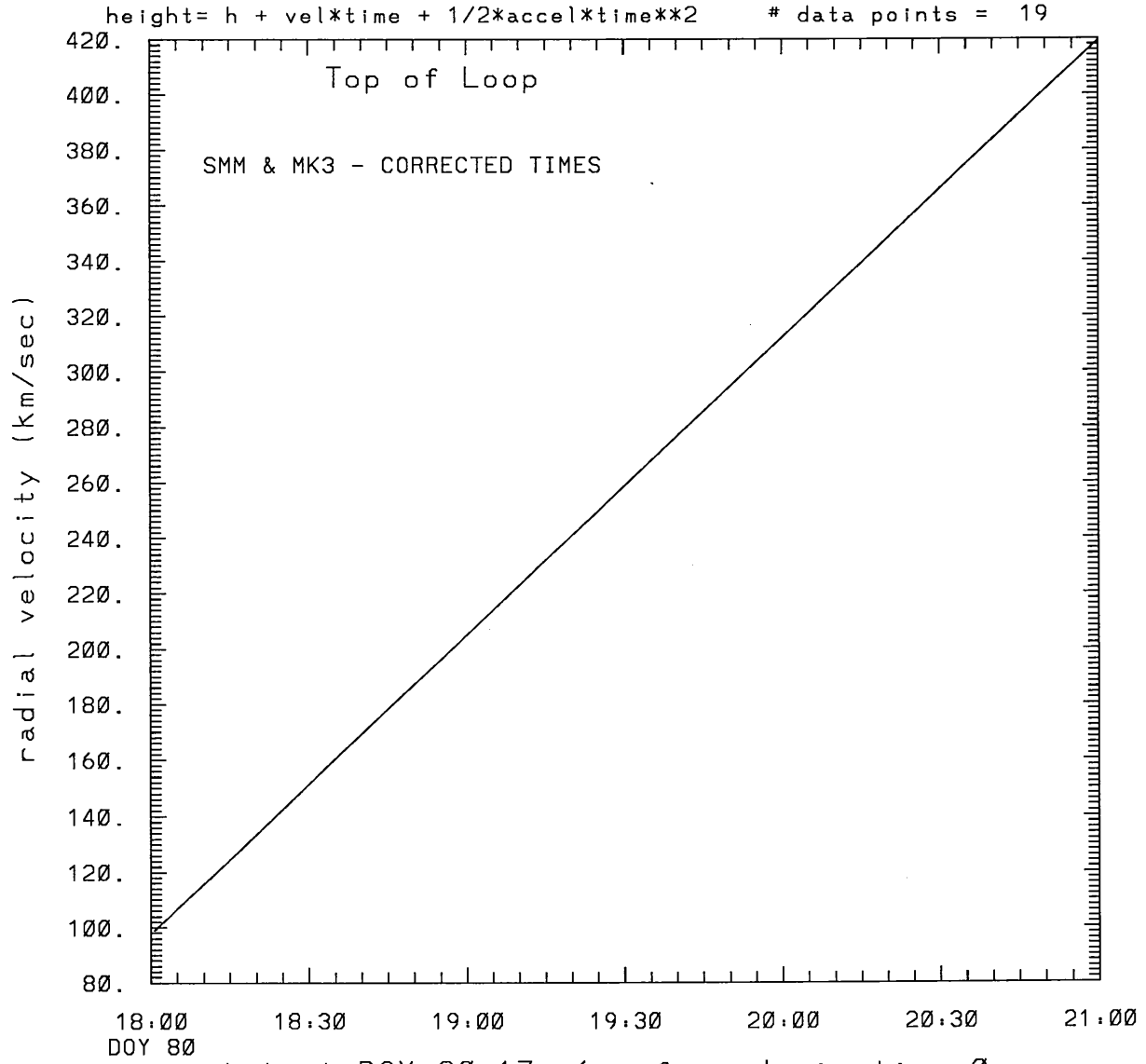
tstart=DOY 80 18: 1 +/- 0.0 [min.]  
radial velocity= 282. +/- 4. [km/sec]

SMM C/P 1980 DOY 80 235 +/- 0 degrees



tstart=DOY 80 17: 6 from derivative=0  
Event begins at 1.40 Solar Radii  
radial acceleration = 0.0298 +/- 0.0039 [km/sec\*\*2]

SMM C/P 1980 DOY 80 235 +/- 0 degrees



tstart=DOY 80 17: 6      from derivative=0  
Event begins at 1.40 Solar Radii  
radial acceleration=0.298E-01 km/sec\*\*2

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

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

year	doy	time	radii	radius	error in	angle	error in	datatype
1980	80	18:43:34	2.20	+/- 0.10	235.0	+/- 0.5	SMM	
1980	80	18:47:43	2.20	+/- 0.10	235.0	+/- 0.5	SMM	
1980	80	18:49:17	2.25	+/- 0.10	235.0	+/- 0.5	SMM	
1980	80	18:51: 8	2.25	+/- 0.10	235.0	+/- 0.5	SMM	
1980	80	18:56:53	2.30	+/- 0.10	235.0	+/- 0.5	SMM	
1980	80	18:58:26	2.32	+/- 0.10	235.0	+/- 0.5	SMM	
1980	80	19: 0:15	2.40	+/- 0.10	235.0	+/- 0.5	SMM	
1980	80	19: 2: 5	2.45	+/- 0.10	235.0	+/- 0.5	SMM	
1980	80	19: 7:53	2.55	+/- 0.10	235.0	+/- 0.5	SMM	
1980	80	19: 9:27	2.60	+/- 0.10	235.0	+/- 0.5	SMM	
1980	80	19:11:18	2.60	+/- 0.10	235.0	+/- 0.5	SMM	
1980	80	19:13: 8	2.70	+/- 0.10	235.0	+/- 0.5	SMM	
1980	80	20:19:34	4.35	+/- 0.10	235.0	+/- 1.0	SMM	
1980	80	20:23:43	4.45	+/- 0.10	235.0	+/- 1.0	SMM	
1980	80	20:27: 5	4.50	+/- 0.10	235.0	+/- 1.0	SMM	
1980	80	20:32:53	4.70	+/- 0.10	235.0	+/- 1.0	SMM	
1980	80	20:34:27	4.75	+/- 0.15	235.0	+/- 1.0	SMM	
1980	80	20:36:17	4.80	+/- 0.10	235.0	+/- 1.0	SMM	
1980	80	20:38: 8	4.90	+/- 0.10	235.0	+/- 1.0	SMM	

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

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

START TIME:

Event began at  $t = 0 + 0.144E+01 \pm 0.900E-02$  [minutes]  
In more convenient units:  
Event began at DOY 80 18: 1  $\pm 0.900E-02$  [minutes]

Origin defined at DOY 80 18: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 282.  $\pm$  4. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.965E+00 +/- 0.366E-01 [solar radii]  
c(2) = 0.243E-01 +/- 0.362E-03 [radii/min]  
c(2) = 0.282E+03 +/- 0.420E+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)= 0.37307E-01 [radii] see Bevington pg. 114  
error in c(2)= 0.36214E-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) = 235. +/- 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 18:43 = 0.000E+00 km/sec

The TOTAL velocity at 18:43 = 282. km/sec

The TANGENTIAL velocity at 18:47 = 0.000E+00 km/sec

The TOTAL velocity at 18:47 = 282. km/sec

The TANGENTIAL velocity at 18:49 = 0.000E+00 km/sec

The TOTAL velocity at 18:49 = 282. km/sec

The TANGENTIAL velocity at 18:51 = 0.000E+00 km/sec

The TOTAL velocity at 18:51 = 282. km/sec

The TANGENTIAL velocity at 18:56 = 0.000E+00 km/sec

The TOTAL velocity at 18:56 = 282. km/sec

The TANGENTIAL velocity at 18:58 = 0.000E+00 km/sec

The TOTAL velocity at 18:58 = 282. km/sec

The TANGENTIAL velocity at 19: 0 = 0.000E+00 km/sec

The TOTAL velocity at 19: 0 = 282. km/sec

The TANGENTIAL velocity at 19: 2 = 0.000E+00 km/sec

The TOTAL velocity at 19: 2 = 282. km/sec

The TANGENTIAL velocity at 19: 7 = 0.000E+00 km/sec

The TOTAL velocity at 19: 7 = 282. km/sec

The TANGENTIAL velocity at 19: 9 = 0.000E+00 km/sec

The TOTAL velocity at 19: 9 = 282. km/sec

The TANGENTIAL velocity at 19:11 = 0.000E+00 km/sec

The TOTAL velocity at 19:11 = 282. km/sec

The TANGENTIAL velocity at 19:13 = 0.000E+00 km/sec

The TOTAL velocity at 19:13 = 282. km/sec

The TANGENTIAL velocity at 20:19 = 0.000E+00 km/sec

The TOTAL velocity at 20:19 = 282. km/sec

The TANGENTIAL velocity at 20:23 = 0.000E+00 km/sec

The TOTAL velocity at 20:23 = 282. km/sec

The TANGENTIAL velocity at 20:27 = 0.000E+00 km/sec

The TOTAL velocity at 20:27 = 282. km/sec

The TANGENTIAL velocity at 20:32 = 0.000E+00 km/sec

The TOTAL velocity at 20:32 = 282. km/sec

The TANGENTIAL velocity at 20:34 = 0.000E+00 km/sec

The TOTAL velocity at 20:34 = 282. km/sec

The TANGENTIAL velocity at 20:36 = 0.000E+00 km/sec

The TOTAL velocity at 20:36 = 282. km/sec

The TANGENTIAL velocity at 20:38 = 0.000E+00 km/sec

The TOTAL velocity at 20:38 = 282. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 1.12

Standard Deviation in start time measurement = 0.447E+02

Error in time = 0.11959E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.483E-02

Reduced Chi Squared = 0.315E-01

Chi Squared = 0.535E+00

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.998E+00

The probability that no LINEAR correlation exists between the variables = -0.5024E-10

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
1980	80	18:43:34	2.20	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	18:47:43	2.20	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	18:49:17	2.25	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	18:51: 8	2.25	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	18:56:53	2.30	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	18:58:26	2.32	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	19: 0:15	2.40	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	19: 2: 5	2.45	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	19: 7:53	2.55	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	19: 9:27	2.60	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	19:11:18	2.60	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	19:13: 8	2.70	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	20:19:34	4.35	+/- 0.10	235.0	+/- 1.0	SMM
1980	80	20:23:43	4.45	+/- 0.10	235.0	+/- 1.0	SMM
1980	80	20:27: 5	4.50	+/- 0.10	235.0	+/- 1.0	SMM
1980	80	20:32:53	4.70	+/- 0.10	235.0	+/- 1.0	SMM
1980	80	20:34:27	4.75	+/- 0.15	235.0	+/- 1.0	SMM
1980	80	20:36:17	4.80	+/- 0.10	235.0	+/- 1.0	SMM
1980	80	20:38: 8	4.90	+/- 0.10	235.0	+/- 1.0	SMM

\*\*\*\*\*

Structure being measured:

Top of Loop

\*\*\*\*\*

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OUTPUT:

\*\*\*\*\*

START TIME:

tstart=DOY 80 17: 6 from derivative = 0

Event begins at 1.40 Solar Radii

Origin defined at DOY 80 18: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.298E-01 +/- 0.387E-02 km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.163E+01 +/- 0.876E-01 [solar radii]

c(2) = 0.843E-02 +/- 0.207E-02 [radii/min]

c(2) = 0.977E+02 +/- 0.241E+02 [km/sec]  
c(3) = 0.770E-04 +/- 0.100E-04 [radii/min\*\*2]  
c(3) = 0.298E-01 +/- 0.387E-02 [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.90321E-01 [radii] Bevington pg 154 (8-30)  
Exact error in c(1) = 0.47043E-02 [radii] Bevington pg 154 (8-28)  
Approximate error in c(2) = 0.21359E-02 [radii/min] Bevington pg 154 (8-30)  
Exact error in c(2) = 0.11166E-03 [radii/min] Bevington pg 154 (8-28)  
Approximate error in c(3) = 0.10277E-04 [radii/min\*\*] Bevington pg 154 (8-30)  
Exact error in c(3) = 0.55260E-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) = 235. +/- 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 18:43 = 0.000E+00 km/sec  
The TOTAL velocity at 18:43 = 176. km/sec

The TANGENTIAL velocity at 18:47 = 0.000E+00 km/sec  
The TOTAL velocity at 18:47 = 183. km/sec

The TANGENTIAL velocity at 18:49 = 0.000E+00 km/sec  
The TOTAL velocity at 18:49 = 186. km/sec

The TANGENTIAL velocity at 18:51 = 0.000E+00 km/sec  
The TOTAL velocity at 18:51 = 189. km/sec

The TANGENTIAL velocity at 18:56 = 0.000E+00 km/sec  
The TOTAL velocity at 18:56 = 199. km/sec

The TANGENTIAL velocity at 18:58 = 0.000E+00 km/sec  
The TOTAL velocity at 18:58 = 202. km/sec

The TANGENTIAL velocity at 19: 0 = 0.000E+00 km/sec  
The TOTAL velocity at 19: 0 = 205. km/sec

The TANGENTIAL velocity at 19: 2 = 0.000E+00 km/sec  
The TOTAL velocity at 19: 2 = 209. km/sec

The TANGENTIAL velocity at 19: 7 = 0.000E+00 km/sec  
The TOTAL velocity at 19: 7 = 219. km/sec



The TANGENTIAL velocity at 19: 9 = 0.000E+00 km/sec

The TOTAL velocity at 19: 9 = 222. km/sec

The TANGENTIAL velocity at 19:11 = 0.000E+00 km/sec

The TOTAL velocity at 19:11 = 225. km/sec

The TANGENTIAL velocity at 19:13 = 0.000E+00 km/sec

The TOTAL velocity at 19:13 = 228. km/sec

The TANGENTIAL velocity at 20:19 = 0.000E+00 km/sec

The TOTAL velocity at 20:19 = 347. km/sec

The TANGENTIAL velocity at 20:23 = 0.000E+00 km/sec

The TOTAL velocity at 20:23 = 355. km/sec

The TANGENTIAL velocity at 20:27 = 0.000E+00 km/sec

The TOTAL velocity at 20:27 = 361. km/sec

The TANGENTIAL velocity at 20:32 = 0.000E+00 km/sec

The TOTAL velocity at 20:32 = 371. km/sec

The TANGENTIAL velocity at 20:34 = 0.000E+00 km/sec

The TOTAL velocity at 20:34 = 374. km/sec

The TANGENTIAL velocity at 20:36 = 0.000E+00 km/sec

The TOTAL velocity at 20:36 = 377. km/sec

The TANGENTIAL velocity at 20:38 = 0.000E+00 km/sec

The TOTAL velocity at 20:38 = 380. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 1.12

Standard Deviation in start time measurement = 0.447E+02

Value of reduced Chi Squared returned from nllst2 = 0.114E-02

Reduced Chi Squared = 0.935E-02

Chi Squared = 0.150E+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 = 0.9844E+00

The correlation between the data and the time\*\*2 term = 0.9835E+00

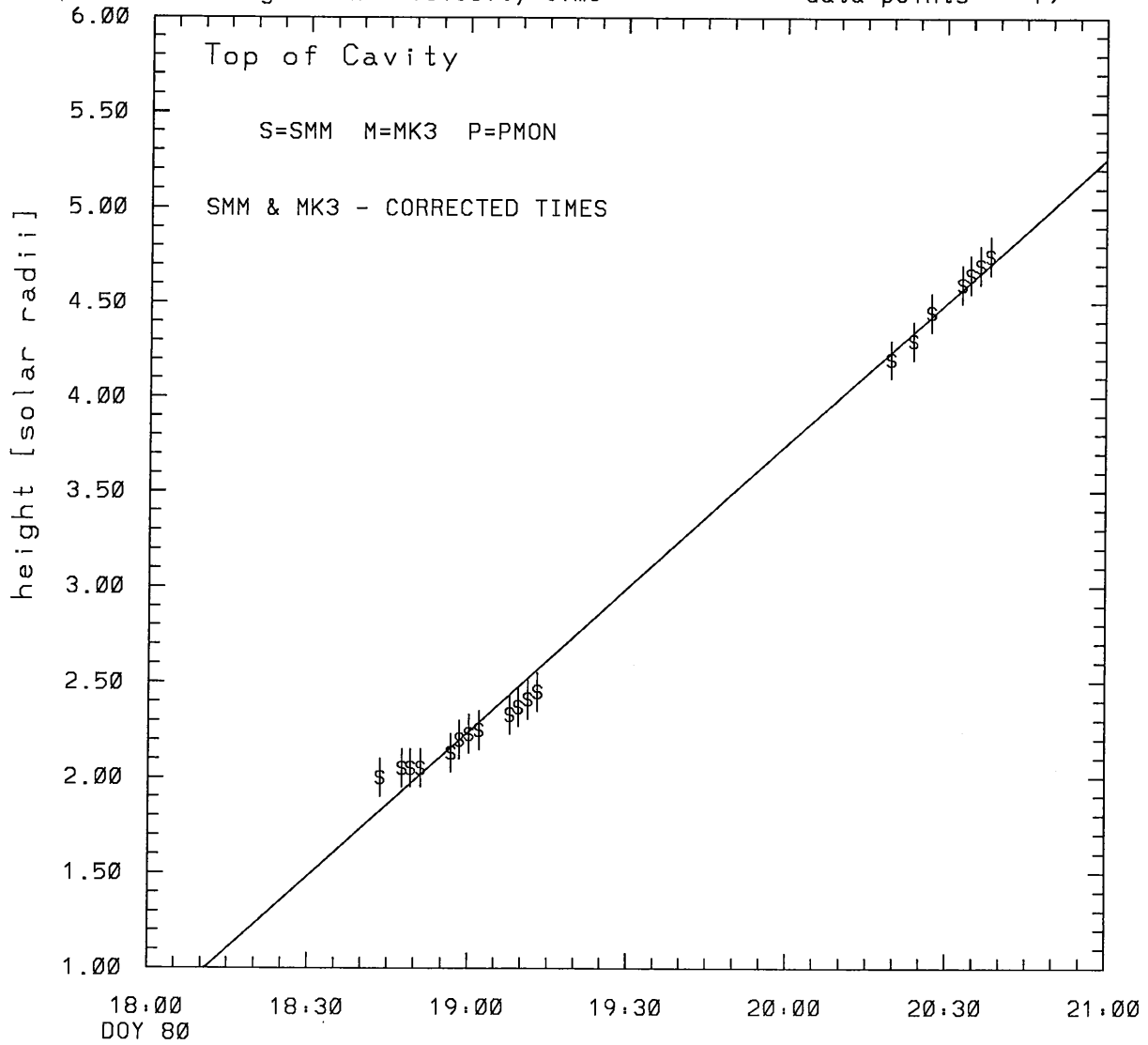
The correlation between the data and the complete equation of motion = 0.9991E+00

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

SMM C/P 1980 DOY 80 235 +/- 0 degrees

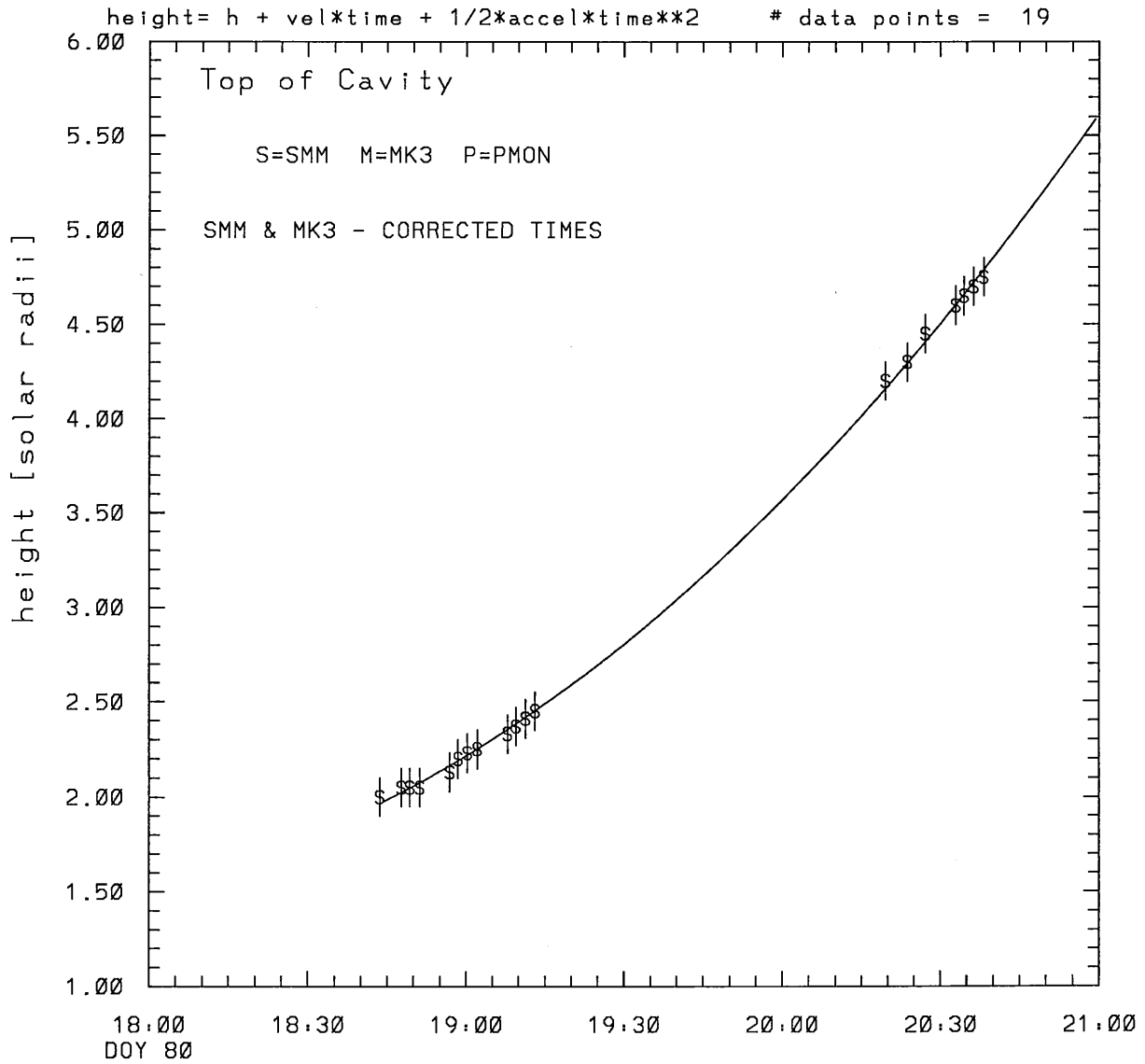
height = h + velocity\*time

# data points = 19



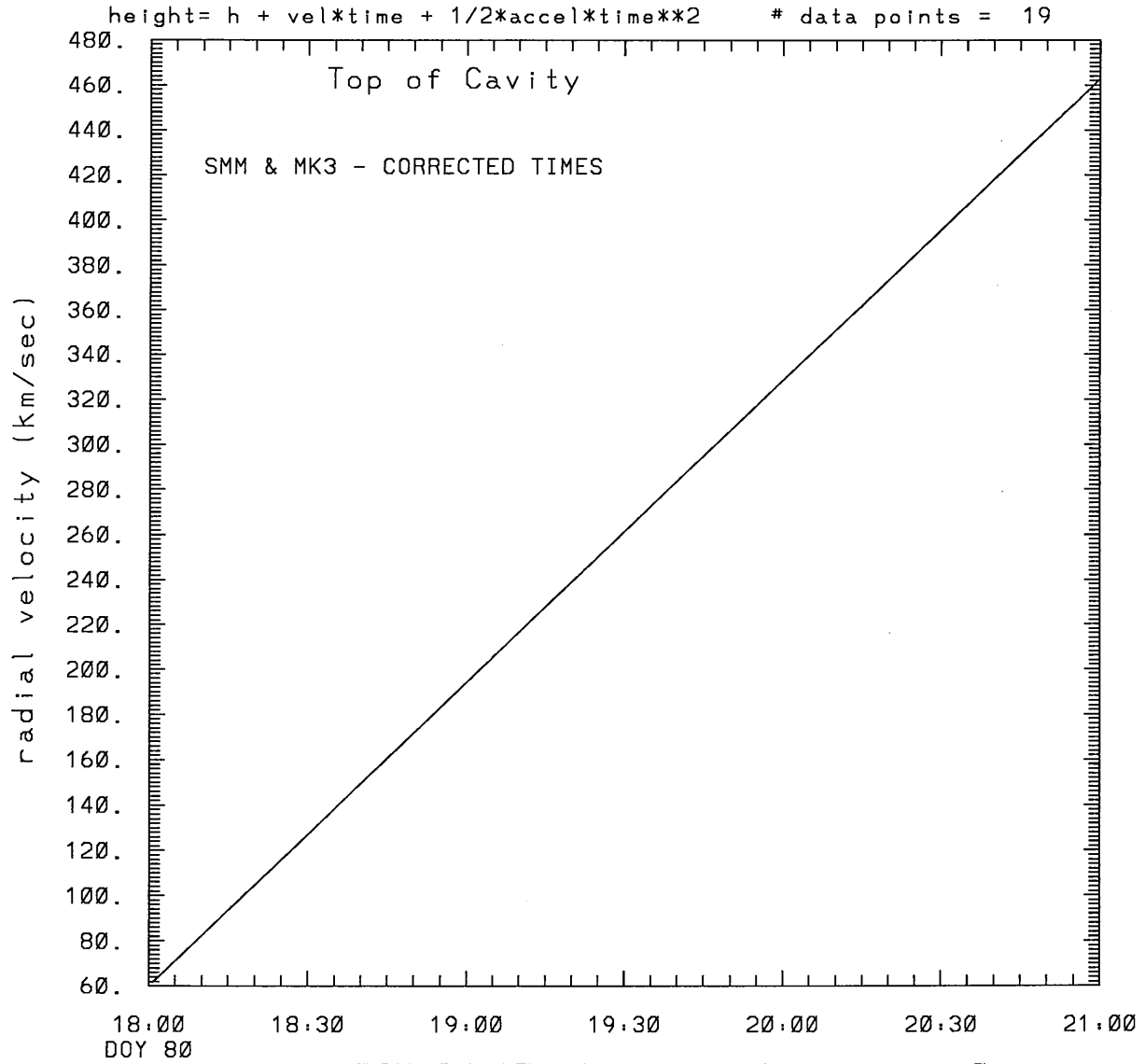
tstart=DOY 80 18:11 +/- 0.0 [min.]  
radial velocity= 292. +/- 5. [km/sec]

SMM C/P 1980 DOY 80 235 +/- 0 degrees



tstart=DOY 80 17:34 from derivative=0  
Event begins at 1.49 Solar Radii  
radial acceleration = 0.0373 +/- 0.0028 [km/sec\*\*2]

SMM C/P 1980 DOY 80 235 +/- 0 degrees



tstart=DOY 80 17:34 from derivative=0  
Event begins at 1.49 Solar Radii  
radial acceleration=0.373E-01 km/sec\*\*2

\*\*\*\*\*

This is a 1 order run

\*\*\*\*\*

\*\*\*\*\*

INPUT:

\*\*\*\*\*

year	doy	time	radii	radius	error in	angle	error in	angle	datatype
1980	80	18:43:34	2.00	+/- 0.10	235.0	+/- 0.5	SMM		
1980	80	18:47:43	2.05	+/- 0.10	235.0	+/- 0.5	SMM		
1980	80	18:49:17	2.05	+/- 0.10	235.0	+/- 0.5	SMM		
1980	80	18:51: 8	2.05	+/- 0.10	235.0	+/- 0.5	SMM		
1980	80	18:56:53	2.13	+/- 0.10	235.0	+/- 0.5	SMM		
1980	80	18:58:26	2.20	+/- 0.10	235.0	+/- 0.5	SMM		
1980	80	19: 0:15	2.23	+/- 0.10	235.0	+/- 0.5	SMM		
1980	80	19: 2: 5	2.25	+/- 0.10	235.0	+/- 0.5	SMM		
1980	80	19: 7:53	2.33	+/- 0.10	235.0	+/- 0.5	SMM		
1980	80	19: 9:27	2.37	+/- 0.10	235.0	+/- 0.5	SMM		
1980	80	19:11:18	2.41	+/- 0.10	235.0	+/- 0.5	SMM		
1980	80	19:13: 8	2.45	+/- 0.10	235.0	+/- 0.5	SMM		
1980	80	20:19:34	4.20	+/- 0.10	235.0	+/- 1.0	SMM		
1980	80	20:23:43	4.30	+/- 0.10	235.0	+/- 1.0	SMM		
1980	80	20:27: 5	4.45	+/- 0.10	235.0	+/- 1.0	SMM		
1980	80	20:32:53	4.60	+/- 0.10	235.0	+/- 1.0	SMM		
1980	80	20:34:27	4.65	+/- 0.10	235.0	+/- 1.0	SMM		
1980	80	20:36:17	4.70	+/- 0.10	235.0	+/- 1.0	SMM		
1980	80	20:38: 8	4.75	+/- 0.10	235.0	+/- 1.0	SMM		

\*\*\*\*\*

Structure being measured:

Top of Cavity

\*\*\*\*\*

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OUTPUT:

\*\*\*\*\*

START TIME:

Event began at  $t = 0 + 0.108E+02 \pm 0.363E-01$  [minutes]

In more convenient units:

Event began at DOY 80 18:11  $\pm 0.363E-01$  [minutes]

Origin defined at DOY 80 18: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 292.  $\pm$  5. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.728E+00 +/- 0.421E-01 [solar radii]  
c(2) = 0.251E-01 +/- 0.409E-03 [radii/min]  
c(2) = 0.292E+03 +/- 0.474E+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)= 0.43350E-01 [radii] see Bevington pg. 114  
error in c(2)= 0.42080E-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) = 235. +/- 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 18:43 = 0.000E+00 km/sec

The TOTAL velocity at 18:43 = 292. km/sec

The TANGENTIAL velocity at 18:47 = 0.000E+00 km/sec

The TOTAL velocity at 18:47 = 292. km/sec

The TANGENTIAL velocity at 18:49 = 0.000E+00 km/sec

The TOTAL velocity at 18:49 = 292. km/sec

The TANGENTIAL velocity at 18:51 = 0.000E+00 km/sec

The TOTAL velocity at 18:51 = 292. km/sec

The TANGENTIAL velocity at 18:56 = 0.000E+00 km/sec

The TOTAL velocity at 18:56 = 292. km/sec

The TANGENTIAL velocity at 18:58 = 0.000E+00 km/sec

The TOTAL velocity at 18:58 = 292. km/sec

The TANGENTIAL velocity at 19: 0 = 0.000E+00 km/sec

The TOTAL velocity at 19: 0 = 292. km/sec

The TANGENTIAL velocity at 19: 2 = 0.000E+00 km/sec

The TOTAL velocity at 19: 2 = 292. km/sec

The TANGENTIAL velocity at 19: 7 = 0.000E+00 km/sec

The TOTAL velocity at 19: 7 = 292. km/sec

The TANGENTIAL velocity at 19: 9 = 0.000E+00 km/sec

The TOTAL velocity at 19: 9 = 292. km/sec

The TANGENTIAL velocity at 19:11 = 0.000E+00 km/sec

The TOTAL velocity at 19:11 = 292. km/sec

The TANGENTIAL velocity at 19:13 = 0.000E+00 km/sec

The TOTAL velocity at 19:13 = 292. km/sec

The TANGENTIAL velocity at 20:19 = 0.000E+00 km/sec

The TOTAL velocity at 20:19 = 292. km/sec

The TANGENTIAL velocity at 20:23 = 0.000E+00 km/sec

The TOTAL velocity at 20:23 = 292. km/sec

The TANGENTIAL velocity at 20:27 = 0.000E+00 km/sec

The TOTAL velocity at 20:27 = 292. km/sec

The TANGENTIAL velocity at 20:32 = 0.000E+00 km/sec

The TOTAL velocity at 20:32 = 292. km/sec

The TANGENTIAL velocity at 20:34 = 0.000E+00 km/sec

The TOTAL velocity at 20:34 = 292. km/sec

The TANGENTIAL velocity at 20:36 = 0.000E+00 km/sec

The TOTAL velocity at 20:36 = 292. km/sec

The TANGENTIAL velocity at 20:38 = 0.000E+00 km/sec

The TOTAL velocity at 20:38 = 292. km/sec

\*\*\*\*\*  
The following info is for estimating goodness of the fit  
\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 1.16

Standard Deviation in start time measurement = 0.447E+02

Error in time = 0.13451E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.636E-02

Reduced Chi Squared = 0.454E-01

Chi Squared = 0.771E+00

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.998E+00

The probability that no LINEAR correlation exists between the variables = -0.5239E-10

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

\*\*\*\*\*

This is a 2 order run

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\*\*\*\*\*

INPUT:

\*\*\*\*\*

year	day	time	radii	error in radius	angle	error in angle	datatype
1980	80	18:43:34	2.00	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	18:47:43	2.05	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	18:49:17	2.05	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	18:51: 8	2.05	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	18:56:53	2.13	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	18:58:26	2.20	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	19: 0:15	2.23	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	19: 2: 5	2.25	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	19: 7:53	2.33	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	19: 9:27	2.37	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	19:11:18	2.41	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	19:13: 8	2.45	+/- 0.10	235.0	+/- 0.5	SMM
1980	80	20:19:34	4.20	+/- 0.10	235.0	+/- 1.0	SMM
1980	80	20:23:43	4.30	+/- 0.10	235.0	+/- 1.0	SMM
1980	80	20:27: 5	4.45	+/- 0.10	235.0	+/- 1.0	SMM
1980	80	20:32:53	4.60	+/- 0.10	235.0	+/- 1.0	SMM
1980	80	20:34:27	4.65	+/- 0.10	235.0	+/- 1.0	SMM
1980	80	20:36:17	4.70	+/- 0.10	235.0	+/- 1.0	SMM
1980	80	20:38: 8	4.75	+/- 0.10	235.0	+/- 1.0	SMM

\*\*\*\*\*

Structure being measured:

Top of Cavity

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OUTPUT:

\*\*\*\*\*

START TIME:

tstart=DOY 80 17:34 from derivative = 0

Event begins at 1.49 Solar Radii

Origin defined at DOY 80 18: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.373E-01 +/- 0.284E-02 km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.156E+01 +/- 0.646E-01 [solar radii]

c(2) = 0.517E-02 +/- 0.153E-02 [radii/min]



c(2) = 0.600E+02 +/- 0.177E+02 [km/sec]  
c(3) = 0.965E-04 +/- 0.735E-05 [radii/min\*\*2]  
c(3) = 0.373E-01 +/- 0.284E-02 [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.66615E-01 [radii] Bevington pg 154 (8-30)  
Exact error in c(1) = 0.35997E-02 [radii] Bevington pg 154 (8-28)  
Approximate error in c(2) = 0.15753E-02 [radii/min] Bevington pg 154 (8-30)  
Exact error in c(2) = 0.81790E-04 [radii/min] Bevington pg 154 (8-28)  
Approximate error in c(3) = 0.75797E-05 [radii/min\*\*] Bevington pg 154 (8-30)  
Exact error in c(3) = 0.38714E-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) = 235. +/- 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 18:43 = 0.000E+00 km/sec  
The TOTAL velocity at 18:43 = 157. km/sec

The TANGENTIAL velocity at 18:47 = 0.000E+00 km/sec  
The TOTAL velocity at 18:47 = 167. km/sec

The TANGENTIAL velocity at 18:49 = 0.000E+00 km/sec  
The TOTAL velocity at 18:49 = 170. km/sec

The TANGENTIAL velocity at 18:51 = 0.000E+00 km/sec  
The TOTAL velocity at 18:51 = 174. km/sec

The TANGENTIAL velocity at 18:56 = 0.000E+00 km/sec  
The TOTAL velocity at 18:56 = 187. km/sec

The TANGENTIAL velocity at 18:58 = 0.000E+00 km/sec  
The TOTAL velocity at 18:58 = 191. km/sec

The TANGENTIAL velocity at 19: 0 = 0.000E+00 km/sec  
The TOTAL velocity at 19: 0 = 195. km/sec

The TANGENTIAL velocity at 19: 2 = 0.000E+00 km/sec  
The TOTAL velocity at 19: 2 = 199. km/sec

The TANGENTIAL velocity at 19: 7 = 0.000E+00 km/sec  
The TOTAL velocity at 19: 7 = 212. km/sec

The TANGENTIAL velocity at 19: 9 = 0.000E+00 km/sec

The TOTAL velocity at 19: 9 = 215. km/sec

The TANGENTIAL velocity at 19:11 = 0.000E+00 km/sec

The TOTAL velocity at 19:11 = 220. km/sec

The TANGENTIAL velocity at 19:13 = 0.000E+00 km/sec

The TOTAL velocity at 19:13 = 224. km/sec

The TANGENTIAL velocity at 20:19 = 0.000E+00 km/sec

The TOTAL velocity at 20:19 = 372. km/sec

The TANGENTIAL velocity at 20:23 = 0.000E+00 km/sec

The TOTAL velocity at 20:23 = 382. km/sec

The TANGENTIAL velocity at 20:27 = 0.000E+00 km/sec

The TOTAL velocity at 20:27 = 389. km/sec

The TANGENTIAL velocity at 20:32 = 0.000E+00 km/sec

The TOTAL velocity at 20:32 = 402. km/sec

The TANGENTIAL velocity at 20:34 = 0.000E+00 km/sec

The TOTAL velocity at 20:34 = 406. km/sec

The TANGENTIAL velocity at 20:36 = 0.000E+00 km/sec

The TOTAL velocity at 20:36 = 410. km/sec

The TANGENTIAL velocity at 20:38 = 0.000E+00 km/sec

The TOTAL velocity at 20:38 = 414. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 1.16

Standard Deviation in start time measurement = 0.447E+02

Value of reduced Chi Squared returned from nllst2 = 0.605E-03

Reduced Chi Squared = 0.682E-02

Chi Squared = 0.109E+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 = 0.9976E+00

The correlation between the data and the time\*\*2 term = 0.9996E+00

The correlation between the data and the complete equation of motion = 0.9996E+00

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