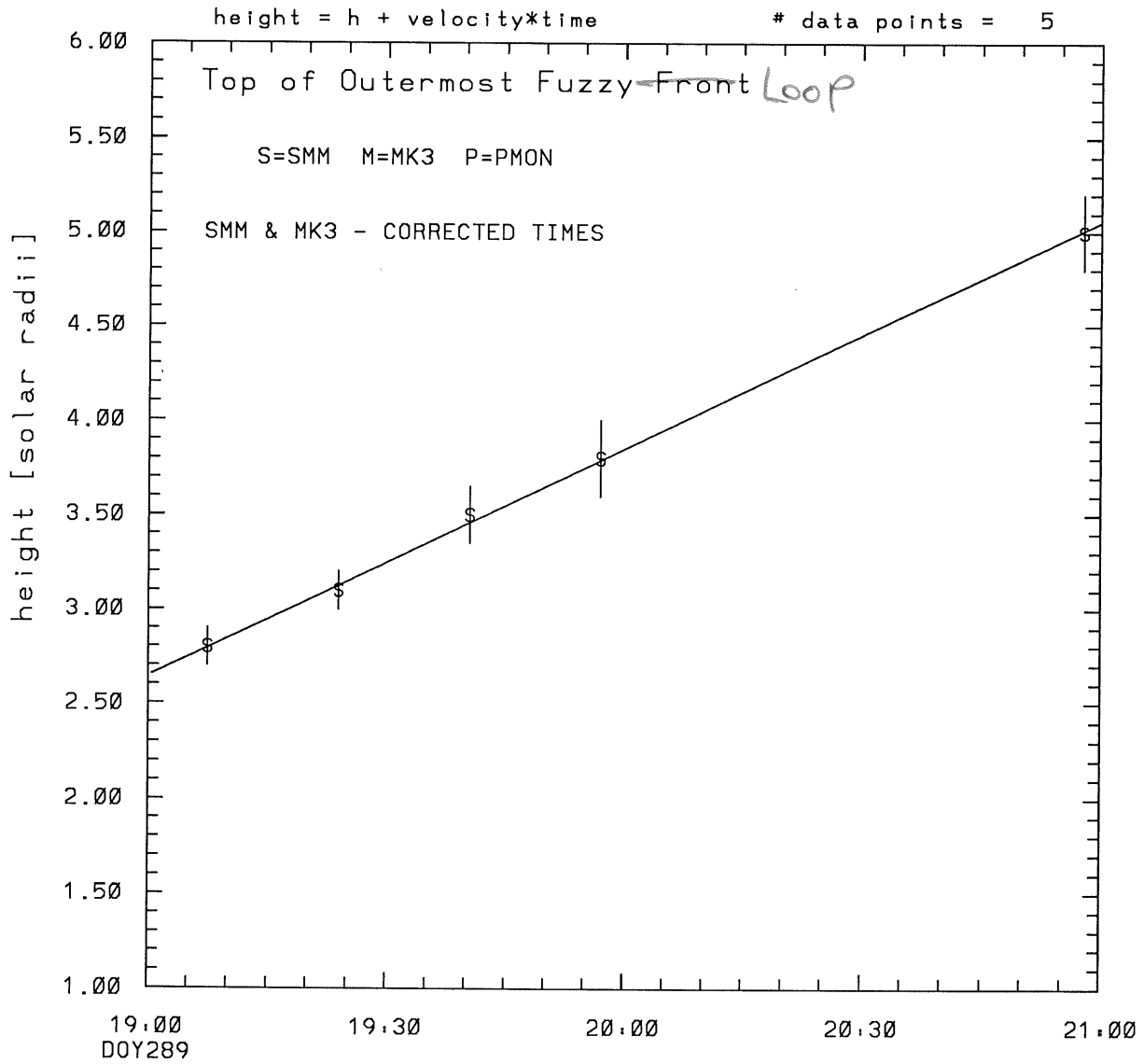
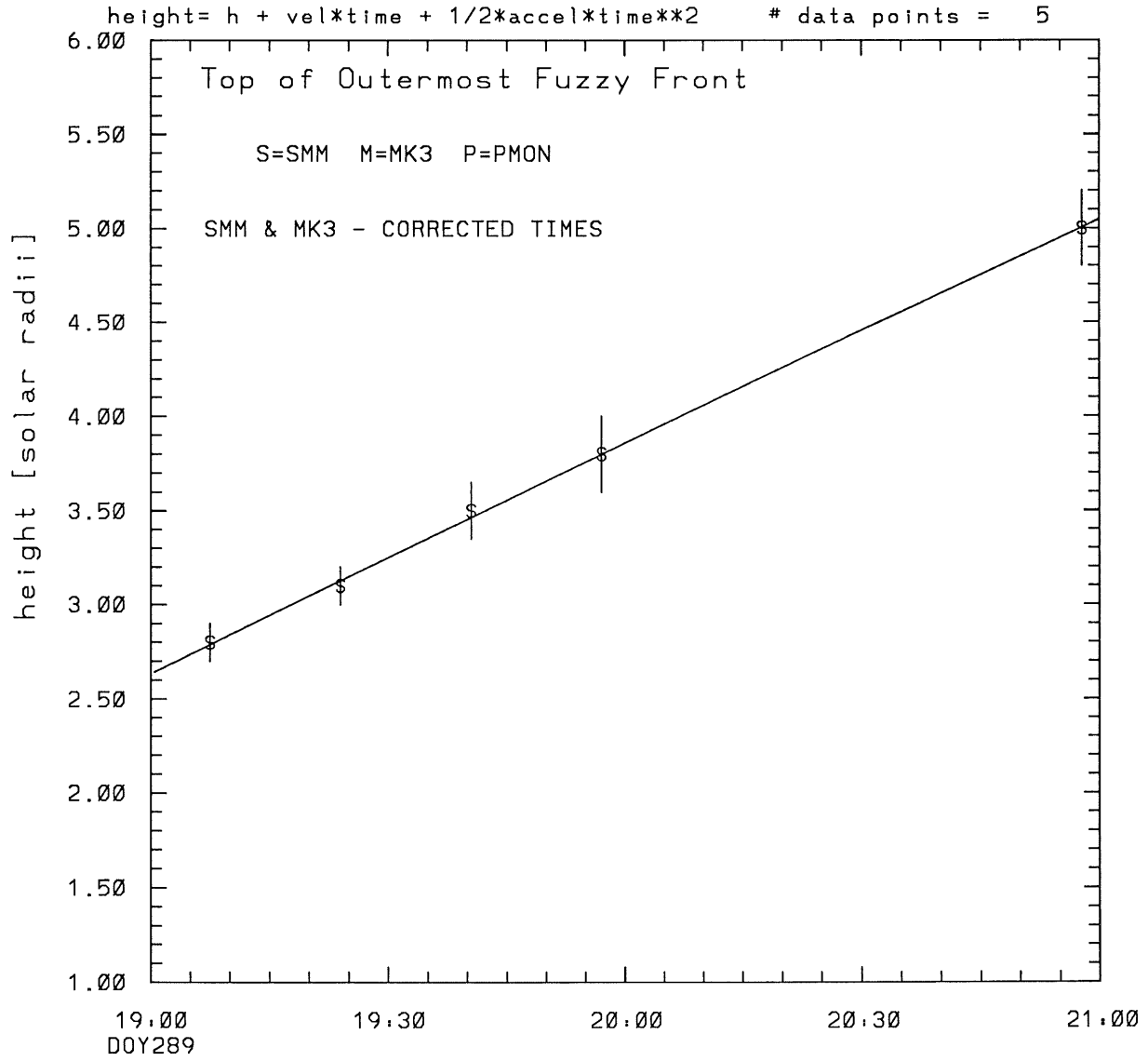


SMM C/P 1988 DOY289 255 +/- 0 degrees



tstart=DOY289 17.40 +/- 0.3 [min.]
radial velocity= 233. +/- 4. [km/sec]

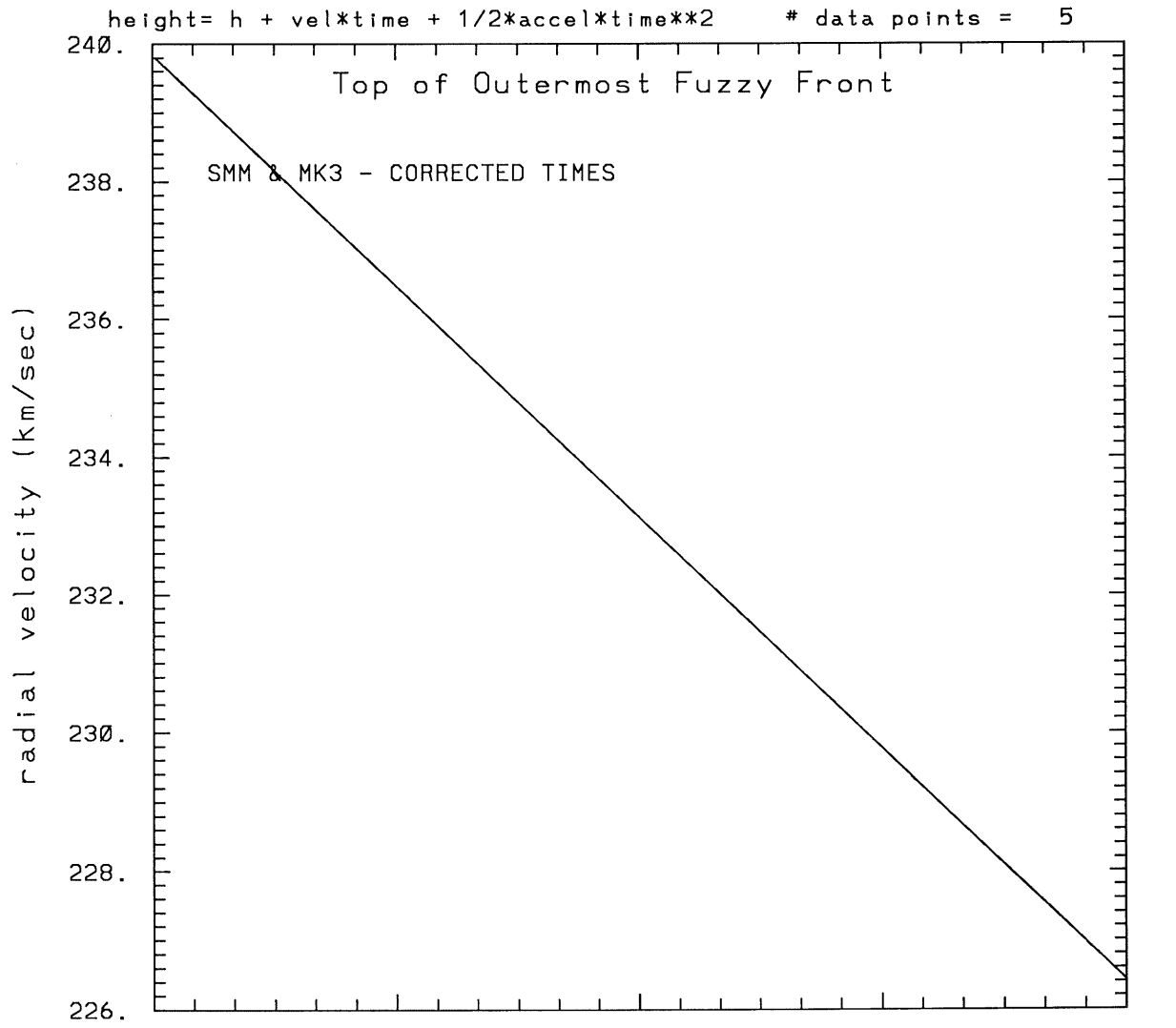
SMM C/P 1988 DOY289 255 +/- 0 degrees



tstart=DOY289 17:44 +/- 25.4 [min.]

radial acceleration = -0.0019 ± 0.0046 [km/sec**2]

SMM C/P 1988 DOY289 255 +/- 0 degrees



19:00
DOY289

19:30

20:00

20:30

21:00

tstart=DOY289 17:44 +/- 25.4 [min.]

radial acceleration = $-.186E-02$ km/sec**2

This is a 1 order run

INPUT:

year	doj	time	radii	radius	error in	angle	angle	datatype
1988	289	19: 7:28	2.80	+/- 0.10	255.0	+/- 0.5	SMM	
1988	289	19:23:58	3.10	+/- 0.10	255.0	+/- 1.0	SMM	
1988	289	19:40:32	3.50	+/- 0.15	255.0	+/- 1.0	SMM	
1988	289	19:57: 3	3.80	+/- 0.20	255.0	+/- 1.0	SMM	
1988	289	20:57:50	5.00	+/- 0.20	255.0	+/- 1.0	SMM	

Structure being measured:

Top of Outermost Fuzzy Front

OUTPUT:

START TIME:

Event began at t = 0 + -0.817E+02 +/- 0.308E+00 [minutes]

In more convenient units:

Event began at DOY 289 17:40 +/- 0.308E+00 [minutes]

Origin defined at DOY289 19: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 233. +/- 4. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.264E+01 +/- 0.164E-01 [solar radii]
c(2) = 0.201E-01 +/- 0.374E-03 [radii/min]
c(2) = 0.233E+03 +/- 0.434E+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)= 0.21892E-01 [radii] see Bevington pg. 114

error in c(2)= 0.35134E-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) = 255. +/- 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 19: 7 = 0. km/sec

The TOTAL velocity at 19: 7 = 233. km/sec

The TANGENTIAL velocity at 19:23 = 0. km/sec

The TOTAL velocity at 19:23 = 233. km/sec

The TANGENTIAL velocity at 19:40 = 0. km/sec

The TOTAL velocity at 19:40 = 233. km/sec

The TANGENTIAL velocity at 19:57 = 0. km/sec

The TOTAL velocity at 19:57 = 233. km/sec

The TANGENTIAL velocity at 20:57 = 0. km/sec

The TOTAL velocity at 20:57 = 233. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.85

Standard Deviation in start time measurement = 0.380E+02

Error in time = 0.25731E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.642E-03

Reduced Chi Squared = 0.257E-02

Chi Squared = 0.770E-02

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.100E+01

The probability that no LINEAR correlation exists between the variables = 0.1082E-04

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
1988	289	19: 7:28	2.80	+/- 0.10	255.0	+/- 0.5	SMM
1988	289	19:23:58	3.10	+/- 0.10	255.0	+/- 1.0	SMM
1988	289	19:40:32	3.50	+/- 0.15	255.0	+/- 1.0	SMM
1988	289	19:57: 3	3.80	+/- 0.20	255.0	+/- 1.0	SMM
1988	289	20:57:50	5.00	+/- 0.20	255.0	+/- 1.0	SMM

Structure being measured:

Top of Outermost Fuzzy Front

OUTPUT:

START TIME:

Event began at $t = 0 + -0.776E+02 +/- 0.254E+02$ [minutes]

In more convenient units:

Event began at DOY 289 17:44 +/- 0.254E+02 [minutes]

Origin defined at DOY289 19: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = $-0.186E-02 +/- 0.455E-02$ km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = $0.263E+01 +/- 0.285E-01$ [solar radii]
c(2) = $0.207E-01 +/- 0.146E-02$ [radii/min]
c(2) = $0.240E+03 +/- 0.169E+02$ [km/sec]
c(3) = $-0.482E-05 +/- 0.118E-04$ [radii/min**2]
c(3) = $-0.186E-02 +/- 0.455E-02$ [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = $0.38755E-01$ [radii] Bevington pg 154 (8-30)
Exact error in c(1) = $0.98054E-02$ [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = $0.15940E-02$ [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = $0.26249E-03$ [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = $0.11837E-04$ [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = $0.15751E-05$ [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) = 255. +/- 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 19: 7 = 0. km/sec

The TOTAL velocity at 19: 7 = 239. km/sec

The TANGENTIAL velocity at 19:23 = 0. km/sec

The TOTAL velocity at 19:23 = 237. km/sec

The TANGENTIAL velocity at 19:40 = 0. km/sec

The TOTAL velocity at 19:40 = 235. km/sec

The TANGENTIAL velocity at 19:57 = 0. km/sec

The TOTAL velocity at 19:57 = 233. km/sec

The TANGENTIAL velocity at 20:57 = 0. km/sec

The TOTAL velocity at 20:57 = 227. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.85

Standard Deviation in start time measurement = 0.380E+02

Value of reduced Chi Squared returned from nllst2 = 0.811E-03

Reduced Chi Squared = 0.274E-02

Chi Squared = 0.548E-02

The probability for exceeding chi square = 0.999E+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 = 0.9222E+00

The correlation between the data and the time**2 term = 0.7983E+00

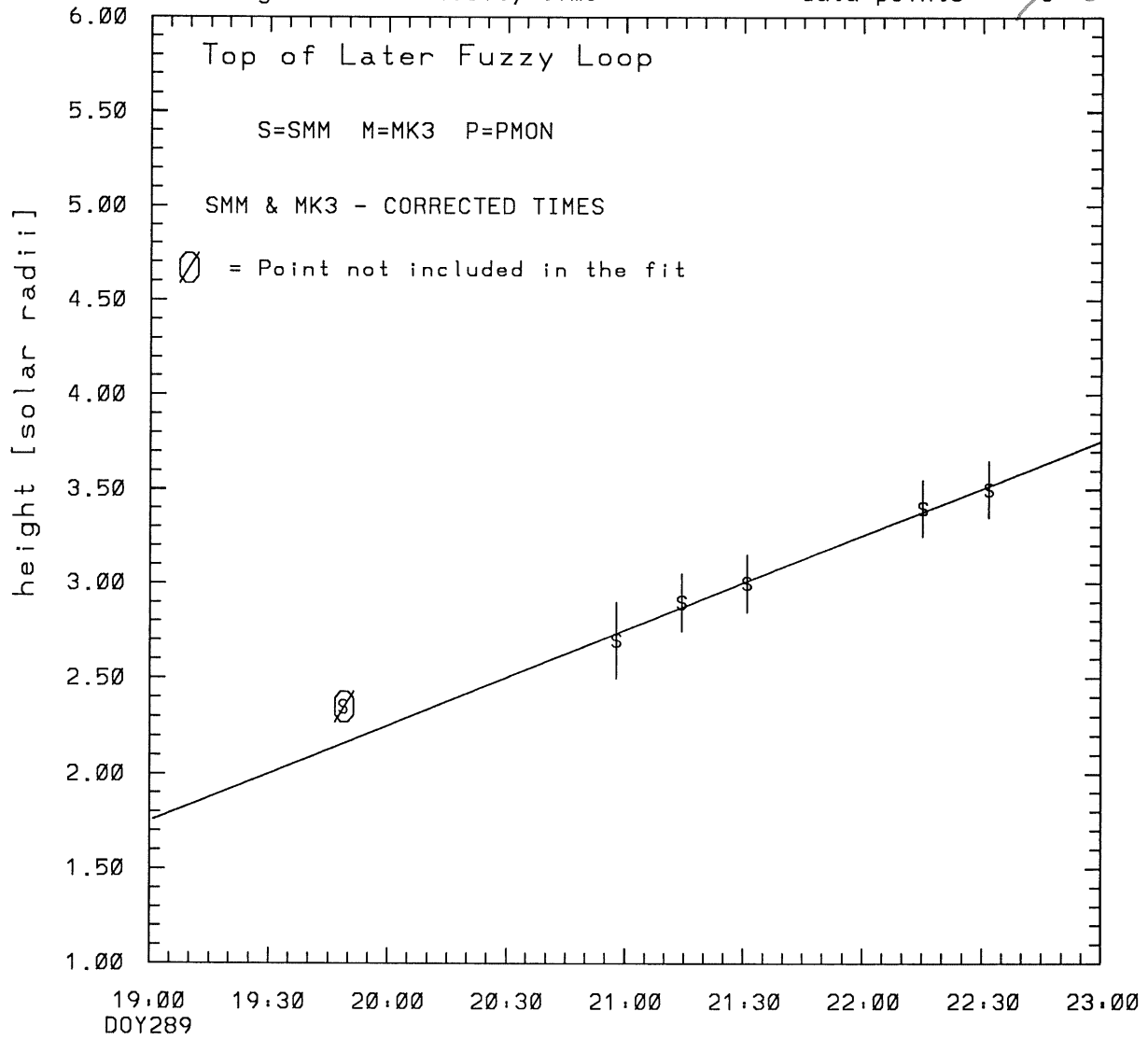
The correlation between the data and the complete equation of motion = 0.9964E+00

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

SMM C/P 1988 DOY289 250 +/- 0 degrees

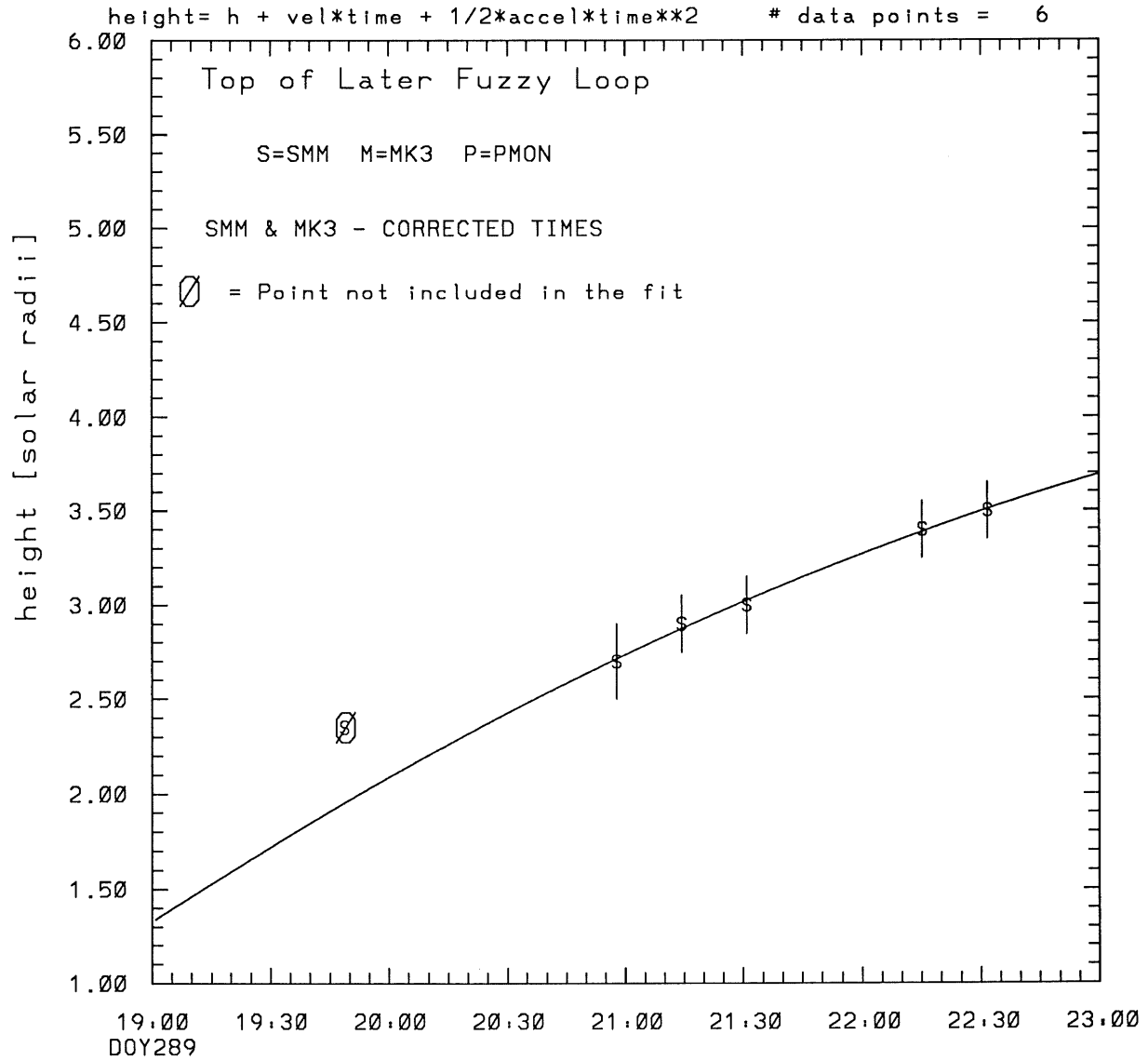
height = h + velocity*time

data points = 6 5



tstart=DOY289 17:30 +/- 1.8 [min.]
radial velocity= 97. +/- 3. [km/sec]

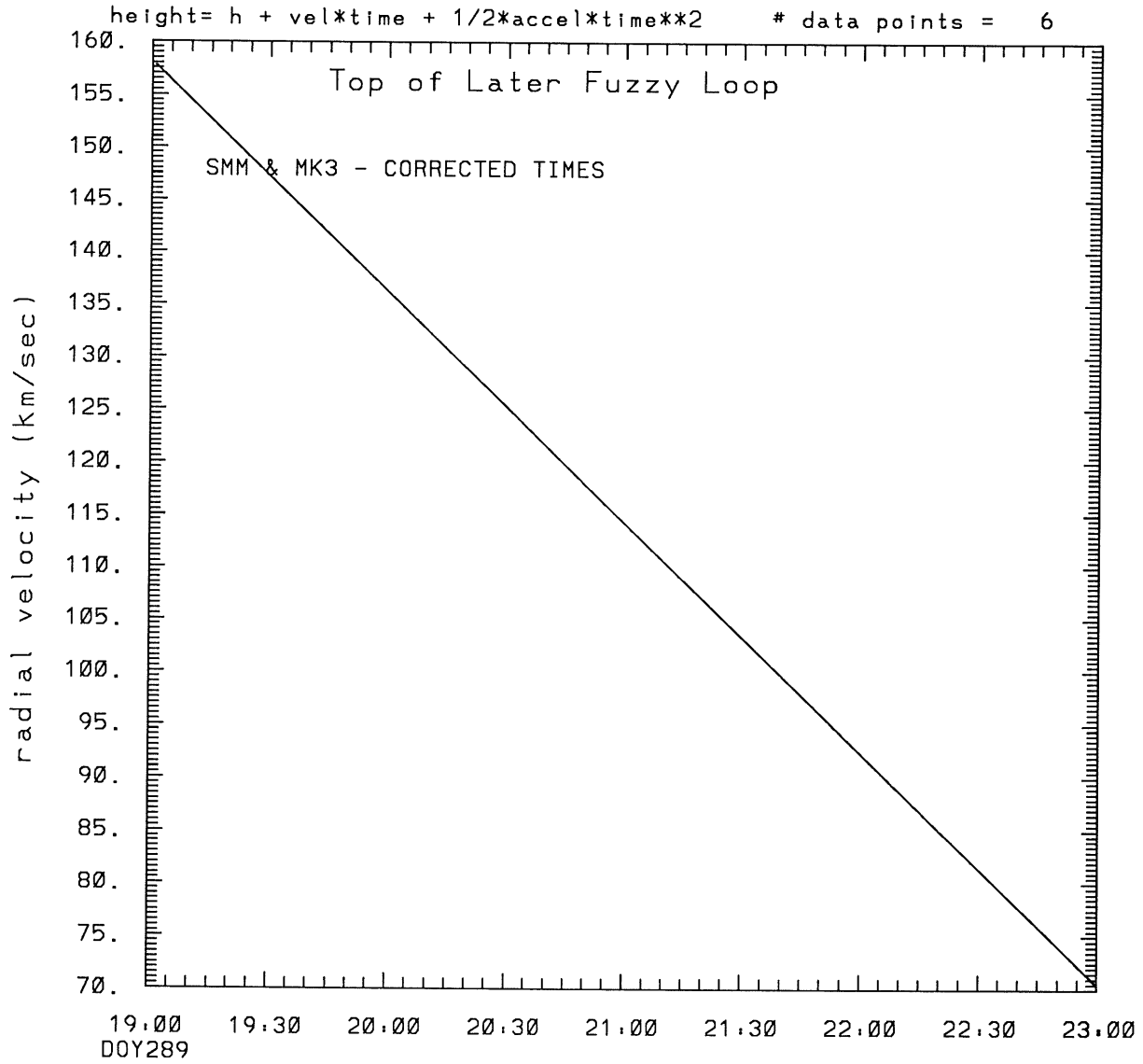
SMM C/P 1988 DOY289 250 +/- 0 degrees



tstart=DOY289 18:37 +/- 7.9 [min.]

radial acceleration=-0.0061 +/- 0.0049 [km/sec**2]

SMM C/P 1988 DOY289 250 +/- 0 degrees



tstart=DOY289 18:37 +/- 7.9 [min.]

radial acceleration=-.609E-02 km/sec**2

This is a 1 order run

INPUT:

year	day	time	radii	error in radius	angle	error in angle	datatype
1988	289	19:48:48	2.35	-----	250.00	+/- ----	SMM THIS POINT WASN'T USED IN THE FIT.
1988	289	20:57:50	2.70	+/- 0.20	250.0	+/- 0.5	SMM
1988	289	21:14:24	2.90	+/- 0.15	250.0	+/- 0.5	SMM
1988	289	21:30:55	3.00	+/- 0.15	250.0	+/- 0.5	SMM
1988	289	22:15:12	3.40	+/- 0.15	250.0	+/- 1.0	SMM
1988	289	22:31:42	3.50	+/- 0.15	250.0	+/- 1.0	SMM

Structure being measured:

Top of Later Fuzzy Loop

OUTPUT:

START TIME:

Event began at t = 0 + -0.900E+02 +/- 0.181E+01 [minutes]

In more convenient units:

Event began at DOY 289 17:30 +/- 0.181E+01 [minutes]

Origin defined at DOY289 19: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 97. +/- 3. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.175E+01 +/- 0.486E-01 [solar radii]
c(2) = 0.834E-02 +/- 0.286E-03 [radii/min]
c(2) = 0.968E+02 +/- 0.332E+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)= 0.11614E+00 [radii] see Bevington pg. 114

error in c(2)= 0.76028E-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) = 250. +/- 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 19:48 = 0. km/sec

The TOTAL velocity at 19:48 = 97. km/sec

The TANGENTIAL velocity at 20:57 = 0. km/sec

The TOTAL velocity at 20:57 = 97. km/sec

The TANGENTIAL velocity at 21:14 = 0. km/sec

The TOTAL velocity at 21:14 = 97. km/sec

The TANGENTIAL velocity at 21:30 = 0. km/sec

The TOTAL velocity at 21:30 = 97. km/sec

The TANGENTIAL velocity at 22:15 = 0. km/sec

The TOTAL velocity at 22:15 = 97. km/sec

The TANGENTIAL velocity at 22:31 = 0. km/sec

The TOTAL velocity at 22:31 = 97. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.43

Standard Deviation in start time measurement = 0.534E+02

Error in time = 0.23819E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.588E-03

Reduced Chi Squared = 0.114E-01

Chi Squared = 0.457E-01

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.991E+00

The probability that no LINEAR correlation exists between the variables = 0.1113E-03

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	289	19:48:48	2.35	-----	250.00 +/-	----	SMM THIS POINT WASN'T USED IN THE FIT.
1988	289	20:57:50	2.70 +/-	0.20	250.0 +/-	0.5	SMM
1988	289	21:14:24	2.90 +/-	0.15	250.0 +/-	0.5	SMM
1988	289	21:30:55	3.00 +/-	0.15	250.0 +/-	0.5	SMM
1988	289	22:15:12	3.40 +/-	0.15	250.0 +/-	1.0	SMM
1988	289	22:31:42	3.50 +/-	0.15	250.0 +/-	1.0	SMM

Structure being measured:

Top of Later Fuzzy Loop

OUTPUT:

START TIME:

Event began at t = 0 + -0.233E+02 +/- 0.788E+01 [minutes]

In more convenient units:

Event began at DOY 289 18:37 +/- 0.788E+01 [minutes]

Origin defined at DOY289 19: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = -0.609E-02 +/- 0.489E-02 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.133E+01 +/- 0.345E+00 [solar radii]
 c(2) = 0.136E-01 +/- 0.426E-02 [radii/min]
 c(2) = 0.158E+03 +/- 0.494E+02 [km/sec]
 c(3) = -0.157E-04 +/- 0.126E-04 [radii/min**2]
 c(3) = -0.609E-02 +/- 0.489E-02 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.53313E+00 [radii] Bevington pg 154 (8-30)
 Exact error in c(1) = 0.12538E+00 [radii] Bevington pg 154 (8-28)
 Approximate error in c(2) = 0.86287E-02 [radii/min] Bevington pg 154 (8-30)
 Exact error in c(2) = 0.15932E-02 [radii/min] Bevington pg 154 (8-28)
 Approximate error in c(3) = 0.32083E-04 [radii/min**] Bevington pg 154 (8-30)

Exact error in $c(3) = 0.47679E-05$ [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) = 250. +/- 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 19:48 = 0. km/sec

The TOTAL velocity at 19:48 = 140. km/sec

The TANGENTIAL velocity at 20:57 = 0. km/sec

The TOTAL velocity at 20:57 = 115. km/sec

The TANGENTIAL velocity at 21:14 = 0. km/sec

The TOTAL velocity at 21:14 = 109. km/sec

The TANGENTIAL velocity at 21:30 = 0. km/sec

The TOTAL velocity at 21:30 = 103. km/sec

The TANGENTIAL velocity at 22:15 = 0. km/sec

The TOTAL velocity at 22:15 = 87. km/sec

The TANGENTIAL velocity at 22:31 = 0. km/sec

The TOTAL velocity at 22:31 = 81. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.43

Standard Deviation in start time measurement = $0.534E+02$

Value of reduced Chi Squared returned from nllst2 = $0.530E-03$

Reduced Chi Squared = $0.543E-01$

Chi Squared = $0.163E+00$

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 = $0.7762E+00$

The correlation between the data and the time**2 term = $0.8902E+00$

0The correlation between the data and the complete equation of motion = $0.1093E+01$

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