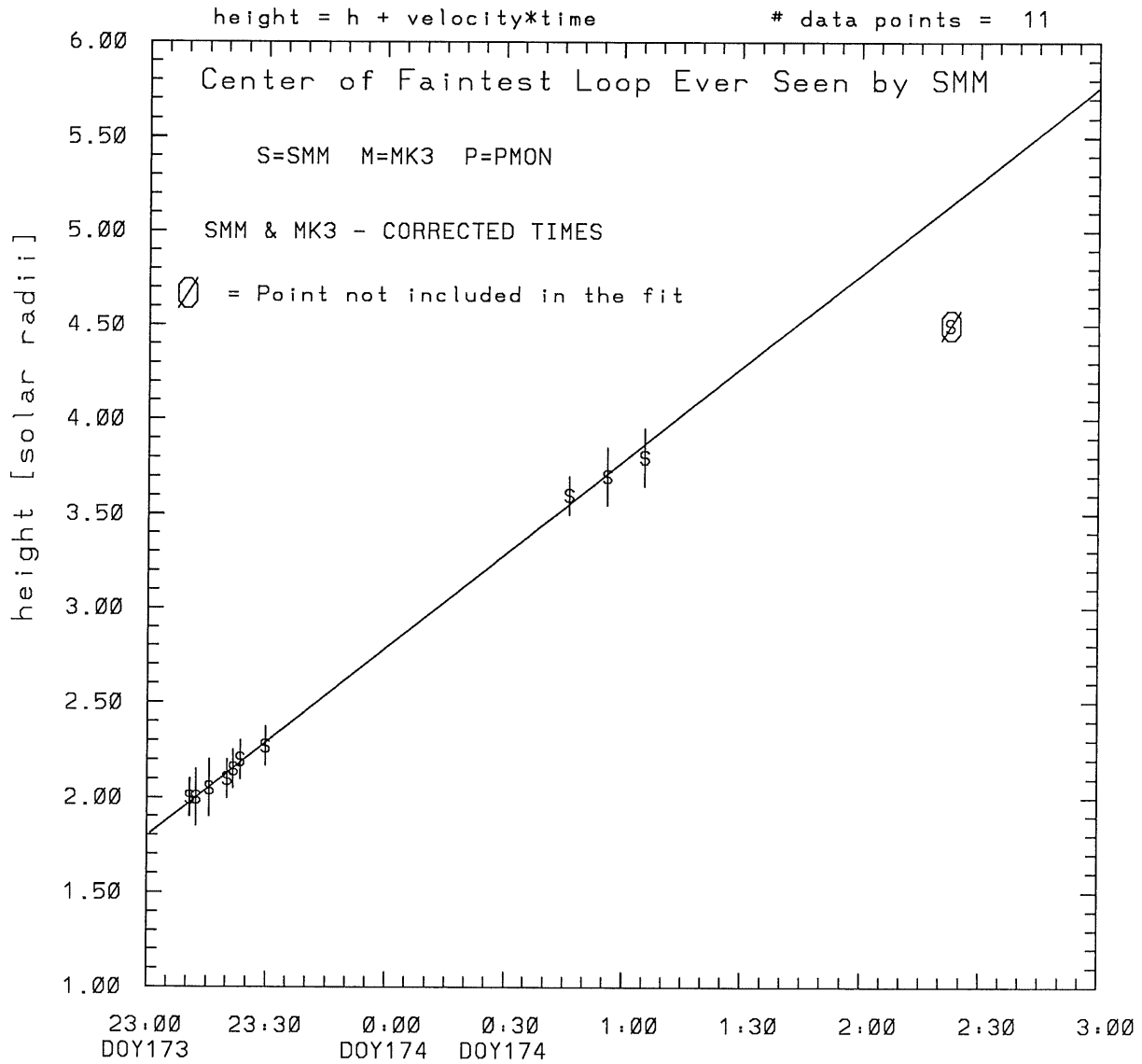
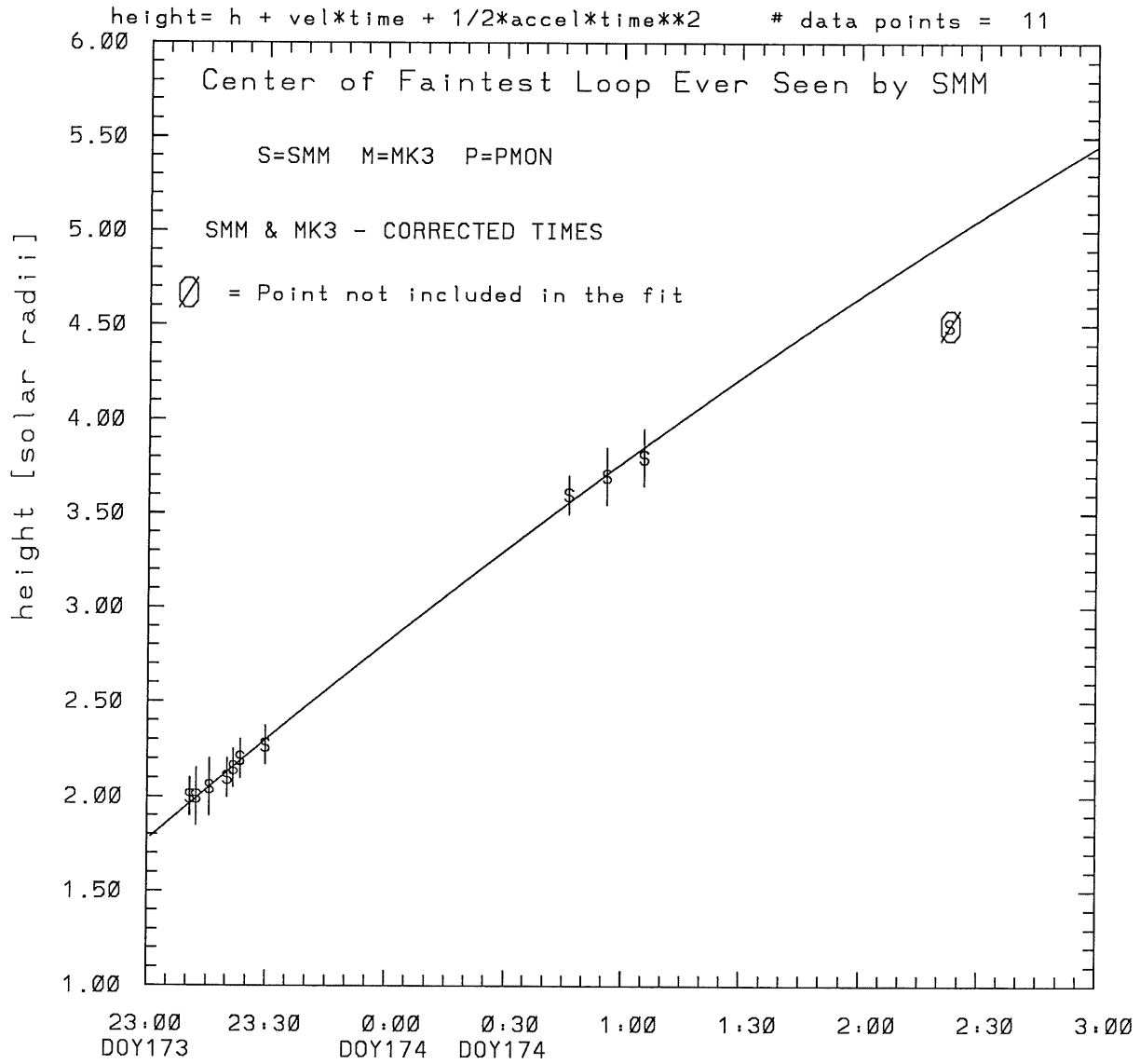


SMM C/P 1980 DOY173 105 +/- 0 degrees



tstart=DOY173 22:12 +/- 0.1 [min.]
radial velocity= 192. +/- 3. [km/sec]

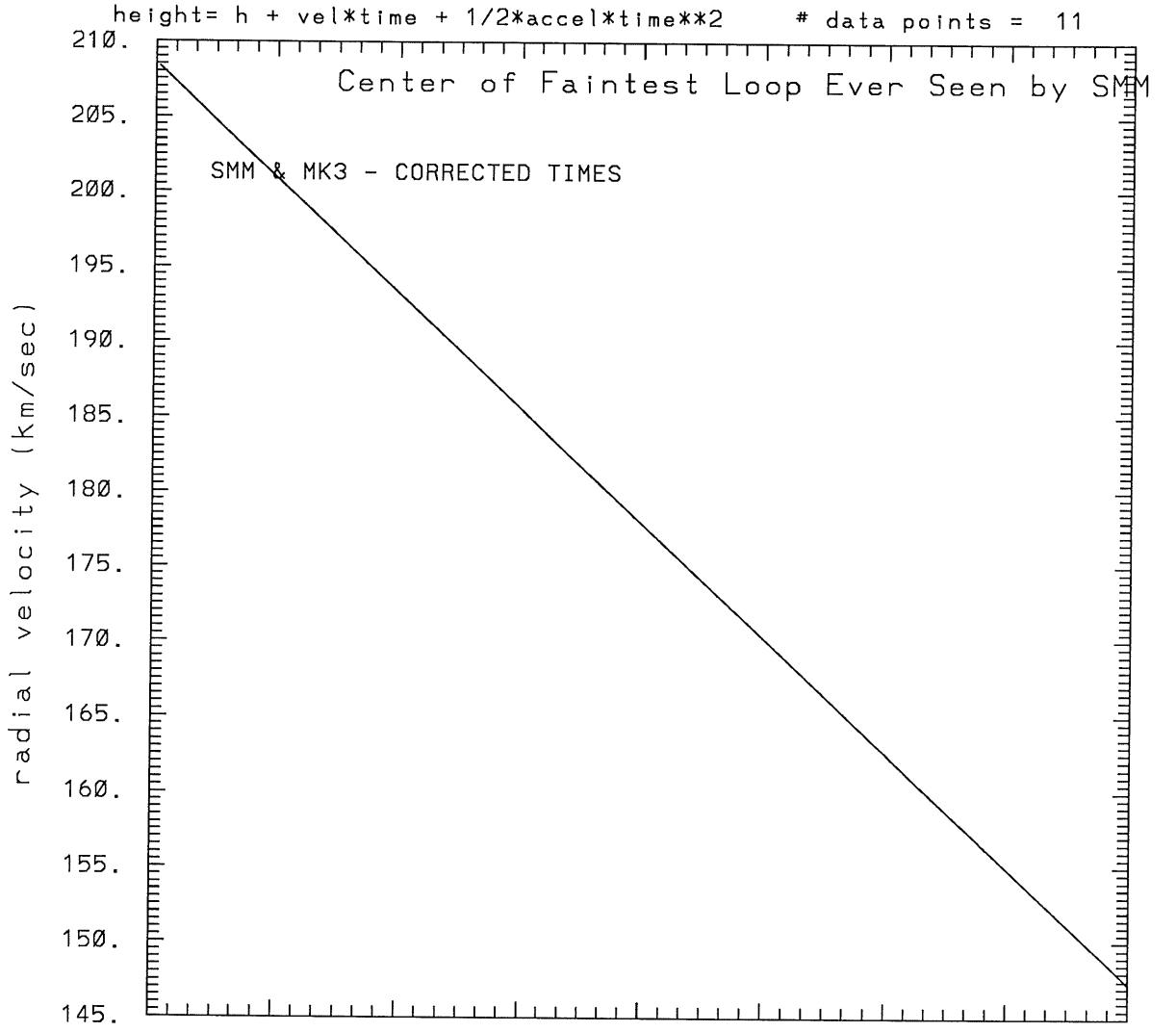
SMM C/P 1980 DOY173 105 +/- 0 degrees



tstart=DOY173 22:20 +/- 11.2 [min.]

radial acceleration = -0.0043 ± 0.0058 [km/sec**2]

SMM C/P 1980 DOY173 105 +/- 0 degrees



tstart = DOY173 22:20 +/- 11.2 [min.]

radial acceleration = $-.426E-02$ km/sec**2

This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in	angle	angle	error in	datatype
1980	173	23:10:47	2.00	+/-	0.10	105.0	+/-	0.5	SMM
1980	173	23:12:21	2.00	+/-	0.15	105.0	+/-	0.5	SMM
1980	173	23:15:42	2.05	+/-	0.15	105.0	+/-	0.5	SMM
1980	173	23:20:12	2.10	+/-	0.10	105.0	+/-	0.5	SMM
1980	173	23:21:47	2.15	+/-	0.10	105.0	+/-	0.5	SMM
1980	173	23:23:27	2.20	+/-	0.10	105.0	+/-	0.5	SMM
1980	173	23:29:48	2.27	+/-	0.10	105.0	+/-	0.5	SMM
1980	174	0:46:20	3.60	+/-	0.10	105.0	+/-	1.0	SMM
1980	174	0:56: 3	3.70	+/-	0.15	105.0	+/-	1.0	SMM
1980	174	1: 5:29	3.80	+/-	0.15	105.0	+/-	1.0	SMM
1980	174	2:22:28	4.50	-----		105.00	+/-	----	SMM THIS POINT WASN'T USED IN THE FIT.

Structure being measured:

Center of Faintest Loop Ever Seen by SMM

OUTPUT:

START TIME:

Event began at t = 0 + -0.482E+02 +/- 0.111E+00 [minutes]

In more convenient units:

Event began at DOY 173 22:12 +/- 0.111E+00 [minutes]

Origin defined at DOY173 23: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 192. +/- 3. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.180E+01 +/- 0.134E-01 [solar radii]
c(2) = 0.165E-01 +/- 0.229E-03 [radii/min]
c(2) = 0.192E+03 +/- 0.265E+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)= 0.92490E-01 [radii] see Bevington pg. 114

error in c(2)= 0.10562E-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) = 105. +/- 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 23:10 = 0.000E+00 km/sec

The TOTAL velocity at 23:10 = 192. km/sec

The TANGENTIAL velocity at 23:12 = 0.000E+00 km/sec

The TOTAL velocity at 23:12 = 192. km/sec

The TANGENTIAL velocity at 23:15 = 0.000E+00 km/sec

The TOTAL velocity at 23:15 = 192. km/sec

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

The TOTAL velocity at 23:20 = 192. km/sec

The TANGENTIAL velocity at 23:21 = 0.000E+00 km/sec

The TOTAL velocity at 23:21 = 192. km/sec

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

The TOTAL velocity at 23:23 = 192. km/sec

The TANGENTIAL velocity at 23:29 = 0.000E+00 km/sec

The TOTAL velocity at 23:29 = 192. km/sec

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

The TOTAL velocity at 0:46 = 192. km/sec

The TANGENTIAL velocity at 0:56 = 0.000E+00 km/sec

The TOTAL velocity at 0:56 = 192. km/sec

The TANGENTIAL velocity at 1: 5 = 0.000E+00 km/sec

The TOTAL velocity at 1: 5 = 192. km/sec

The TANGENTIAL velocity at 2:22 = 0.000E+00 km/sec

The TOTAL velocity at 2:22 = 192. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.93

Standard Deviation in start time measurement = 0.616E+02

Error in time = 0.39200E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.940E-03

Reduced Chi Squared = 0.509E+00

Chi Squared = 0.458E+01

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.990E+00

The probability that no LINEAR correlation exists between the variables = 0.5421E-08

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

This is a 2 order run

INPUT:

year	doy	time	radii	error in radius	error in angle	datatype
1980	173	23:10:47	2.00	+/- 0.10	105.0 +/- 0.5	SMM
1980	173	23:12:21	2.00	+/- 0.15	105.0 +/- 0.5	SMM
1980	173	23:15:42	2.05	+/- 0.15	105.0 +/- 0.5	SMM
1980	173	23:20:12	2.10	+/- 0.10	105.0 +/- 0.5	SMM
1980	173	23:21:47	2.15	+/- 0.10	105.0 +/- 0.5	SMM
1980	173	23:23:27	2.20	+/- 0.10	105.0 +/- 0.5	SMM
1980	173	23:29:48	2.27	+/- 0.10	105.0 +/- 0.5	SMM
1980	174	0:46:20	3.60	+/- 0.10	105.0 +/- 1.0	SMM
1980	174	0:56: 3	3.70	+/- 0.15	105.0 +/- 1.0	SMM
1980	174	1: 5:29	3.80	+/- 0.15	105.0 +/- 1.0	SMM
1980	174	2:22:28	4.50	-----	105.00 +/- ----	SMM THIS POINT WASN'T USED IN THE FIT.

Structure being measured:

Center of Faintest Loop Ever Seen by SMM

OUTPUT:

START TIME:

Event began at $t = 0 + -0.418E+02 +/- 0.112E+02$ [minutes]

In more convenient units:

Event began at DOY 173 22:20 +/- 0.112E+02 [minutes]

Origin defined at DOY173 23: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = $-0.426E-02 +/- 0.575E-02$ km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = $0.177E+01 +/- 0.356E-01$ [solar radii]
c(2) = $0.180E-01 +/- 0.199E-02$ [radii/min]
c(2) = $0.209E+03 +/- 0.231E+02$ [km/sec]
c(3) = $-0.110E-04 +/- 0.149E-04$ [radii/min**2]
c(3) = $-0.426E-02 +/- 0.575E-02$ [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.94773E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.53753E-02 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.30323E-02 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.38622E-03 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.15530E-04 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.29435E-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) = 105. +/- 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 23:10 = 0.000E+00 km/sec

The TOTAL velocity at 23:10 = 206. km/sec

The TANGENTIAL velocity at 23:12 = 0.000E+00 km/sec

The TOTAL velocity at 23:12 = 205. km/sec

The TANGENTIAL velocity at 23:15 = 0.000E+00 km/sec

The TOTAL velocity at 23:15 = 205. km/sec

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

The TOTAL velocity at 23:20 = 203. km/sec

The TANGENTIAL velocity at 23:21 = 0.000E+00 km/sec

The TOTAL velocity at 23:21 = 203. km/sec

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

The TOTAL velocity at 23:23 = 203. km/sec

The TANGENTIAL velocity at 23:29 = 0.000E+00 km/sec

The TOTAL velocity at 23:29 = 201. km/sec

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

The TOTAL velocity at 0:46 = 181. km/sec

The TANGENTIAL velocity at 0:56 = 0.000E+00 km/sec

The TOTAL velocity at 0:56 = 179. km/sec

The TANGENTIAL velocity at 1: 5 = 0.000E+00 km/sec

The TOTAL velocity at 1: 5 = 177. km/sec

The TANGENTIAL velocity at 2:22 = 0.000E+00 km/sec

The TOTAL velocity at 2:22 = 157. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.93
Standard Deviation in start time measurement = 0.616E+02
Value of reduced Chi Squared returned from nllst2 = 0.984E-03
Reduced Chi Squared = 0.299E+00
Chi Squared = 0.239E+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 = 0.7258E+00

The correlation between the data and the time**2 term = 0.5415E+00

The correlation between the data and the complete equation of motion = 0.1021E+01

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