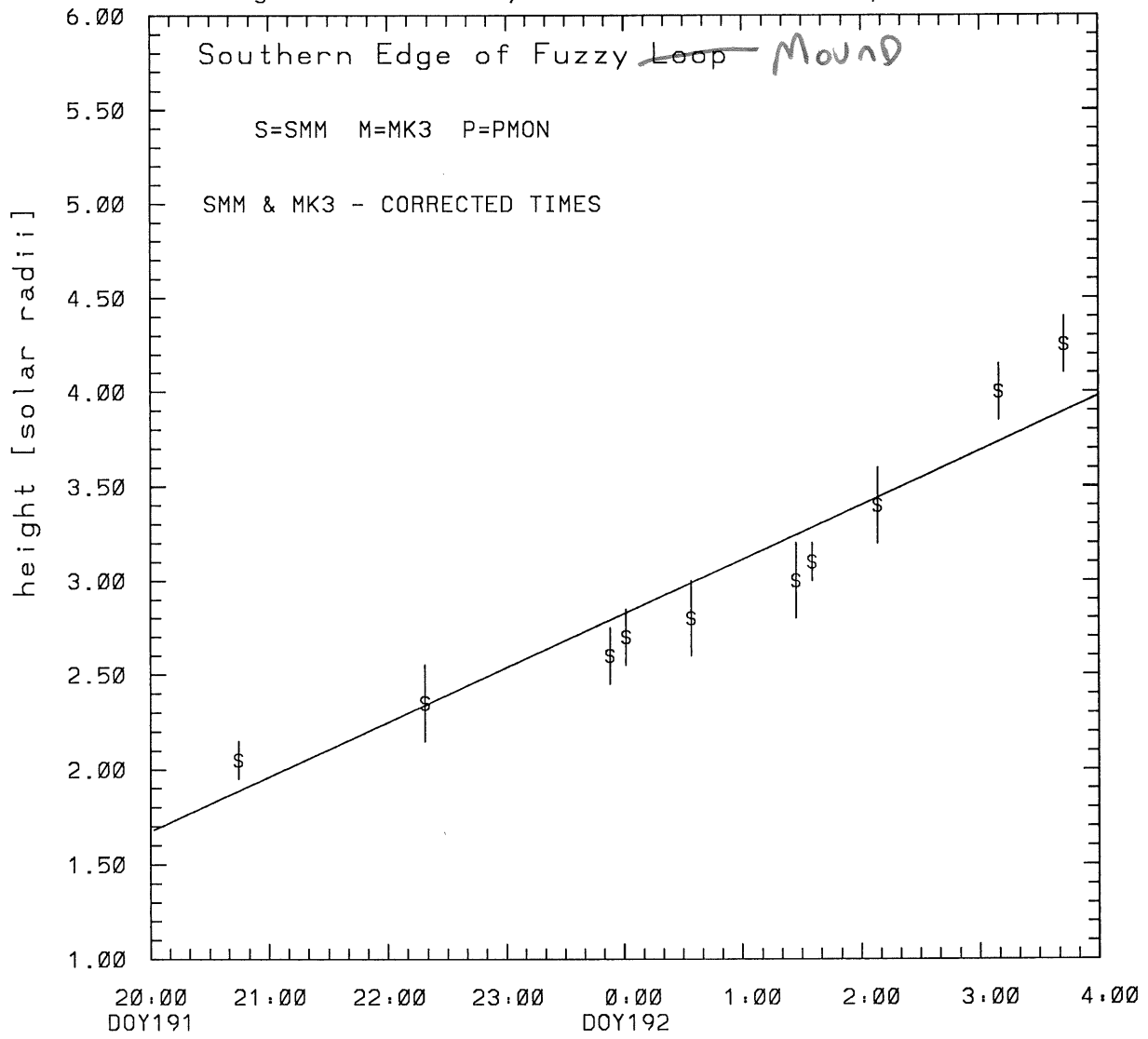


SMM C/P 1987 DOY191 90 +/- 0 degrees

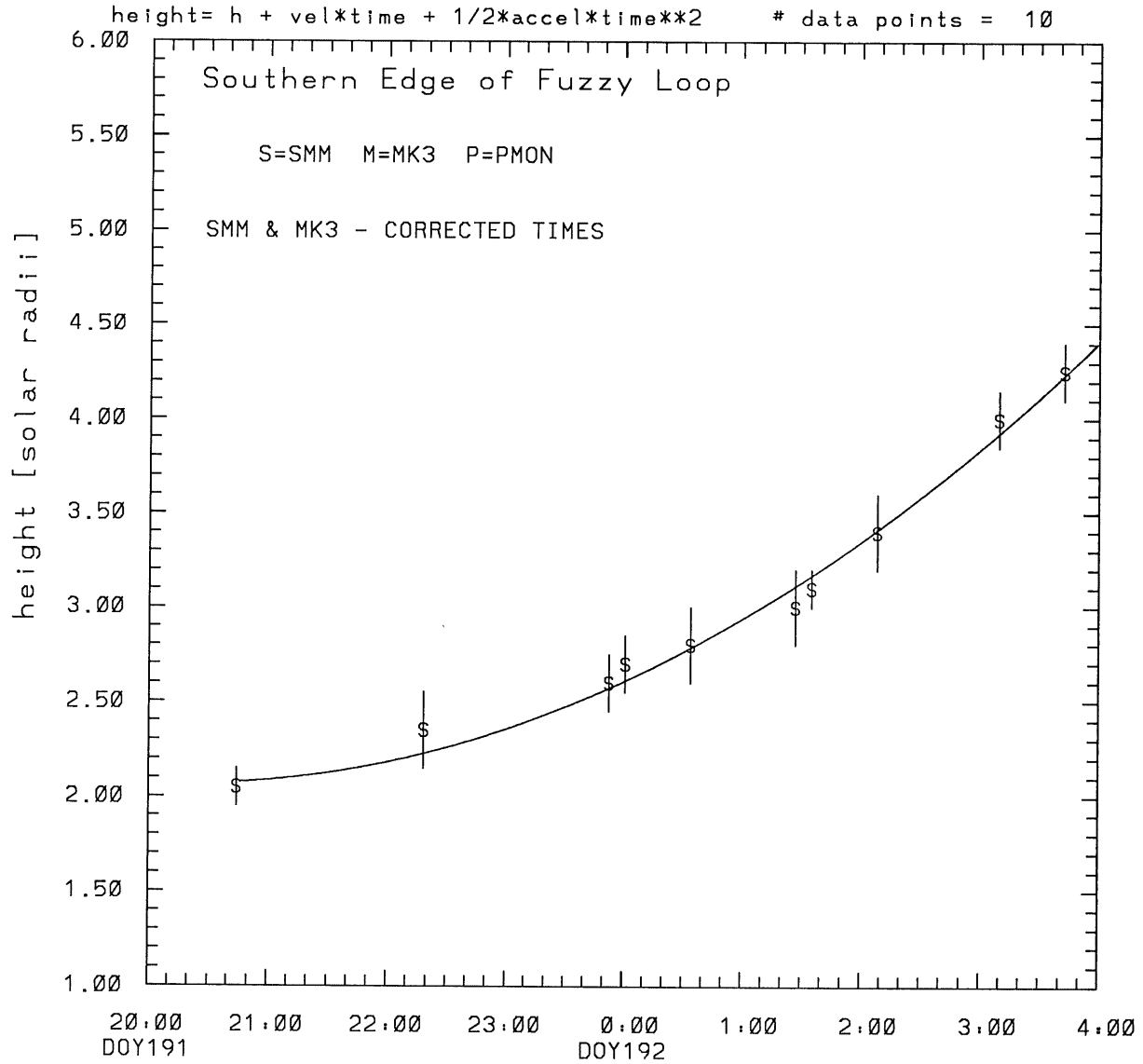
height = h + velocity*time

data points = 10



tstart=DOY191 17:42 +/- 2.0 [min.]
radial velocity= 56. +/- 6. [km/sec]

SMM C/P 1987 DOY191 90 +/- 0 degrees

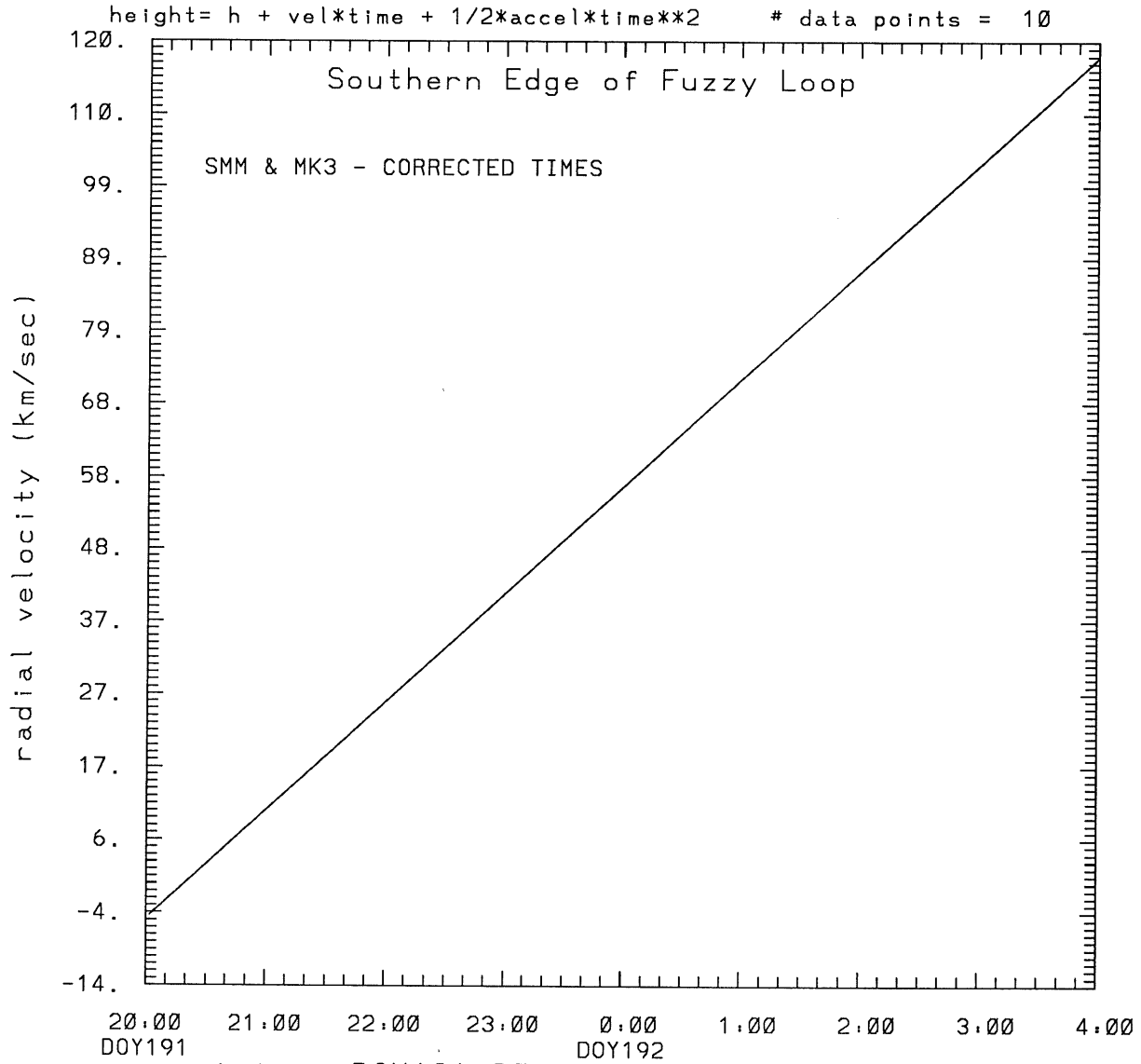


tstart=DOY191 20:18 from derivative=0

Event begins at 2.07 Solar Radii

radial acceleration = 0.0043 +/- 0.0005 [km/sec**2]

SMM C/P 1987 DOY191 90 +/- 0 degrees



tstart=DOY191 20:18 from derivative=0
Event begins at 2.07 Solar Radii
radial acceleration=0.426E-02 km/sec**2

This is a 1 order run

INPUT:

year	doy	time	radii	error in radius	error in angle	datatype
1987	191	20:44:25	2.05	+/- 0.10	90.0 +/- 0.5	SMM
1987	191	22:18:39	2.35	+/- 0.20	90.0 +/- 0.5	SMM
1987	191	23:52:52	2.60	+/- 0.15	90.0 +/- 0.5	SMM
1987	192	0: 1: 7	2.70	+/- 0.15	90.0 +/- 0.5	SMM
1987	192	0:34: 8	2.80	+/- 0.20	90.0 +/- 0.5	SMM
1987	192	1:27: 5	3.00	+/- 0.20	90.0 +/- 1.0	SMM
1987	192	1:35:21	3.10	+/- 0.10	90.0 +/- 1.0	SMM
1987	192	2: 8:21	3.40	+/- 0.20	90.0 +/- 1.0	SMM
1987	192	3: 9:33	4.00	+/- 0.15	90.0 +/- 1.0	SMM
1987	192	3:42:34	4.25	+/- 0.15	90.0 +/- 1.0	SMM

Structure being measured:

Southern Edge of Fuzzy Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.140E+03 +/- 0.199E+01$ [minutes]

In more convenient units:

Event began at DOY 191 17:42 +/- 0.199E+01 [minutes]

Origin defined at DOY191 20: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 56. +/- 6. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.167E+01 +/- 0.146E+00 [solar radii]
c(2) = 0.480E-02 +/- 0.488E-03 [radii/min]
c(2) = 0.557E+02 +/- 0.566E+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)= 0.18212E+00 [radii] see Bevington pg. 114

error in c(2)= 0.58709E-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) = 90. +/- 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 20:44 = 0.000E+00 km/sec

The TOTAL velocity at 20:44 = 56. km/sec

The TANGENTIAL velocity at 22:18 = 0.000E+00 km/sec

The TOTAL velocity at 22:18 = 56. km/sec

The TANGENTIAL velocity at 23:52 = 0.000E+00 km/sec

The TOTAL velocity at 23:52 = 56. km/sec

The TANGENTIAL velocity at 0: 1 = 0.000E+00 km/sec

The TOTAL velocity at 0: 1 = 56. km/sec

The TANGENTIAL velocity at 0:34 = 0.000E+00 km/sec

The TOTAL velocity at 0:34 = 56. km/sec

The TANGENTIAL velocity at 1:27 = 0.000E+00 km/sec

The TOTAL velocity at 1:27 = 56. km/sec

The TANGENTIAL velocity at 1:35 = 0.000E+00 km/sec

The TOTAL velocity at 1:35 = 56. km/sec

The TANGENTIAL velocity at 2: 8 = 0.000E+00 km/sec

The TOTAL velocity at 2: 8 = 56. km/sec

The TANGENTIAL velocity at 3: 9 = 0.000E+00 km/sec

The TOTAL velocity at 3: 9 = 56. km/sec

The TANGENTIAL velocity at 3:42 = 0.000E+00 km/sec

The TOTAL velocity at 3:42 = 56. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.69

Standard Deviation in start time measurement = $0.122\text{E}+03$
Error in time = $0.13291\text{E}+03$ using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = $0.455\text{E}-01$
Reduced Chi Squared = $0.361\text{E}+00$
Chi Squared = $0.289\text{E}+01$
The probability for exceeding chi square = $0.100\text{E}+01$

The correlation coefficient = $0.955\text{E}+00$
The probability that no LINEAR correlation exists between the variables = $0.1730\text{E}-04$
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
1987	191	20:44:25	2.05	+/- 0.10	90.0 +/- 0.5	SMM
1987	191	22:18:39	2.35	+/- 0.20	90.0 +/- 0.5	SMM
1987	191	23:52:52	2.60	+/- 0.15	90.0 +/- 0.5	SMM
1987	192	0: 1: 7	2.70	+/- 0.15	90.0 +/- 0.5	SMM
1987	192	0:34: 8	2.80	+/- 0.20	90.0 +/- 0.5	SMM
1987	192	1:27: 5	3.00	+/- 0.20	90.0 +/- 1.0	SMM
1987	192	1:35:21	3.10	+/- 0.10	90.0 +/- 1.0	SMM
1987	192	2: 8:21	3.40	+/- 0.20	90.0 +/- 1.0	SMM
1987	192	3: 9:33	4.00	+/- 0.15	90.0 +/- 1.0	SMM
1987	192	3:42:34	4.25	+/- 0.15	90.0 +/- 1.0	SMM

Structure being measured:
Southern Edge of Fuzzy Loop

OUTPUT:

START TIME:

tstart=DOY191 20:18 from derivative = 0
Event begins at 2.07 Solar Radii
Origin defined at DOY191 20: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.426E-02 +/- 0.496E-03 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.207E+01 +/- 0.672E-01 [solar radii]
c(2) = -0.415E-03 +/- 0.630E-03 [radii/min]
c(2) = -0.481E+01 +/- 0.730E+01 [km/sec]
c(3) = 0.110E-04 +/- 0.128E-05 [radii/min**2]
c(3) = 0.426E-02 +/- 0.496E-03 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.10630E+00 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.12268E-01 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.85818E-03 [radii/min] Bevington pg 154 (8-30)

Exact error in c(2) = 0.88952E-04 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.16083E-05 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.15756E-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) = 90. +/- 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 20:44 = 0.000E+00 km/sec

The TOTAL velocity at 20:44 = 7. km/sec

The TANGENTIAL velocity at 22:18 = 0.000E+00 km/sec

The TOTAL velocity at 22:18 = 31. km/sec

The TANGENTIAL velocity at 23:52 = 0.000E+00 km/sec

The TOTAL velocity at 23:52 = 55. km/sec

The TANGENTIAL velocity at 0: 1 = 0.000E+00 km/sec

The TOTAL velocity at 0: 1 = 57. km/sec

The TANGENTIAL velocity at 0:34 = 0.000E+00 km/sec

The TOTAL velocity at 0:34 = 65. km/sec

The TANGENTIAL velocity at 1:27 = 0.000E+00 km/sec

The TOTAL velocity at 1:27 = 79. km/sec

The TANGENTIAL velocity at 1:35 = 0.000E+00 km/sec

The TOTAL velocity at 1:35 = 81. km/sec

The TANGENTIAL velocity at 2: 8 = 0.000E+00 km/sec

The TOTAL velocity at 2: 8 = 89. km/sec

The TANGENTIAL velocity at 3: 9 = 0.000E+00 km/sec

The TOTAL velocity at 3: 9 = 105. km/sec

The TANGENTIAL velocity at 3:42 = 0.000E+00 km/sec

The TOTAL velocity at 3:42 = 113. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.69

Standard Deviation in start time measurement = 0.122E+03

Value of reduced Chi Squared returned from nllst2 = 0.503E-02

Reduced Chi Squared = 0.333E-01

Chi Squared = 0.233E+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 = 0.1101E+01

The correlation between the data and the time**2 term = 0.1047E+01

The correlation between the data and the complete equation of motion = 0.9897E+00

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