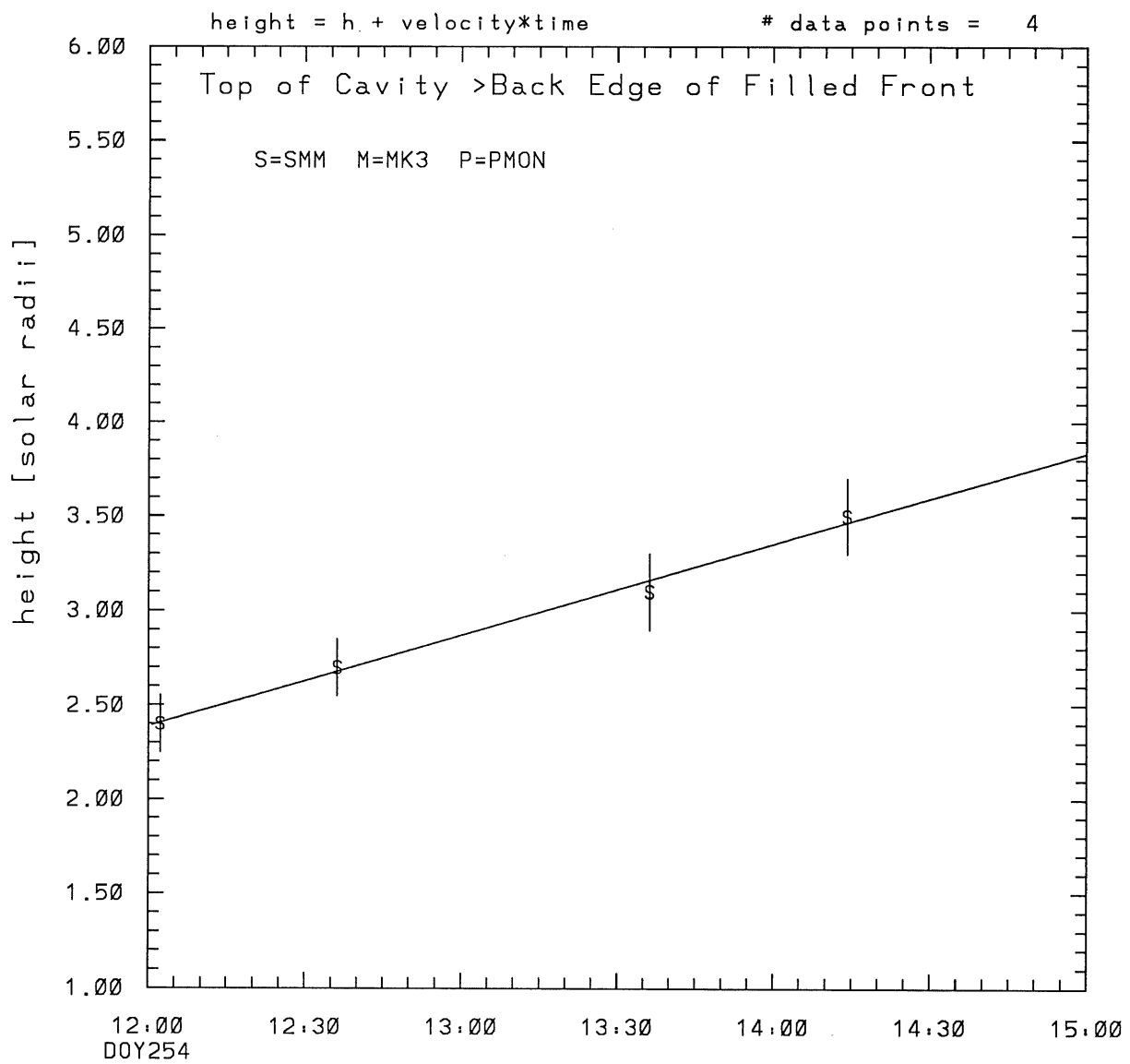
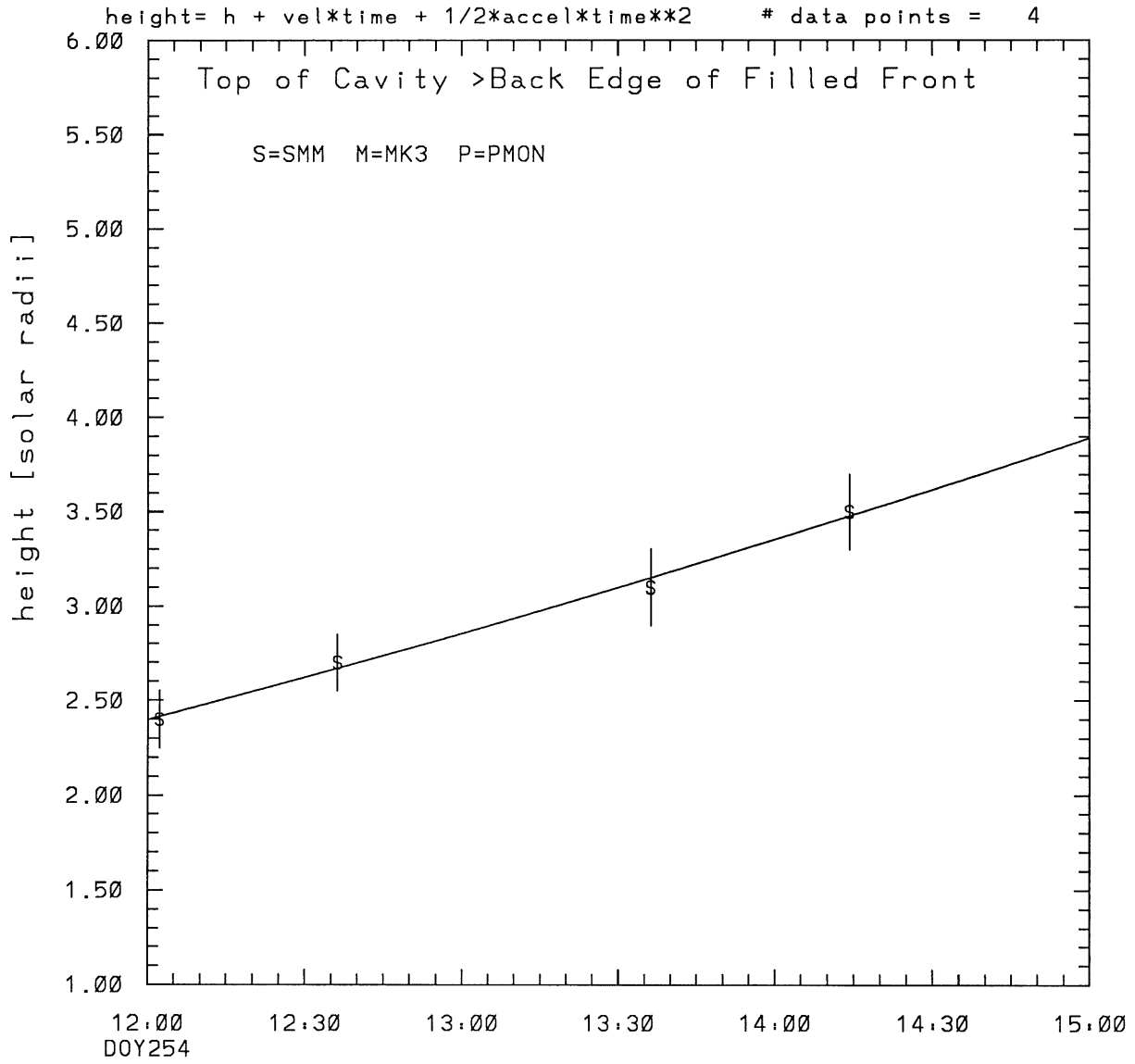


SMM C/P 1984 DOY254 54 +/- 0 degrees



tstart=DOY254 9: 9 +/- 3.5 [min.]
radial velocity= 93. +/- 4. [km/sec]

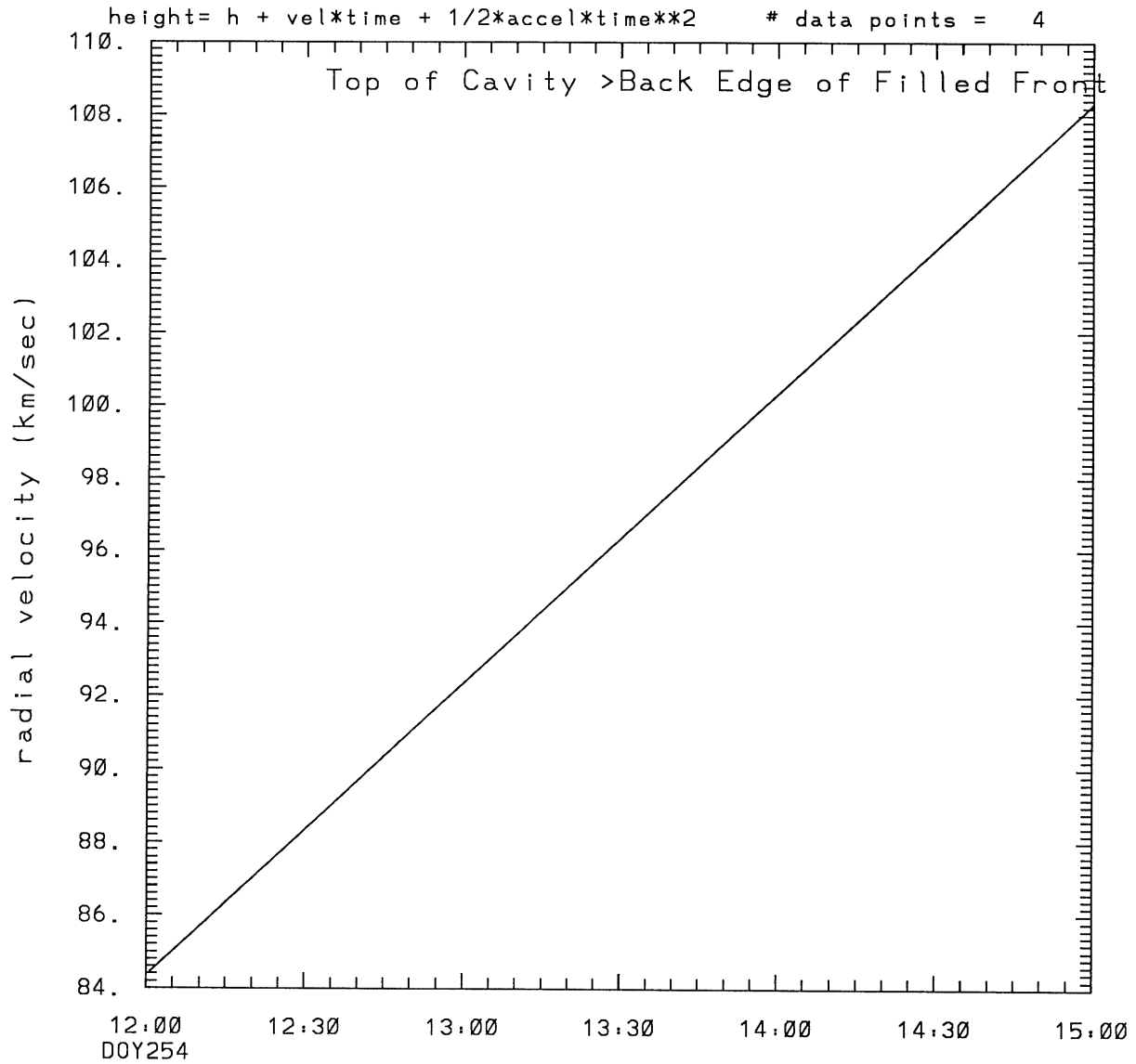
SMM C/P 1984 DOY254 54 +/- 0 degrees



tstart=DOY254 8: 4 +/- 356.5 [min.]

radial acceleration = 0.0022 +/- 0.0049 [km/sec**2]

SMM C/P 1984 DOY254 54 +/- 0 degrees



tstart=DOY254 8: 4 +/- 356.5 [min.]

radial acceleration=0.222E-02 km/sec**2

This is a 1 order run

INPUT:

year	day	time	radii	error in radius	angle	error in angle	datatype
1984	254	12: 2:14	2.40	+/- 0.15	54.5	+/- 0.5	SMM
1984	254	12:36:12	2.70	+/- 0.15	54.5	+/- 1.0	SMM
1984	254	13:36:13	3.10	+/- 0.20	54.5	+/- 1.0	SMM
1984	254	14:14:13	3.50	+/- 0.20	54.5	+/- 1.0	SMM

Structure being measured:
Top of Cavity >Back Edge of Filled Front

OUTPUT:

START TIME:

Event began at $t = 0 + -0.173E+03 +/- 0.352E+01$ [minutes]

In more convenient units:

Event began at DOY 254 9: 9 +/- 0.352E+01 [minutes]

Origin defined at DOY254 12: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 93. +/- 4. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.239E+01 +/- 0.274E-01 [solar radii]
c(2) = 0.803E-02 +/- 0.375E-03 [radii/min]
c(2) = 0.932E+02 +/- 0.435E+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)= 0.42600E-01 [radii] see Bevington pg. 114

error in c(2)= 0.50391E-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) = 54. +/- 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 12: 2 = 0.000E+00 km/sec

The TOTAL velocity at 12: 2 = 93. km/sec

The TANGENTIAL velocity at 12:36 = 0.000E+00 km/sec

The TOTAL velocity at 12:36 = 93. km/sec

The TANGENTIAL velocity at 13:36 = 0.000E+00 km/sec

The TOTAL velocity at 13:36 = 93. km/sec

The TANGENTIAL velocity at 14:14 = 0.000E+00 km/sec

The TOTAL velocity at 14:14 = 93. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.48

Standard Deviation in start time measurement = 0.513E+02

Error in time = 0.90952E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.137E-02

Reduced Chi Squared = 0.832E-02

Chi Squared = 0.166E-01

The probability for exceeding chi square = 0.999E+00

The correlation coefficient = 0.996E+00

The probability that no LINEAR correlation exists between the variables = 0.3859E-02

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	254	12: 2:14	2.40	+/- 0.15	54.5	+/- 0.5	SMM
1984	254	12:36:12	2.70	+/- 0.15	54.5	+/- 1.0	SMM
1984	254	13:36:13	3.10	+/- 0.20	54.5	+/- 1.0	SMM
1984	254	14:14:13	3.50	+/- 0.20	54.5	+/- 1.0	SMM

Structure being measured:
Top of Cavity >Back Edge of Filled Front

OUTPUT:

START TIME:

Event began at $t = 0 + -0.236E+03 +/- 0.356E+03$ [minutes]
In more convenient units:
Event began at DOY 254 8: 4 +/- 0.356E+03 [minutes]

Origin defined at DOY254 12: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = $0.222E-02 +/- 0.491E-02$ km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.240E+01 +/- 0.394E-01$ [solar radii]
 $c(2) = 0.727E-02 +/- 0.174E-02$ [radii/min]
 $c(2) = 0.844E+02 +/- 0.202E+02$ [km/sec]
 $c(3) = 0.574E-05 +/- 0.127E-04$ [radii/min**2]
 $c(3) = 0.222E-02 +/- 0.491E-02$ [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in $c(1) = 0.66160E-01$ [radii] Bevington pg 154 (8-30)
Exact error in $c(1) = 0.15758E-01$ [radii] Bevington pg 154 (8-28)
Approximate error in $c(2) = 0.26612E-02$ [radii/min] Bevington pg 154 (8-30)
Exact error in $c(2) = 0.11753E-02$ [radii/min] Bevington pg 154 (8-28)
Approximate error in $c(3) = 0.18939E-04$ [radii/min**] Bevington pg 154 (8-30)
Exact error in $c(3) = 0.86017E-05$ [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) = 54. +/- 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 12: 2 = 0.000E+00 km/sec

The TOTAL velocity at 12: 2 = 85. km/sec

The TANGENTIAL velocity at 12:36 = 0.000E+00 km/sec

The TOTAL velocity at 12:36 = 89. km/sec

The TANGENTIAL velocity at 13:36 = 0.000E+00 km/sec

The TOTAL velocity at 13:36 = 97. km/sec

The TANGENTIAL velocity at 14:14 = 0.000E+00 km/sec

The TOTAL velocity at 14:14 = 102. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.48

Standard Deviation in start time measurement = 0.513E+02

Value of reduced Chi Squared returned from nllst2 = 0.187E-02

Reduced Chi Squared = 0.120E-01

Chi Squared = 0.120E-01

The probability for exceeding chi square = 0.966E+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 = 0.9950E+00

The correlation between the data and the time**2 term = 0.9480E+00

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

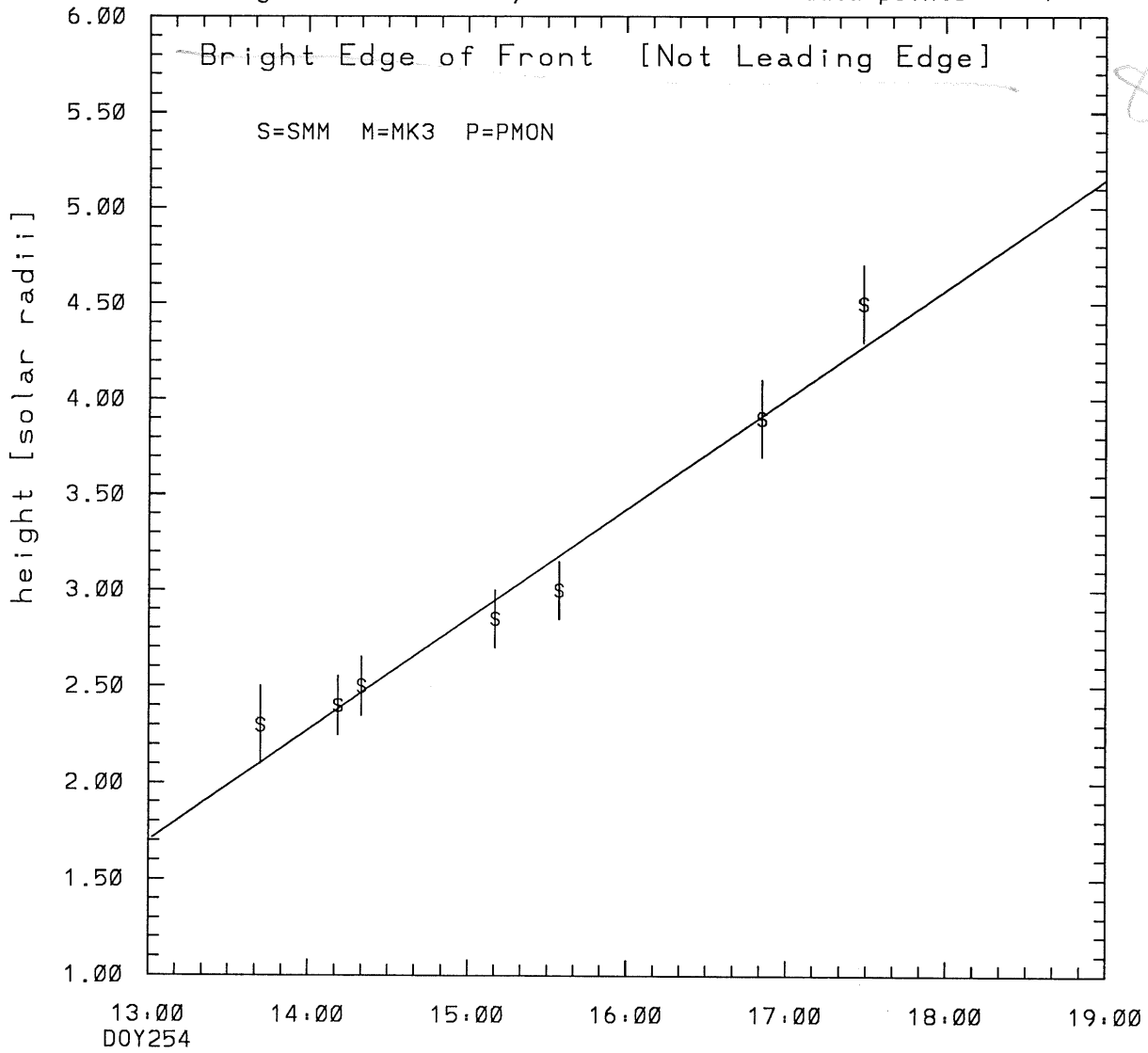
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

SMM C/P 1984 DOY254 315 +/- 0 degrees

*Top of
core
shaped
core.*

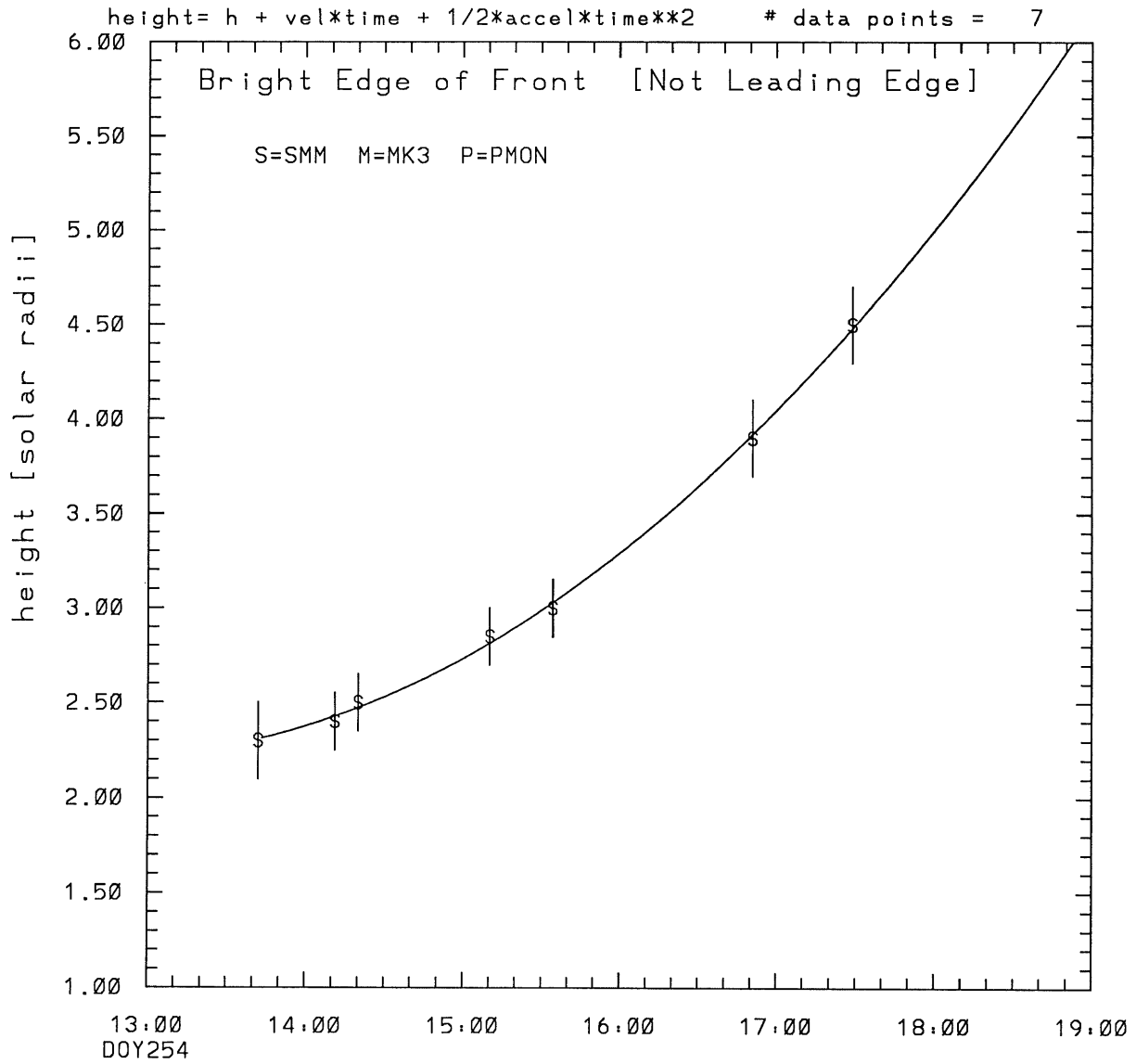
height = h + velocity*time

data points = 7



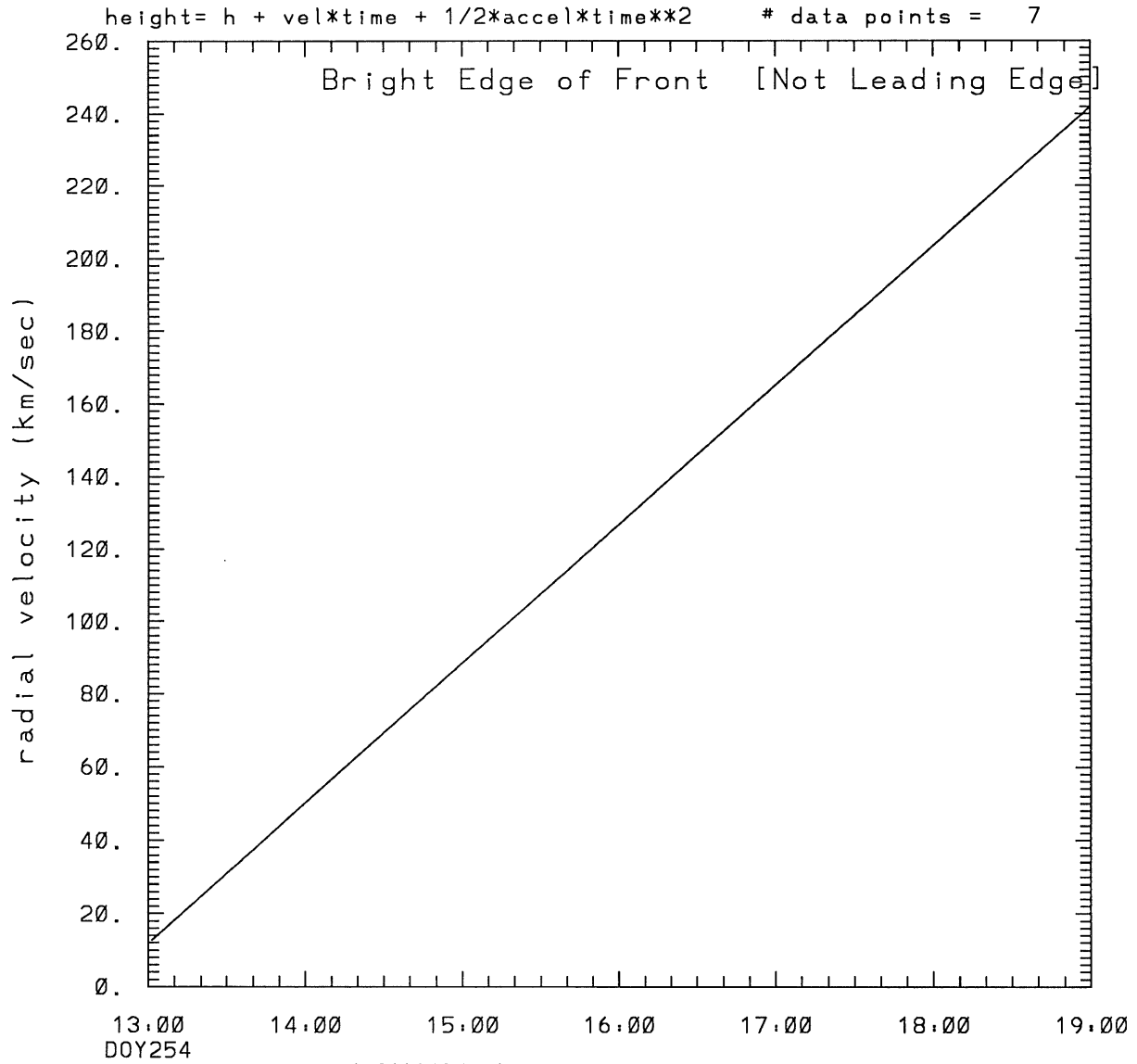
tstart=DOY254 11.47 +/- 0.6 [min.]
radial velocity= 111. +/- 9. [km/sec]

SMM C/P 1984 DOY254 315 +/- 0 degrees



tstart=DOY254 12:42 from derivative=0
Event begins at 2.20 Solar Radii
radial acceleration = 0.0106 +/- 0.0010 [km/sec**2]

SMM C/P 1984 DOY254 315 +/- 0 degrees



tstart=DOY254 12:42 from derivative=0
Event begins at 2.20 Solar Radii
radial acceleration=0.106E-01 km/sec**2

This is a 1 order run

INPUT:

year	doy	time	radii	error in radius	error in angle	angle	datatype
1984	254	13:42: 2	2.30	+/- 0.20	315.0	+/- 0.5	SMM
1984	254	14:11:17	2.40	+/- 0.15	315.0	+/- 0.5	SMM
1984	254	14:20: 1	2.50	+/- 0.15	315.0	+/- 0.5	SMM
1984	254	15:10:17	2.85	+/- 0.15	315.0	+/- 0.5	SMM
1984	254	15:34:30	3.00	+/- 0.15	315.0	+/- 1.0	SMM
1984	254	16:51: 1	3.90	+/- 0.20	315.0	+/- 1.0	SMM
1984	254	17:29: 2	4.50	+/- 0.20	315.0	+/- 1.0	SMM

Structure being measured:
Bright Edge of Front [Not Leading Edge]

Top of Loop-Shaped Core

OUTPUT:

START TIME:

Event began at t = 0 + -0.733E+02 +/- 0.595E+00 [minutes]
In more convenient units:
Event began at DOY 254 11:47 +/- 0.595E+00 [minutes]

Origin defined at DOY254 13: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 111. +/- 9. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

- c(1) = 0.170E+01 +/- 0.111E+00 [solar radii]
- c(2) = 0.957E-02 +/- 0.752E-03 [radii/min]
- c(2) = 0.111E+03 +/- 0.872E+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)= 0.12545E+00 [radii] see Bevington pg. 114
- error in c(2)= 0.78265E-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) = 315. +/- 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 13:42 = 0.000E+00 km/sec

The TOTAL velocity at 13:42 = 111. km/sec

The TANGENTIAL velocity at 14:11 = 0.000E+00 km/sec

The TOTAL velocity at 14:11 = 111. km/sec

The TANGENTIAL velocity at 14:20 = 0.000E+00 km/sec

The TOTAL velocity at 14:20 = 111. km/sec

The TANGENTIAL velocity at 15:10 = 0.000E+00 km/sec

The TOTAL velocity at 15:10 = 111. km/sec

The TANGENTIAL velocity at 15:34 = 0.000E+00 km/sec

The TOTAL velocity at 15:34 = 111. km/sec

The TANGENTIAL velocity at 16:51 = 0.000E+00 km/sec

The TOTAL velocity at 16:51 = 111. km/sec

The TANGENTIAL velocity at 17:29 = 0.000E+00 km/sec

The TOTAL velocity at 17:29 = 111. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.83

Standard Deviation in start time measurement = 0.785E+02

Error in time = 0.37980E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.192E-01

Reduced Chi Squared = 0.119E+00

Chi Squared = 0.594E+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 = 0.5647E-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
1984	254	13:42: 2	2.30	+/- 0.20	315.0	+/- 0.5	SMM
1984	254	14:11:17	2.40	+/- 0.15	315.0	+/- 0.5	SMM
1984	254	14:20: 1	2.50	+/- 0.15	315.0	+/- 0.5	SMM
1984	254	15:10:17	2.85	+/- 0.15	315.0	+/- 0.5	SMM
1984	254	15:34:30	3.00	+/- 0.15	315.0	+/- 1.0	SMM
1984	254	16:51: 1	3.90	+/- 0.20	315.0	+/- 1.0	SMM
1984	254	17:29: 2	4.50	+/- 0.20	315.0	+/- 1.0	SMM

Structure being measured:
Bright Edge of Front [Not Leading Edge]

OUTPUT:

START TIME:

tstart=DOY254 12:42 from derivative = 0
Event begins at 2.20 Solar Radii
Origin defined at DOY254 13: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.106E-01 +/- 0.101E-02 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.221E+01 +/- 0.549E-01 [solar radii]
c(2) = 0.102E-02 +/- 0.829E-03 [radii/min]
c(2) = 0.119E+02 +/- 0.962E+01 [km/sec]
c(3) = 0.275E-04 +/- 0.261E-05 [radii/min**2]
c(3) = 0.106E-01 +/- 0.101E-02 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.53637E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.99746E-02 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.83328E-03 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.23929E-03 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.26113E-05 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.80814E-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) = 315. +/- 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 13:42 = 0.000E+00 km/sec

The TOTAL velocity at 13:42 = 39. km/sec

The TANGENTIAL velocity at 14:11 = 0.000E+00 km/sec

The TOTAL velocity at 14:11 = 57. km/sec

The TANGENTIAL velocity at 14:20 = 0.000E+00 km/sec

The TOTAL velocity at 14:20 = 63. km/sec

The TANGENTIAL velocity at 15:10 = 0.000E+00 km/sec

The TOTAL velocity at 15:10 = 95. km/sec

The TANGENTIAL velocity at 15:34 = 0.000E+00 km/sec

The TOTAL velocity at 15:34 = 111. km/sec

The TANGENTIAL velocity at 16:51 = 0.000E+00 km/sec

The TOTAL velocity at 16:51 = 159. km/sec

The TANGENTIAL velocity at 17:29 = 0.000E+00 km/sec

The TOTAL velocity at 17:29 = 184. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.83

Standard Deviation in start time measurement = 0.785E+02

Value of reduced Chi Squared returned from nllst2 = 0.990E-03

Reduced Chi Squared = 0.441E-02

Chi Squared = 0.177E-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 = 0.8777E+00

The correlation between the data and the time**2 term = 0.8934E+00

The correlation between the data and the complete equation of motion = 0.9986E+00
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]