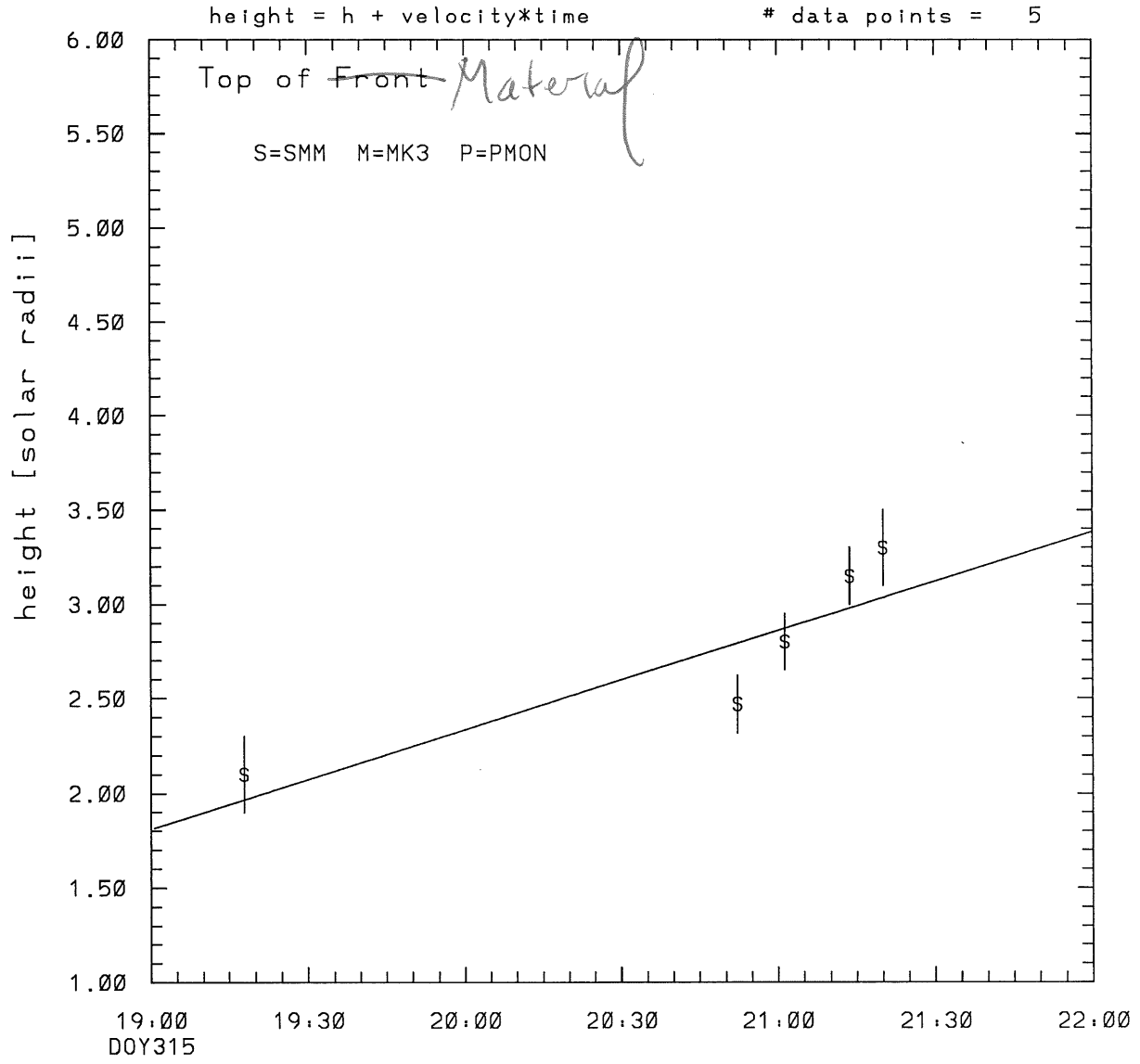
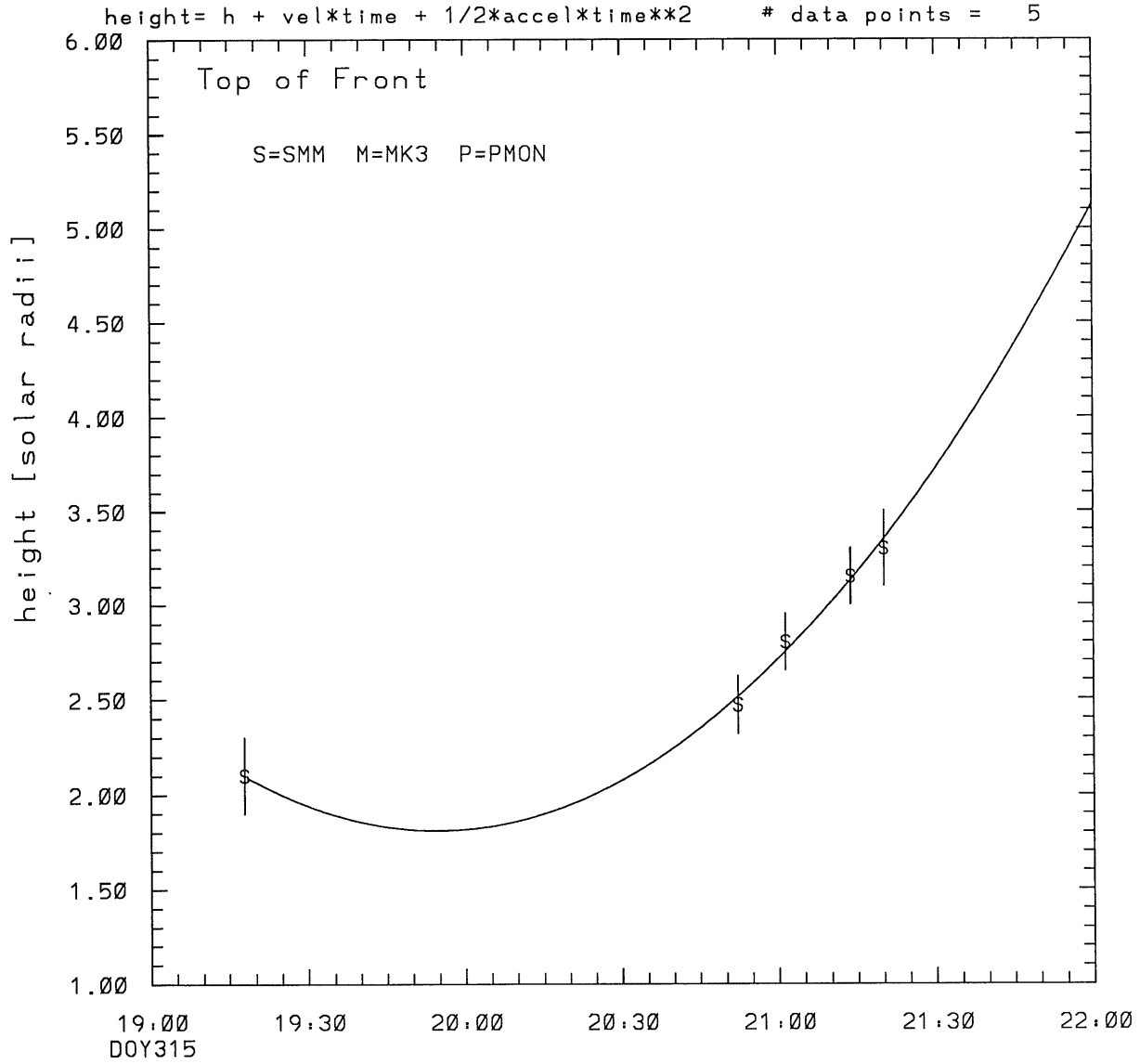


SMM C/P 1984 DOY315 60 +/- 0 degrees



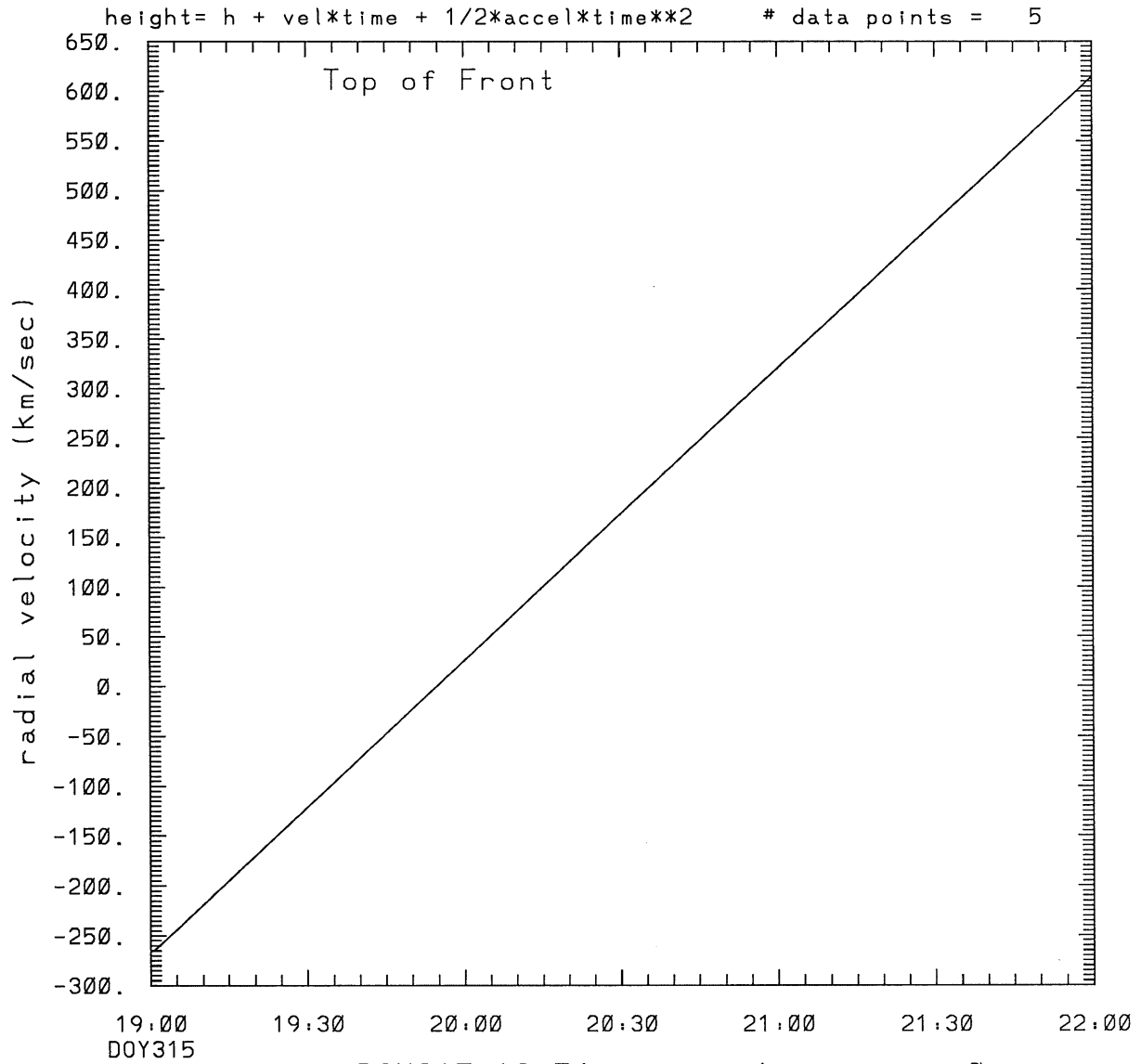
tstart=DOY315 17:29 +/- 9.6 [min.]  
radial velocity= 101. +/- 32. [km/sec]

SMM C/P 1984 DOY315 60 +/- 0 degrees



tstart=DOY315 19:54 from derivative=0  
Event begins at 1.81 Solar Radii  
radial acceleration = 0.0817 +/- 0.0086 [km/sec\*\*2]

SMM C/P 1984 DOY315 60 +/- 0 degrees



tstart=DOY315 19:54 from derivative=0  
Event begins at 1.81 Solar Radii  
radial acceleration=0.817E-01 km/sec\*\*2

This is a 1 order run

\*\*\*\*\*

\*\*\*\*\*

INPUT:

\*\*\*\*\*

year	doy	time	radii	error in radius	angle	error in angle	datatype
1984	315	19:17:50	2.10	+/- 0.20	60.0	+/- 0.5	SMM
1984	315	20:52:20	2.47	+/- 0.15	60.0	+/- 0.5	SMM
1984	315	21: 1:24	2.80	+/- 0.15	60.0	+/- 0.5	SMM
1984	315	21:13:44	3.15	+/- 0.15	60.0	+/- 1.0	SMM
1984	315	21:20: 4	3.30	+/- 0.20	60.0	+/- 1.0	SMM

\*\*\*\*\*

Structure being measured:

Top of Front

\*\*\*\*\*

\*\*\*\*\*

OUTPUT:

\*\*\*\*\*

START TIME:

Event began at  $t = 0 + -0.926E+02 +/- 0.963E+01$  [minutes]

In more convenient units:

Event began at DOY 315 17:29 +/- 0.963E+01 [minutes]

Origin defined at DOY315 19: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 101. +/- 32. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.181E+01 +/- 0.328E+00$  [solar radii]

$c(2) = 0.875E-02 +/- 0.280E-02$  [radii/min]

$c(2) = 0.101E+03 +/- 0.325E+02$  [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  $c(1) = 0.31395E+00$  [radii] see Bevington pg. 114

error in  $c(2) = 0.27498E-02$  [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) = 60. +/- 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 19:17 = 0.000E+00 km/sec

The TOTAL velocity at 19:17 = 101. km/sec

The TANGENTIAL velocity at 20:52 = 0.000E+00 km/sec

The TOTAL velocity at 20:52 = 101. km/sec

The TANGENTIAL velocity at 21: 1 = 0.000E+00 km/sec

The TOTAL velocity at 21: 1 = 101. km/sec

The TANGENTIAL velocity at 21:13 = 0.000E+00 km/sec

The TOTAL velocity at 21:13 = 101. km/sec

The TANGENTIAL velocity at 21:20 = 0.000E+00 km/sec

The TOTAL velocity at 21:20 = 101. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.49

Standard Deviation in start time measurement = 0.447E+02

Error in time = 0.54385E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.569E-01

Reduced Chi Squared = 0.236E+00

Chi Squared = 0.708E+00

The probability for exceeding chi square = 0.982E+00

The correlation coefficient = 0.879E+00

The probability that no LINEAR correlation exists between the variables = 0.4985E-01

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	315	19:17:50	2.10	+/- 0.20	60.0	+/- 0.5	SMM
1984	315	20:52:20	2.47	+/- 0.15	60.0	+/- 0.5	SMM
1984	315	21: 1:24	2.80	+/- 0.15	60.0	+/- 0.5	SMM
1984	315	21:13:44	3.15	+/- 0.15	60.0	+/- 1.0	SMM
1984	315	21:20: 4	3.30	+/- 0.20	60.0	+/- 1.0	SMM

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

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

START TIME:

tstart=DOY315 19:54 from derivative = 0  
Event begins at 1.81 Solar Radii  
Origin defined at DOY315 19: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.817E-01 +/- 0.861E-02 km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.244E+01 +/- 0.953E-01 [solar radii]  
c(2) = -0.231E-01 +/- 0.341E-02 [radii/min]  
c(2) = -0.268E+03 +/- 0.396E+02 [km/sec]  
c(3) = 0.211E-03 +/- 0.223E-04 [radii/min\*\*2]  
c(3) = 0.817E-01 +/- 0.861E-02 [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.10125E+00 [radii] Bevington pg 154 (8-30)  
Exact error in c(1) = 0.30870E-01 [radii] Bevington pg 154 (8-28)  
Approximate error in c(2) = 0.40619E-02 [radii/min] Bevington pg 154 (8-30)  
Exact error in c(2) = 0.19629E-02 [radii/min] Bevington pg 154 (8-28)  
Approximate error in c(3) = 0.26655E-04 [radii/min\*\*] Bevington pg 154 (8-30)  
Exact error in c(3) = 0.13150E-04 [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) = 60. +/- 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 19:17 = 0.000E+00 km/sec

The TOTAL velocity at 19:17 = -181. km/sec

The TANGENTIAL velocity at 20:52 = 0.000E+00 km/sec

The TOTAL velocity at 20:52 = 283. km/sec

The TANGENTIAL velocity at 21: 1 = 0.000E+00 km/sec

The TOTAL velocity at 21: 1 = 327. km/sec

The TANGENTIAL velocity at 21:13 = 0.000E+00 km/sec

The TOTAL velocity at 21:13 = 387. km/sec

The TANGENTIAL velocity at 21:20 = 0.000E+00 km/sec

The TOTAL velocity at 21:20 = 419. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.49

Standard Deviation in start time measurement = 0.447E+02

Value of reduced Chi Squared returned from nllst2 = 0.245E-02

Reduced Chi Squared = 0.126E-01

Chi Squared = 0.251E-01

The probability for exceeding chi square = 0.998E+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 = 0.7219E+00

The correlation between the data and the time\*\*2 term = 0.7909E+00

The correlation between the data and the complete equation of motion = 0.9903E+00

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