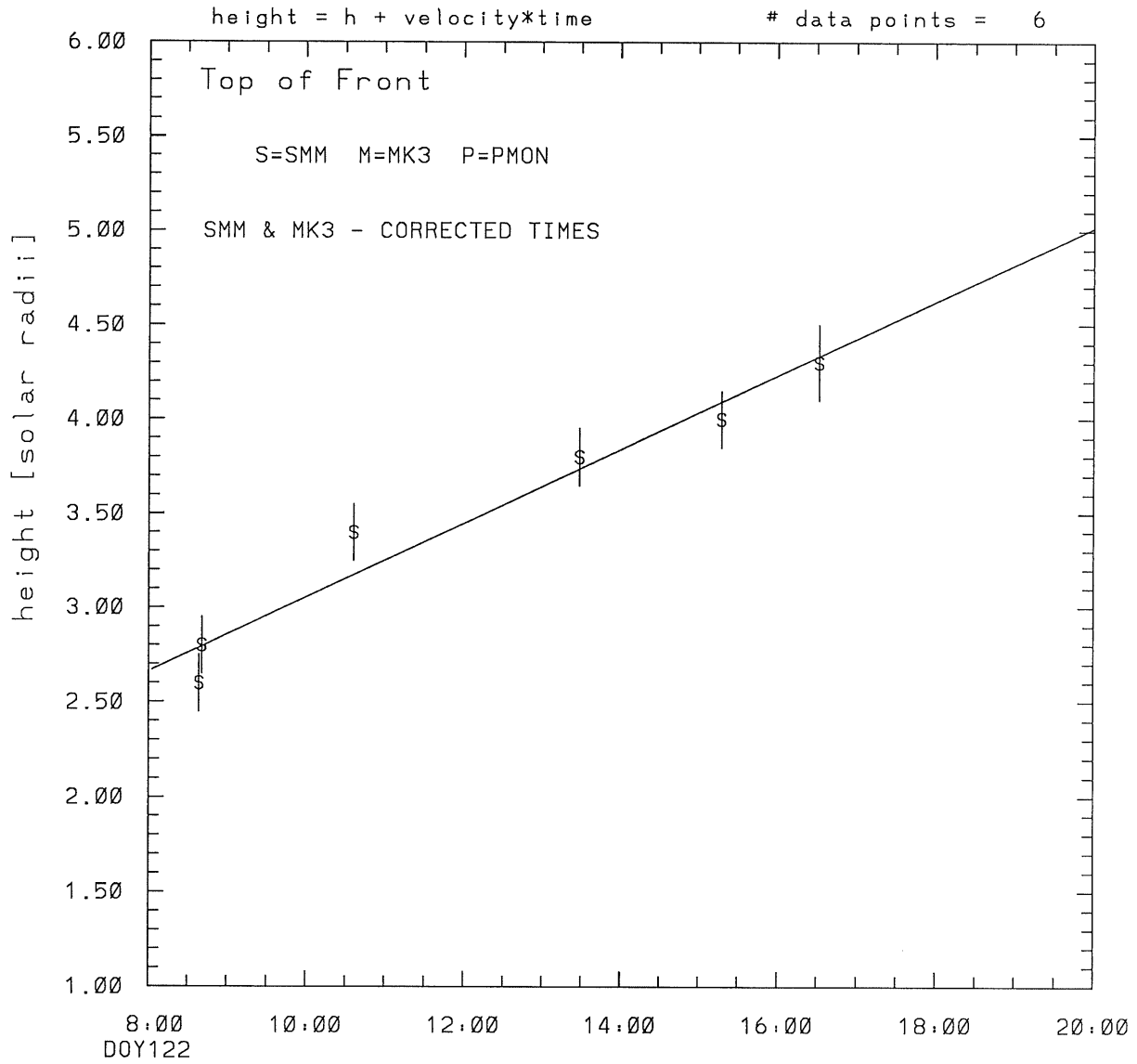


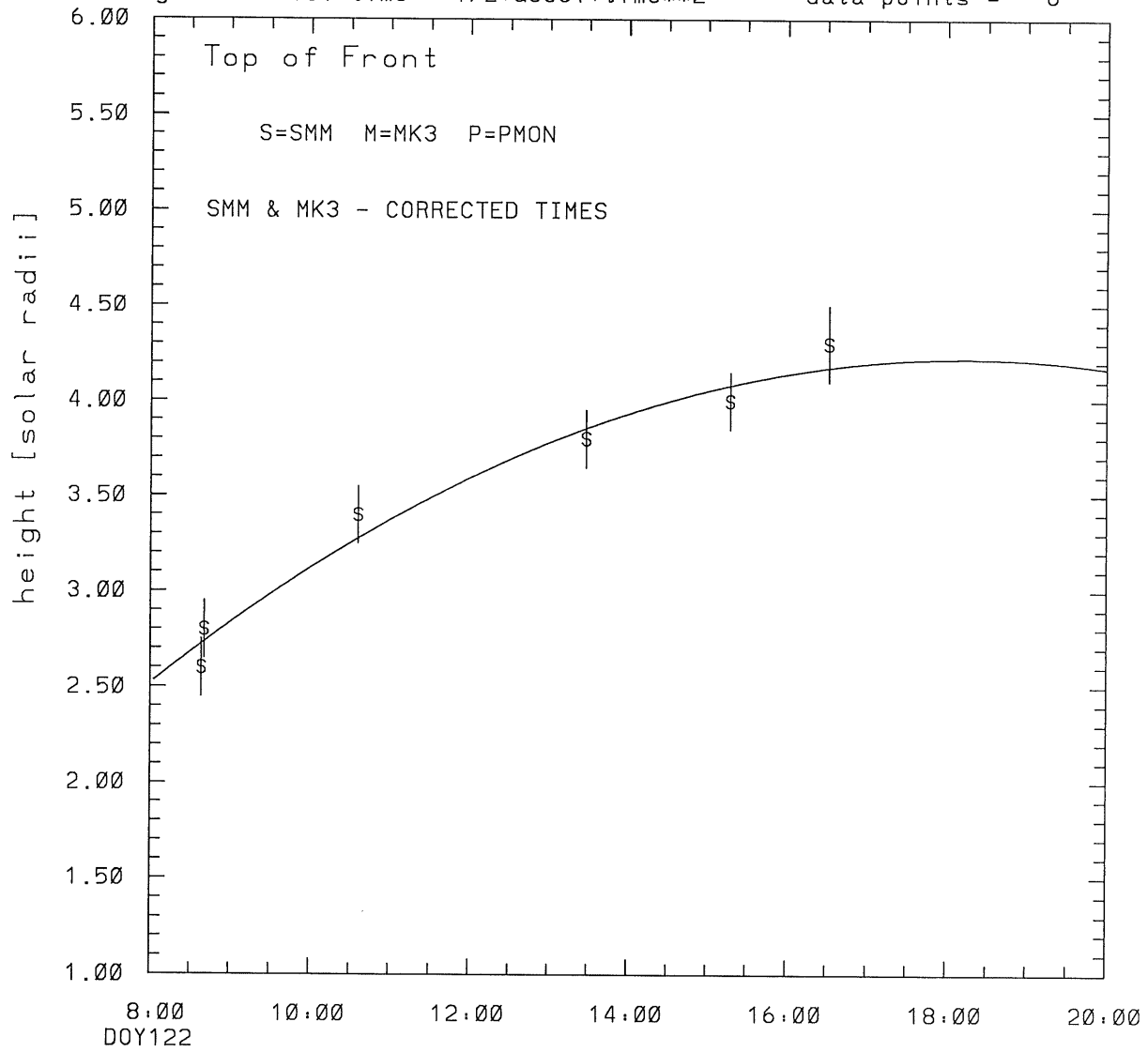
SMM C/P 1980 DOY122 245 +/- 0 degrees



tstart=DOY121 23:34 +/- 5.3 [min.]
radial velocity= 38. +/- 4. [km/sec]

SMM C/P 1980 DOY122 245 +/- 0 degrees

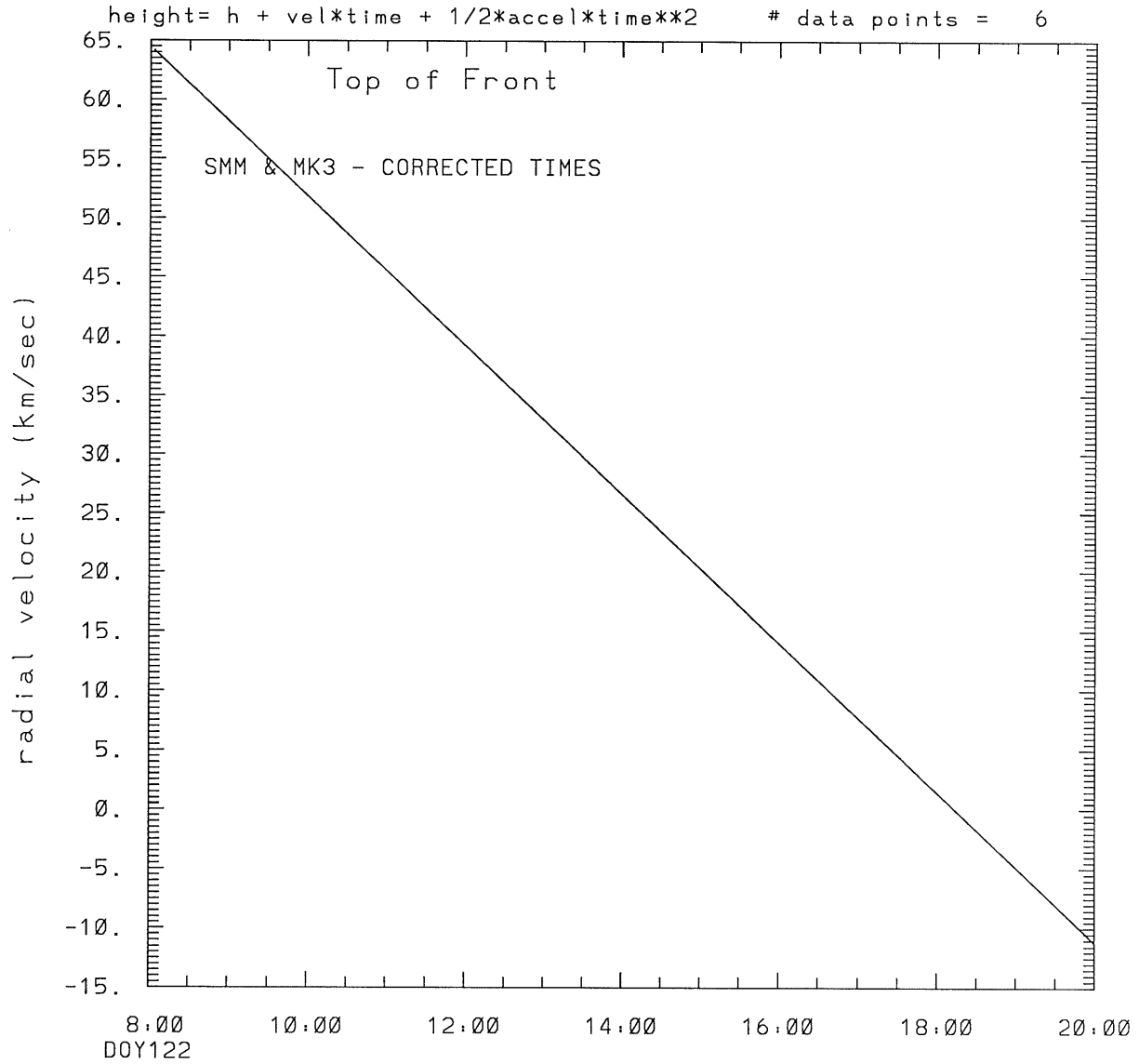
height = $h + vel*time + 1/2*accel*time**2$ # data points = 6



tstart=DOY122 4:12 +/- 52.7 [min.]

radial acceleration = -0.0018 ± 0.0009 [km/sec**2]

SMM C/P 1980 DOY122 245 +/- 0 degrees



tstart=DOY122 4:12 +/- 52.7 [min.]

radial acceleration=-.175E-02 km/sec**2

This is a 1 order run

INPUT:

| year | day | time | radii | radius | error in | angle | error in | datatype |
|------|-----|----------|-------|----------|----------|---------|----------|----------|
| 1980 | 122 | 8:38:34 | 2.60 | +/- 0.15 | 245.0 | +/- 0.5 | SMM | |
| 1980 | 122 | 8:40:40 | 2.80 | +/- 0.15 | 245.0 | +/- 0.5 | SMM | |
| 1980 | 122 | 10:36:29 | 3.40 | +/- 0.15 | 245.0 | +/- 1.0 | SMM | |
| 1980 | 122 | 13:28:40 | 3.80 | +/- 0.15 | 245.0 | +/- 1.0 | SMM | |
| 1980 | 122 | 15:17:24 | 4.00 | +/- 0.15 | 245.0 | +/- 1.0 | SMM | |
| 1980 | 122 | 16:31:35 | 4.30 | +/- 0.20 | 245.0 | +/- 1.0 | SMM | |

Structure being measured:

Top of Front

OUTPUT:

START TIME:

Event began at $t = 0 + -0.508E+03 +/- 0.525E+01$ [minutes]

In more convenient units:

Event began at DOY 121 23:34 +/- 0.525E+01 [minutes]

Origin defined at DOY122 8: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 38. +/- 4. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.266E+01 +/- 0.986E-01$ [solar radii]
 $c(2) = 0.327E-02 +/- 0.338E-03$ [radii/min]
 $c(2) = 0.379E+02 +/- 0.392E+01$ [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 $c(1) = 0.10904E+00$ [radii] see Bevington pg. 114

error in $c(2) = 0.34811E-03$ [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) = 245. +/- 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 8:38 = 0.000E+00 km/sec

The TOTAL velocity at 8:38 = 38. km/sec

The TANGENTIAL velocity at 8:40 = 0.000E+00 km/sec

The TOTAL velocity at 8:40 = 38. km/sec

The TANGENTIAL velocity at 10:36 = 0.000E+00 km/sec

The TOTAL velocity at 10:36 = 38. km/sec

The TANGENTIAL velocity at 13:28 = 0.000E+00 km/sec

The TOTAL velocity at 13:28 = 38. km/sec

The TANGENTIAL velocity at 15:17 = 0.000E+00 km/sec

The TOTAL velocity at 15:17 = 38. km/sec

The TANGENTIAL velocity at 16:31 = 0.000E+00 km/sec

The TOTAL velocity at 16:31 = 38. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.68

Standard Deviation in start time measurement = 0.186E+03

Error in time = 0.96862E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.215E-01

Reduced Chi Squared = 0.638E-01

Chi Squared = 0.255E+00

The probability for exceeding chi square = 0.999E+00

The correlation coefficient = 0.978E+00

The probability that no LINEAR correlation exists between the variables = 0.7301E-03

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

This is a 2 order run

INPUT:

| year | day | time | radii | radius | error in | angle | error in | datatype |
|------|-----|----------|-------|----------|----------|---------|----------|----------|
| 1980 | 122 | 8:38:34 | 2.60 | +/- 0.15 | 245.0 | +/- 0.5 | SMM | |
| 1980 | 122 | 8:40:40 | 2.80 | +/- 0.15 | 245.0 | +/- 0.5 | SMM | |
| 1980 | 122 | 10:36:29 | 3.40 | +/- 0.15 | 245.0 | +/- 1.0 | SMM | |
| 1980 | 122 | 13:28:40 | 3.80 | +/- 0.15 | 245.0 | +/- 1.0 | SMM | |
| 1980 | 122 | 15:17:24 | 4.00 | +/- 0.15 | 245.0 | +/- 1.0 | SMM | |
| 1980 | 122 | 16:31:35 | 4.30 | +/- 0.20 | 245.0 | +/- 1.0 | SMM | |

Structure being measured:

Top of Front

OUTPUT:

START TIME:

Event began at $t = 0 + -0.230E+03 +/- 0.527E+02$ [minutes]

In more convenient units:

Event began at DOY 122 4:12 +/- 0.527E+02 [minutes]

Origin defined at DOY122 8: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = $-0.175E-02 +/- 0.941E-03$ km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.252E+01 +/- 0.112E+00$ [solar radii]
 $c(2) = 0.556E-02 +/- 0.126E-02$ [radii/min]
 $c(2) = 0.645E+02 +/- 0.146E+02$ [km/sec]
 $c(3) = -0.453E-05 +/- 0.243E-05$ [radii/min**2]
 $c(3) = -0.175E-02 +/- 0.941E-03$ [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in $c(1) = 0.13526E+00$ [radii] Bevington pg 154 (8-30)

Exact error in $c(1) = 0.44134E-01$ [radii] Bevington pg 154 (8-28)

Approximate error in $c(2) = 0.14696E-02$ [radii/min] Bevington pg 154 (8-30)

Exact error in $c(2) = 0.47143E-03$ [radii/min] Bevington pg 154 (8-28)

Approximate error in $c(3) = 0.27384E-05$ [radii/min**] Bevington pg 154 (8-30)

Exact error in $c(3) = 0.96051E-06$ [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:

$a(1) = 245.$ +/- $0.$ [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 8:38 = $0.000E+00$ km/sec

The TOTAL velocity at 8:38 = 60. km/sec

The TANGENTIAL velocity at 8:40 = $0.000E+00$ km/sec

The TOTAL velocity at 8:40 = 60. km/sec

The TANGENTIAL velocity at 10:36 = $0.000E+00$ km/sec

The TOTAL velocity at 10:36 = 48. km/sec

The TANGENTIAL velocity at 13:28 = $0.000E+00$ km/sec

The TOTAL velocity at 13:28 = 30. km/sec

The TANGENTIAL velocity at 15:17 = $0.000E+00$ km/sec

The TOTAL velocity at 15:17 = 19. km/sec

The TANGENTIAL velocity at 16:31 = $0.000E+00$ km/sec

The TOTAL velocity at 16:31 = 11. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.68

Standard Deviation in start time measurement = $0.186E+03$

Value of reduced Chi Squared returned from nllst2 = $0.144E-01$

Reduced Chi Squared = $0.697E-01$

Chi Squared = $0.209E+00$

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 = $0.9376E+00$

The correlation between the data and the time**2 term = $0.8545E+00$

The correlation between the data and the complete equation of motion = $0.9716E+00$

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