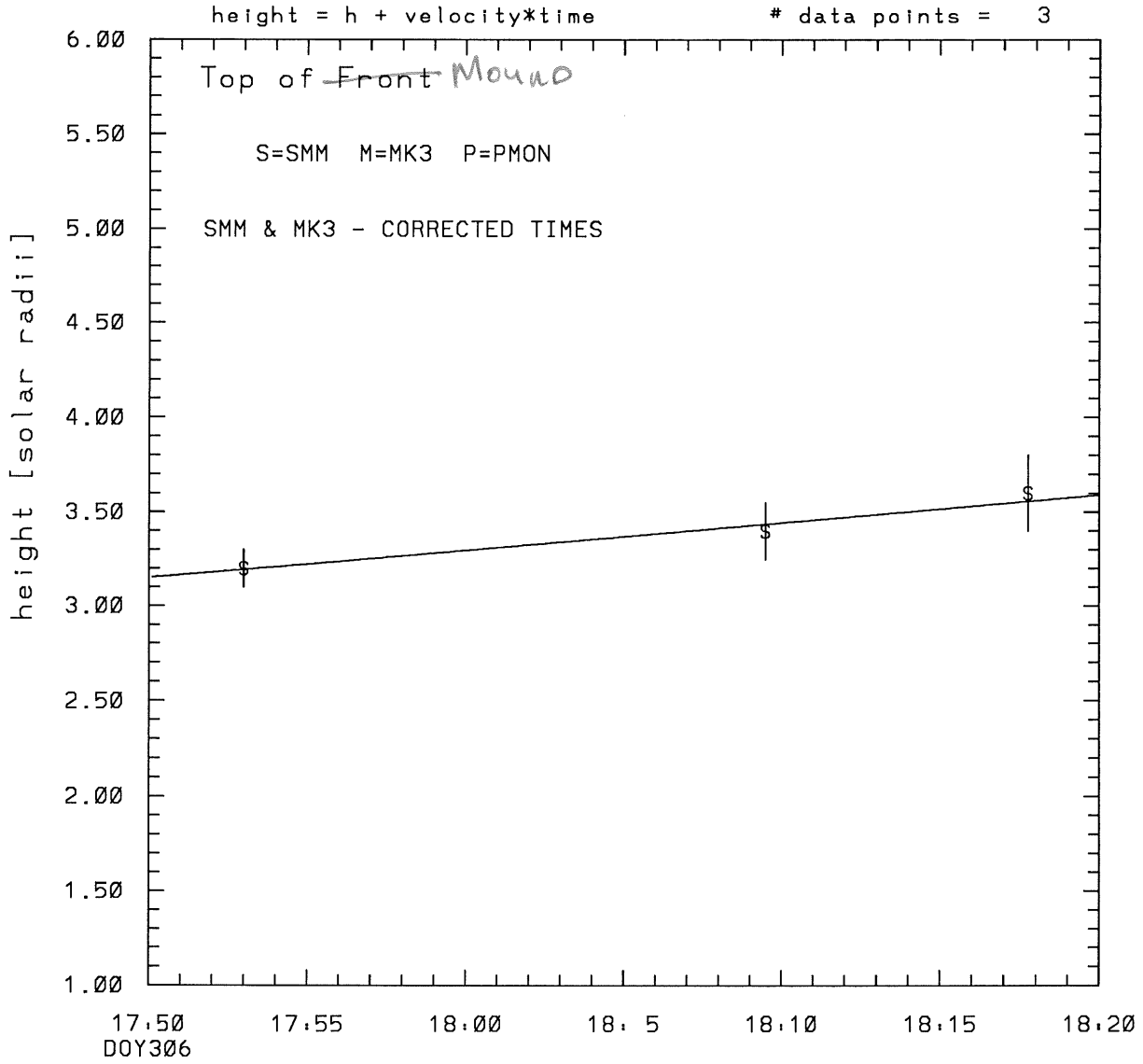
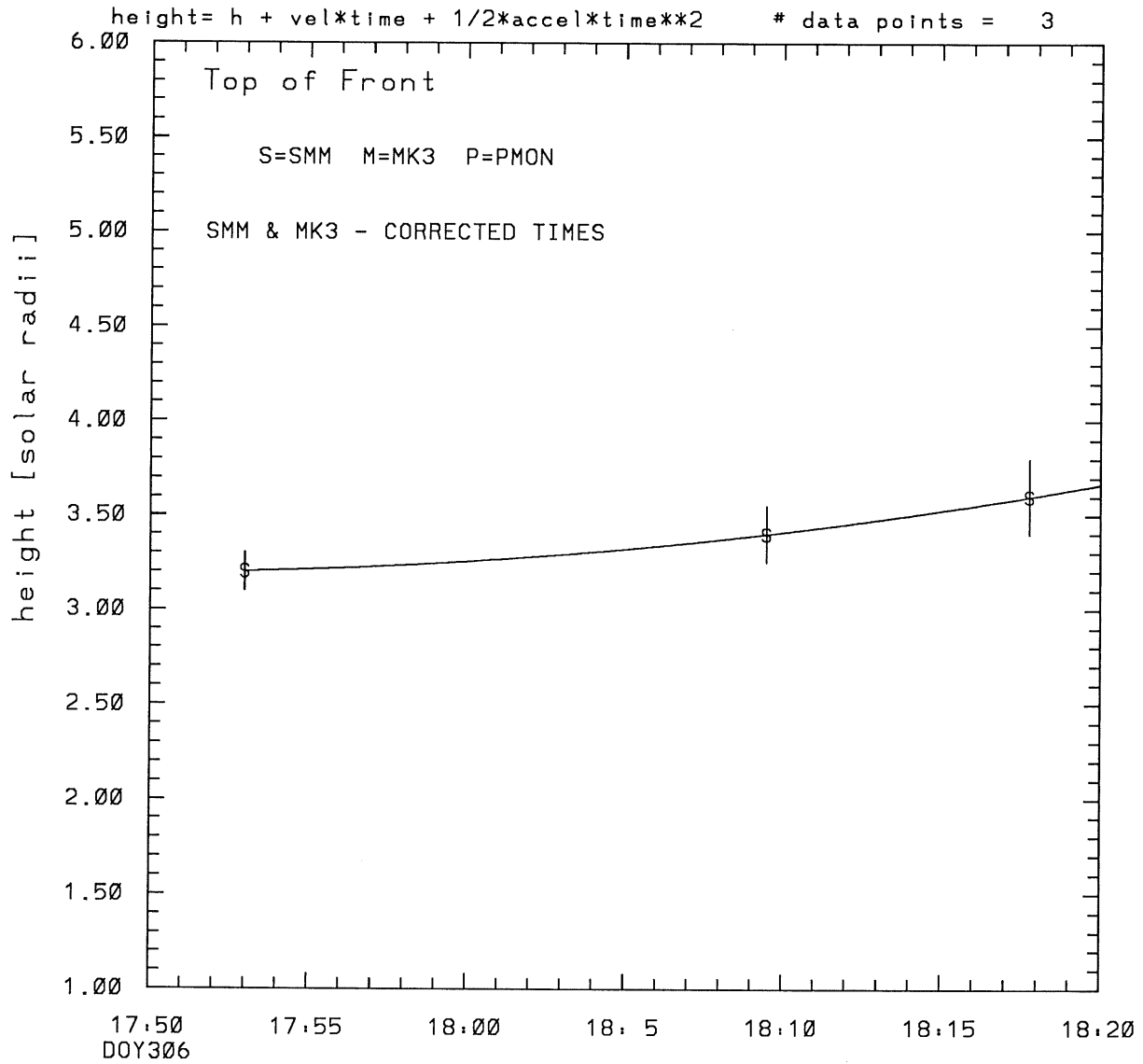


SMM C/P 1988 DOY306 70 +/- 0 degrees



tstart=DOY306 15:25 +/- 13.9 [min.]  
radial velocity= 170. +/- 21. [km/sec]

SMM C/P 1988 DOY306 70 +/- 0 degrees

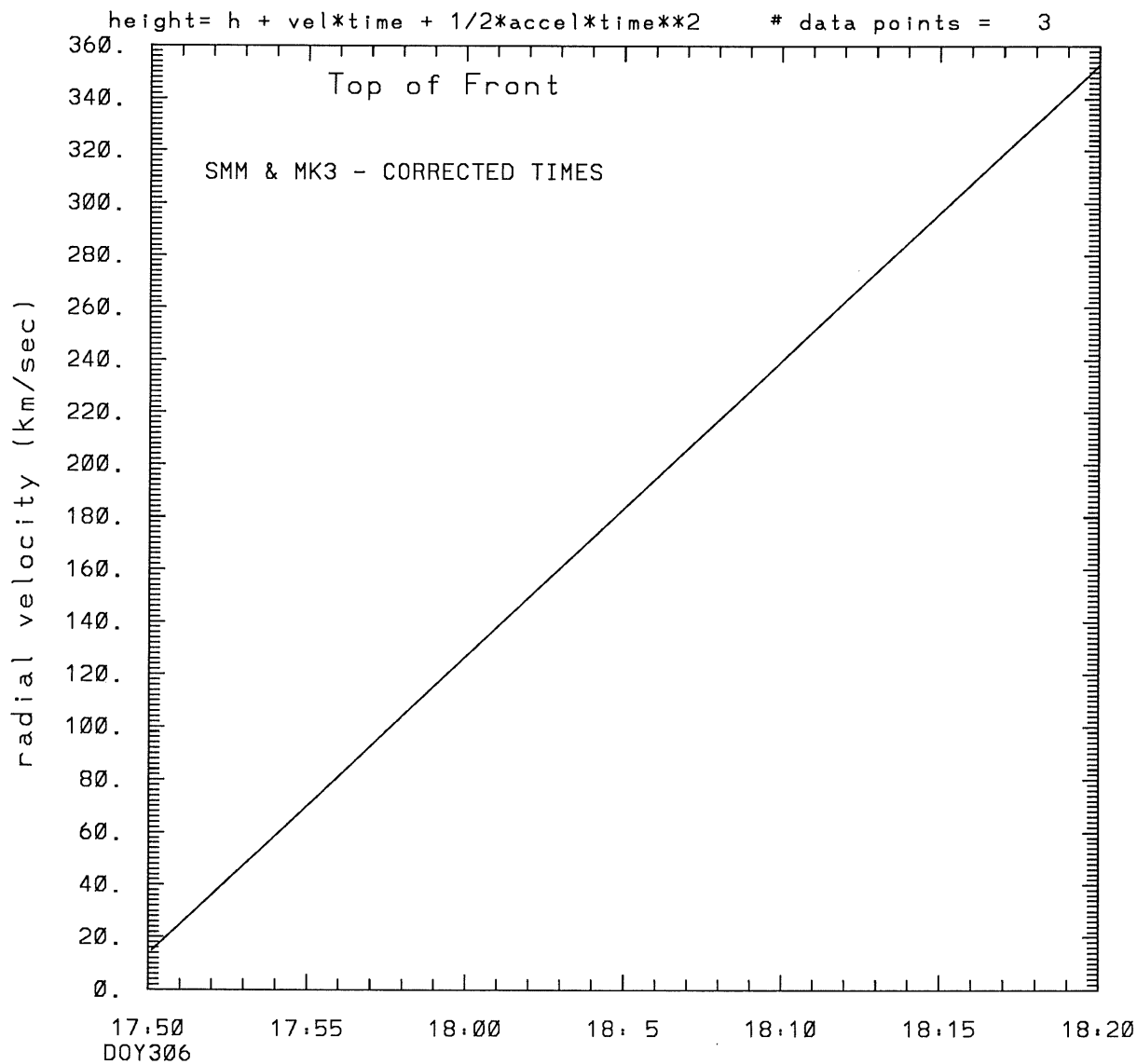


tstart=DOY306 17:49 from derivative=0

Event begins at 3.19 Solar Radii

radial acceleration =  $0.1885 \pm 0.0000$  [km/sec\*\*2]

SMM C/P 1988 DOY306 70 +/- 0 degrees



tstart=DOY306 17:49 from derivative=0  
Event begins at 3.19 Solar Radii  
radial acceleration=0.188E+00 km/sec\*\*2

\*\*\*\*\*  
This is a 1 order run  
\*\*\*\*\*

\*\*\*\*\*  
INPUT:  
\*\*\*\*\*

year	day	time	radii	error in radius	angle	error in angle	datatype
1988	306	17:52:59	3.20	+/- 0.10	70.0	+/- 1.0	SMM
1988	306	18: 9:29	3.40	+/- 0.15	70.0	+/- 1.0	SMM
1988	306	18:17:45	3.60	+/- 0.20	70.0	+/- 1.0	SMM

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

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

START TIME:

Event began at t = 0 + -0.147E+03 +/- 0.139E+02 [minutes]

In more convenient units:

Event began at DOY 306 15:25 +/- 0.139E+02 [minutes]

Origin defined at DOY306 17:50

RADIAL INFORMATION:

RADIAL VELOCITY = 170. +/- 21. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.315E+01 +/- 0.265E-01 [solar radii]  
c(2) = 0.146E-01 +/- 0.179E-02 [radii/min]  
c(2) = 0.170E+03 +/- 0.208E+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)= 0.62056E-01 [radii] see Bevington pg. 114

error in c(2)= 0.31578E-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) = 70. +/- 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 17:52 = 0. km/sec

The TOTAL velocity at 17:52 = 170. km/sec

The TANGENTIAL velocity at 18: 9 = 0. km/sec

The TOTAL velocity at 18: 9 = 170. km/sec

The TANGENTIAL velocity at 18:17 = 0. km/sec

The TOTAL velocity at 18:17 = 170. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.20

Standard Deviation in start time measurement = 0.103E+02

Error in time = 0.38469E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.946E-03

Reduced Chi Squared = 0.815E-02

Chi Squared = 0.815E-02

The probability for exceeding chi square = 0.975E+00

The correlation coefficient = 0.982E+00

The probability that no LINEAR correlation exists between the variables = 0.1207E+00

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
1988	306	17:52:59	3.20	+/- 0.10	70.0	+/- 1.0	SMM
1988	306	18: 9:29	3.40	+/- 0.15	70.0	+/- 1.0	SMM
1988	306	18:17:45	3.60	+/- 0.20	70.0	+/- 1.0	SMM

\*\*\*\*\*

Structure being measured:

Top of Front

\*\*\*\*\*

\*\*\*\*\*

OUTPUT:

\*\*\*\*\*

START TIME:

tstart=DOY306 17:49 from derivative = 0

Event begins at 3.19 Solar Radii

Origin defined at DOY306 17:50

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.188E+00 +/- 0.000E+00 km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.319E+01 +/- 0.000E+00 [solar radii]  
c(2) = 0.117E-02 +/- 0.000E+00 [radii/min]  
c(2) = 0.136E+02 +/- 0.000E+00 [km/sec]  
c(3) = 0.487E-03 +/- 0.000E+00 [radii/min\*\*2]  
c(3) = 0.188E+00 +/- 0.000E+00 [km/sec\*\*2]

ANGULAR INFORMATION:

ANGULAR ACCELERATION= 0.0000E+00 +/- 0.0000E+00[radians/sec\*\*2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 70. +/- 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 17:52 = 0. km/sec

The TOTAL velocity at 17:52 = 47. km/sec

The TANGENTIAL velocity at 18: 9 = 0. km/sec

The TOTAL velocity at 18: 9 = 234. km/sec

The TANGENTIAL velocity at 18:17 = 0. km/sec

The TOTAL velocity at 18:17 = 327. km/sec

\*\*\*\*\*

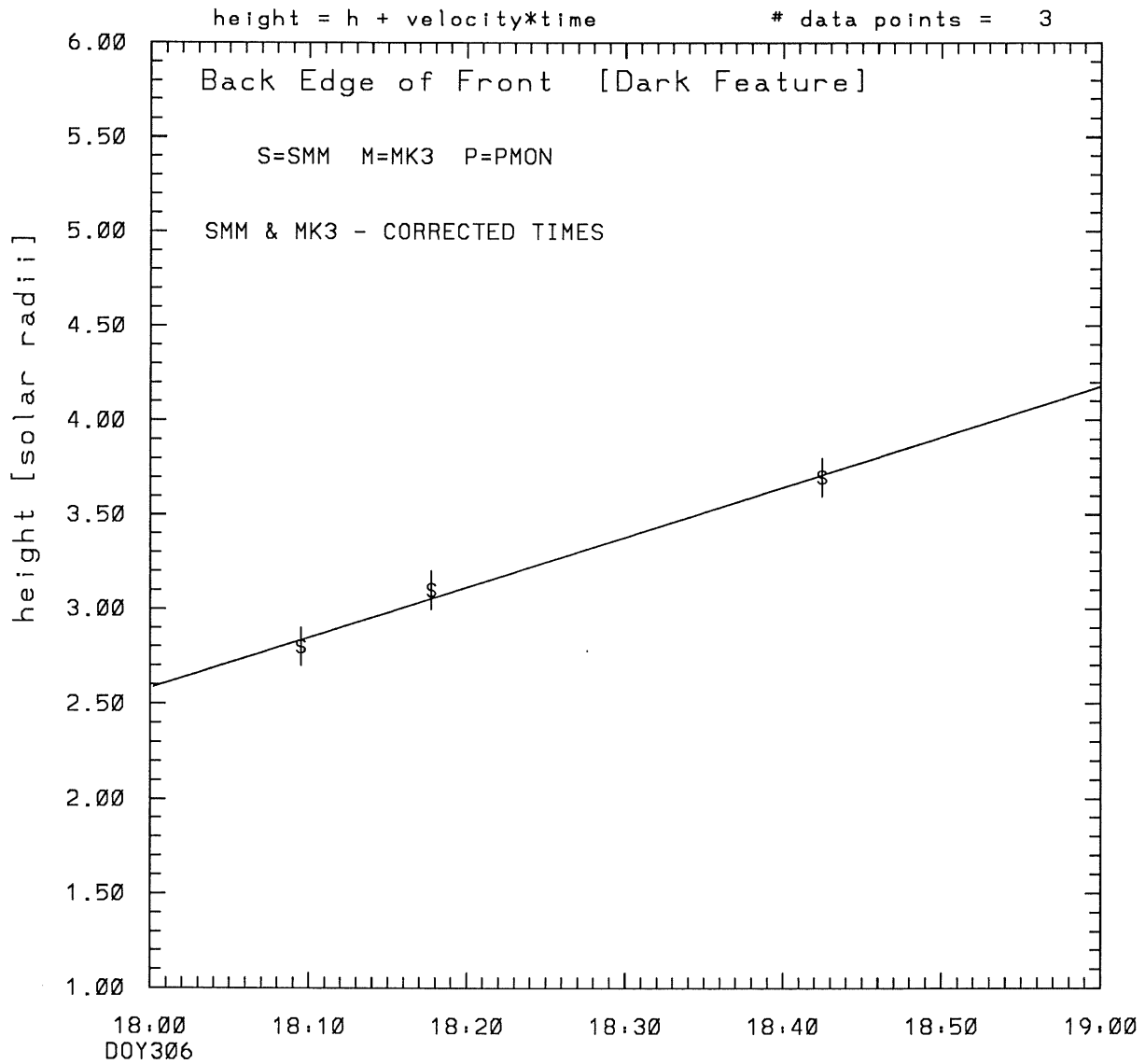
The following info is for estimating goodness of the fit

\*\*\*\*\*

Number data points = number of coefficients. No error analysis is possible.

Correlation coefficient is not computable!

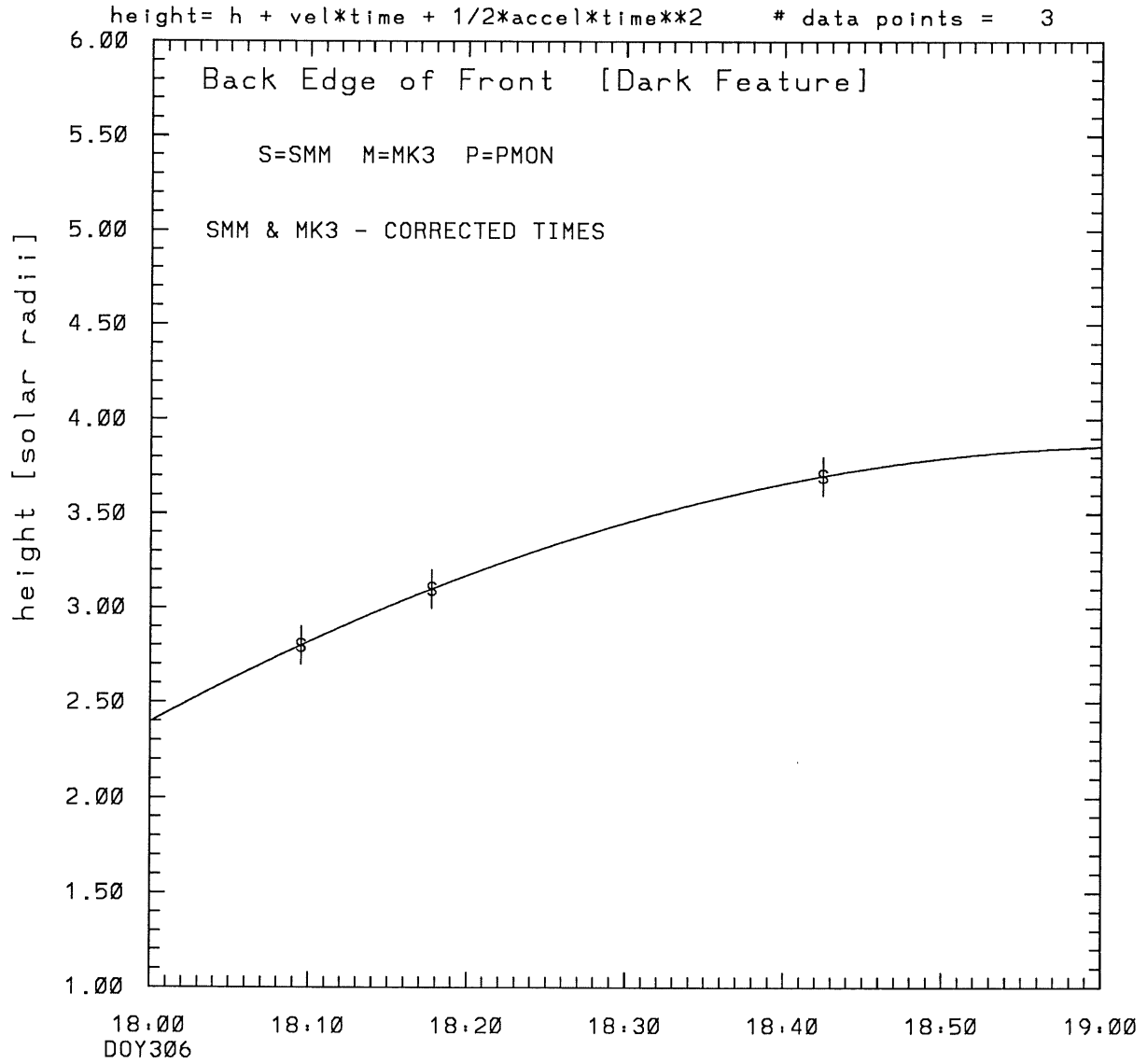
SMM C/P 1988 DOY306 70 +/- 0 degrees



tstart=DOY306 17: 2 +/- 2.4 [min.]  
radial velocity= 308. +/- 20. [km/sec]



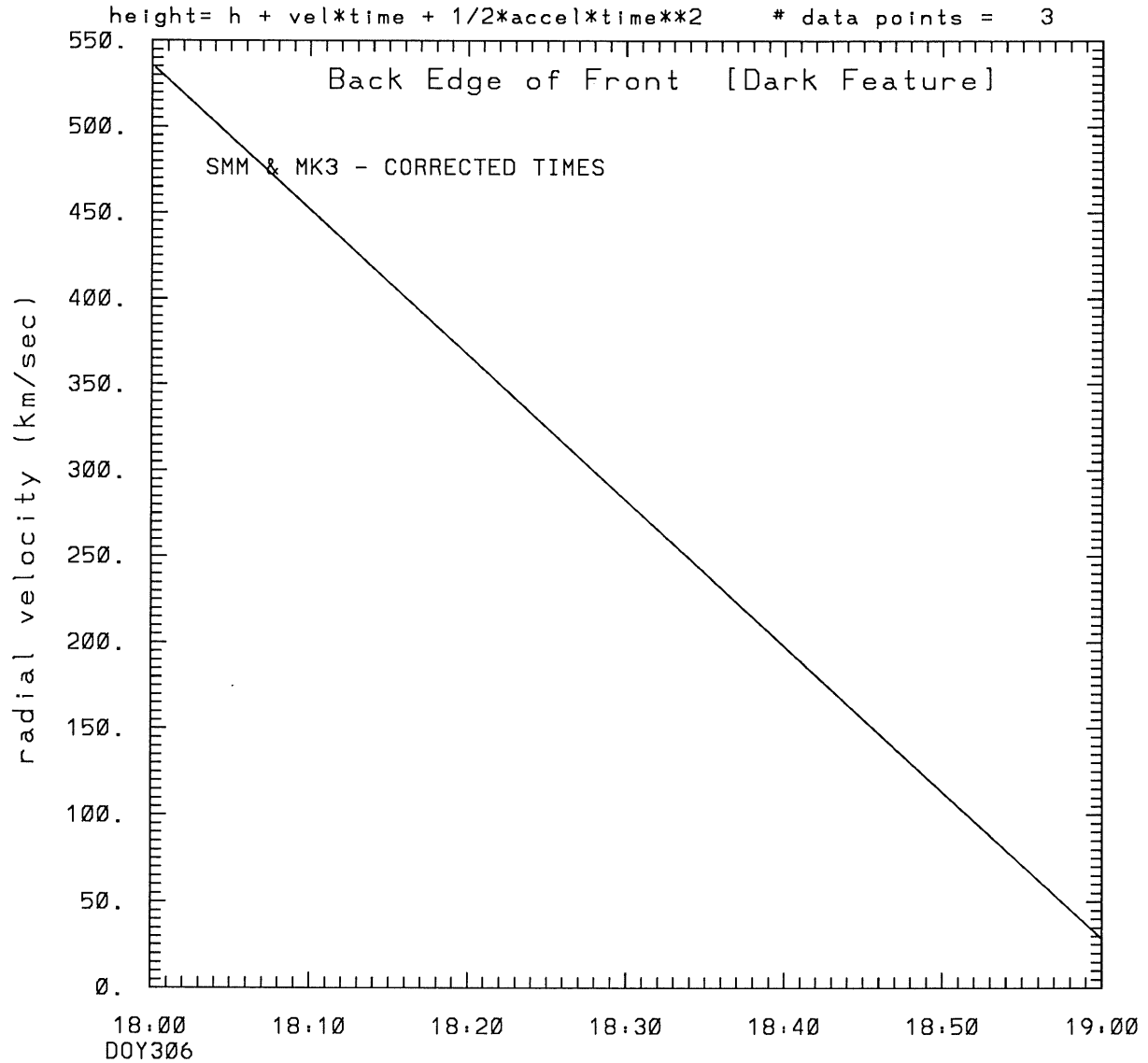
SMM C/P 1988 DOY306 70 +/- 0 degrees



tstart=DOY306 17:35 +/- 0.0 [min.]

radial acceleration =  $-0.1410 +/- 0.0000$  [km/sec\*\*2]

SMM C/P 1988 DOY306 70 +/- 0 degrees



tstart=DOY306 17:35 +/- 0.0 [min.]

radial acceleration =  $-.141E+00$  km/sec\*\*2

\*\*\*\*\*

This is a 1 order run

\*\*\*\*\*

\*\*\*\*\*

INPUT:

\*\*\*\*\*

year	day	time	radii	error in radius	angle	error in angle	datatype
1988	306	18: 9:29	2.80	+/- 0.10	70.0	+/- 0.5	SMM
1988	306	18:17:45	3.10	+/- 0.10	70.0	+/- 1.0	SMM
1988	306	18:42:29	3.70	+/- 0.10	70.0	+/- 1.0	SMM

\*\*\*\*\*

Structure being measured:

Back Edge of Front [Dark Feature]

\*\*\*\*\*

\*\*\*\*\*

OUTPUT:

\*\*\*\*\*

START TIME:

Event began at  $t = 0 + -0.595E+02 +/- 0.238E+01$  [minutes]

In more convenient units:

Event began at DOY 306 17: 2 +/- 0.238E+01 [minutes]

Origin defined at DOY306 18: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 308. +/- 20. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.258E+01 +/- 0.462E-01$  [solar radii]  
 $c(2) = 0.266E-01 +/- 0.170E-02$  [radii/min]  
 $c(2) = 0.308E+03 +/- 0.198E+02$  [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  $c(1) = 0.65368E-01$  [radii] see Bevington pg. 114

error in  $c(2) = 0.24085E-02$  [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) = 70. +/- 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 18: 9 = 0. km/sec

The TOTAL velocity at 18: 9 = 308. km/sec

The TANGENTIAL velocity at 18:17 = 0. km/sec

The TOTAL velocity at 18:17 = 308. km/sec

The TANGENTIAL velocity at 18:42 = 0. km/sec

The TOTAL velocity at 18:42 = 308. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.46

Standard Deviation in start time measurement = 0.140E+02

Error in time = 0.22005E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.171E-02

Reduced Chi Squared = 0.579E-02

Chi Squared = 0.579E-02

The probability for exceeding chi square = 0.967E+00

The correlation coefficient = 0.996E+00

The probability that no LINEAR correlation exists between the variables = 0.5756E-01

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

\*\*\*\*\*  
This is a 2 order run  
\*\*\*\*\*

\*\*\*\*\*  
INPUT:  
\*\*\*\*\*

year	day	time	error in radii	error in radius	error in angle	angle	datatype
1988	306	18: 9:29	2.80 +/- 0.10	70.0 +/- 0.5			SMM
1988	306	18:17:45	3.10 +/- 0.10	70.0 +/- 1.0			SMM
1988	306	18:42:29	3.70 +/- 0.10	70.0 +/- 1.0			SMM

\*\*\*\*\*  
Structure being measured:  
Back Edge of Front [Dark Feature]  
\*\*\*\*\*

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

START TIME:

Event began at  $t = 0 + -0.252E+02 +/- 0.000E+00$  [minutes]  
In more convenient units:  
Event began at DOY 306 17:35 +/- 0.000E+00 [minutes]

Origin defined at DOY306 18: 0

RADIAL INFORMATION:

RADIAL ACCELERATION =  $-0.141E+00 +/- 0.831E-05$  km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) =  $0.239E+01 +/- 0.117E-04$  [solar radii]  
c(2) =  $0.462E-01 +/- 0.117E-05$  [radii/min]  
c(2) =  $0.536E+03 +/- 0.135E-01$  [km/sec]  
c(3) =  $-0.365E-03 +/- 0.215E-07$  [radii/min\*\*2]  
c(3) =  $-0.141E+00 +/- 0.831E-05$  [km/sec\*\*2]

ANGULAR INFORMATION:

ANGULAR ACCELERATION=  $0.0000E+00 +/- 0.0000E+00$ [radians/sec\*\*2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) =  $70. +/- 0.$  [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]

$$a(3) = 0.000E+00 \pm 0.000E+00 \text{ [rad/sec**2]}$$

THE TANGENTIAL AND TOTAL VELOCITIES AT EACH DATA POINT ARE:

The TANGENTIAL velocity at 18: 9 = 0. km/sec

The TOTAL velocity at 18: 9 = 456. km/sec

The TANGENTIAL velocity at 18:17 = 0. km/sec

The TOTAL velocity at 18:17 = 386. km/sec

The TANGENTIAL velocity at 18:42 = 0. km/sec

The TOTAL velocity at 18:42 = 177. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Number data points = number of coefficients. No error analysis is possible.

Correlation coefficient is not computable!