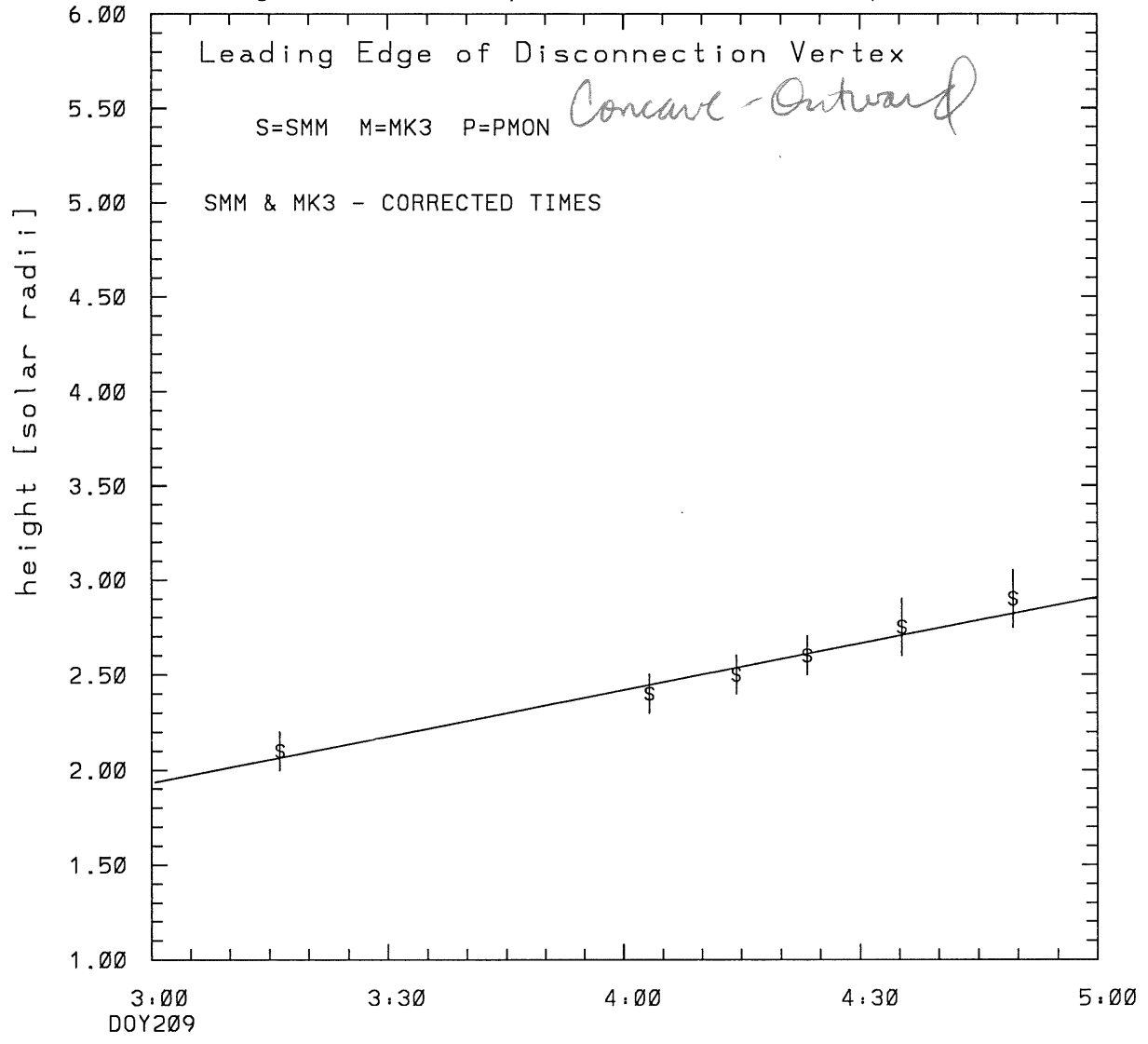


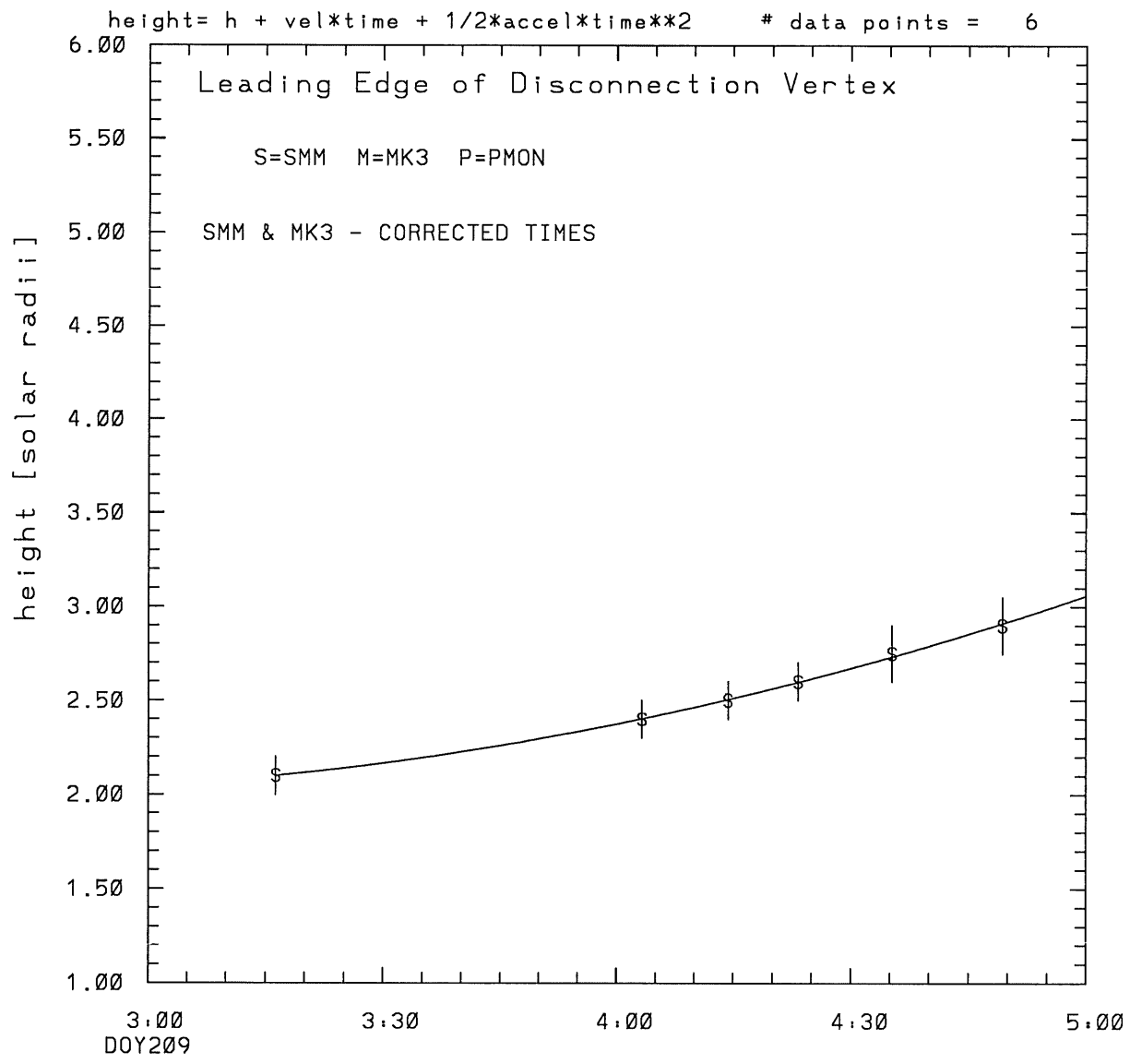
SMM C/P 1986 DOY209 95 +/- 0 degrees

height = h + velocity\*time # data points = 6



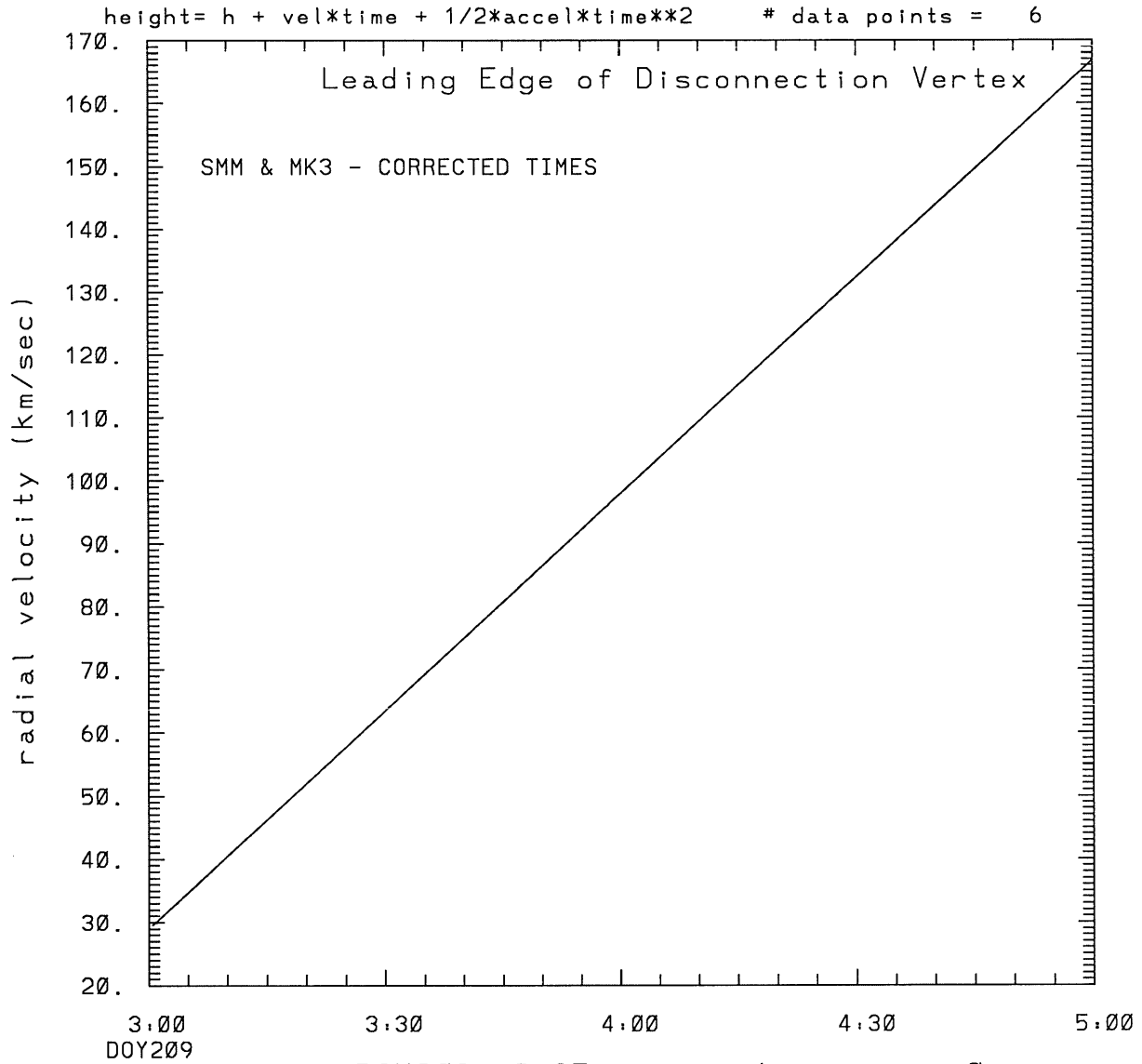
tstart=DOY209 1: 7 +/- 3.9 [min.]  
radial velocity= 94. +/- 7. [km/sec]

SMM C/P 1986 DOY209 95 +/- 0 degrees



tstart=DOY209 2:35 from derivative=0  
Event begins at 2.01 Solar Radii  
radial acceleration = 0.0191 +/- 0.0015 [km/sec\*\*2]

SMM C/P 1986 DOY209 95 +/- 0 degrees



tstart=DOY209 2.35 from derivative=0  
Event begins at 2.01 Solar Radii  
radial acceleration=0.191E-01 km/sec\*\*2

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

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

year	doy	time	radii	error in radius	error in angle	datatype
1986	209	3:16:19	2.10	+/- 0.10	95.0 +/- 0.5	SMM
1986	209	4: 3:19	2.40	+/- 0.10	95.0 +/- 0.5	SMM
1986	209	4:14:21	2.50	+/- 0.10	95.0 +/- 0.5	SMM
1986	209	4:23:18	2.60	+/- 0.10	95.0 +/- 0.5	SMM
1986	209	4:35:19	2.75	+/- 0.15	95.0 +/- 0.5	SMM
1986	209	4:49:22	2.90	+/- 0.15	95.0 +/- 0.5	SMM

\*\*\*\*\*  
Structure being measured:  
Leading Edge of Disconnection Vertex  
\*\*\*\*\*

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

START TIME:

Event began at  $t = 0 + -0.115E+03 +/- 0.386E+01$  [minutes]  
In more convenient units:  
Event began at DOY 209 1: 7 +/- 0.386E+01 [minutes]

Origin defined at DOY209 3: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 94. +/- 7. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.193E+01 +/- 0.471E-01$  [solar radii]  
 $c(2) = 0.813E-02 +/- 0.645E-03$  [radii/min]  
 $c(2) = 0.943E+02 +/- 0.748E+01$  [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  $c(1) = 0.62583E-01$  [radii] see Bevington pg. 114  
error in  $c(2) = 0.78860E-03$  [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) = 95. +/- 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 3:16 = 0.000E+00 km/sec

The TOTAL velocity at 3:16 = 94. km/sec

The TANGENTIAL velocity at 4: 3 = 0.000E+00 km/sec

The TOTAL velocity at 4: 3 = 94. km/sec

The TANGENTIAL velocity at 4:14 = 0.000E+00 km/sec

The TOTAL velocity at 4:14 = 94. km/sec

The TANGENTIAL velocity at 4:23 = 0.000E+00 km/sec

The TOTAL velocity at 4:23 = 94. km/sec

The TANGENTIAL velocity at 4:35 = 0.000E+00 km/sec

The TOTAL velocity at 4:35 = 94. km/sec

The TANGENTIAL velocity at 4:49 = 0.000E+00 km/sec

The TOTAL velocity at 4:49 = 94. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.28

Standard Deviation in start time measurement = 0.295E+02

Error in time = 0.14037E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.207E-02

Reduced Chi Squared = 0.143E-01

Chi Squared = 0.572E-01

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 = 0.3196E-03

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

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

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

year	day	time	radii	error in radius	error in angle	datatype
1986	209	3:16:19	2.10	+/- 0.10	95.0 +/- 0.5	SMM
1986	209	4: 3:19	2.40	+/- 0.10	95.0 +/- 0.5	SMM
1986	209	4:14:21	2.50	+/- 0.10	95.0 +/- 0.5	SMM
1986	209	4:23:18	2.60	+/- 0.10	95.0 +/- 0.5	SMM
1986	209	4:35:19	2.75	+/- 0.15	95.0 +/- 0.5	SMM
1986	209	4:49:22	2.90	+/- 0.15	95.0 +/- 0.5	SMM

\*\*\*\*\*  
Structure being measured:  
Leading Edge of Disconnection Vertex  
\*\*\*\*\*

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

START TIME:

tstart=DOY209 2:35 from derivative = 0  
Event begins at 2.01 Solar Radii  
Origin defined at DOY209 3: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.191E-01 +/- 0.154E-02 km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.205E+01 +/- 0.124E-01 [solar radii]  
c(2) = 0.250E-02 +/- 0.466E-03 [radii/min]  
c(2) = 0.290E+02 +/- 0.541E+01 [km/sec]  
c(3) = 0.495E-04 +/- 0.397E-05 [radii/min\*\*2]  
c(3) = 0.191E-01 +/- 0.154E-02 [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.19801E-01 [radii] Bevington pg 154 (8-30)  
Exact error in c(1) = 0.16990E-02 [radii] Bevington pg 154 (8-28)  
Approximate error in c(2) = 0.69276E-03 [radii/min] Bevington pg 154 (8-30)  
Exact error in c(2) = 0.11707E-03 [radii/min] Bevington pg 154 (8-28)  
Approximate error in c(3) = 0.55184E-05 [radii/min\*\*] Bevington pg 154 (8-30)  
Exact error in c(3) = 0.12594E-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) = 95. +/- 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 3:16 = 0.000E+00 km/sec

The TOTAL velocity at 3:16 = 48. km/sec

The TANGENTIAL velocity at 4:3 = 0.000E+00 km/sec

The TOTAL velocity at 4:3 = 102. km/sec

The TANGENTIAL velocity at 4:14 = 0.000E+00 km/sec

The TOTAL velocity at 4:14 = 114. km/sec

The TANGENTIAL velocity at 4:23 = 0.000E+00 km/sec

The TOTAL velocity at 4:23 = 125. km/sec

The TANGENTIAL velocity at 4:35 = 0.000E+00 km/sec

The TOTAL velocity at 4:35 = 138. km/sec

The TANGENTIAL velocity at 4:49 = 0.000E+00 km/sec

The TOTAL velocity at 4:49 = 155. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.28

Standard Deviation in start time measurement = 0.295E+02

Value of reduced Chi Squared returned from nllst2 = 0.651E-04

Reduced Chi Squared = 0.735E-03

Chi Squared = 0.220E-02

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 = 0.9847E+00

The correlation between the data and the time\*\*2 term = 0.9447E+00

The correlation between the data and the complete equation of motion = 0.9987E+00

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