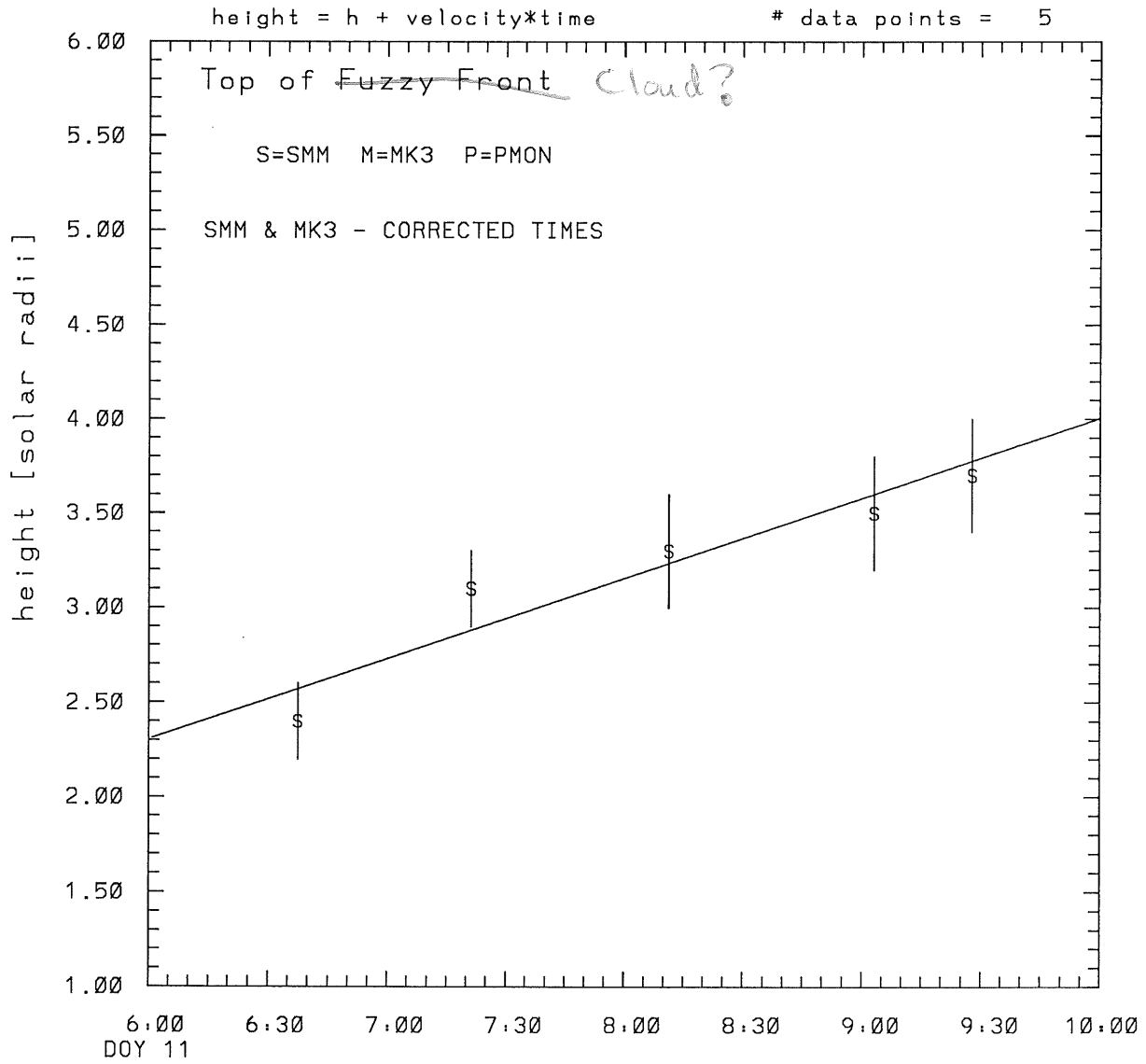
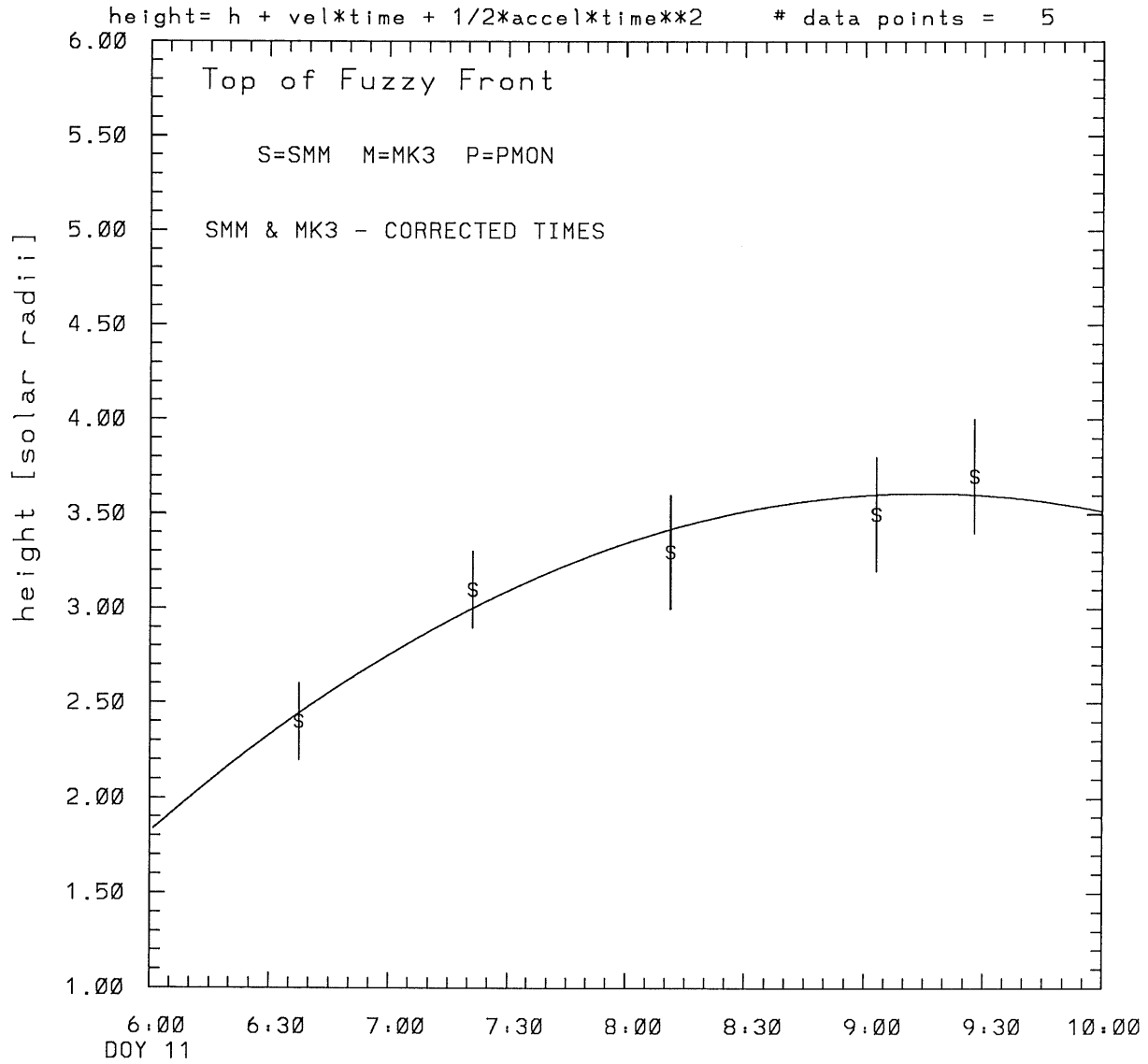


SMM C/P 1989 DOY 11 225 +/- 0 degrees



tstart=DOY 11 2:56 +/- 14.9 [min.]
radial velocity= 82. +/- 15. [km/sec]

SMM C/P 1989 DOY 11 225 +/- 0 degrees

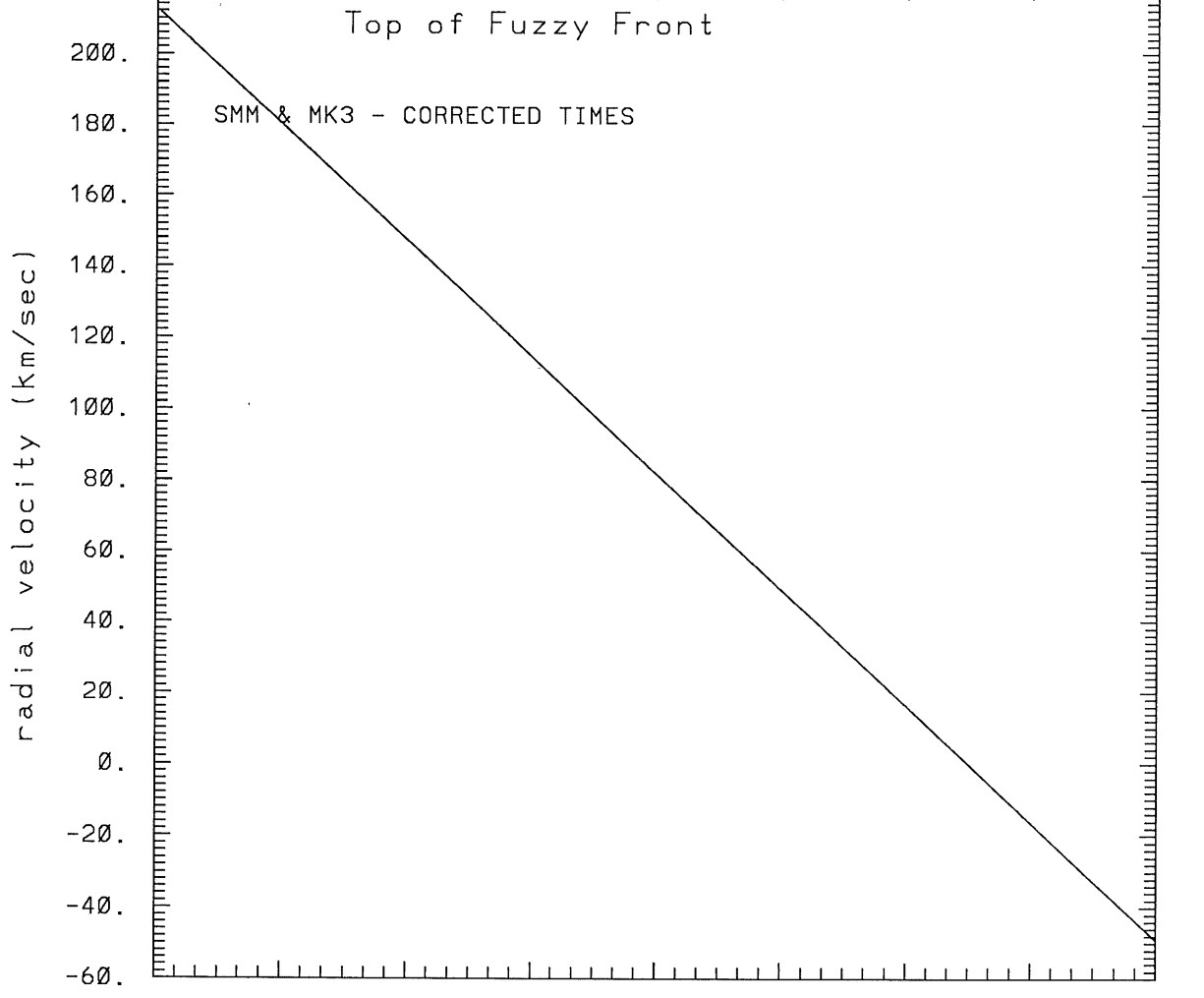


tstart=DOY 11 5:21 +/- 10.2 [min.]

radial acceleration = -0.0182 ± 0.0071 [km/sec**2]

SMM C/P 1989 DOY 11 225 +/- 0 degrees

height = $h + vel*time + 1/2*accel*time**2$ # data points = 5



6.00 6.30 7.00 7.30 8.00 8.30 9.00 9.30 10.00
DOY 11

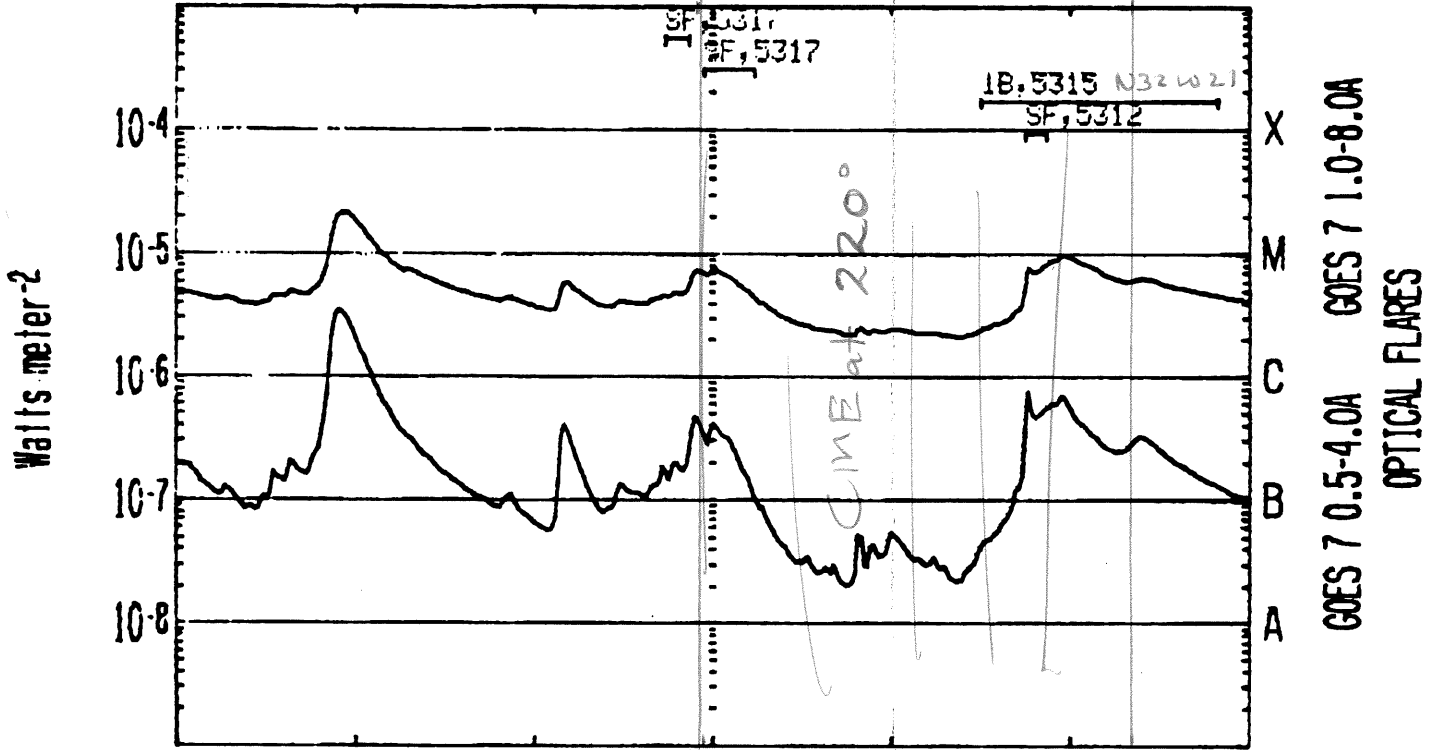
tstart=DOY 11 5:21 +/- 10.2 [min.]

radial acceleration=-.182E-01 km/sec**2

1989 Day 11

XRAY and OPTICAL DATA TOGETHER

BEGIN: 11 JAN 89



11/0000

11/0300

11/0500

MAX X-RAY P=2:55

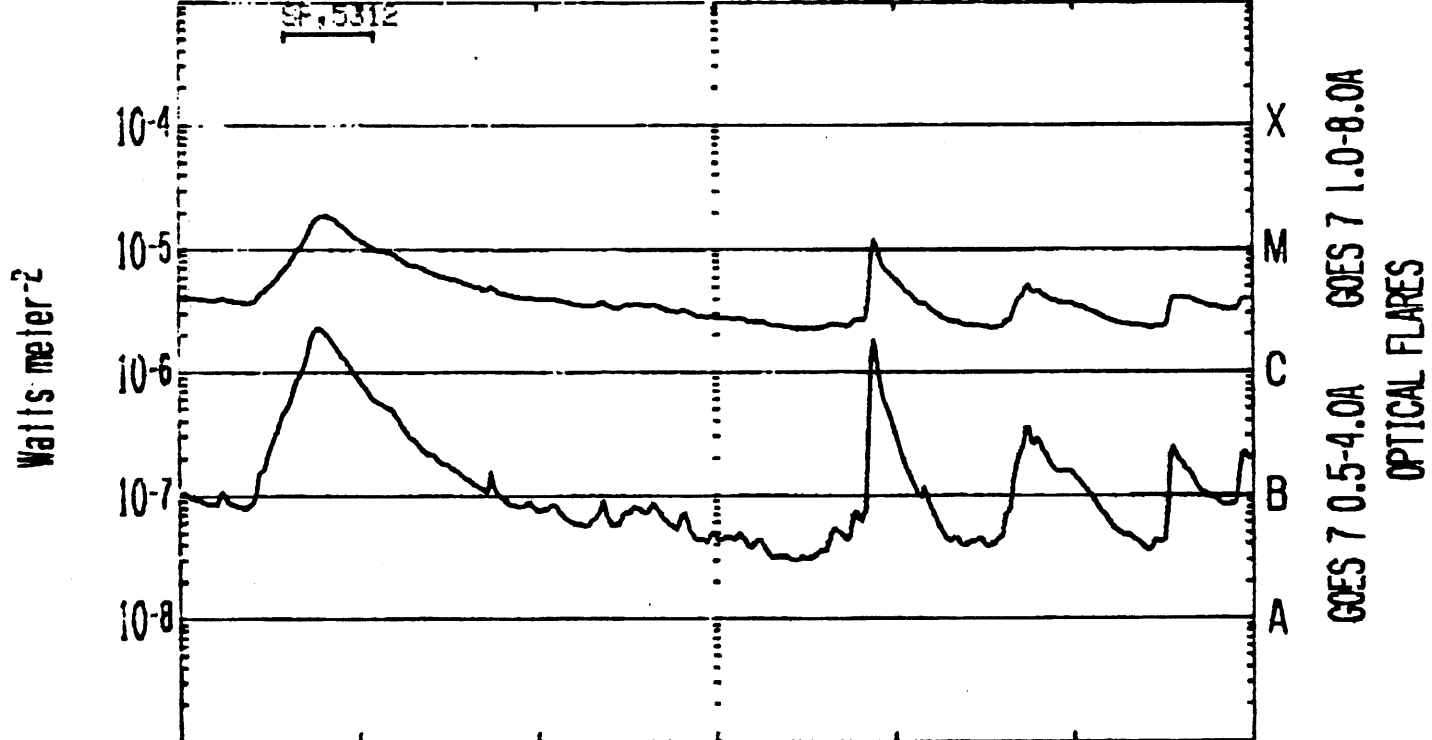
MAX X-RAY P=4:55

SAA'S NIGHT

GOES-7 1 MIN DATA; OPTICAL FLARE DUR, IMP, REGION

RUN: 293OUT
15 JAN 89

RAY and OPTICAL DATA TOGETHER STOP Ret.. BEGIN: 11 JAN 89



11-0500 11-0900 11-1200

P
MAX
X-ray
2650

SAA's
NIGHT

GOES-7 1 MIN DATA; OPTICAL FLARE DUR, IMP, REGION

RUN: 2031UT
15 JAN 89

This is a 1 order run

INPUT:

year	day	time	error in radii	error in radius	error in angle	error in angle	datatype
1989	11	6:37:29	2.40 +/- 0.20		225.0 +/- 0.5		SMM
1989	11	7:21:15	3.10 +/- 0.20		225.0 +/- 0.5		SMM
1989	11	8:11:18	3.30 +/- 0.30		225.0 +/- 0.5		SMM
1989	11	9: 3: 4	3.50 +/- 0.30		225.0 +/- 0.5		SMM
1989	11	9:27:50	3.70 +/- 0.30		225.0 +/- 0.5		SMM

Structure being measured:
Top of Fuzzy Front *cloud?*

OUTPUT:

START TIME:

Event began at $t = 0 + -0.184E+03 +/- 0.149E+02$ [minutes]
In more convenient units:
Event began at DOY 11 2:56 +/- 0.149E+02 [minutes]

Origin defined at DOY 11 6: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 82. +/- 15. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.230E+01 +/- 0.158E+00$ [solar radii]
 $c(2) = 0.708E-02 +/- 0.130E-02$ [radii/min]
 $c(2) = 0.822E+02 +/- 0.150E+02$ [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 $c(1) = 0.18316E+00$ [radii] see Bevington pg. 114
error in $c(2) = 0.12827E-02$ [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) = 225. +/- 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 6:37 = 0. km/sec

The TOTAL velocity at 6:37 = 82. km/sec

The TANGENTIAL velocity at 7:21 = 0. km/sec

The TOTAL velocity at 7:21 = 82. km/sec

The TANGENTIAL velocity at 8:11 = 0. km/sec

The TOTAL velocity at 8:11 = 82. km/sec

The TANGENTIAL velocity at 9: 3 = 0. km/sec

The TOTAL velocity at 9: 3 = 82. km/sec

The TANGENTIAL velocity at 9:27 = 0. km/sec

The TOTAL velocity at 9:27 = 82. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.50

Standard Deviation in start time measurement = 0.629E+02

Error in time = 0.44127E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.324E-01

Reduced Chi Squared = 0.696E-01

Chi Squared = 0.209E+00

The probability for exceeding chi square = 0.992E+00

The correlation coefficient = 0.951E+00

The probability that no LINEAR correlation exists between the variables = 0.1277E-01

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
1989	11	6:37:29	2.40	+/- 0.20	225.0	+/- 0.5	SMM	
1989	11	7:21:15	3.10	+/- 0.20	225.0	+/- 0.5	SMM	
1989	11	8:11:18	3.30	+/- 0.30	225.0	+/- 0.5	SMM	
1989	11	9: 3: 4	3.50	+/- 0.30	225.0	+/- 0.5	SMM	
1989	11	9:27:50	3.70	+/- 0.30	225.0	+/- 0.5	SMM	

Structure being measured:

Top of Fuzzy Front

OUTPUT:

START TIME:

Event began at $t = 0 + -0.406E+02 +/- 0.102E+02$ [minutes]

In more convenient units:

Event began at DOY 11 5:21 +/- 0.102E+02 [minutes]

Origin defined at DOY 11 6: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = $-0.182E-01 +/- 0.705E-02$ km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.182E+01 +/- 0.213E+00$ [solar radii]
 $c(2) = 0.183E-01 +/- 0.445E-02$ [radii/min]
 $c(2) = 0.213E+03 +/- 0.516E+02$ [km/sec]
 $c(3) = -0.470E-04 +/- 0.182E-04$ [radii/min**2]
 $c(3) = -0.182E-01 +/- 0.705E-02$ [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in $c(1) = 0.30658E+00$ [radii] Bevington pg 154 (8-30)
Exact error in $c(1) = 0.89547E-01$ [radii] Bevington pg 154 (8-28)
Approximate error in $c(2) = 0.58960E-02$ [radii/min] Bevington pg 154 (8-30)
Exact error in $c(2) = 0.23318E-02$ [radii/min] Bevington pg 154 (8-28)
Approximate error in $c(3) = 0.23437E-04$ [radii/min**] Bevington pg 154 (8-30)
Exact error in $c(3) = 0.99751E-05$ [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) = 225. +/- 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 6:37 = 0. km/sec

The TOTAL velocity at 6:37 = 172. km/sec

The TANGENTIAL velocity at 7:21 = 0. km/sec

The TOTAL velocity at 7:21 = 124. km/sec

The TANGENTIAL velocity at 8:11 = 0. km/sec

The TOTAL velocity at 8:11 = 70. km/sec

The TANGENTIAL velocity at 9: 3 = 0. km/sec

The TOTAL velocity at 9: 3 = 13. km/sec

The TANGENTIAL velocity at 9:27 = 0. km/sec

The TOTAL velocity at 9:27 = -14. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.50

Standard Deviation in start time measurement = 0.629E+02

Value of reduced Chi Squared returned from nllst2 = 0.134E-01

Reduced Chi Squared = 0.771E-01

Chi Squared = 0.154E+00

The probability for exceeding chi square = 0.987E+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 = 0.9933E+00

The correlation between the data and the time**2 term = 0.8962E+00

The correlation between the data and the complete equation of motion = 0.9753E+00

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