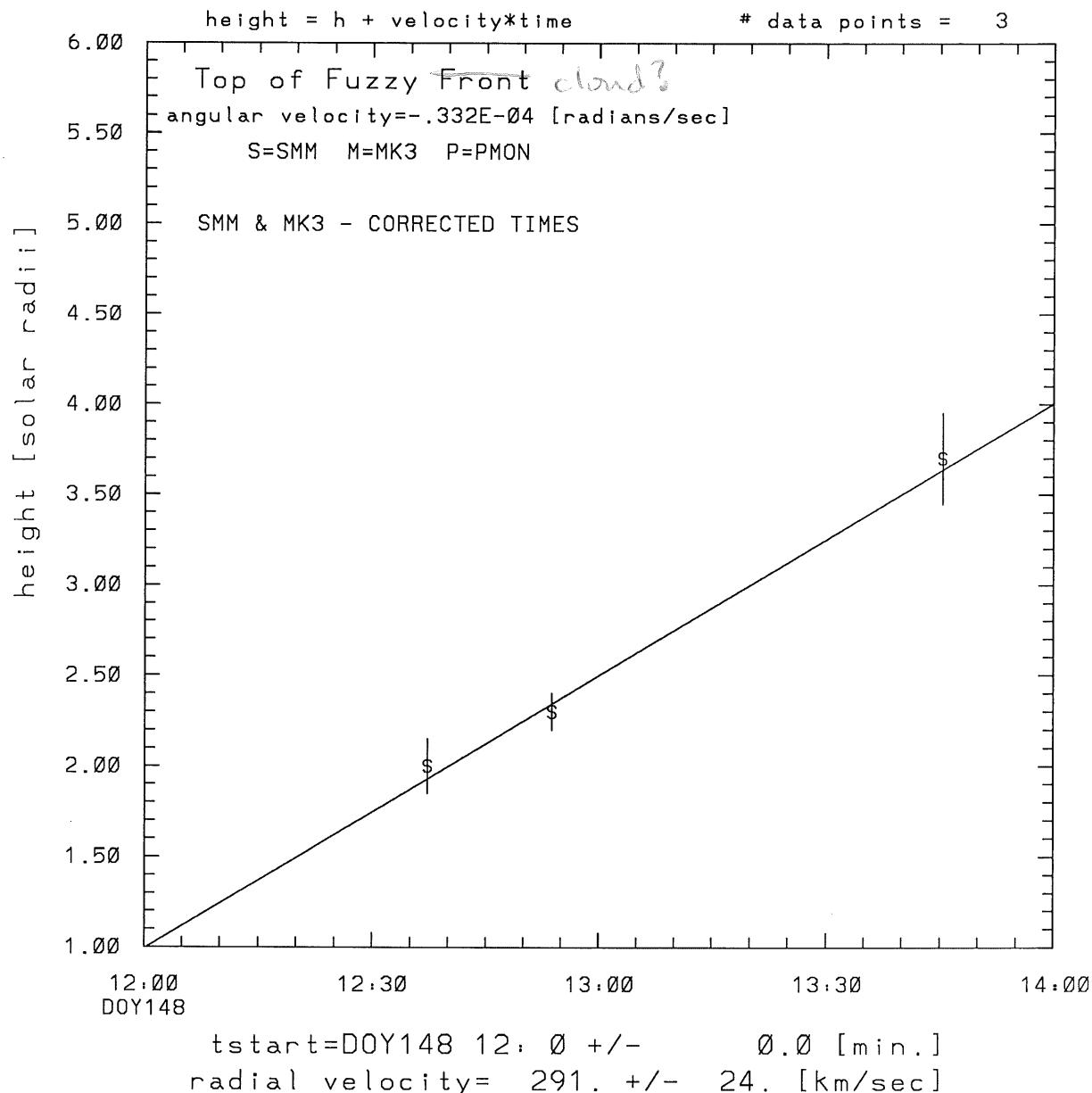
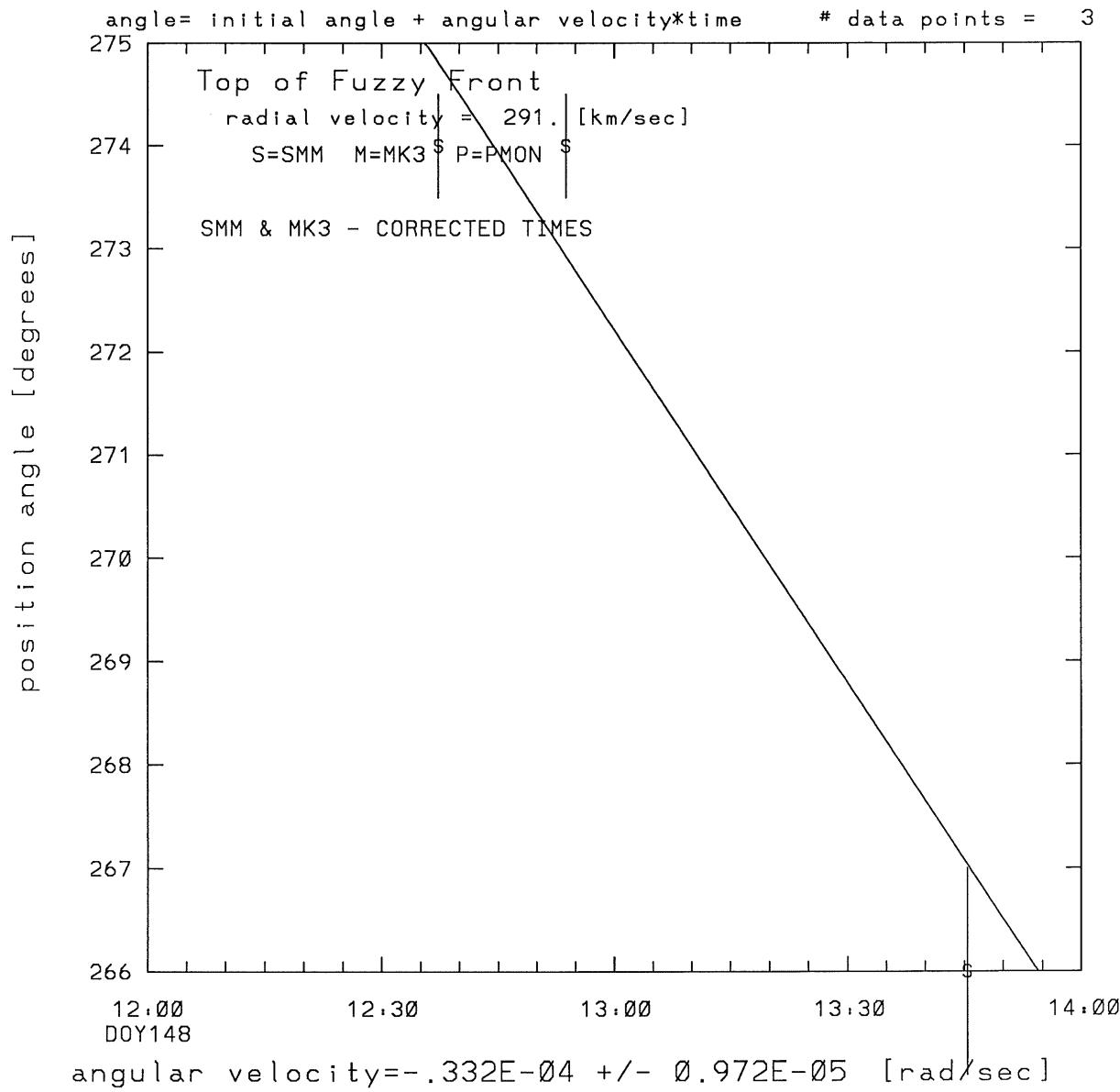


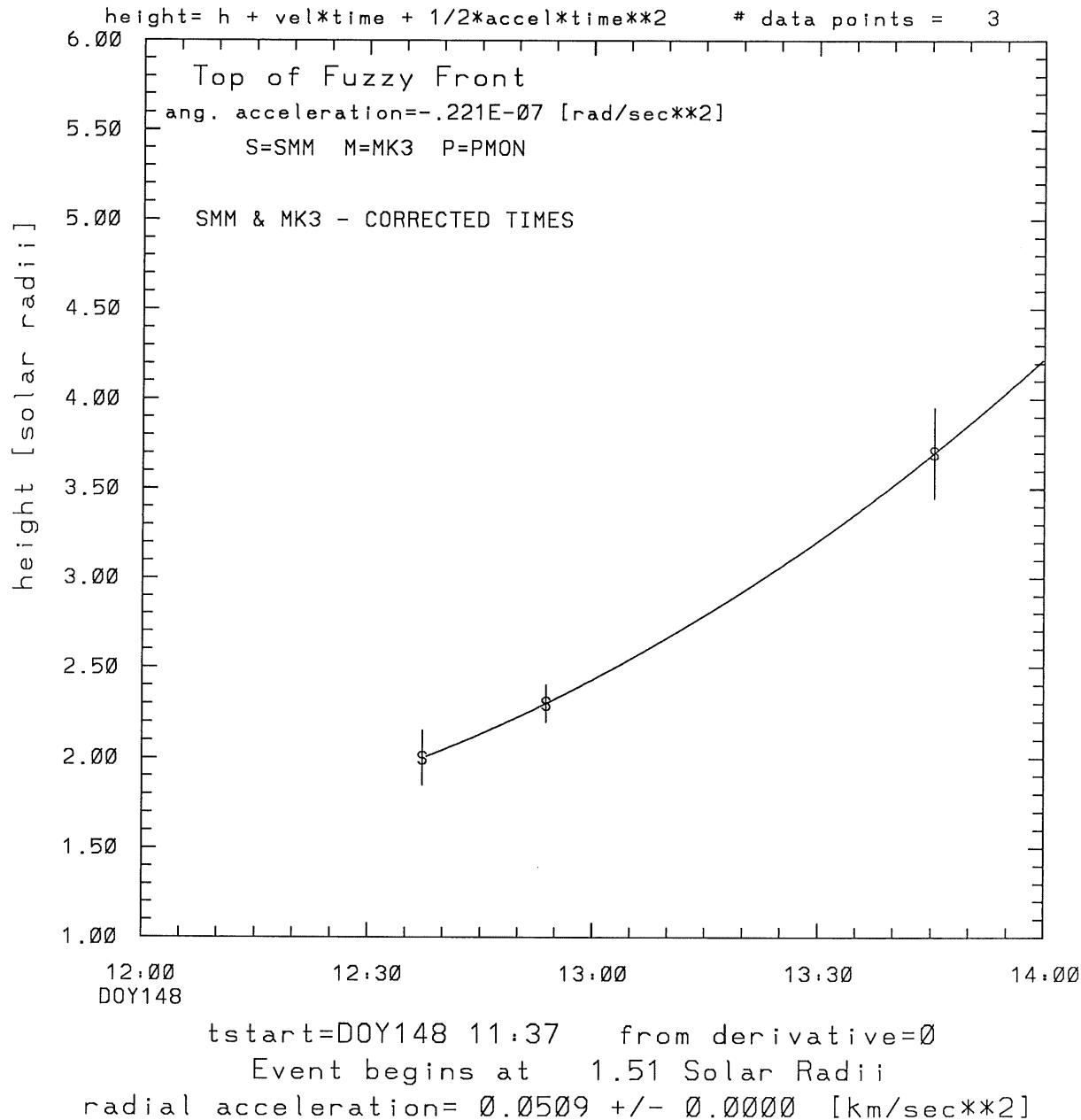
SMM C/P 1989 DOY148 271 +/- 5 degrees

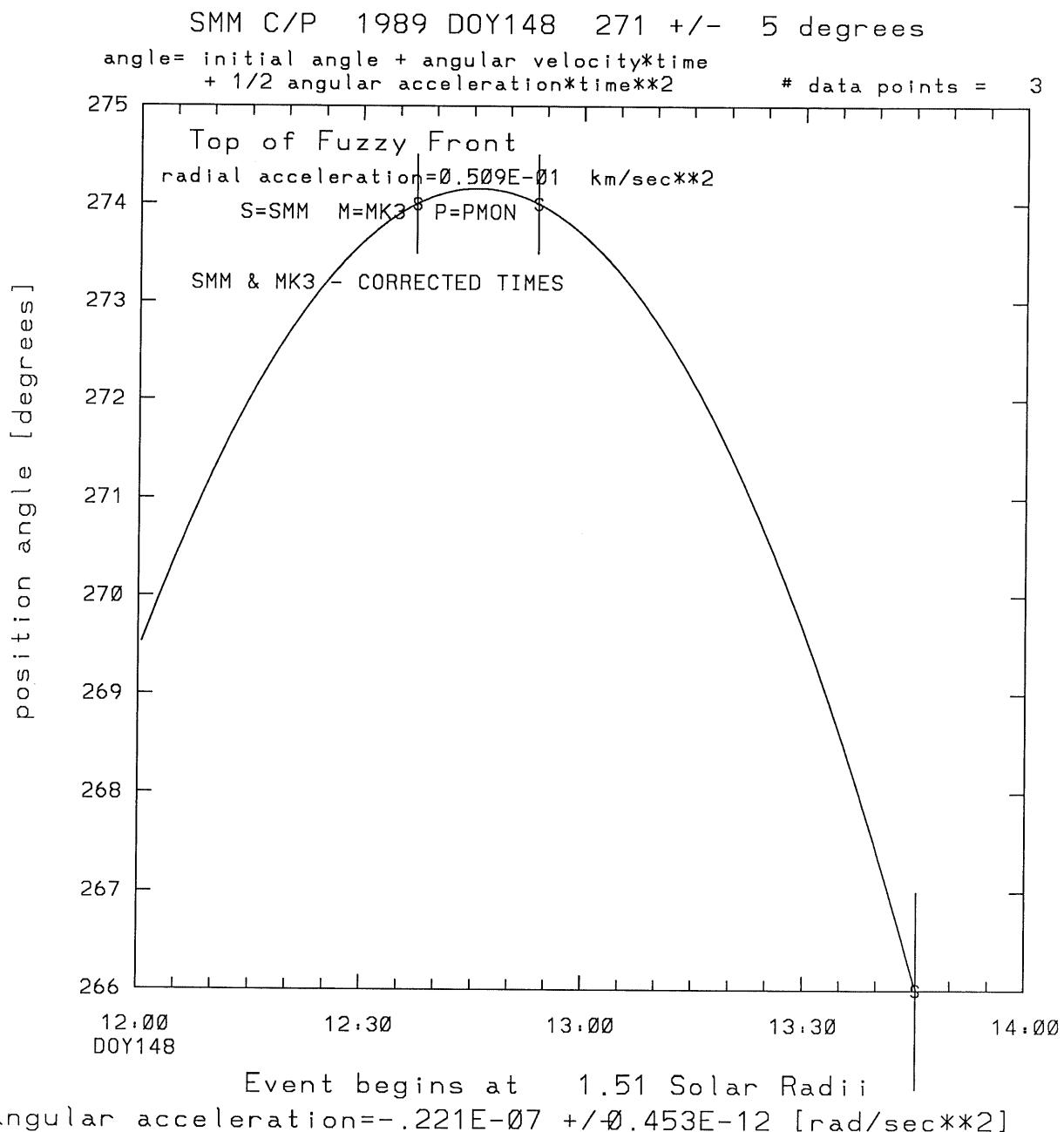


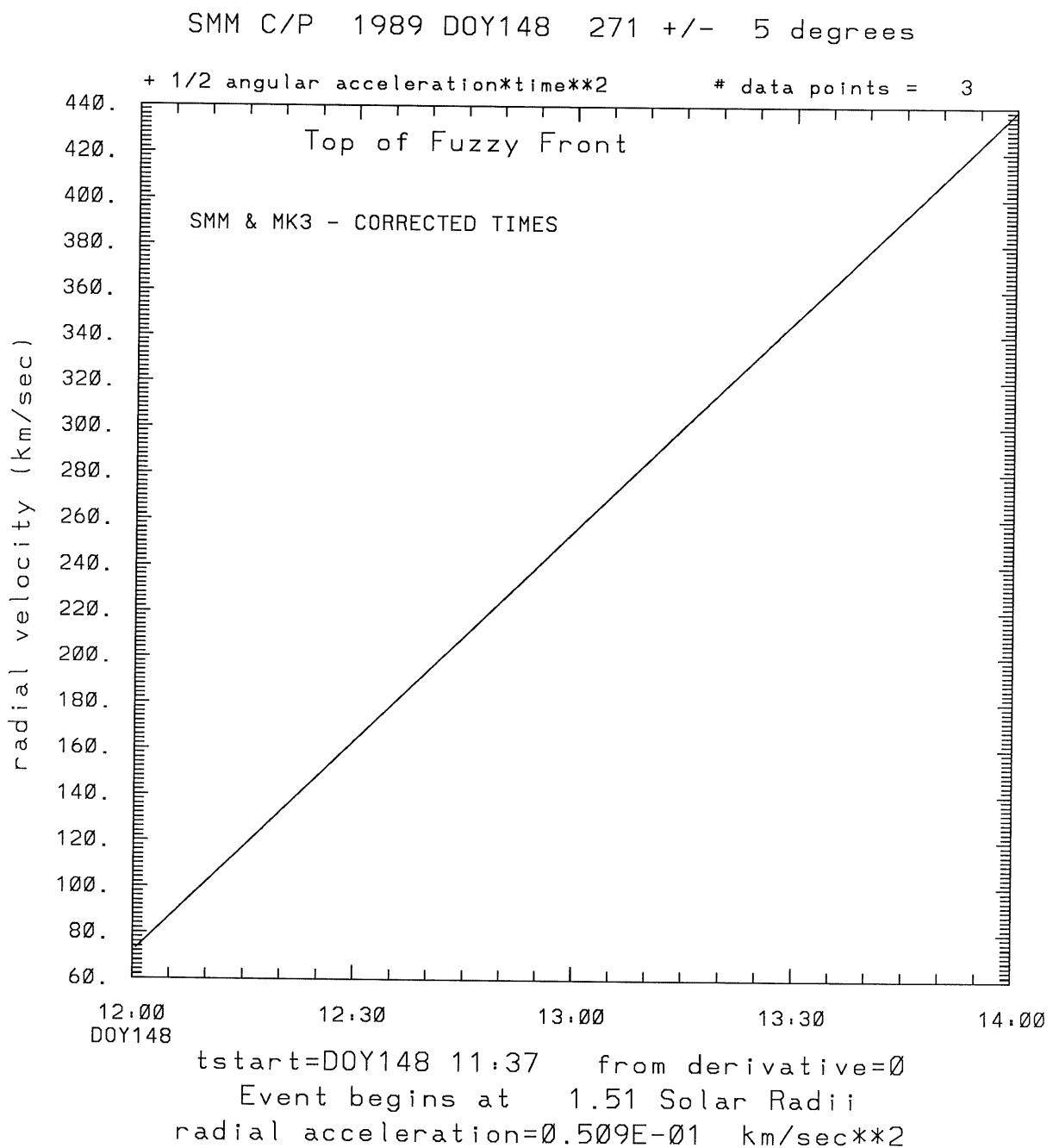
SMM C/P 1989 DOY148 271 +/- 5 degrees



SMM C/P 1989 DOY148 271 +/- 5 degrees



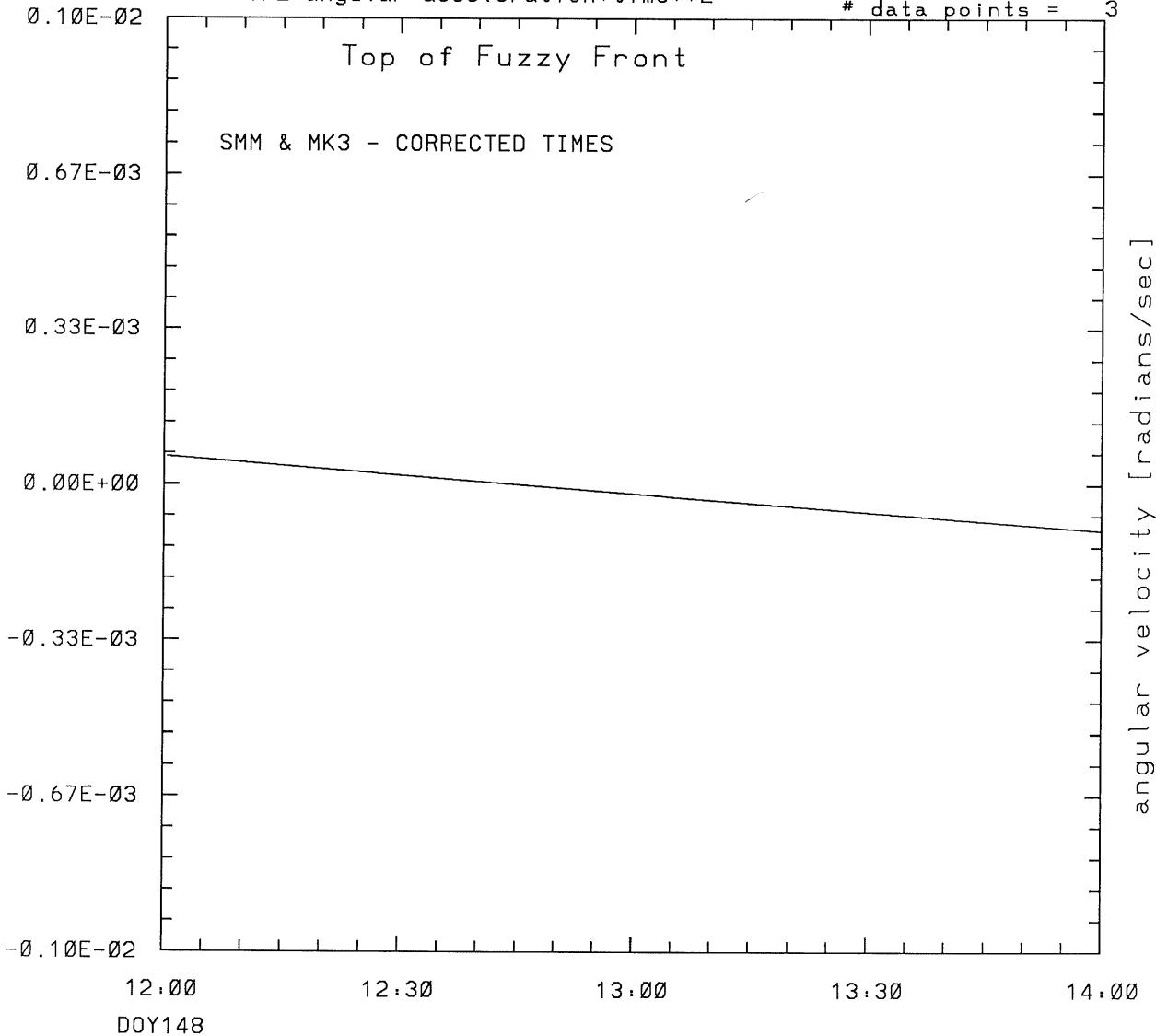




SMM C/P 1989 DOY148 271 +/- 5 degrees

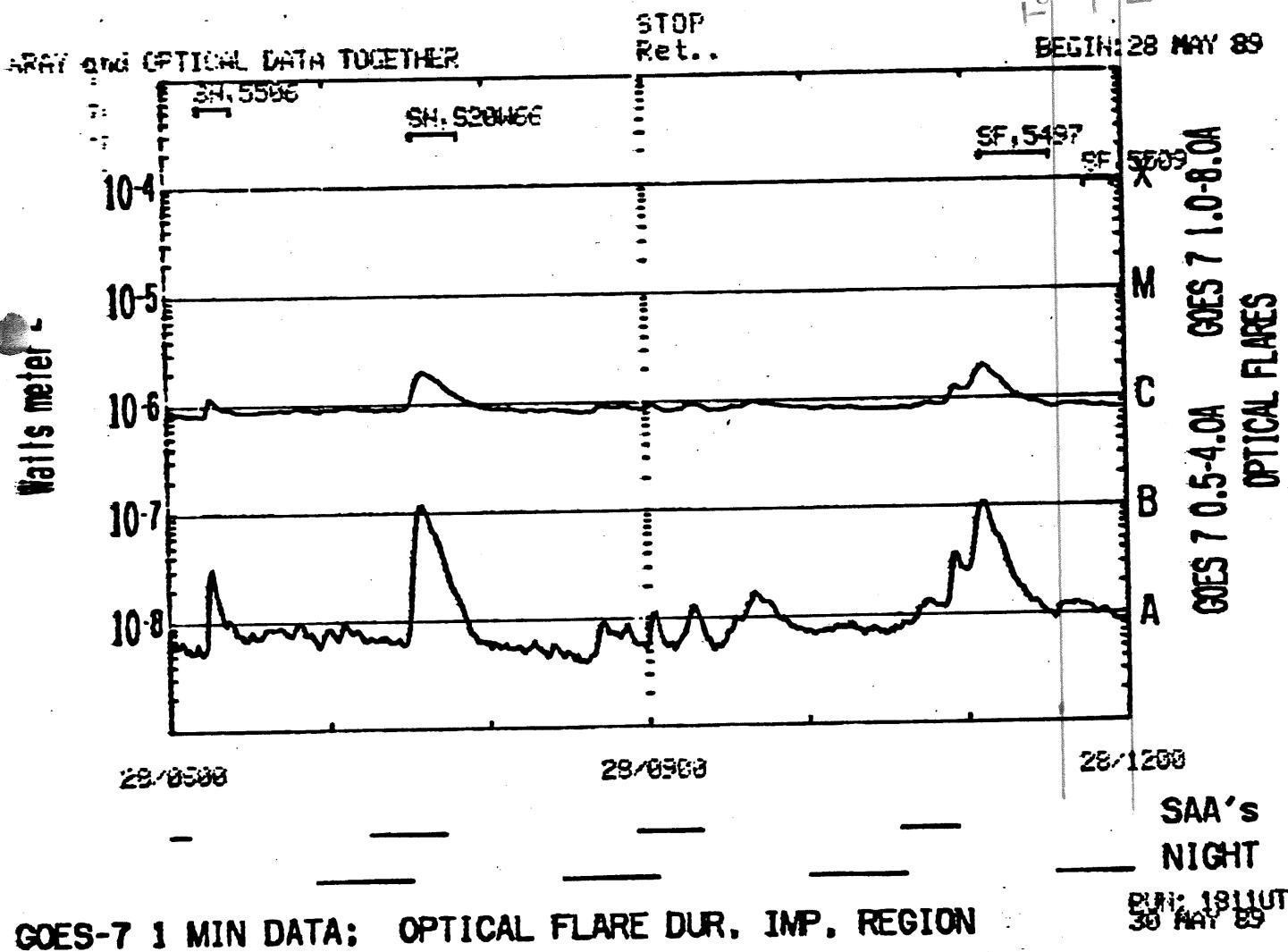
angle= initial angle + angular velocity\*time +  
1/2 angular acceleration\*time\*\*2

# data points = 3



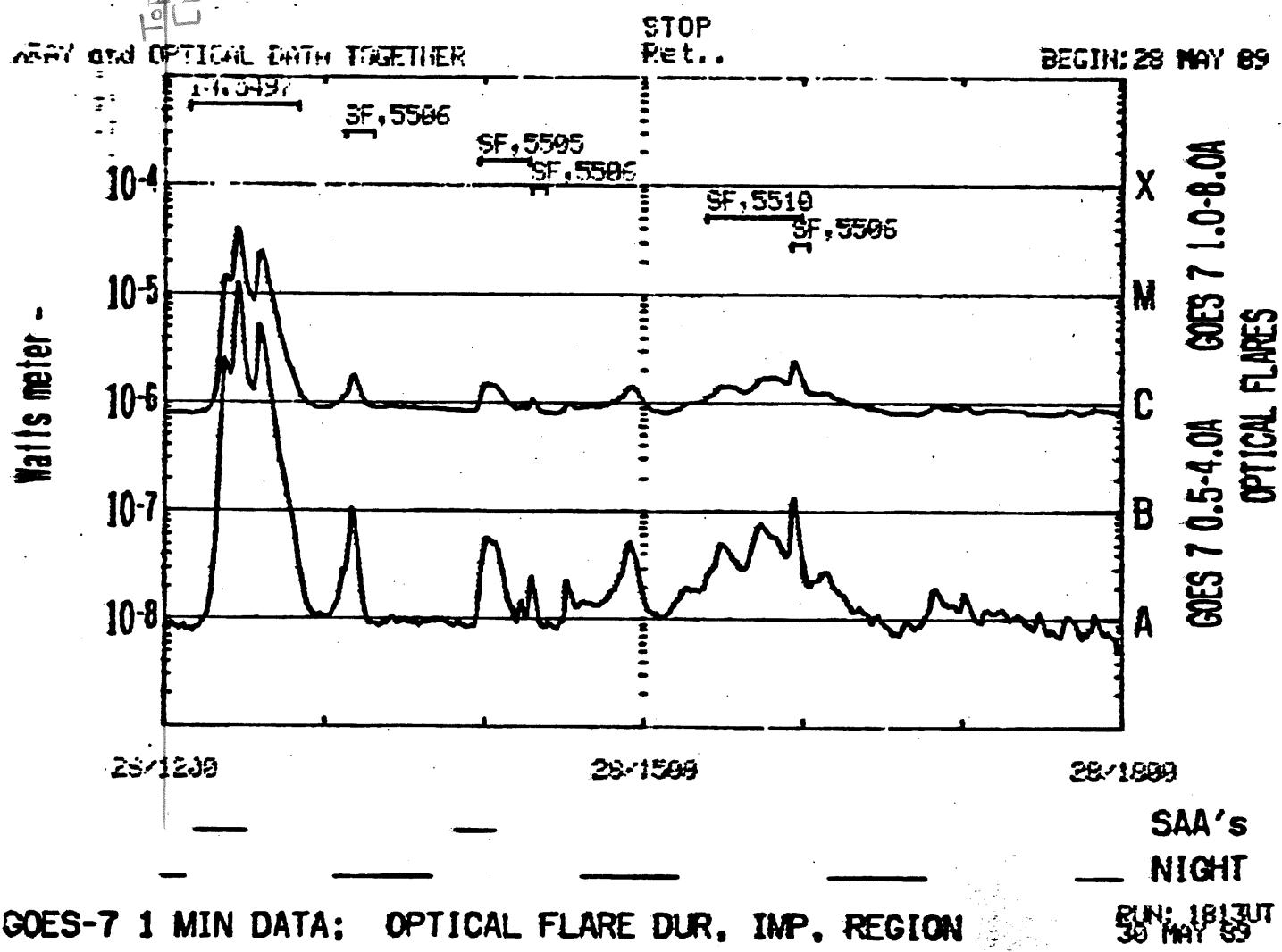
angular acceleration=-.221E-07 +/-  
0.453E-12 [rad/sec\*\*2]

1989 Day 148



see next page

1989 Day 148



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

RUN: 1813UT  
28 MAY 89

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

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

year	doy	time	radii	radius	angle	angle	datatype
1989	148	12:37:18	2.00	+/- 0.15	274.0	+/- 0.5	SMM
1989	148	12:53:48	2.30	+/- 0.10	274.0	+/- 0.5	SMM
1989	148	13:45:22	3.70	+/- 0.25	266.0	+/- 1.0	SMM

\*\*\*\*\*  
Structure being measured:  
Top of Fuzzy Cloud(?)  
\*\*\*\*\*

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

#### START TIME:

Event began at  $t = 0 + 0.312E+00 +/- 0.315E-01$  [minutes]  
In more convenient units:

Event began at DOY 148 12:00 +/- 0.315E-01 [minutes]

Event began at DOY 148 12: 0 +/- 0.315E-01 [minutes]

Origin defined at DOY148 12: 0

#### RADIAL INFORMATION:

RADIAL VELOCITY = 291. +/- 24. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.992E+00 +/- 0.119E+00 [solar radii]  
c(2) = 0.251E-01 +/- 0.208E-02 [radii/min]  
c(2) = 0.291E+03 +/- 0.241E+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)= 0.14975E+00 [radii] see Bevington pg. 114  
error in c(2)= 0.20909E-02 [radii/min] see Bevington pg. 114

#### ANGULAR INFORMATION:

ANGULAR VELOCITY = -0.3322E-04 +/- 0.9719E-05[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 279. +/- 2. [degrees]  
a(2) = -0.114E+00 +/- 0.334E-01 [degrees/min]  
a(2) = -0.332E-04 +/- 0.972E-05 [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, RADIAL AND TOTAL SPEEDS AT EACH DATA POINT ARE:  
The TANGENTIAL velocity at 12:37 = -46. km /sec  
The RADIAL velocity at 12:37 = 291. km/sec

The TOTAL velocity at 12:37 = 295. km/sec

The TANGENTIAL velocity at 12:53 = -53. km /sec  
The RADIAL velocity at 12:53 = 291. km/sec

The TOTAL velocity at 12:53 = 296. km/sec

The TANGENTIAL velocity at 13:45 = -85. km /sec  
The RADIAL velocity at 13:45 = 291. km/sec

The TOTAL velocity at 13:45 = 303. km/sec

\*\*\*\*\*  
The following info is for estimating goodness of the fit  
\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 0.91

Standard Deviation in start time measurement = 0.290E+02

Error in time = 0.41842E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.442E-02

Reduced Chi Squared = 0.210E-01

Chi Squared = 0.210E-01

The probability for exceeding chi square = 0.947E+00

The correlation coefficient = 0.998E+00

The probability that no LINEAR correlation exists between the variables = 0.43561  
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

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

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

year	doy	time	radii	radius	error in angle	error in angle	datatype
1989	148	12:37:18	2.00	+/- 0.15	274.0	+/- 0.5	SMM
1989	148	12:53:48	2.30	+/- 0.10	274.0	+/- 0.5	SMM
1989	148	13:45:22	3.70	+/- 0.25	266.0	+/- 1.0	SMM

\*\*\*\*\*  
Structure being measured:  
Top of Fuzzy Cloud(?)  
\*\*\*\*\*

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

#### START TIME:

tstart=DOY148 11:37 from derivative = 0  
Event begins at 1.51 Solar Radii  
Origin defined at DOY148 12: 0

#### RADIAL INFORMATION:

RADIAL ACCELERATION = 0.509E-01 +/- 0.114E-05 km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) =	0.159E+01	+/- 0.138E-04	[solar radii]
c(2) =	0.618E-02	+/- 0.429E-06	[radii/min]
c(2) =	0.717E+02	+/- 0.497E-02	[km/sec]
c(3) =	0.132E-03	+/- 0.295E-08	[radii/min**2]
c(3) =	0.509E-01	+/- 0.114E-05	[km/sec**2]

#### ANGULAR INFORMATION:

ANGULAR ACCELERATION= -0.2210E-07 +/- 0.4529E-12[radians/sec\*\*2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) =	269.	+/- 0.	[degrees]
a(2) =	0.208E+00	+/- 0.667E-05	[degrees/min]
a(2) =	0.604E-04	+/- 0.194E-08	[rad/sec]
a(3) =	-0.228E-02	+/- 0.467E-07	[degrees/min**2]
a(3) =	-0.221E-07	+/- 0.453E-12	[rad/sec**2]

THE TANGENTIAL, RADIAL AND TOTAL SPEEDS AT EACH DATA POINT ARE:  
The TANGENTIAL velocity at 12:37 = 15. km /sec  
The RADIAL velocity at 12:37 = 186. km/sec

The TOTAL velocity at 12:37 = 186. km/sec

The TANGENTIAL velocity at 12:53 = -17. km /sec  
The RADIAL velocity at 12:53 = 236. km/sec

The TOTAL velocity at 12:53 = 237. km/sec

The TANGENTIAL velocity at 13:45 = -204. km /sec

The RADIAL velocity at 13:45 = 394. km/sec

The TOTAL velocity at 13:45 = 443. 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!