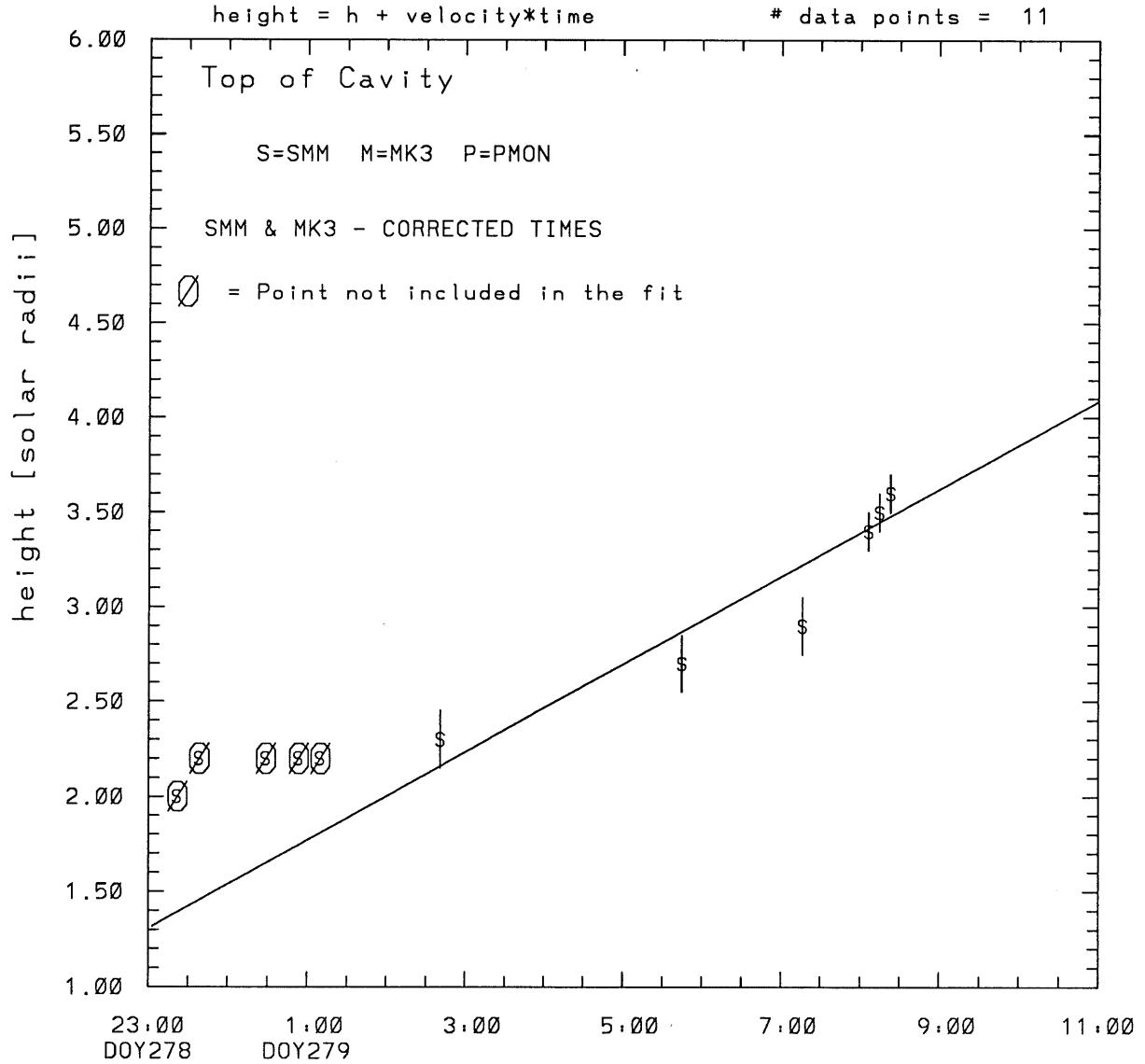
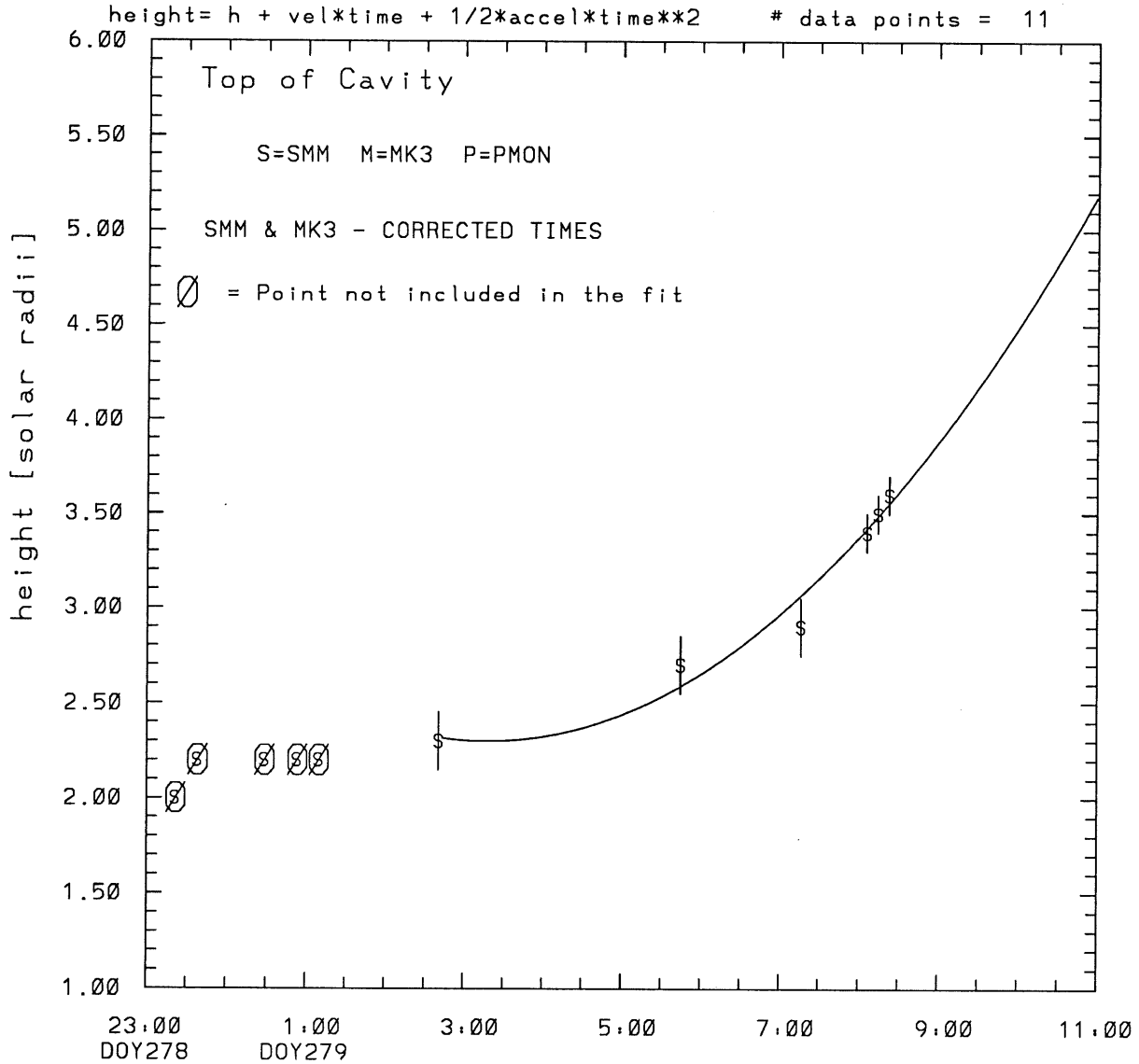


SMM C/P 1989 DOY278 272 +/- 0 degrees



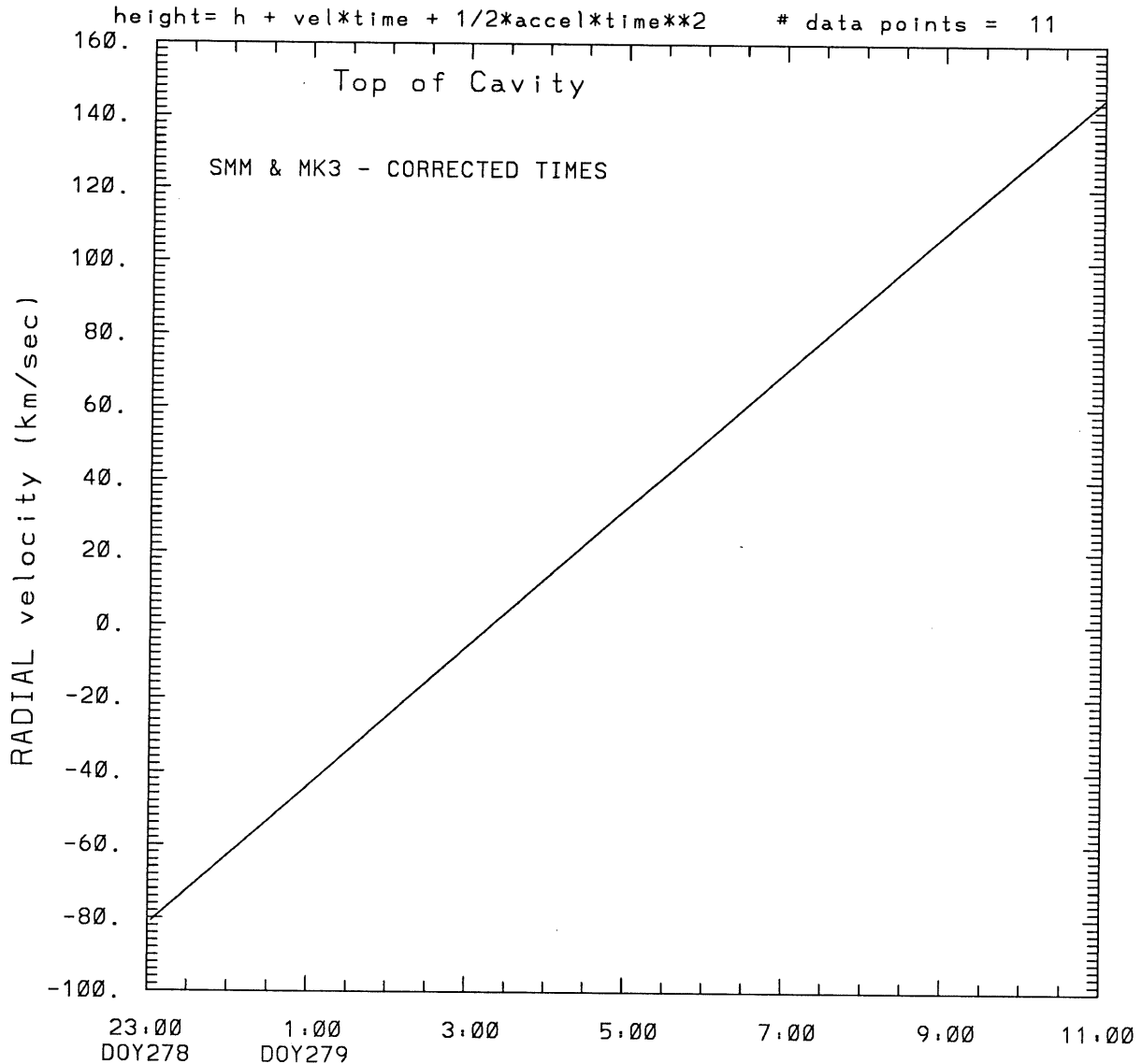
tstart=DOY278 21:41 +/- 4.1 [min.]
radial velocity= 45. +/- 5. [km/sec]

SMM C/P 1989 DOY278 272 +/- 0 degrees



tstart=DOY279 3:18 from derivative=0
Event begins at 2.30 Solar Radii
radial acceleration = 0.0053 +/- 0.0010 [km/sec**2]

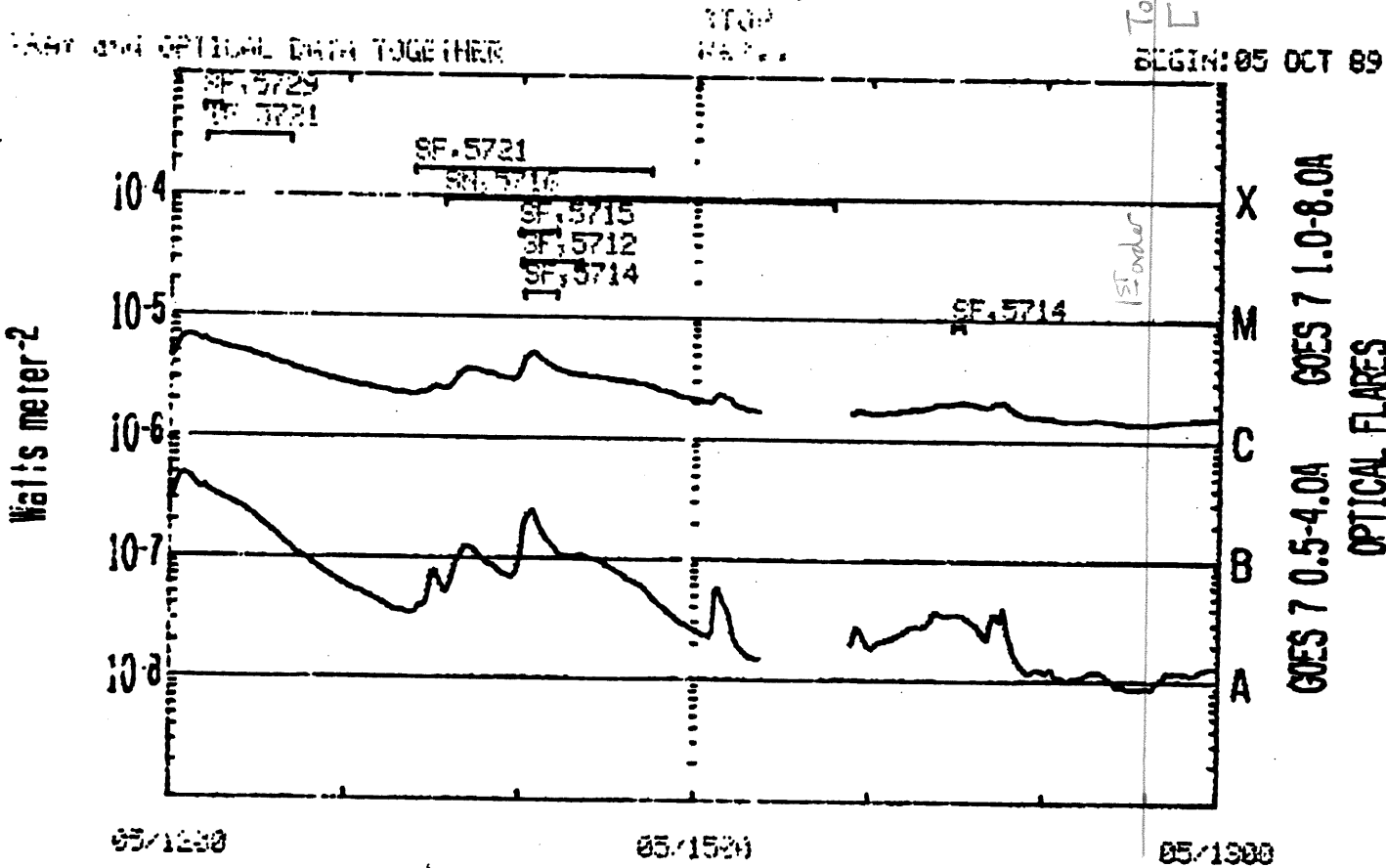
SMM C/P 1989 DOY278 272 +/- 0 degrees



tstart=DOY279 3:18 from derivative=0
Event begins at 2.30 Solar Radii
radial acceleration=0.526E-02 km/sec**2

1989 DOY 278

Top of cavity center = 275°
[17:34] 1st order



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

FILE: 1732UT
11 OCT 89

see day 279
for 2nd order

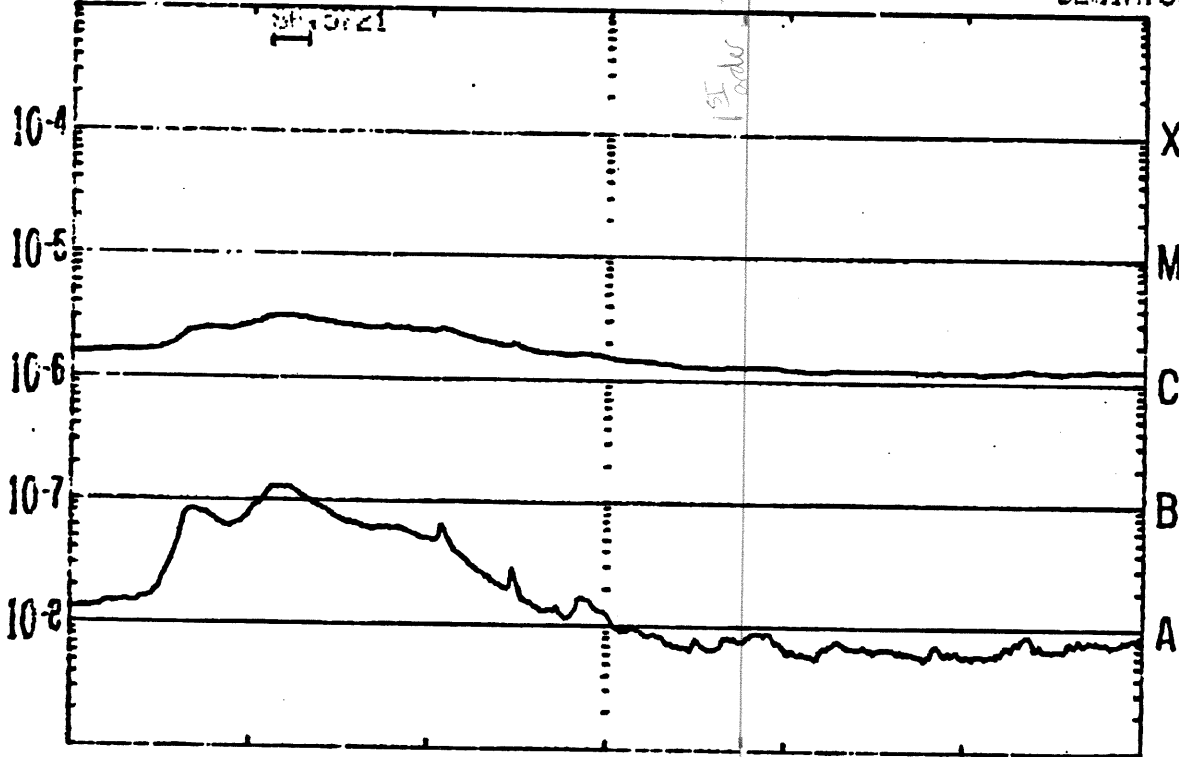
1989 Day 278

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

STOP

05/0055

Watts meter²



GOES 7 0.5-4.0A OPTICAL FLARES
GOES 7 1.0-8.0A

05/1890

05/2190

05/0055

SAA's NIGHT

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

RUN: 1735UT
11 OCT 89

1989 DOY 279

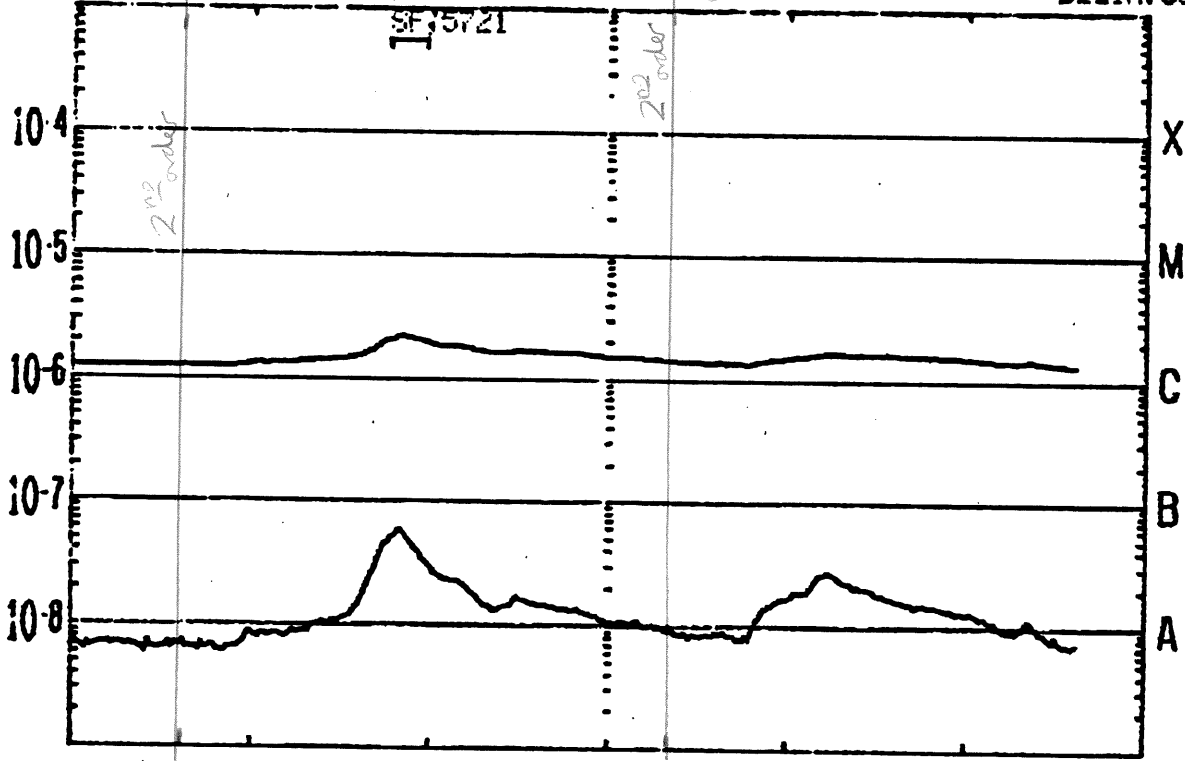
Top of Cavity center = 275°
[0:34] 2nd order

Top of Cavity
[3:21] 2nd order
OMITTING FIRST FIVE DATA POINTS

REPLY AND OPTICAL DATA TOGETHER

BEGIN: 06 OCT 89

Watts meter²



GOES 7 0.5-4.0A GOES 7 1.0-8.0A
OPTICAL FLARES

05/0300

05/0430

05/0600

SAA's
NIGHT

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

RUN: 1742UT
11 OCT 89

This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in angle	error in angle	datatype						
1989	278	23:21:11	2.00	-----	272.00 +/-	-----	SMM	THIS	POINT	WASN'T	USEI		
1989	278	23:37:41	2.20	-----	272.00 +/-	-----	SMM	THIS	POINT	WASN'T	USEI		
1989	279	0:28: 8	2.20	-----	272.00 +/-	-----	SMM	THIS	POINT	WASN'T	USEI		
1989	279	0:52:50	2.20	-----	272.00 +/-	-----	SMM	THIS	POINT	WASN'T	USEI		
1989	279	1: 9:20	2.20	-----	272.00 +/-	-----	SMM	THIS	POINT	WASN'T	USEI		
1989	279	2:40:59	2.30	+/- 0.15	272.0 +/-	0.5	SMM						
1989	279	5:44:49	2.70	+/- 0.15	272.0 +/-	0.5	SMM						
1989	279	7:16:13	2.90	+/- 0.15	272.0 +/-	0.5	SMM						
1989	279	8: 6:19	3.40	+/- 0.10	272.0 +/-	1.0	SMM						
1989	279	8:14:34	3.50	+/- 0.10	272.0 +/-	1.0	SMM						
1989	279	8:23: 0	3.60	+/- 0.10	272.0 +/-	1.0	SMM						

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

Event began at t = 0 + -0.794E+02 +/- 0.412E+01 [minutes]
In more convenient units:
Event began at DOY 278 21:41 +/- 0.412E+01 [minutes]

Origin defined at DOY278 23: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 45. +/- 5. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.131E+01 +/- 0.215E+00 [solar radii]
c(2) = 0.386E-02 +/- 0.422E-03 [radii/min]
c(2) = 0.448E+02 +/- 0.490E+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)= 0.22462E+00 [radii] see Bevington pg. 114
error in c(2)= 0.62495E-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) = 272. +/- 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 RADIAL velocity at 23:21 = 45. km/sec
The RADIAL velocity at 23:37 = 45. km/sec
The RADIAL velocity at 0:28 = 45. km/sec
The RADIAL velocity at 0:52 = 45. km/sec
The RADIAL velocity at 1: 9 = 45. km/sec
The RADIAL velocity at 2:40 = 45. km/sec
The RADIAL velocity at 5:44 = 45. km/sec
The RADIAL velocity at 7:16 = 45. km/sec
The RADIAL velocity at 8: 6 = 45. km/sec
The RADIAL velocity at 8:14 = 45. km/sec
The RADIAL velocity at 8:23 = 45. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.60
Standard Deviation in start time measurement = 0.214E+03
Error in time = 0.34496E+03 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.216E-01
Reduced Chi Squared = 0.596E+00
Chi Squared = 0.536E+01
The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.956E+00
The probability that no LINEAR correlation exists between the variables = 0.4519)
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	278	23:21:11	2.00	-----	272.00 +/-	-----	SMM	THIS	POINT	WASN'T	USE!		
1989	278	23:37:41	2.20	-----	272.00 +/-	-----	SMM	THIS	POINT	WASN'T	USE!		
1989	279	0:28: 8	2.20	-----	272.00 +/-	-----	SMM	THIS	POINT	WASN'T	USE!		
1989	279	0:52:50	2.20	-----	272.00 +/-	-----	SMM	THIS	POINT	WASN'T	USE!		
1989	279	1: 9:20	2.20	-----	272.00 +/-	-----	SMM	THIS	POINT	WASN'T	USE!		
1989	279	2:40:59	2.30	+/- 0.15	272.0 +/-	0.5	SMM						
1989	279	5:44:49	2.70	+/- 0.15	272.0 +/-	0.5	SMM						
1989	279	7:16:13	2.90	+/- 0.15	272.0 +/-	0.5	SMM						
1989	279	8: 6:19	3.40	+/- 0.10	272.0 +/-	1.0	SMM						
1989	279	8:14:34	3.50	+/- 0.10	272.0 +/-	1.0	SMM						
1989	279	8:23: 0	3.60	+/- 0.10	272.0 +/-	1.0	SMM						

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

tstart=DOY279 3:18 from derivative = 0
Event begins at 2.30 Solar Radii
Origin defined at DOY278 23: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.526E-02 +/- 0.981E-03 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.321E+01 +/- 0.372E+00 [solar radii]
c(2) = -0.703E-02 +/- 0.204E-02 [radii/min]
c(2) = -0.816E+02 +/- 0.237E+02 [km/sec]
c(3) = 0.136E-04 +/- 0.254E-05 [radii/min**2]
c(3) = 0.526E-02 +/- 0.981E-03 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.41466E+00 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.10953E+00 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.42582E-02 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.69178E-03 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.69221E-05 [radii/min**2] Bevington pg 154 (8-30)
Exact error in c(3) = 0.89395E-06 [radii/min**2] 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) = 272. +/- 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 RADIAL velocity at 23:21 = -75. km/sec

The RADIAL velocity at 23:37 = -70. km/sec

The RADIAL velocity at 0:28 = -54. km/sec

The RADIAL velocity at 0:52 = -46. km/sec

The RADIAL velocity at 1: 9 = -41. km/sec

The RADIAL velocity at 2:40 = -12. km/sec

The RADIAL velocity at 5:44 = 46. km/sec

The RADIAL velocity at 7:16 = 75. km/sec

The RADIAL velocity at 8: 6 = 91. km/sec

The RADIAL velocity at 8:14 = 93. km/sec

The RADIAL velocity at 8:23 = 96. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.60
Standard Deviation in start time measurement = 0.214E+03
Value of reduced Chi Squared returned from nllst2 = 0.572E-02
Reduced Chi Squared = 0.561E+00
Chi Squared = 0.449E+01
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 = 0.1065E+01
The correlation between the data and the time**2 term = 0.1169E+01
The correlation between the data and the complete equation of motion=0.6793E+00
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]