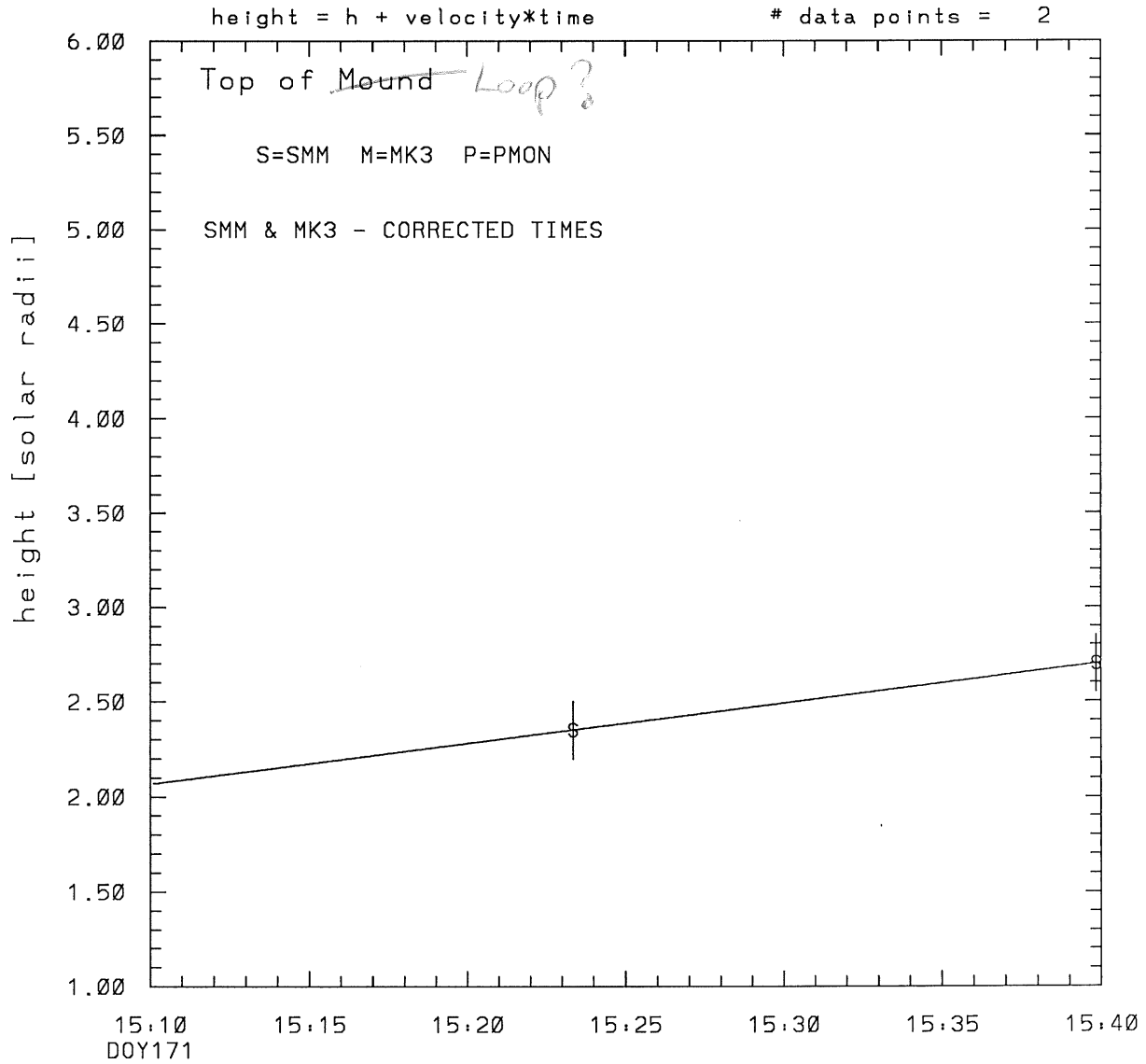


SMM C/P 1989 DOY171 295 +/- 0 degrees



tstart=DOY171 14:20 +/- 0.0 [min.]
radial velocity= 246. +/- 0. [km/sec]

This is a 1 order run

INPUT:

year	day	time	radii	error in radius	angle	error in angle	datatype
1989	171	15:23:21	2.35	+/- 0.15	295.0	+/- 1.0	SMM
1989	171	15:39:51	2.70	+/- 0.15	295.0	+/- 1.0	SMM

Structure being measured:
Top of Mound *Loop?*

OUTPUT:

START TIME:

Event began at $t = 0 + -0.503E+02 +/- 0.000E+00$ [minutes]
In more convenient units:
Event began at DOY 171 14:20 +/- 0.000E+00 [minutes]

Origin defined at DOY171 15:10

RADIAL INFORMATION:

RADIAL VELOCITY = 246. +/- 0. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

- c(1) = 0.207E+01 +/- 0.000E+00 [solar radii]
- c(2) = 0.212E-01 +/- 0.000E+00 [radii/min]
- c(2) = 0.246E+03 +/- 0.000E+00 [km/sec]
- c(3) = 0.000E+00 +/- 0.000E+00 [radii/min**2]
- c(3) = 0.000E+00 +/- 0.000E+00 [km/sec**2]

ANGULAR INFORMATION:

ANGULAR VELOCITY = 0.0000E+00 +/- 0.0000E+00[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

- a(1) = 295. +/- 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 15:23 = 0. km/sec

The TOTAL velocity at 15:23 = 246. km/sec

The TANGENTIAL velocity at 15:39 = 0. km/sec

The TOTAL velocity at 15:39 = 246. km/sec

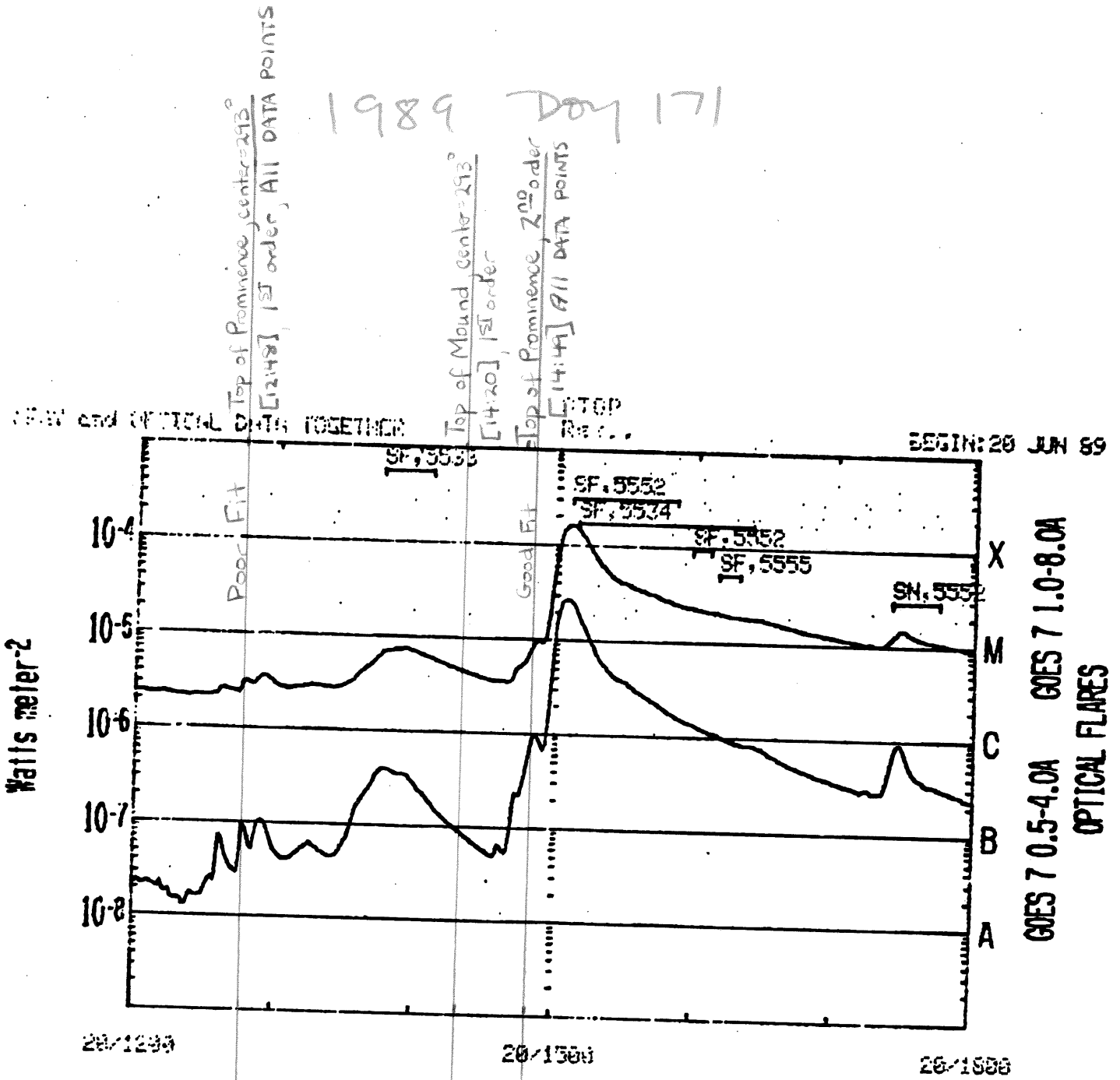
The following info is for estimating goodness of the fit

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

Correlation coefficient is not computable!

Promnence Falls Sunward

1989 Day 171

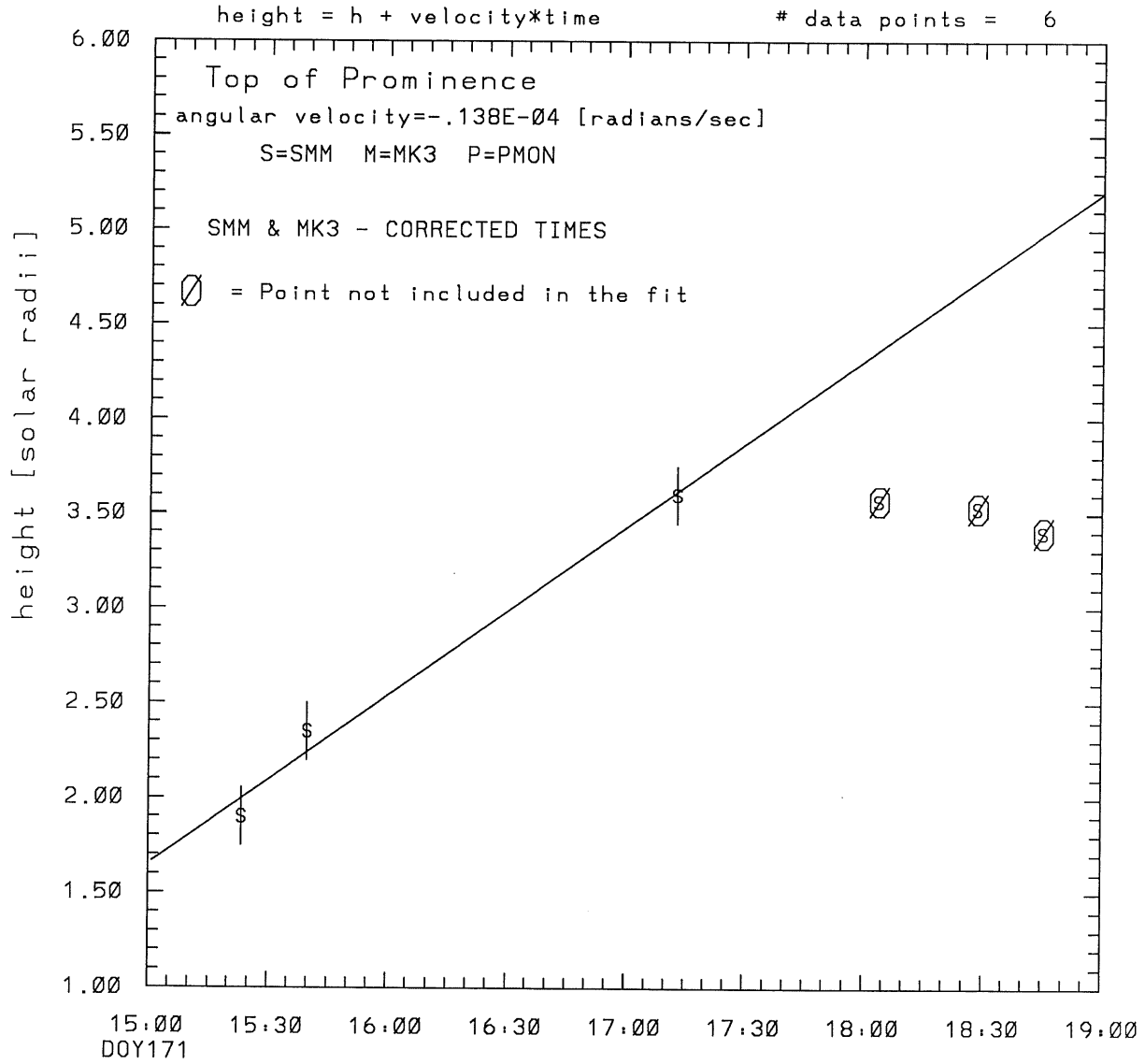


GOES 7 0.5-4.0A GOES 7 1.0-8.0A
OPTICAL FLARES

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

SAA's NIGHT
RUN: 1532UT
24 JUN 89

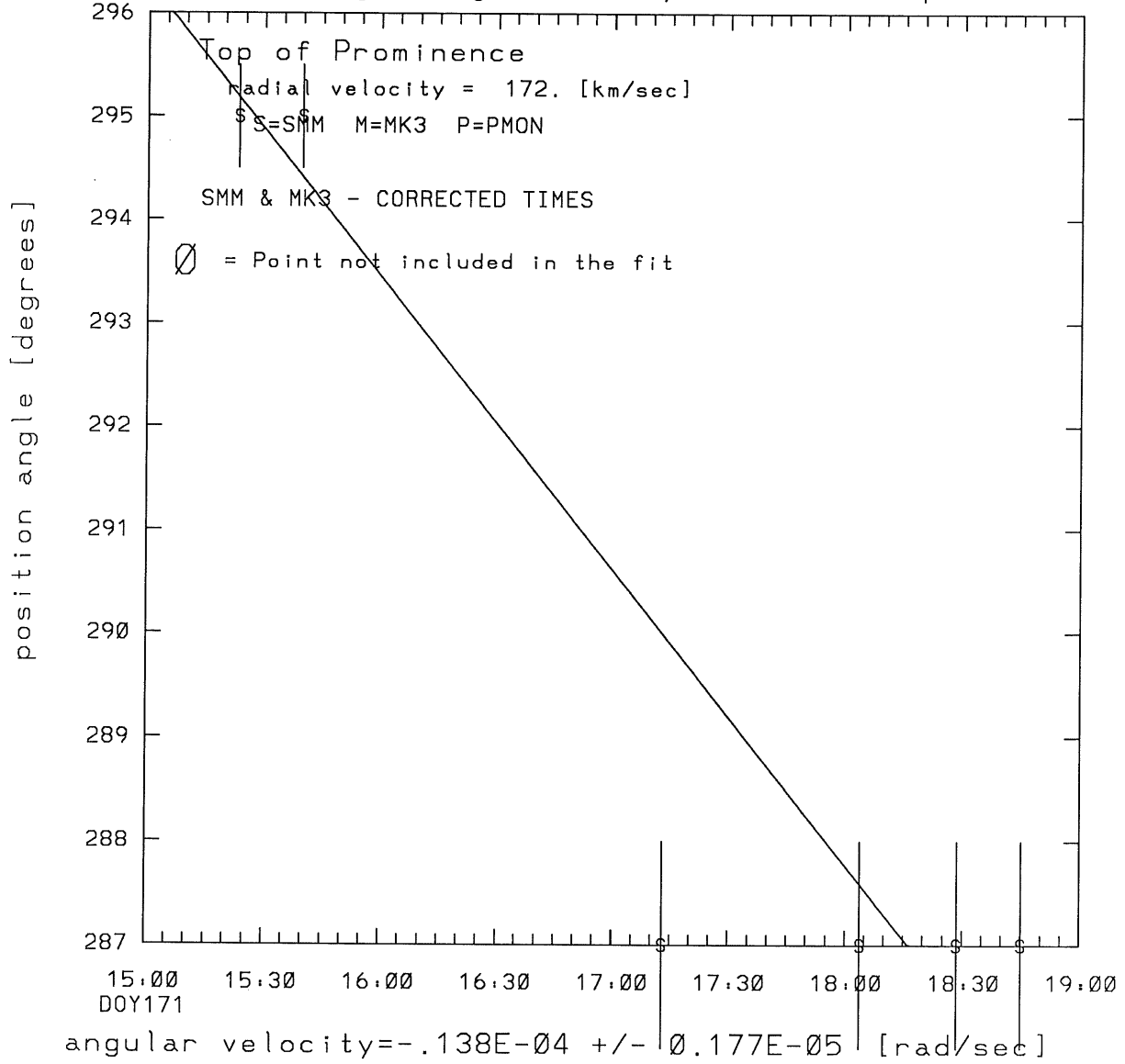
SMM C/P 1989 DOY171 289 +/- 6 degrees



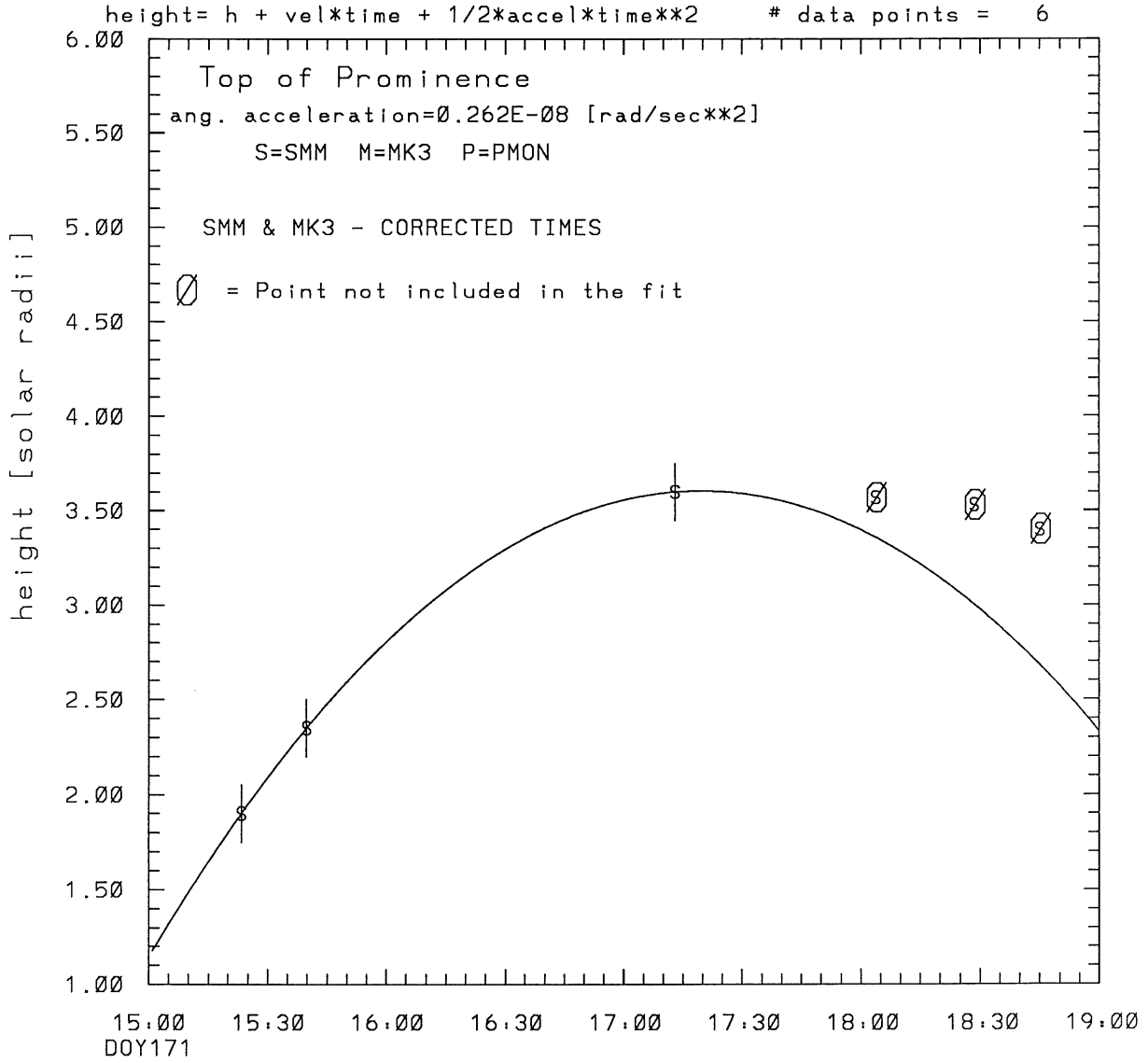
tstart=DOY171 14:18 +/- 1.6 [min.]
radial velocity= 172. +/- 9. [km/sec]

SMM C/P 1989 DOY171 289 +/- 6 degrees

angle = initial angle + angular velocity * time # data points = 6



SMM C/P 1989 DOY171 289 +/- 6 degrees

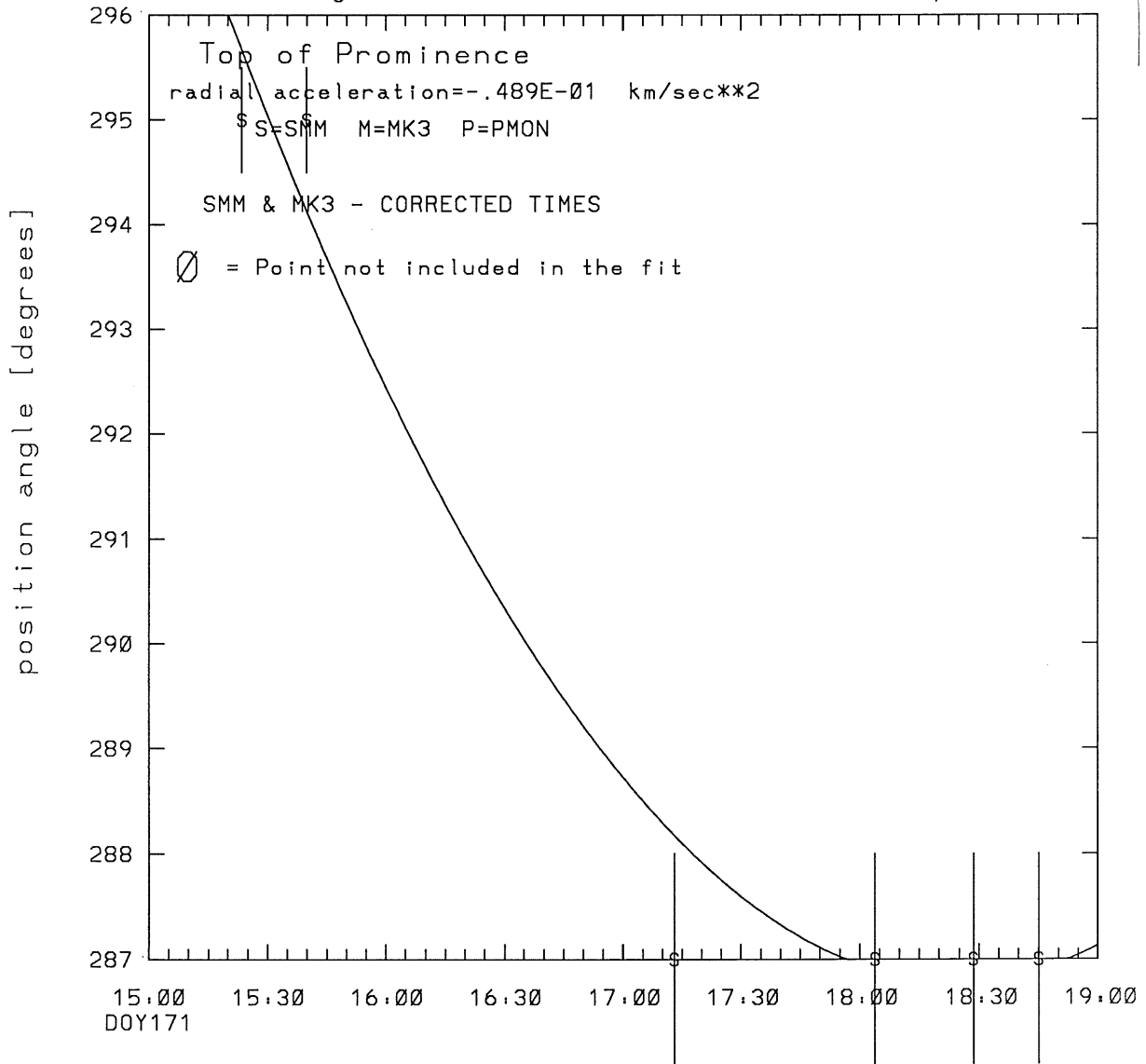


tstart = DOY171 14:56 +/- 0.N [min.]

radial acceleration = $-0.0489 +/- 0.0000$ [km/sec**2]

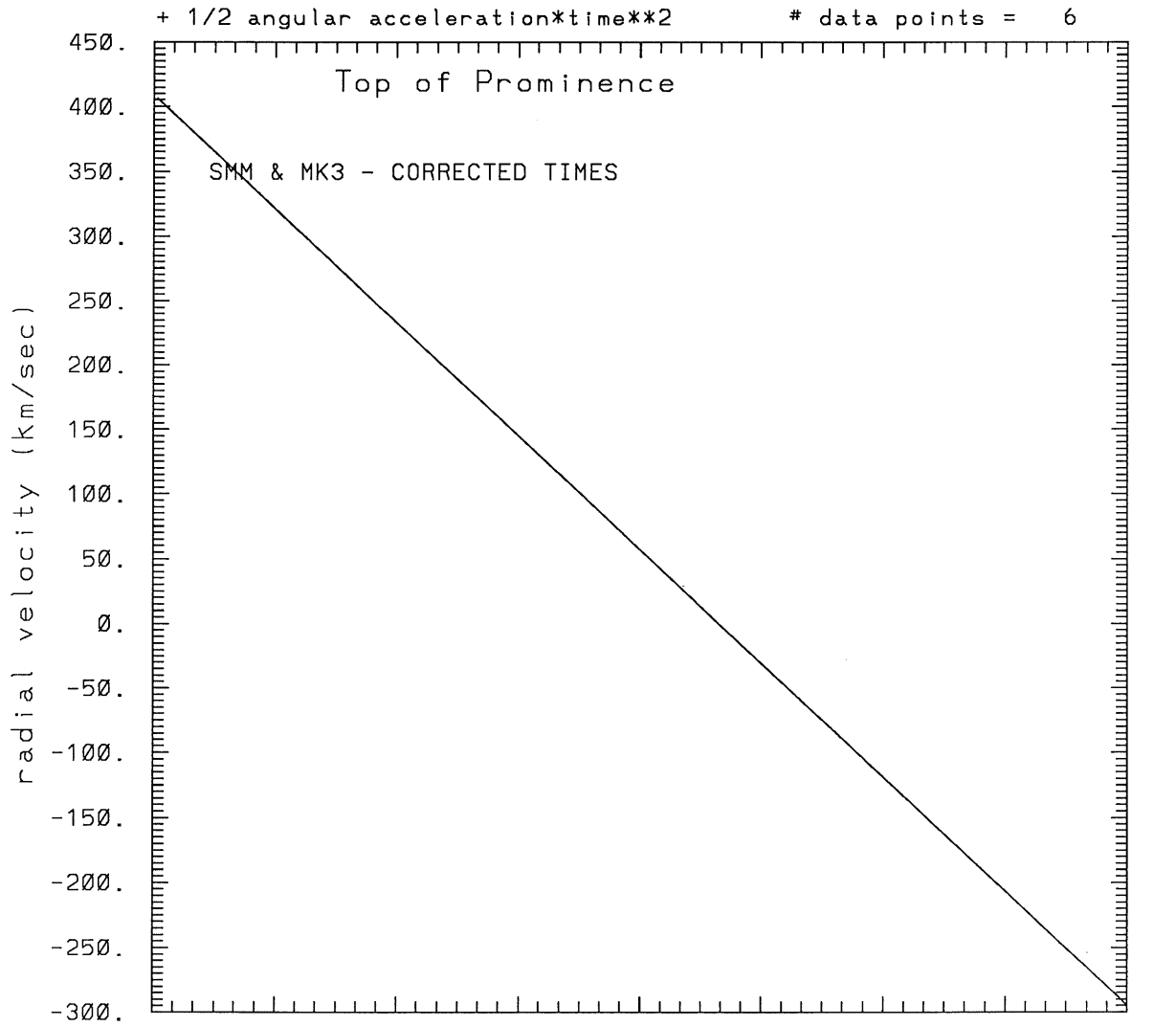
SMM C/P 1989 DOY171 289 +/- 6 degrees

angle = initial angle + angular velocity*time
+ 1/2 angular acceleration*time**2 # data points = 6



angular acceleration = $0.262E-08$ +/- $0.126E-08$ [rad/sec**2]

SMM C/P 1989 DOY171 289 +/- 6 degrees



15:00
DOY171

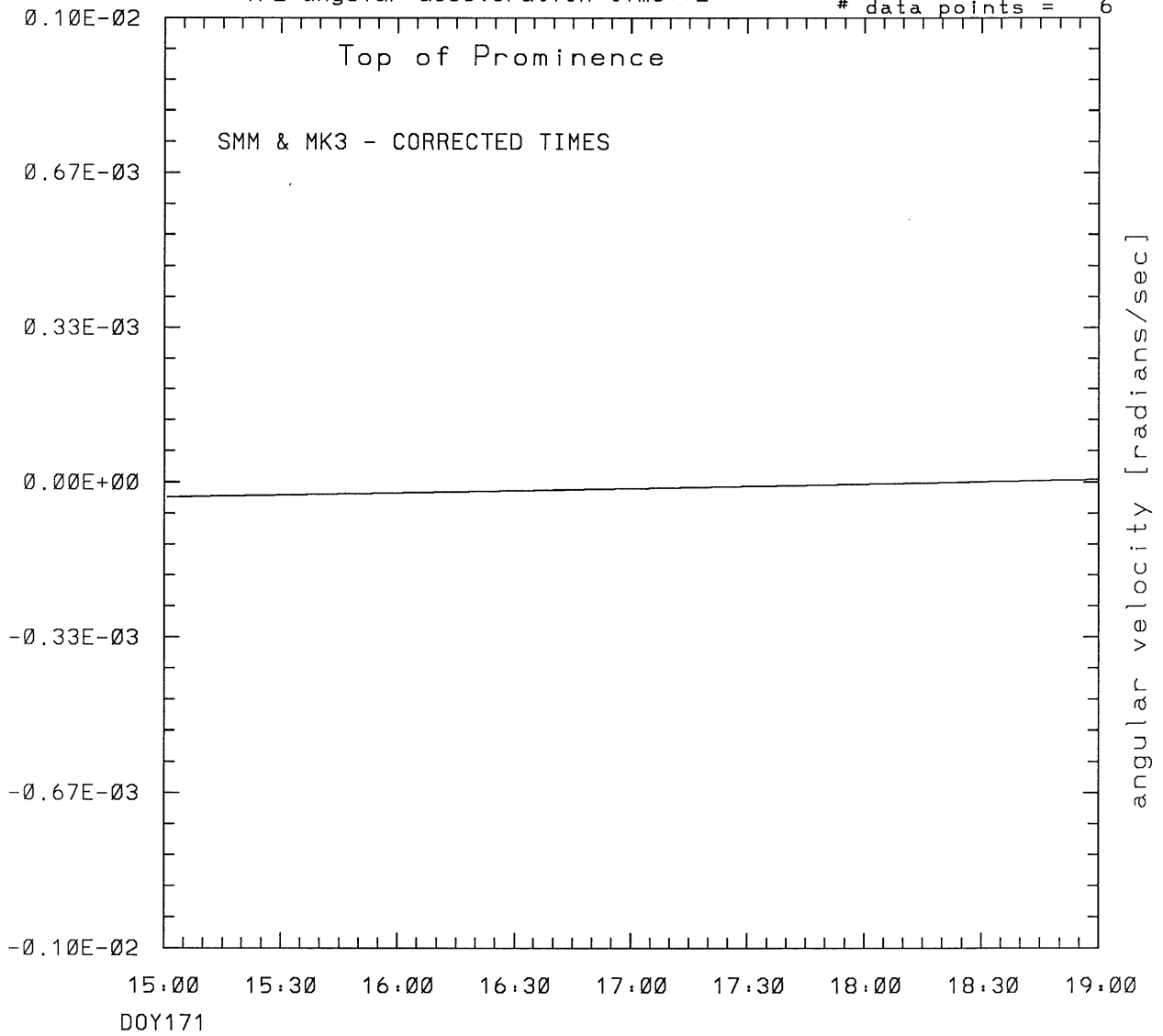
tstart=DOY171 14:56 +/- 0.N [min.]

radial acceleration=-.489E-01 km/sec**2

SMM C/P 1989 DOY171 289 +/- 6 degrees

$$\text{angle} = \text{initial angle} + \text{angular velocity} * \text{time} + \frac{1}{2} \text{angular acceleration} * \text{time} ** 2$$

data points = 6



angular acceleration = $0.262E-08 \pm 0.126E-08$ [rad/sec**2]

This is a 1 order run

INPUT:

year	day	time	radii	radius	error in angle	error in angle	datatype
1989	171	15:23:21	1.90 +/- 0.15		295.0 +/- 0.5		SMM
1989	171	15:39:51	2.35 +/- 0.15		295.0 +/- 0.5		SMM
1989	171	17:13: 1	3.60 +/- 0.15		287.0 +/- 1.0		SMM
1989	171	18: 3:49	3.57	-----	287.00 +/-	----	SMM THIS POINT WASN'T USE
1989	171	18:28:35	3.53	-----	287.00 +/-	----	SMM THIS POINT WASN'T USE
1989	171	18:45: 5	3.40	-----	287.00 +/-	----	SMM THIS POINT WASN'T USE

Structure being measured:
Top of Prominence

OUTPUT:

START TIME:

Event began at t = 0 + -0.439E+02 +/- 0.163E+01 [minutes]
In more convenient units:
Event began at DOY 171 14:18 +/- 0.163E+01 [minutes]

Origin defined at DOY171 15: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 172. +/- 9. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.165E+01 +/- 0.639E-01 [solar radii]
c(2) = 0.148E-01 +/- 0.786E-03 [radii/min]
c(2) = 0.172E+03 +/- 0.912E+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)= 0.87002E+00 [radii] see Bevington pg. 114
error in c(2)= 0.55435E-02 [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = -0.1377E-04 +/- 0.1774E-05[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 296. +/- 1. [degrees]
a(2) = -0.473E-01 +/- 0.610E-02 [degrees/min]
a(2) = -0.138E-04 +/- 0.177E-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 15:23 = -18. km/sec

The RADIAL velocity at 15:23 = 172. km/sec

The TOTAL velocity at 15:23 = 173. km/sec

The TANGENTIAL velocity at 15:39 = -22. km /sec

The RADIAL velocity at 15:39 = 172. km/sec

The TOTAL velocity at 15:39 = 173. km/sec

The TANGENTIAL velocity at 17:13 = -34. km /sec

The RADIAL velocity at 17:13 = 172. km/sec

The TOTAL velocity at 17:13 = 175. km/sec

The TANGENTIAL velocity at 18: 3 = -34. km /sec

The RADIAL velocity at 18: 3 = 172. km/sec

The TOTAL velocity at 18: 3 = 175. km/sec

The TANGENTIAL velocity at 18:28 = -34. km /sec

The RADIAL velocity at 18:28 = 172. km/sec

The TOTAL velocity at 18:28 = 175. km/sec

The TANGENTIAL velocity at 18:45 = -33. km /sec

The RADIAL velocity at 18:45 = 172. km/sec

The TOTAL velocity at 18:45 = 175. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.74

Standard Deviation in start time measurement = 0.790E+02

Error in time = 0.14502E+03 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.865E-02

Reduced Chi Squared = 0.620E+01

Chi Squared = 0.248E+02

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.894E+00

The probability that no LINEAR correlation exists between the variables = 0.1634]

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 angle	datatype			
1989	171	15:23:21	1.90 +/- 0.15		295.0 +/- 0.5		SMM			
1989	171	15:39:51	2.35 +/- 0.15		295.0 +/- 0.5		SMM			
1989	171	17:13: 1	3.60 +/- 0.15		287.0 +/- 1.0		SMM			
1989	171	18: 3:49	3.57	-----	287.00 +/-	----	SMM	THIS POINT WASN'T USEI		
1989	171	18:28:35	3.53	-----	287.00 +/-	----	SMM	THIS POINT WASN'T USEI		
1989	171	18:45: 5	3.40	-----	287.00 +/-	----	SMM	THIS POINT WASN'T USEI		

Structure being measured:
Top of Prominence

OUTPUT:

START TIME:

Event began at t = 0 + -0.407E+01 +/- NaN [minutes]

In more convenient units:

Event began at DOY 171 14:56 +/- NaN [minutes]

Origin defined at DOY171 15: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = -0.489E-01 +/- 0.000E+00 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.115E+01 +/- 0.000E+00 [solar radii]
c(2) = 0.353E-01 +/- 0.000E+00 [radii/min]
c(2) = 0.409E+03 +/- 0.000E+00 [km/sec]
c(3) = -0.126E-03 +/- 0.000E+00 [radii/min**2]
c(3) = -0.489E-01 +/- 0.000E+00 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.65920E+00 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.00000E+00 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.14949E-01 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = -NaN [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.60613E-04 [radii/min**2] Bevington pg 154 (8-30)
Exact error in c(3) = -NaN [radii/min**2] Bevington pg 154 (8-28)

ANGULAR INFORMATION:

ANGULAR ACCELERATION= 0.2623E-08 +/- 0.1263E-08[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 298. +/- 1. [degrees]
a(2) = -0.111E+00 +/- 0.308E-01 [degrees/min]
a(2) = -0.322E-04 +/- 0.897E-05 [rad/sec]
a(3) = 0.271E-03 +/- 0.130E-03 [degrees/min**2]
a(3) = 0.262E-08 +/- 0.126E-08 [rad/sec**2]

THE TANGENTIAL, RADIAL AND TOTAL SPEEDS AT EACH DATA POINT ARE:

The TANGENTIAL velocity at 15:23 = -38. km /sec

The RADIAL velocity at 15:23 = 341. km/sec

The TOTAL velocity at 15:23 = 343. km/sec

The TANGENTIAL velocity at 15:39 = -42. km /sec

The RADIAL velocity at 15:39 = 292. km/sec

The TOTAL velocity at 15:39 = 295. km/sec

The TANGENTIAL velocity at 17:13 = -28. km /sec

The RADIAL velocity at 17:13 = 19. km/sec

The TOTAL velocity at 17:13 = 34. km/sec

The TANGENTIAL velocity at 18: 3 = -8. km /sec

The RADIAL velocity at 18: 3 = -130. km/sec

The TOTAL velocity at 18: 3 = -130. km/sec

The TANGENTIAL velocity at 18:28 = 2. km /sec

The RADIAL velocity at 18:28 = -202. km/sec

The TOTAL velocity at 18:28 = -202. km/sec

The TANGENTIAL velocity at 18:45 = 8. km /sec

The RADIAL velocity at 18:45 = -251. km/sec

The TOTAL velocity at 18:45 = -251. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.74

Standard Deviation in start time measurement = 0.790E+02

Value of reduced Chi Squared returned from nllst2 = 0.000E+00

Reduced Chi Squared = 0.156E+01

Chi Squared = 0.468E+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 = 0.9824E+00

The correlation between the data and the time**2 term = 0.8204E+00

The correlation between the data and the complete equation of motion=0.8492E+00

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