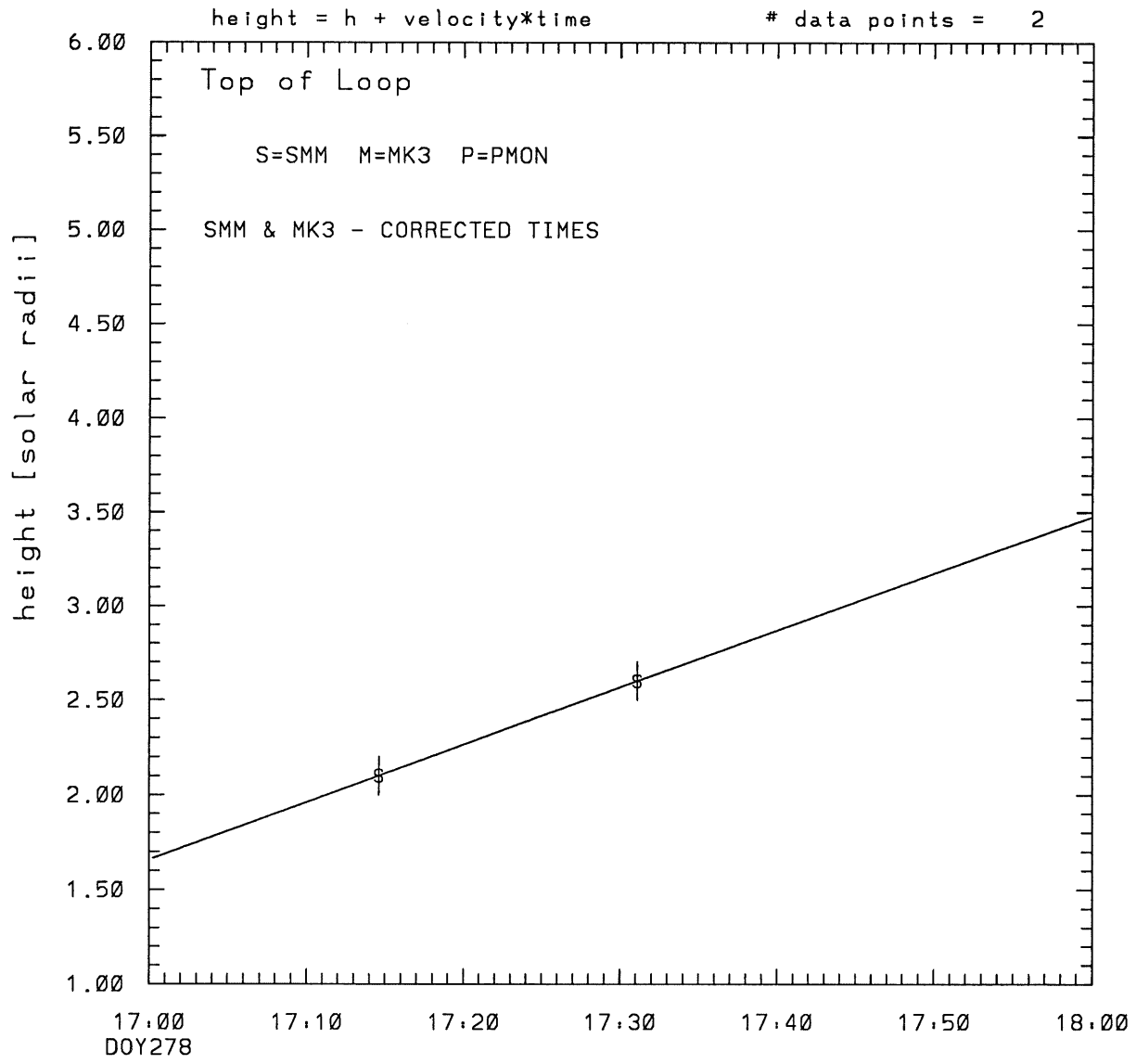


SMM C/P 1989 DOY278 295 +/- 0 degrees



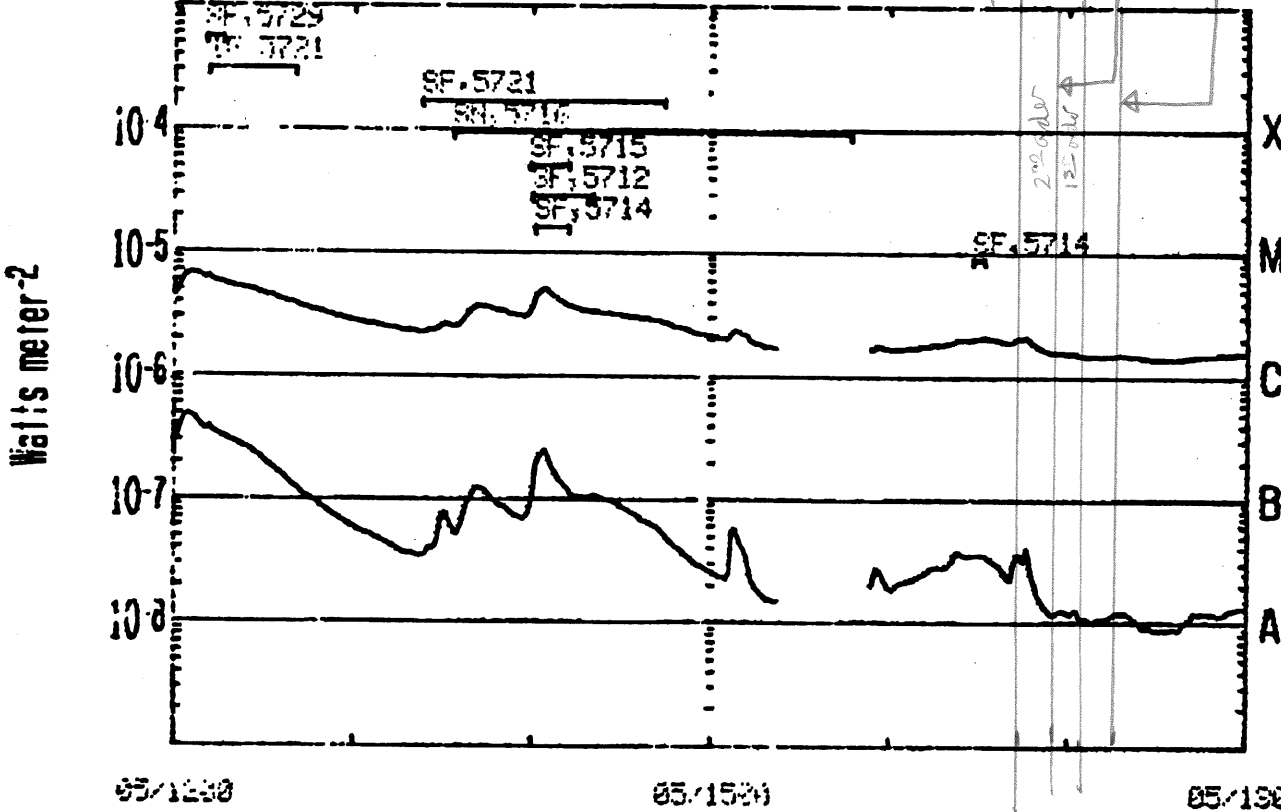
tstart=DOY278 16:40 +/- 0.0 [min.]
radial velocity= 352. +/- 0. [km/sec]

1989 001 278

FAST AND OPTICAL DATA TOGETHER

TOP
No. 2.

BEGIN: 05 OCT 89



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

05/1230

05/1524

05/1300

SAA's
NIGHT

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

RUN: 1732UT
11 OCT 89

This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in angle	error in angle	datatype
1989	278	17:14:36	2.10 +/-	0.10	295.0 +/-	0.5	SMM
1989	278	17:31: 6	2.60 +/-	0.10	295.0 +/-	0.5	SMM

Structure being measured:
Top of Loop

OUTPUT:

START TIME:

Event began at t = 0 + -0.217E+02 +/- 0.000E+00 [minutes]
In more convenient units:
Event began at DOY 278 16:40 +/- 0.000E+00 [minutes]
Origin defined at DOY278 17: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 352. +/- 0. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.166E+01 +/- 0.140E-05 [solar radii]
c(2) = 0.303E-01 +/- 0.578E-07 [radii/min]
c(2) = 0.352E+03 +/- 0.670E-03 [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 RADIAL velocity at 17:14 = 352. km/sec

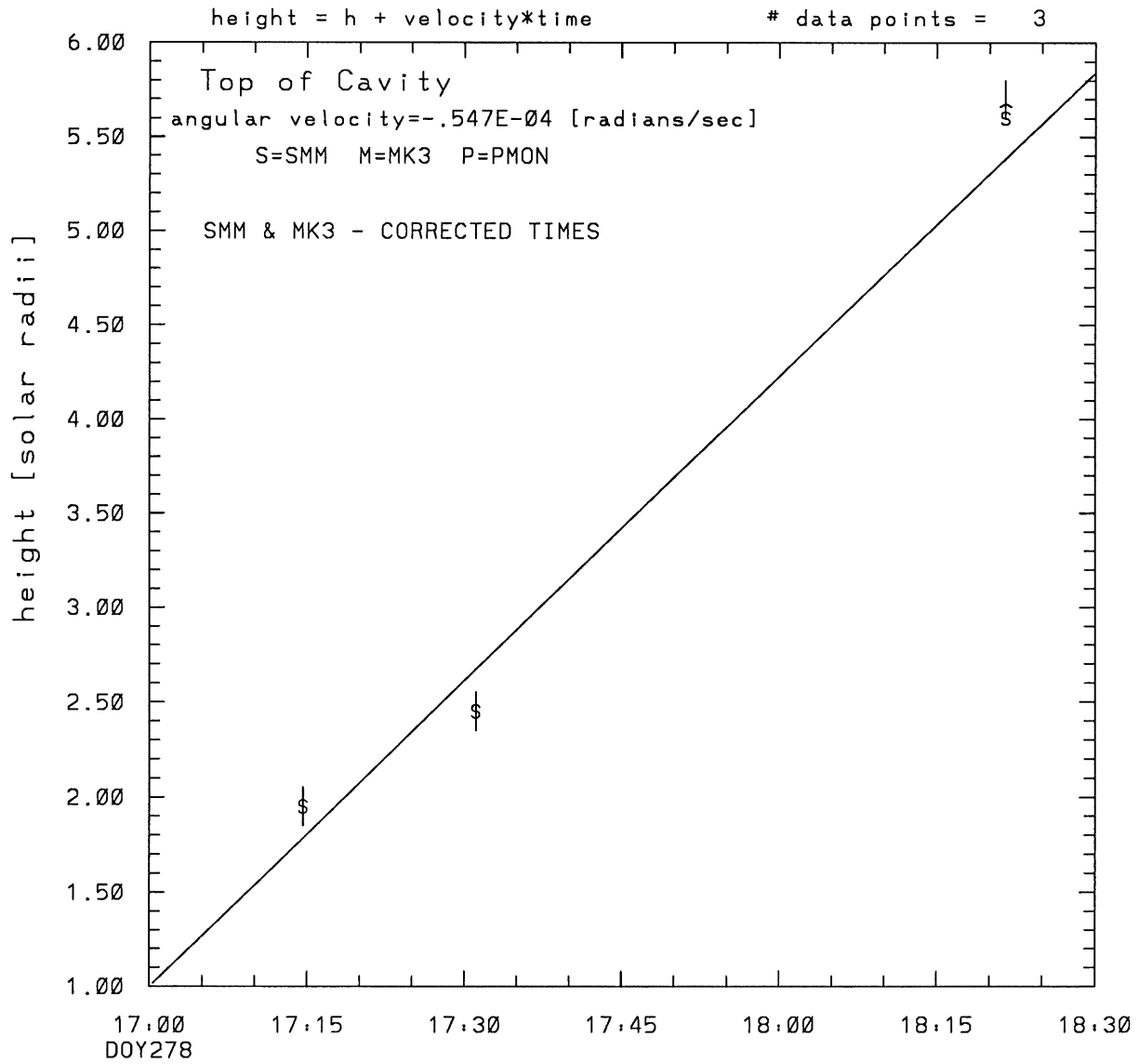
The RADIAL velocity at 17:31 = 352. km/sec

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!

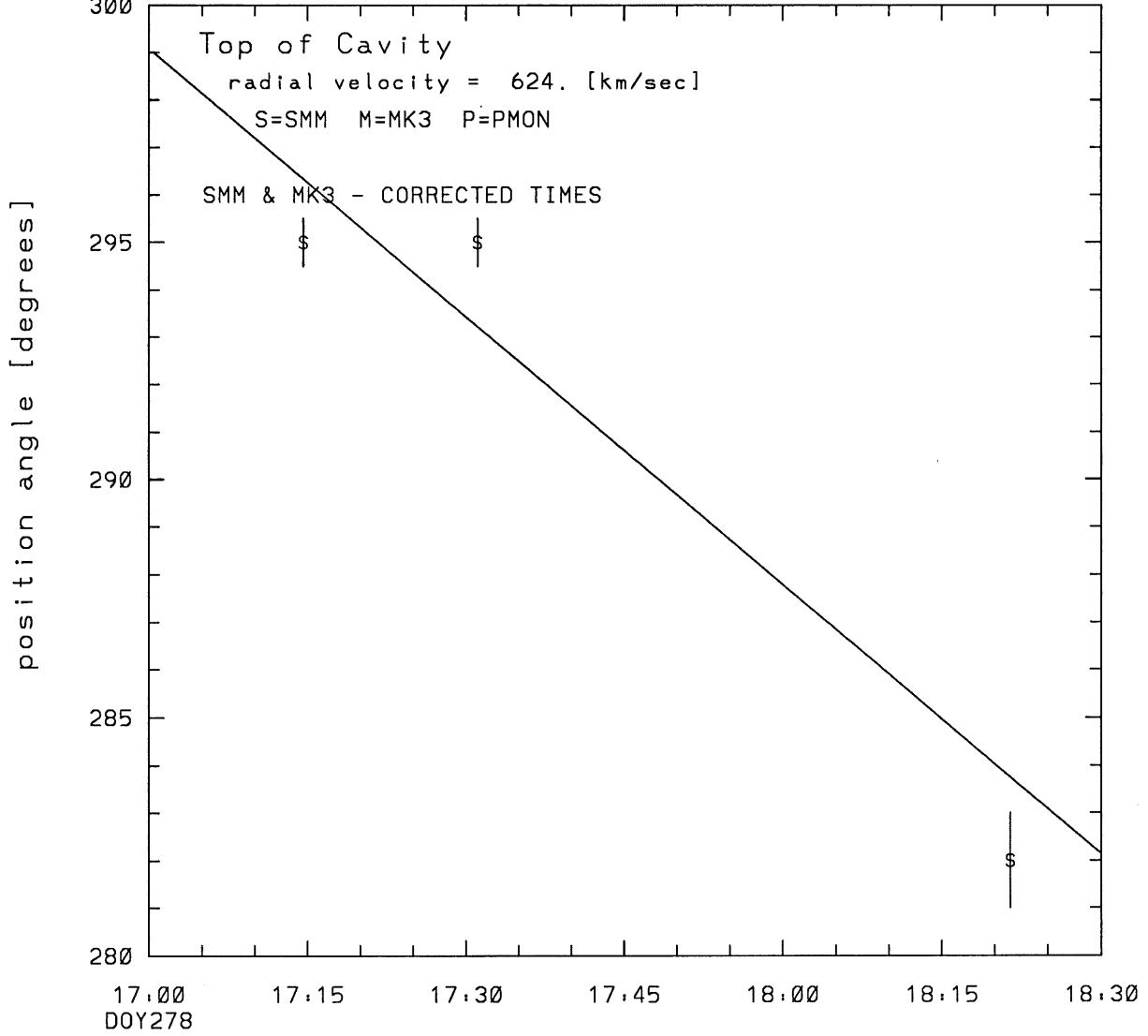
SMM C/P 1989 DOY278 290 +/- 8 degrees



tstart=DOY278 17: 0 +/- 0.0 [min.]
radial velocity= 624. +/- 81. [km/sec]

SMM C/P 1989 DOY278 290 +/- 8 degrees

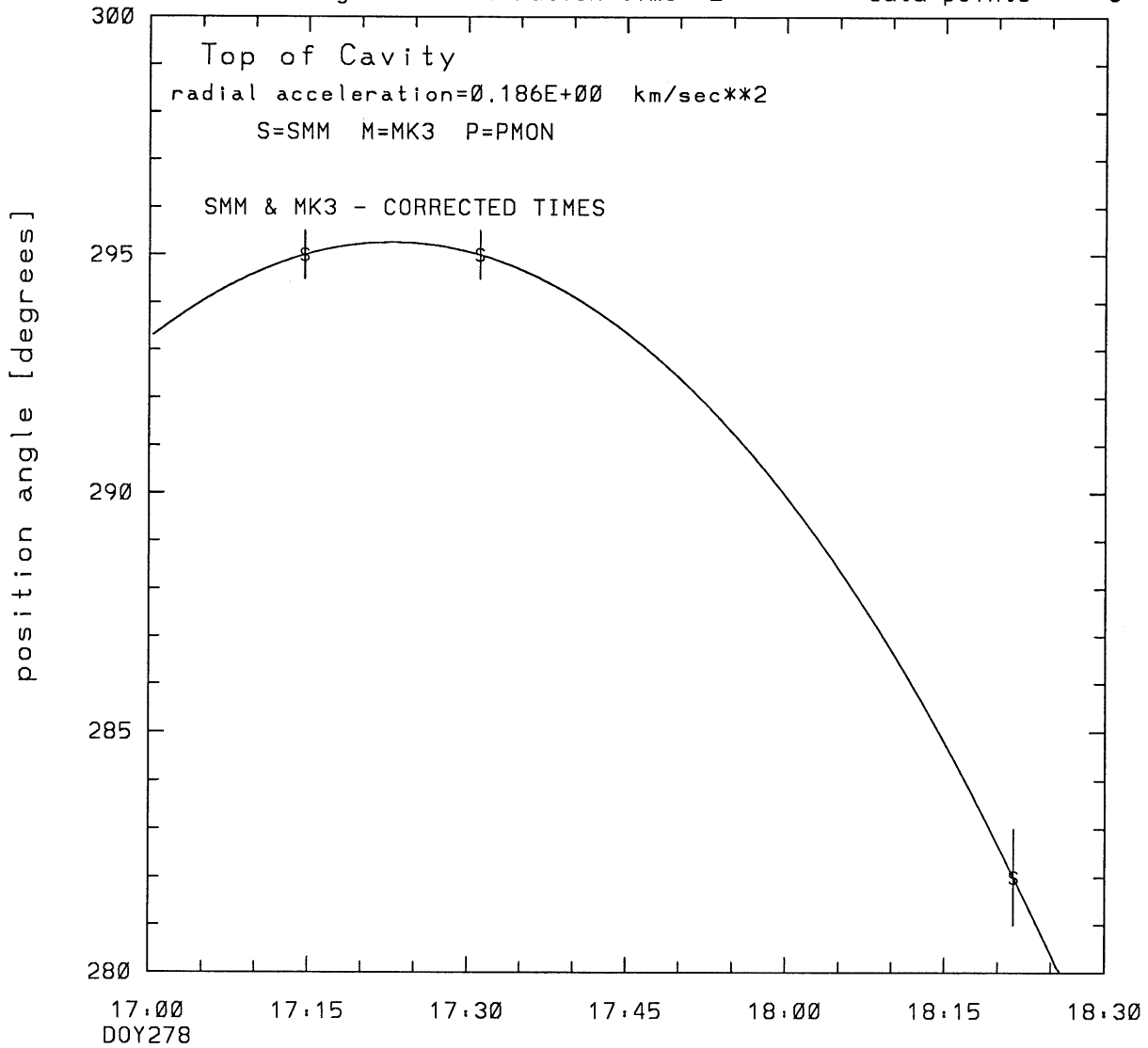
angle = initial angle + angular velocity * time # data points = 3



tstart=DOY278 17: 0 +/- 0.0 [min.]
angular velocity=-.547E-04 +/- 0.163E-04 [rad/sec]

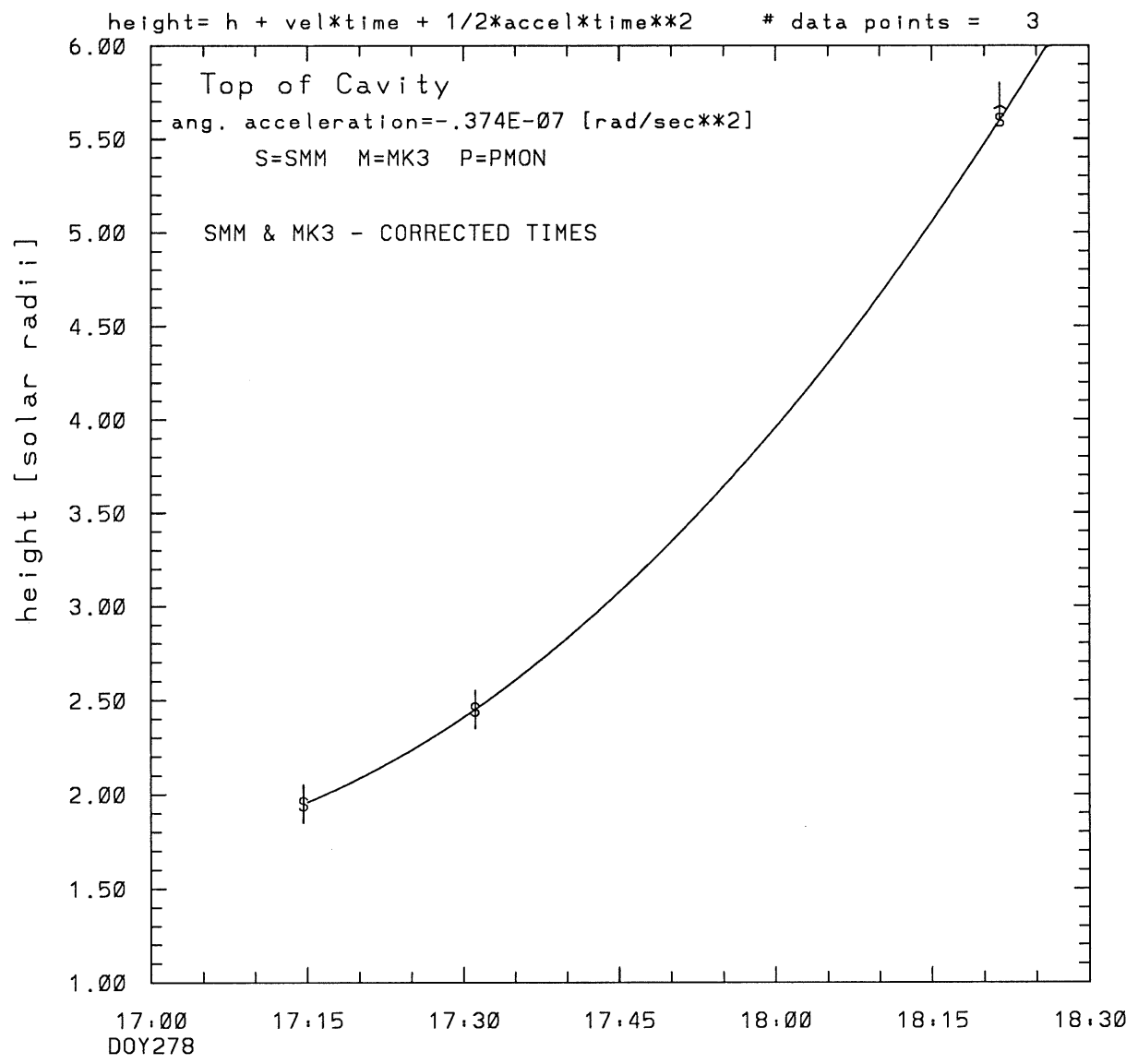
SMM C/P 1989 DOY278 290 +/- 8 degrees

angle = initial angle + angular velocity*time
+ 1/2 angular acceleration*time**2 # data points = 3



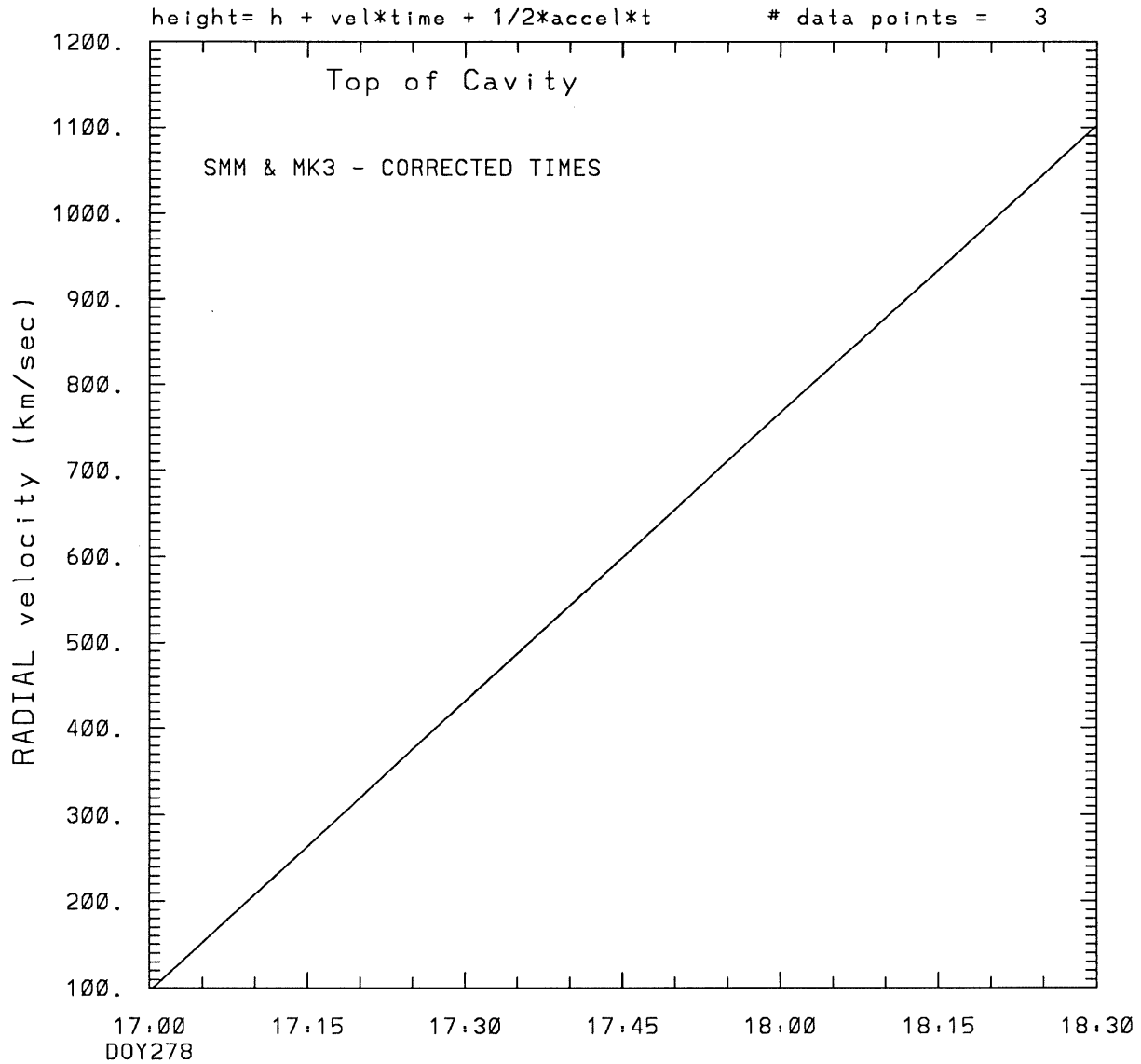
tstart=DOY278 16.52 from derivative=0
angular acceleration=-.374E-07 +/-0.587E-12 [rad/sec**2]

SMM C/P 1989 DOY278 290 +/- 8 degrees



tstart=DOY278 16.52 from derivative=0
Event begins at 1.69 Solar Radii
radial acceleration = 0.1863 +/- 0.0000 [km/sec**2]

SMM C/P 1989 DOY278 290 +/- 8 degrees

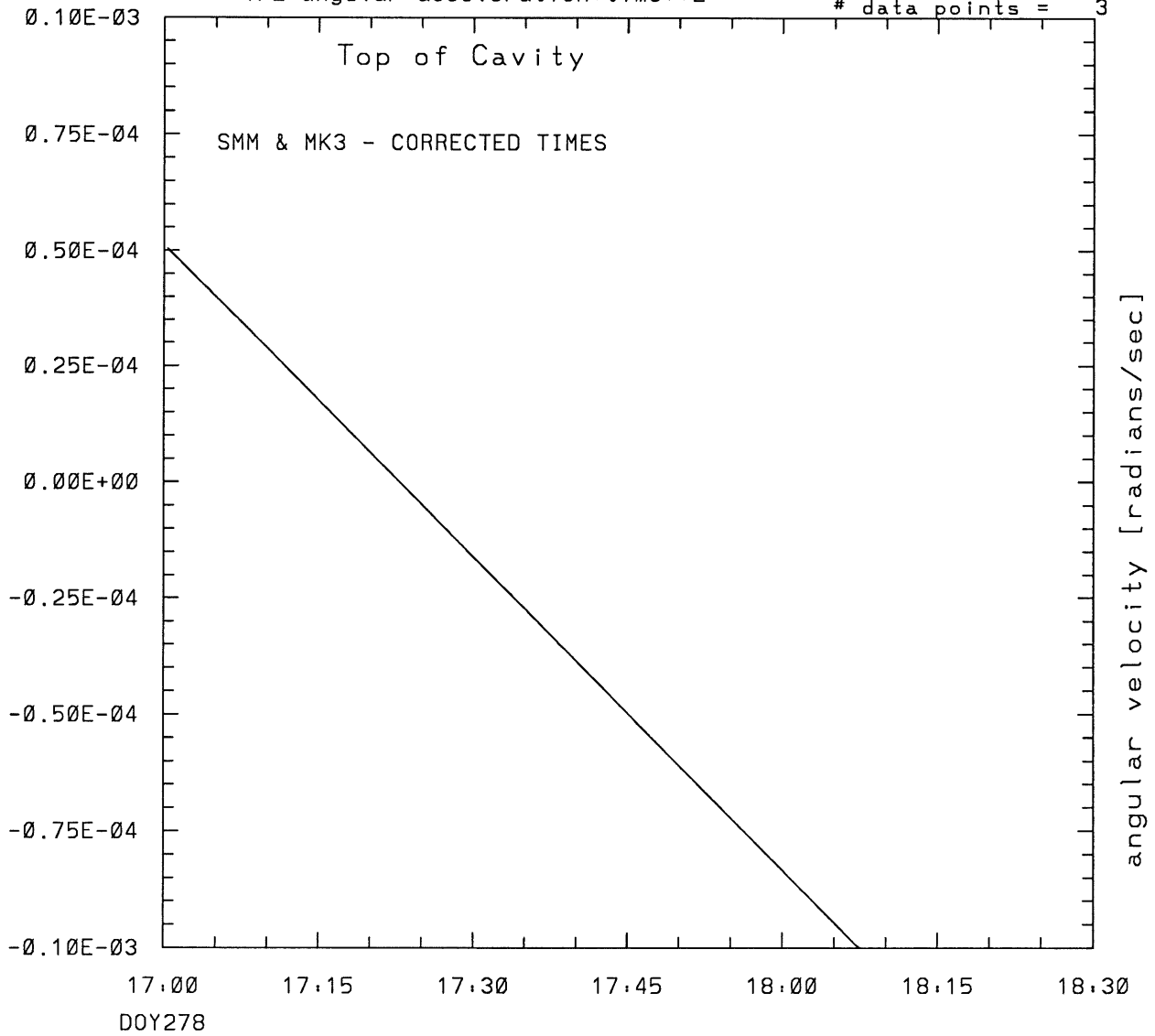


tstart=DOY278 16:52 from derivative=0
Event begins at 1.69 Solar Radii
radial acceleration=0.186E+00 km/sec**2

SMM C/P 1989 DOY278 290 +/- 8 degrees

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

data points = 3



DOY278

tstart=DOY278 16:52 from derivative=0
angular acceleration=-.374E-07 +/-
0.587E-12 [rad/sec**2]

This is a 1 order run

INPUT:

year	day	time	radii	radius	error in angle	error in angle	datatype	
1989	278	17:14:36	1.95 +/- 0.10	295.0 +/- 0.5			SMM	
1989	278	17:31: 6	2.45 +/- 0.10	295.0 +/- 0.5			SMM	
1989	278	18:21:29	5.60 +/- 0.20	282.0 +/- 1.0			SMM	THIS POINT IS A LOI

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

Event began at $t = 0 + 0.385E-01 +/- 0.784E-02$ [minutes]
In more convenient units:
Event began at DOY 278 17:00 +/- 0.784E-02 [minutes]
Event began at DOY 278 17: 0 +/- 0.784E-02 [minutes]
Origin defined at DOY278 17: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 624. +/- 81. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.998E+00 +/- 0.249E+00 [solar radii]
c(2) = 0.538E-01 +/- 0.701E-02 [radii/min]
c(2) = 0.624E+03 +/- 0.814E+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)= 0.36525E+00 [radii] see Bevington pg. 114
error in c(2)= 0.71539E-02 [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = -0.5474E-04 +/- 0.1634E-04[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 299. +/- 2. [degrees]
a(2) = -0.188E+00 +/- 0.562E-01 [degrees/min]
a(2) = -0.547E-04 +/- 0.163E-04 [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 17:14 = 624. km/sec

The RADIAL velocity at 17:31 = 624. km/sec

The RADIAL velocity at 18:21 = 624. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 1.98
Standard Deviation in start time measurement = 0.284E+02
Error in time = 0.65522E+01 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.590E-01
Reduced Chi Squared = 0.268E+00
Chi Squared = 0.268E+00
The probability for exceeding chi square = 0.808E+00

The correlation coefficient = 0.994E+00
The probability that no LINEAR correlation exists between the variables = 0.71541
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	17:14:36	1.95 +/- 0.10	295.0 +/- 0.5			SMM	
1989	278	17:31: 6	2.45 +/- 0.10	295.0 +/- 0.5			SMM	
1989	278	18:21:29	5.60 +/- 0.20	282.0 +/- 1.0			SMM	THIS POINT IS A LOI

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

tstart=DOY278 16:52 from derivative = 0
Event begins at 1.69 Solar Radii
Origin defined at DOY278 17: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.186E+00 +/- 0.129E-06 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.173E+01 +/- 0.561E-06 [solar radii]
c(2) = 0.829E-02 +/- 0.323E-07 [radii/min]
c(2) = 0.962E+02 +/- 0.375E-03 [km/sec]
c(3) = 0.482E-03 +/- 0.334E-09 [radii/min**2]
c(3) = 0.186E+00 +/- 0.129E-06 [km/sec**2]

ANGULAR INFORMATION:

ANGULAR ACCELERATION= -0.3741E-07 +/- 0.5866E-12[radians/sec**2]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 293. +/- 0. [degrees]
a(2) = 0.176E+00 +/- 0.585E-05 [degrees/min]
a(2) = 0.513E-04 +/- 0.170E-08 [rad/sec]
a(3) = -0.386E-02 +/- 0.605E-07 [degrees/min**2]
a(3) = -0.374E-07 +/- 0.587E-12 [rad/sec**2]

The RADIAL velocity at 17:14 = 259. km/sec

The RADIAL velocity at 17:31 = 444. km/sec

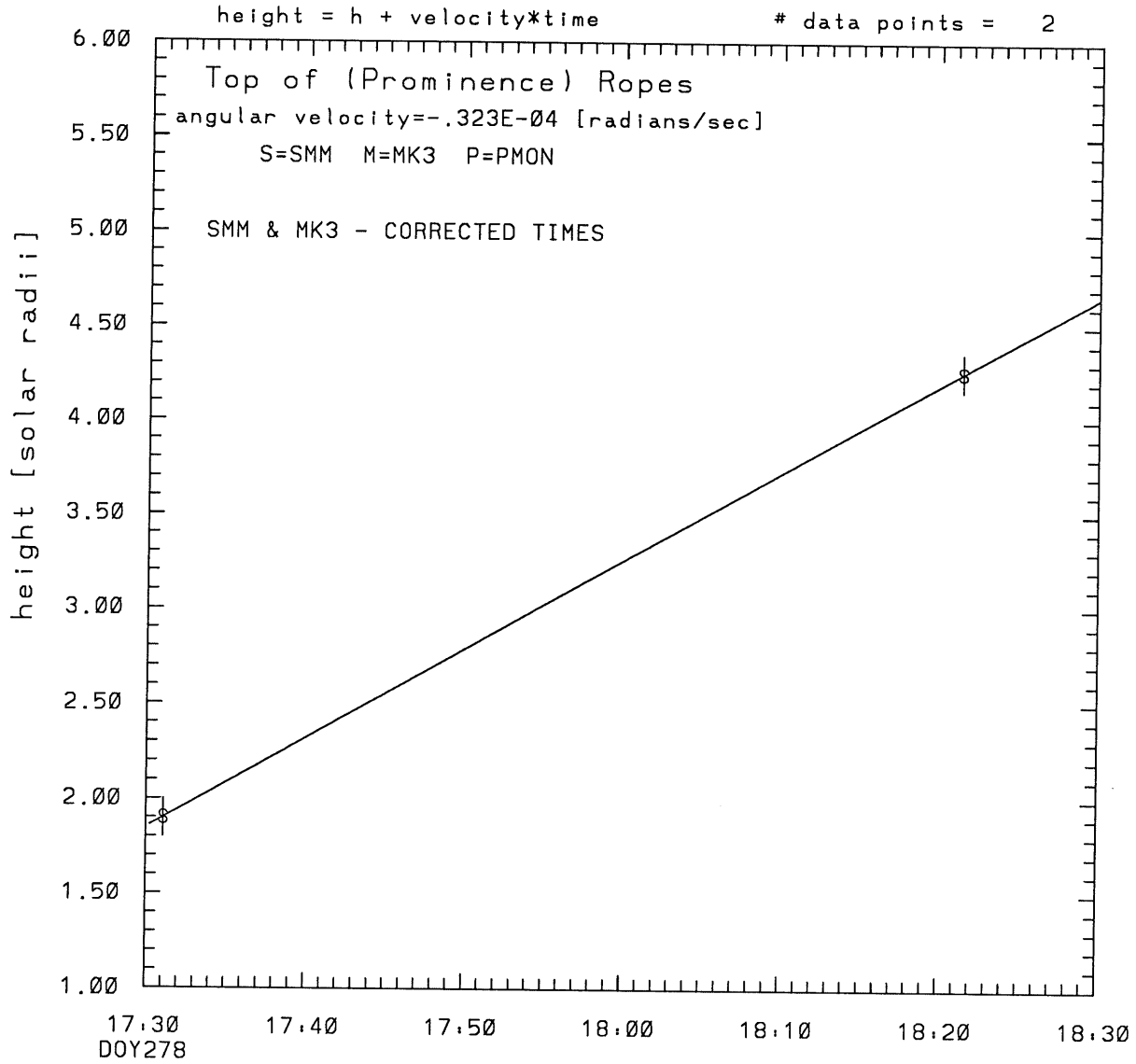
The RADIAL velocity at 18:21 = 1007. km/sec

The following info is for estimating goodness of the fit

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

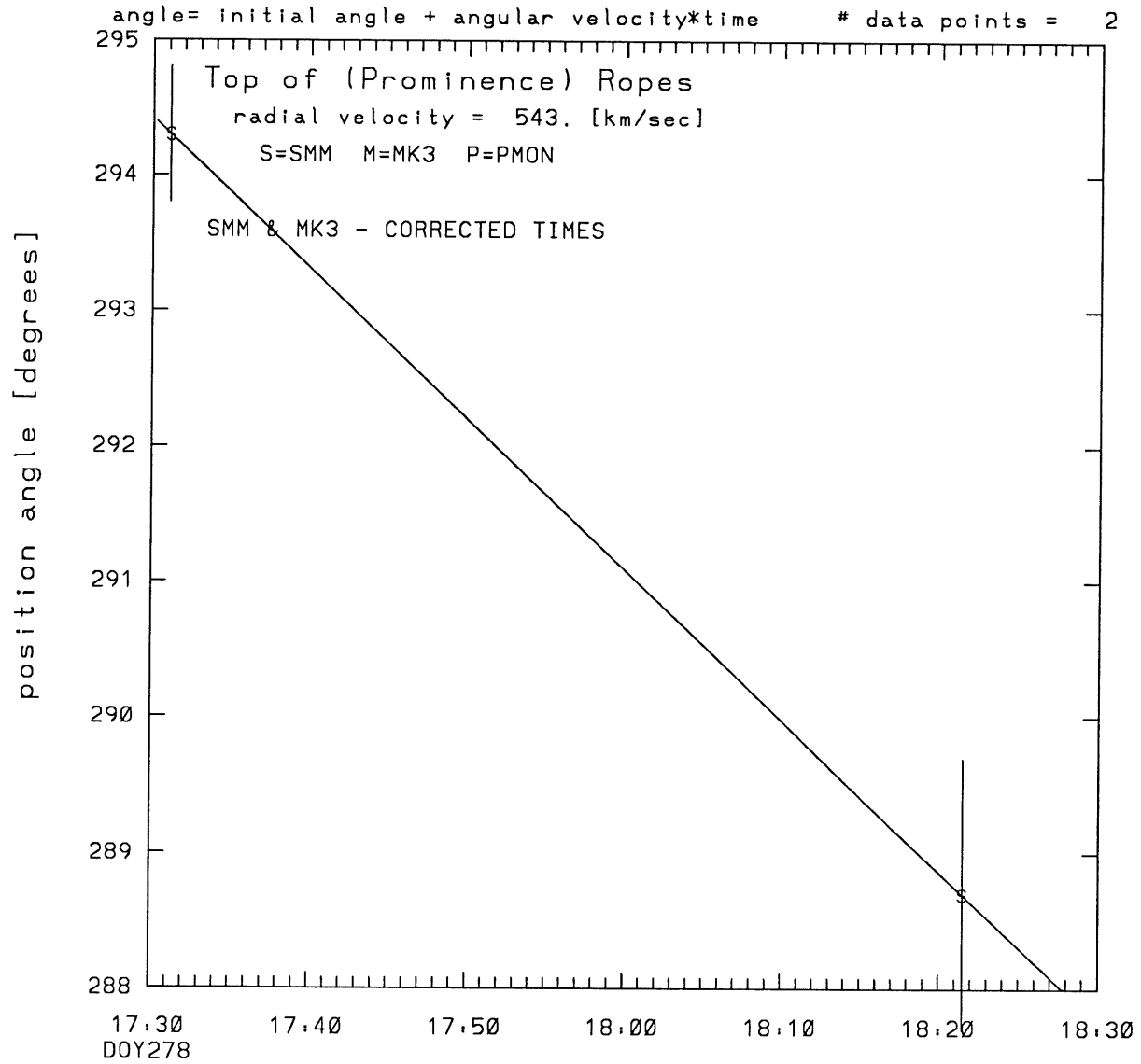
Correlation coefficient is not computable!

SMM C/P 1989 DOY278 291 +/- 3 degrees



tstart=DOY278 17.12 +/- 0.0 [min.]
radial velocity= 543. +/- 0. [km/sec]

SMM C/P 1989 DOY278 291 +/- 3 degrees



tstart=DOY278 17.12 +/- 0.0 [min.]
angular velocity=-.323E-04 +/- 0.000E+00 [rad/sec]

This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in angle	error in angle	datatype
1989	278	17:31: 6	1.90 +/-	0.10	294.3 +/-	0.5	SMM
1989	278	18:21:29	4.26 +/-	0.10	288.7 +/-	1.0	SMM

Structure being measured:
Top of (Prominence) Ropes

OUTPUT:

START TIME:

Event began at t = 0 + -0.181E+02 +/- 0.000E+00 [minutes]
In more convenient units:
Event began at DOY 278 17:12 +/- 0.000E+00 [minutes]

Origin defined at DOY278 17:30

RADIAL INFORMATION:

RADIAL VELOCITY = 543. +/- 0. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.185E+01 +/- 0.689E-06 [solar radii]
c(2) = 0.468E-01 +/- 0.189E-07 [radii/min]
c(2) = 0.543E+03 +/- 0.220E-03 [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 = -0.3233E-04 +/- 0.0000E+00[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 294. +/- 0. [degrees]
a(2) = -0.111E+00 +/- 0.000E+00 [degrees/min]
a(2) = -0.323E-04 +/- 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 17:31 = 543. km/sec

The RADIAL velocity at 18:21 = 543. 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!