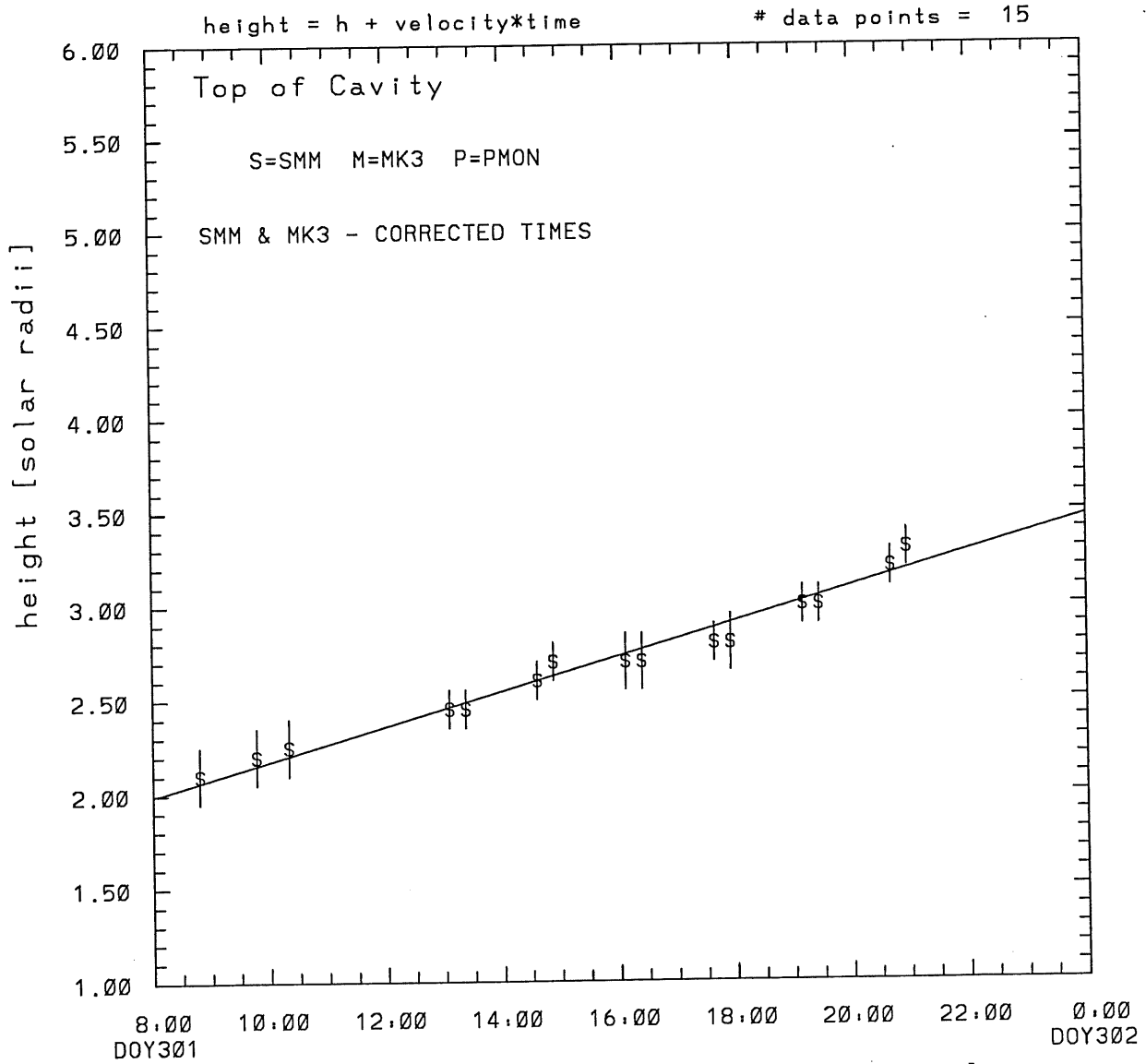
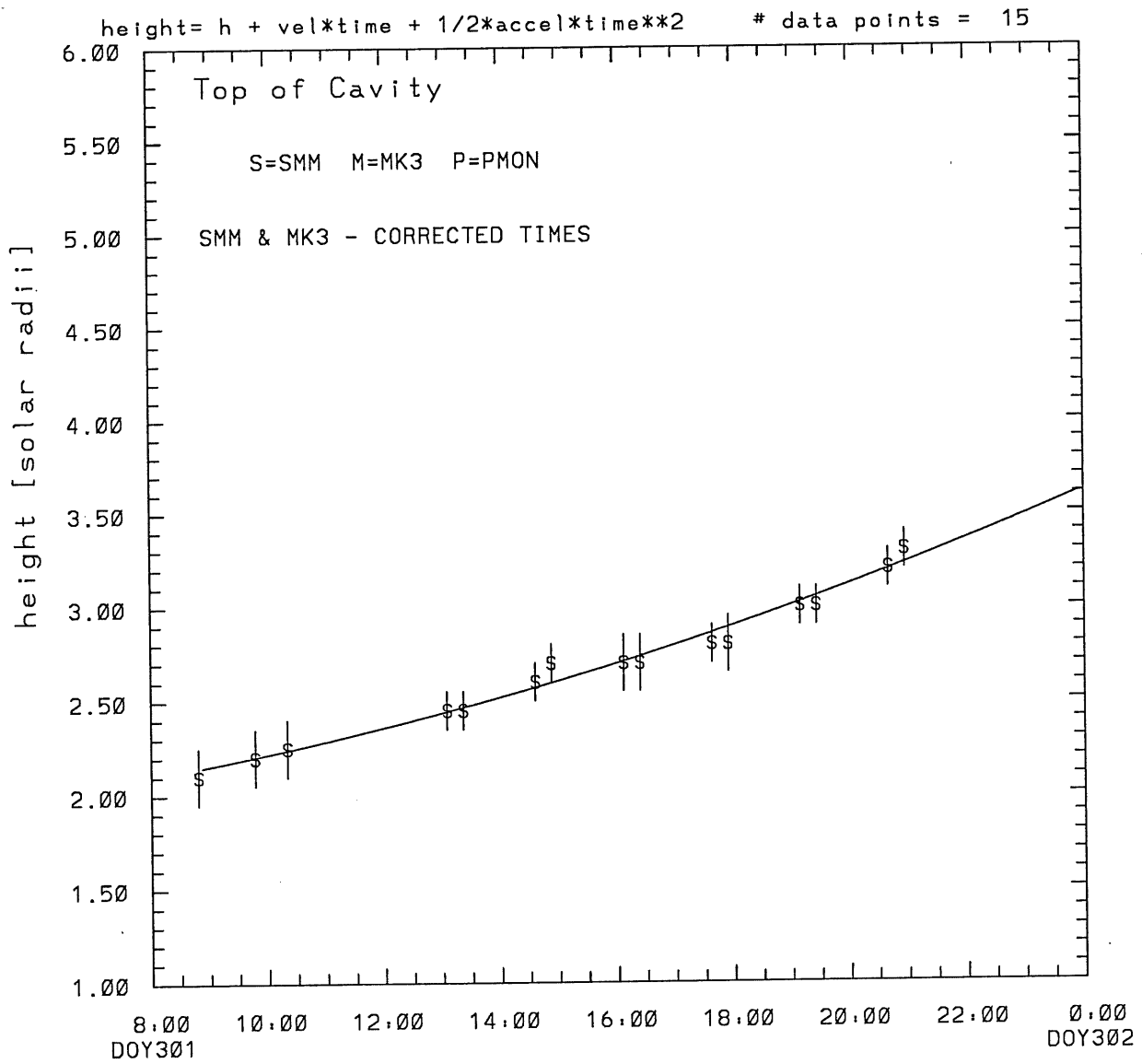


SMM C/P 1989 DOY301 130 +/- 0 degrees



tstart=DOY300 21.16 +/- 5.0 [min.]
radial velocity= 18. +/- 1. [km/sec]

SMM C/P 1989 DOY301 130 +/- 0 degrees

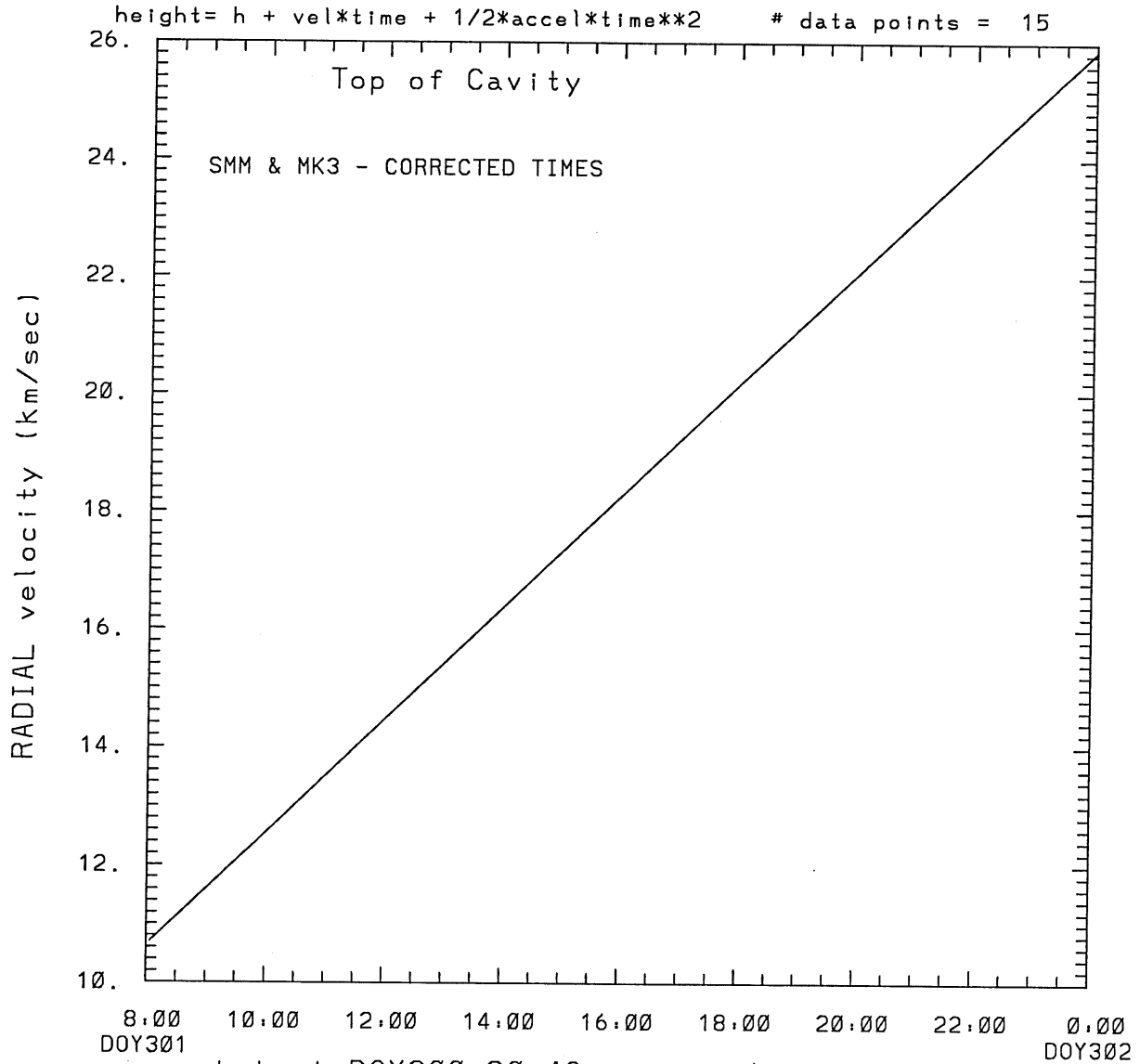


tstart=DOY300 20.49 from derivative=0

Event begins at 1.79 Solar Radii

radial acceleration = 0.0003 +/- 0.0001 [km/sec**2]

SMM C/P 1989 DOY301 130 +/- 0 degrees

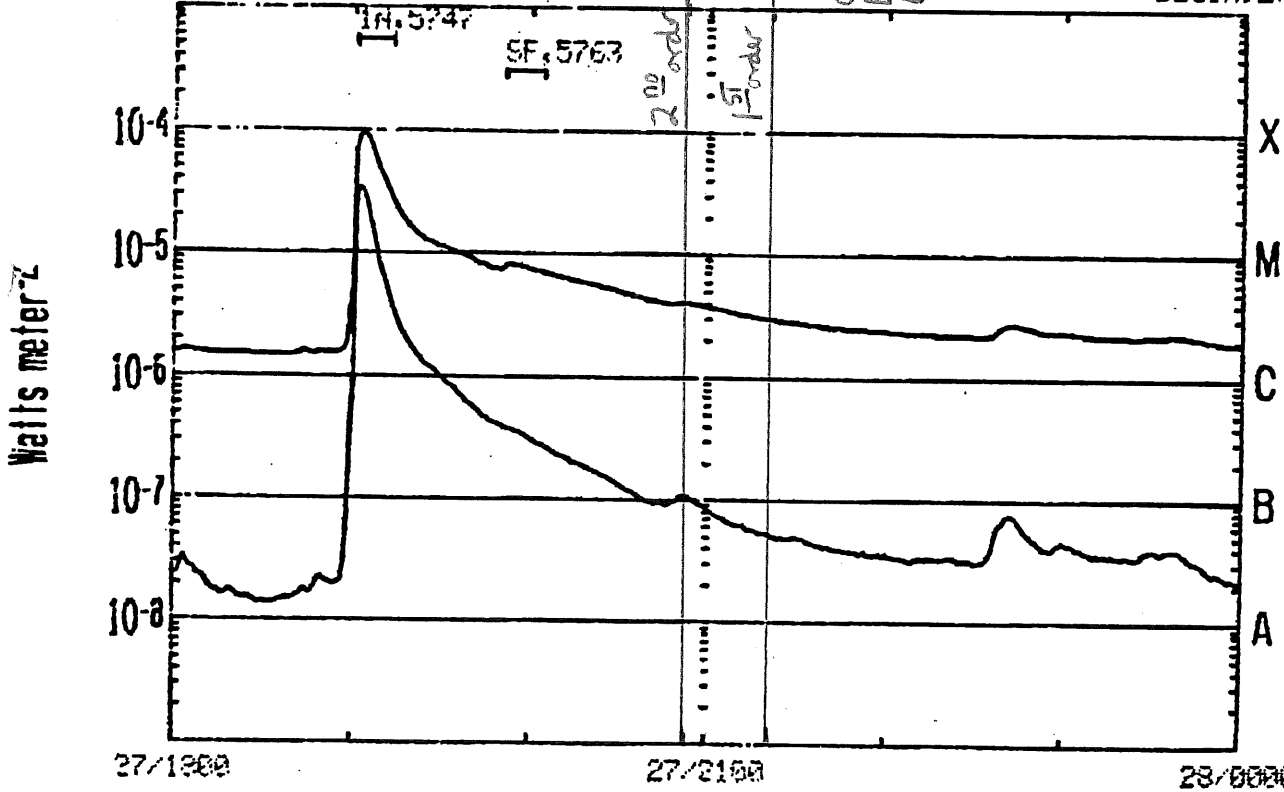


tstart=DOY300 20:49 from derivative=0
Event begins at 1.79 Solar Radii
radial acceleration=0.264E-03 km/sec**2

1989 DOY 300

WAVE and OPTICAL DATA TOGETHER

BEGIN: 27 OCT 89



GOES 6 0.5-4.0A GOES 6 1.0-8.0A
OPTICAL FLARES

GOES-6 1 MIN DATA: OPTICAL FLARE DUR, IMP, REGION

SAA's
NIGHT
RUN: 2958UT
1 NOV 89

This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in angle	error in angle	datatype
1989	301	8:48:35	2.10 +/-	0.15	130.0 +/-	0.5	SMM
1989	301	9:46:37	2.20 +/-	0.15	130.0 +/-	0.5	SMM
1989	301	10:19:53	2.25 +/-	0.15	130.0 +/-	0.5	SMM
1989	301	13: 5:17	2.45 +/-	0.10	130.0 +/-	0.5	SMM
1989	301	13:21:47	2.45 +/-	0.10	130.0 +/-	0.5	SMM
1989	301	14:36: 9	2.60 +/-	0.10	130.0 +/-	0.5	SMM
1989	301	14:52:32	2.70 +/-	0.10	130.0 +/-	0.5	SMM
1989	301	16: 7: 4	2.70 +/-	0.15	130.0 +/-	0.5	SMM
1989	301	16:23:34	2.70 +/-	0.15	130.0 +/-	0.5	SMM
1989	301	17:38: 6	2.80 +/-	0.10	130.0 +/-	0.5	SMM
1989	301	17:54:36	2.80 +/-	0.15	130.0 +/-	0.5	SMM
1989	301	19: 9: 8	3.00 +/-	0.10	130.0 +/-	1.0	SMM
1989	301	19:25:38	3.00 +/-	0.10	130.0 +/-	1.0	SMM
1989	301	20:40:10	3.20 +/-	0.10	130.0 +/-	1.0	SMM
1989	301	20:56:40	3.30 +/-	0.10	130.0 +/-	1.0	SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

Event began at t = 0 + -0.644E+03 +/- 0.496E+01 [minutes]
In more convenient units:
Event began at DOY 300 21:16 +/- 0.496E+01 [minutes]

Origin defined at DOY301 8: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 18. +/- 1. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.199E+01 +/- 0.398E-01 [solar radii]
c(2) = 0.154E-02 +/- 0.744E-04 [radii/min]
c(2) = 0.178E+02 +/- 0.863E+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]

The computed ERRORS in coefficients [BEVINGTON] are:

error in c(1)= 0.36792E-01 [radii] see Bevington pg. 114
error in c(2)= 0.72767E-04 [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) = 130. +/- 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 8:48 = 18. km/sec

The RADIAL velocity at 9:46 = 18. km/sec

The RADIAL velocity at 10:19 = 18. km/sec

The RADIAL velocity at 13: 5 = 18. km/sec

The RADIAL velocity at 13:21 = 18. km/sec

The RADIAL velocity at 14:36 = 18. km/sec

The RADIAL velocity at 14:52 = 18. km/sec

The RADIAL velocity at 16: 7 = 18. km/sec

The RADIAL velocity at 16:23 = 18. km/sec

The RADIAL velocity at 17:38 = 18. km/sec

The RADIAL velocity at 17:54 = 18. km/sec

The RADIAL velocity at 19: 9 = 18. km/sec

The RADIAL velocity at 19:25 = 18. km/sec

The RADIAL velocity at 20:40 = 18. km/sec

The RADIAL velocity at 20:56 = 18. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.35
Standard Deviation in start time measurement = 0.226E+03
Error in time = 0.14923E+03 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.371E-02
Reduced Chi Squared = 0.419E-01
Chi Squared = 0.545E+00
The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.985E+00
The probability that no LINEAR correlation exists between the variables = -0.50051
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

This is a 2 order run

INPUT:

year	doy	time	radii	radius	angle	error in angle	error in angle	datatype
1989	301	8:48:35	2.10 +/-	0.15	130.0 +/-	0.5		SMM
1989	301	9:46:37	2.20 +/-	0.15	130.0 +/-	0.5		SMM
1989	301	10:19:53	2.25 +/-	0.15	130.0 +/-	0.5		SMM
1989	301	13: 5:17	2.45 +/-	0.10	130.0 +/-	0.5		SMM
1989	301	13:21:47	2.45 +/-	0.10	130.0 +/-	0.5		SMM
1989	301	14:36: 9	2.60 +/-	0.10	130.0 +/-	0.5		SMM
1989	301	14:52:32	2.70 +/-	0.10	130.0 +/-	0.5		SMM
1989	301	16: 7: 4	2.70 +/-	0.15	130.0 +/-	0.5		SMM
1989	301	16:23:34	2.70 +/-	0.15	130.0 +/-	0.5		SMM
1989	301	17:38: 6	2.80 +/-	0.10	130.0 +/-	0.5		SMM
1989	301	17:54:36	2.80 +/-	0.15	130.0 +/-	0.5		SMM
1989	301	19: 9: 8	3.00 +/-	0.10	130.0 +/-	1.0		SMM
1989	301	19:25:38	3.00 +/-	0.10	130.0 +/-	1.0		SMM
1989	301	20:40:10	3.20 +/-	0.10	130.0 +/-	1.0		SMM
1989	301	20:56:40	3.30 +/-	0.10	130.0 +/-	1.0		SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

tstart=DOY300 20:49 from derivative = 0
Event begins at 1.79 Solar Radii
Origin defined at DOY301 8: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.264E-03 +/- 0.119E-03 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.210E+01 +/- 0.604E-01 [solar radii]
c(2) = 0.918E-03 +/- 0.287E-03 [radii/min]
c(2) = 0.106E+02 +/- 0.333E+01 [km/sec]
c(3) = 0.683E-06 +/- 0.308E-06 [radii/min**2]
c(3) = 0.264E-03 +/- 0.119E-03 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.47758E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.26592E-02 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.25268E-03 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.16708E-04 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.29277E-06 [radii/min**2] Bevington pg 154 (8-30)
Exact error in c(3) = 0.19389E-07 [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) = 130. +/- 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 8:48 = 11. km/sec
The RADIAL velocity at 9:46 = 12. km/sec
The RADIAL velocity at 10:19 = 13. km/sec
The RADIAL velocity at 13: 5 = 15. km/sec
The RADIAL velocity at 13:21 = 16. km/sec
The RADIAL velocity at 14:36 = 17. km/sec
The RADIAL velocity at 14:52 = 17. km/sec
The RADIAL velocity at 16: 7 = 18. km/sec
The RADIAL velocity at 16:23 = 19. km/sec
The RADIAL velocity at 17:38 = 20. km/sec
The RADIAL velocity at 17:54 = 20. km/sec
The RADIAL velocity at 19: 9 = 21. km/sec
The RADIAL velocity at 19:25 = 22. km/sec
The RADIAL velocity at 20:40 = 23. km/sec
The RADIAL velocity at 20:56 = 23. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.35
Standard Deviation in start time measurement = 0.226E+03
Value of reduced Chi Squared returned from nllst2 = 0.290E-02
Reduced Chi Squared = 0.283E-01
Chi Squared = 0.340E+00
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 = 0.9382E+00
The correlation between the data and the time**2 term = 0.1003E+01
The correlation between the data and the complete equation of motion=0.9742E+00
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]