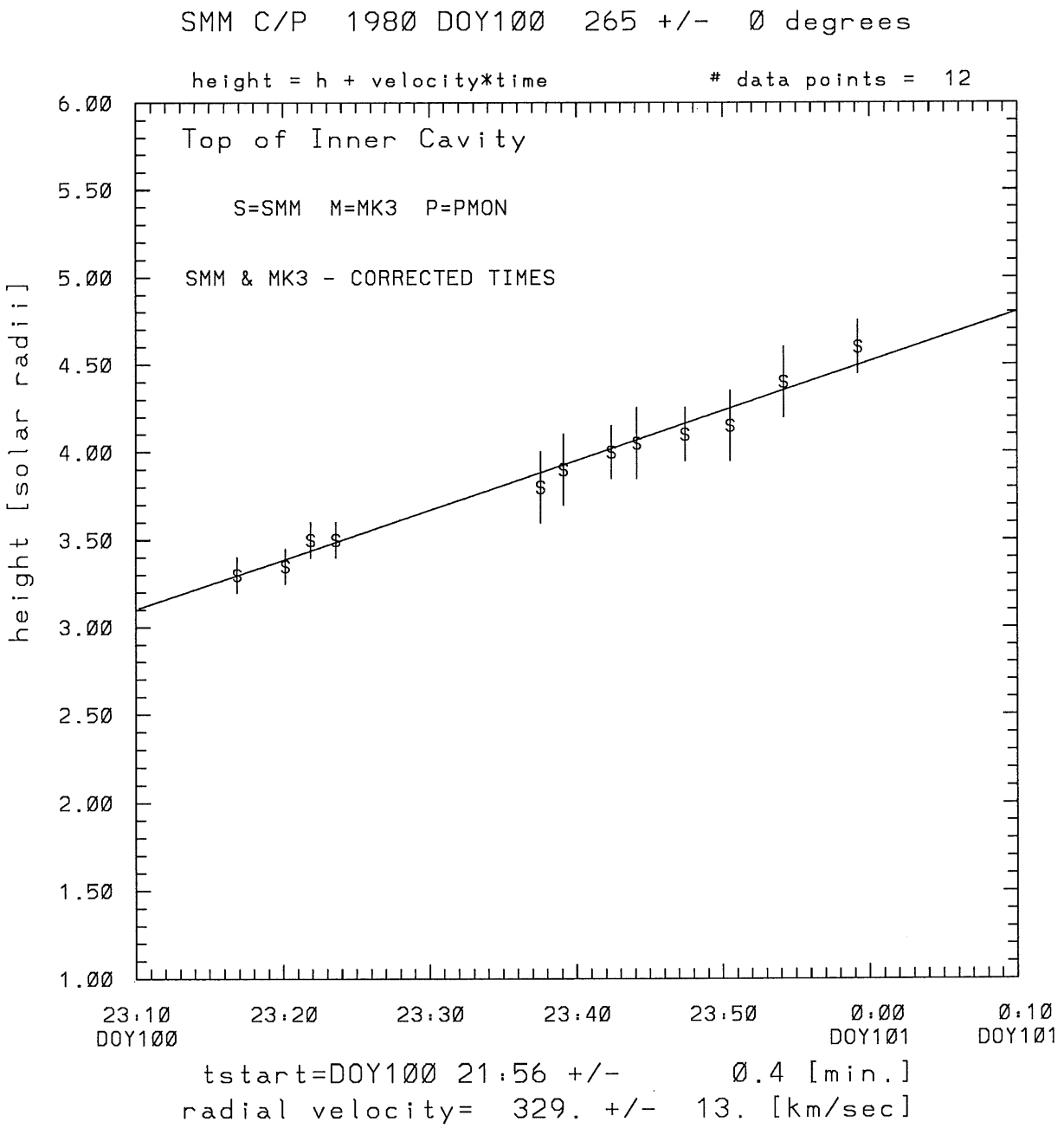
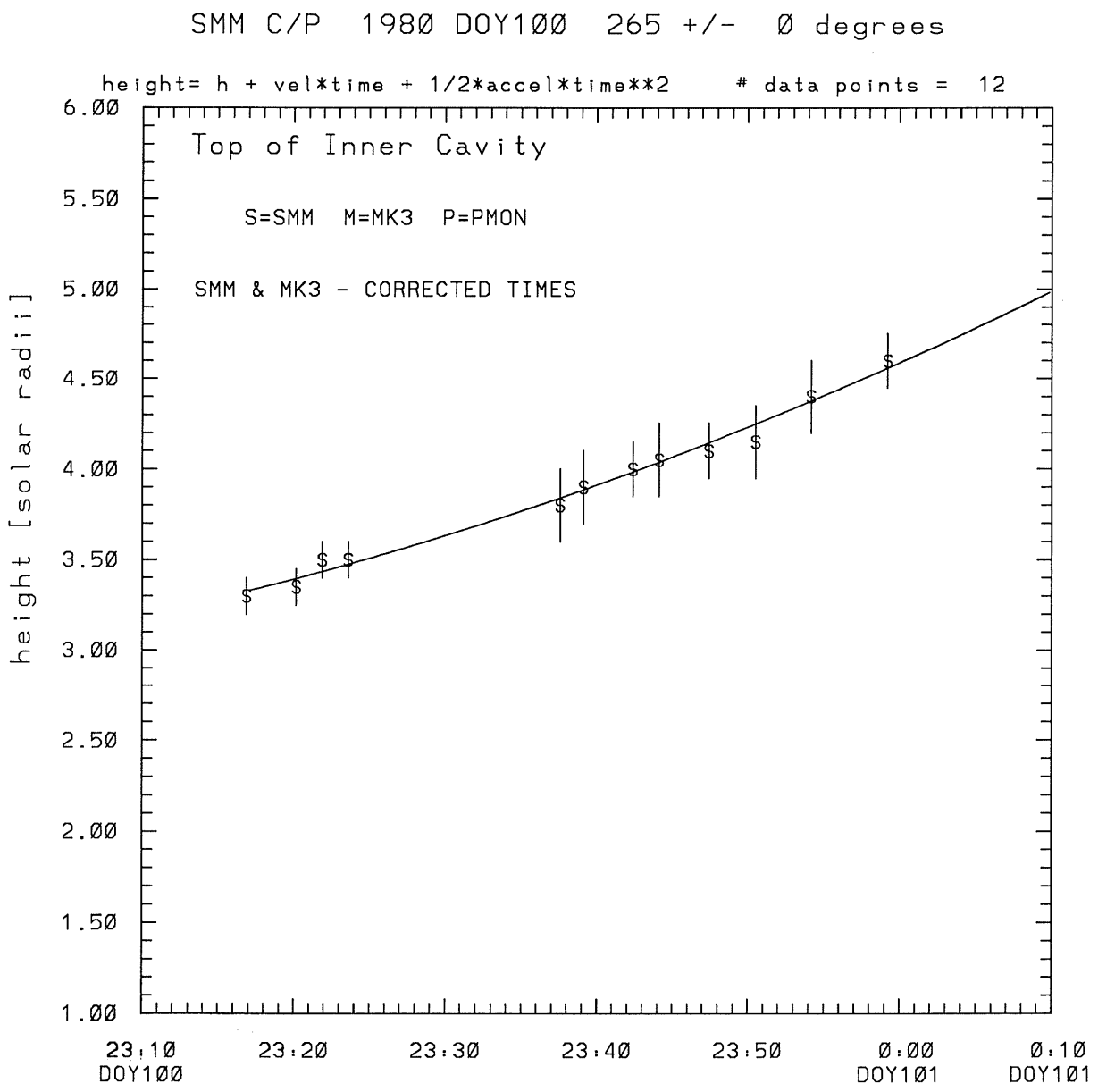

SMM C/P 1980 DOY100 265 +/- 0 degrees
height = h + velocity*time
# data points = 12
Top of Inner Cavity
S=SMM M=MK3 P=PMON
SMM & MK3 - CORRECTED TIMES
height [solar radii]
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
23:10
DOY100
23:20
23:30
23:40
23:50
0:00
DOY101
0:10
DOY101
tstart=DOY100 21:56 +/- 0.4 [min.]
radial velocity= 329. +/- 13. [km/sec]



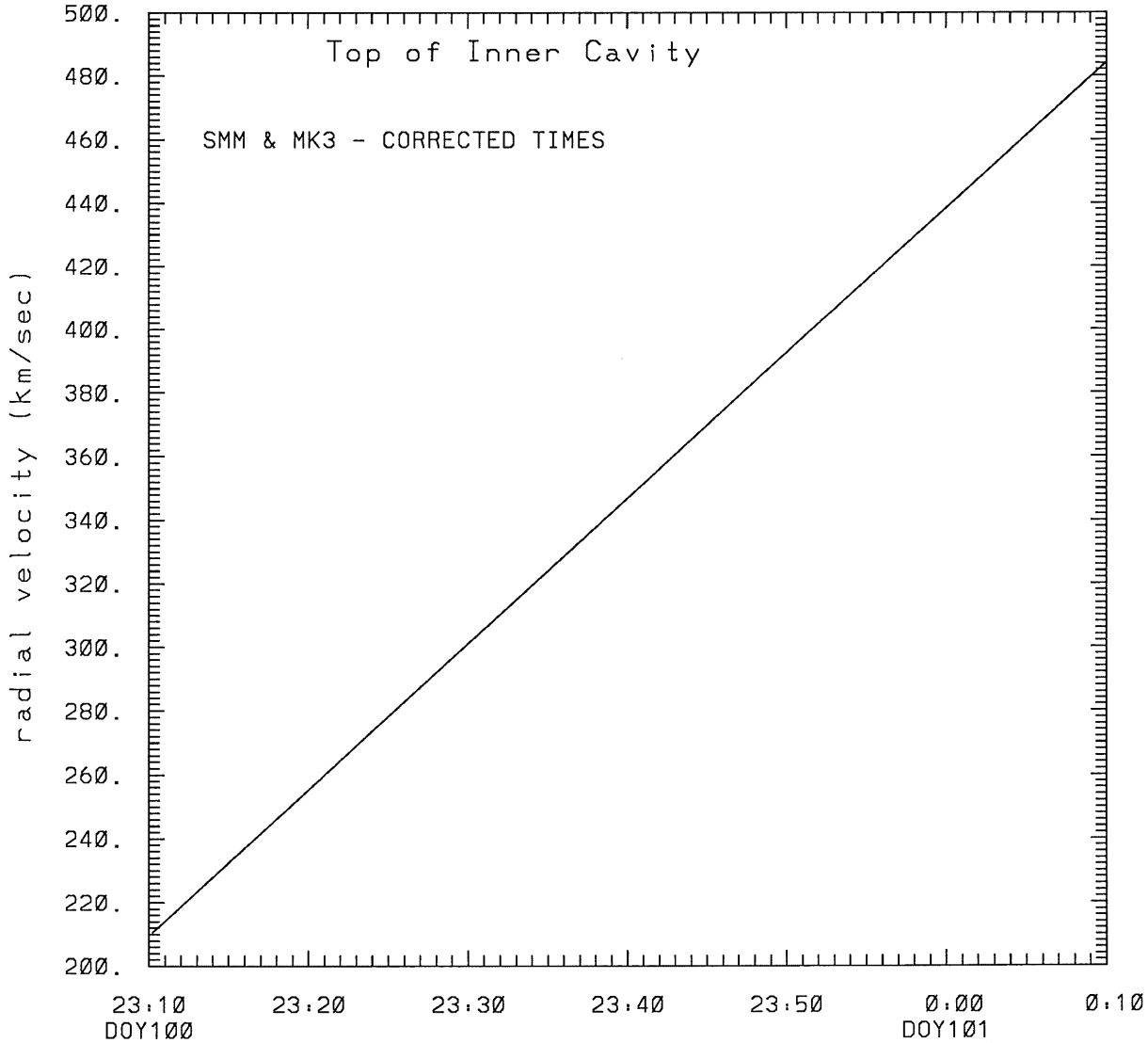
tstart=DOY100 22:25 from derivative=0

Event begins at 2.78 Solar Radii

radial acceleration= 0.0763 +/- 0.0391 [km/sec**2]

SMM C/P 1980 DOY100 265 +/- Ø degrees

height= h + vel*time + 1/2*accel*time**2 # data points = 12



tstart=DOY100 22:25 from derivative=Ø

Event begins at 2.78 Solar Radii

radial acceleration=Ø.763E-Ø1 km/sec**2

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

****
INPUT:
****

year	doy	time	radii	error in radius	angle	error in angle	datatype
1980	100	23:16:52	3.30	+/- 0.10	265.0	+/- 1.0	SMM
1980	100	23:20: 9	3.35	+/- 0.10	265.0	+/- 1.0	SMM
1980	100	23:21:53	3.50	+/- 0.10	265.0	+/- 1.0	SMM
1980	100	23:23:36	3.50	+/- 0.10	265.0	+/- 1.0	SMM
1980	100	23:37:34	3.80	+/- 0.20	265.0	+/- 1.0	SMM
1980	100	23:39: 7	3.90	+/- 0.20	265.0	+/- 1.0	SMM
1980	100	23:42:24	4.00	+/- 0.15	265.0	+/- 1.0	SMM
1980	100	23:44: 8	4.05	+/- 0.20	265.0	+/- 1.0	SMM
1980	100	23:47:26	4.10	+/- 0.15	265.0	+/- 1.0	SMM
1980	100	23:50:32	4.15	+/- 0.20	265.0	+/- 1.0	SMM
1980	100	23:54:11	4.40	+/- 0.20	265.0	+/- 1.0	SMM
1980	100	23:59:13	4.60	+/- 0.15	265.0	+/- 1.0	SMM

****
Structure being measured:
Top of Inner Cavity
****

****
OUTPUT:
****

START TIME:

Event began at t = 0 + -0.742E+02 +/- 0.362E+00 [minutes]
In more convenient units:
Event began at DOY 100 21:56 +/- 0.362E+00 [minutes]

Origin defined at DOY100 23:10

RADIAL INFORMATION:

RADIAL VELOCITY = 329. +/- 13. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.310E+01 +/- 0.280E-01 [solar radii]
c(2) = 0.283E-01 +/- 0.110E-02 [radii/min]
c(2) = 0.329E+03 +/- 0.128E+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)= 0.42083E-01 [radii] see Bevington pg. 114
error in c(2)= 0.13467E-02 [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) = 265. +/- 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 23:16 = 0.000E+00 km/sec
The TOTAL velocity at 23:16 = 329. km/sec

The TANGENTIAL velocity at 23:20 = 0.000E+00 km/sec
The TOTAL velocity at 23:20 = 329. km/sec

The TANGENTIAL velocity at 23:21 = 0.000E+00 km/sec
The TOTAL velocity at 23:21 = 329. km/sec

The TANGENTIAL velocity at 23:23 = 0.000E+00 km/sec
The TOTAL velocity at 23:23 = 329. km/sec

The TANGENTIAL velocity at 23:37 = 0.000E+00 km/sec
The TOTAL velocity at 23:37 = 329. km/sec

The TANGENTIAL velocity at 23:39 = 0.000E+00 km/sec
The TOTAL velocity at 23:39 = 329. km/sec

The TANGENTIAL velocity at 23:42 = 0.000E+00 km/sec
The TOTAL velocity at 23:42 = 329. km/sec

The TANGENTIAL velocity at 23:44 = 0.000E+00 km/sec
The TOTAL velocity at 23:44 = 329. km/sec

The TANGENTIAL velocity at 23:47 = 0.000E+00 km/sec
The TOTAL velocity at 23:47 = 329. km/sec

The TANGENTIAL velocity at 23:50 = 0.000E+00 km/sec
The TOTAL velocity at 23:50 = 329. km/sec

The TANGENTIAL velocity at 23:54 = 0.000E+00 km/sec
The TOTAL velocity at 23:54 = 329. km/sec

The TANGENTIAL velocity at 23:59 = 0.000E+00 km/sec
The TOTAL velocity at 23:59 = 329. km/sec

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

Fit is ok [ier=1]

Standard Deviation in the height = 0.41
Standard Deviation in start time measurement = 0.137E+02
Error in time = 0.71296E+01 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.286E-02
Reduced Chi Squared = 0.348E-01
Chi Squared = 0.348E+00
The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.989E+00
The probability that no LINEAR correlation exists between the variables = 0.9599E-08
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

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

****
INPUT:
****

year	doy	time	radii	error in radius	angle	error in angle	datatype
1980	100	23:16:52	3.30	+/- 0.10	265.0	+/- 1.0	SMM
1980	100	23:20: 9	3.35	+/- 0.10	265.0	+/- 1.0	SMM
1980	100	23:21:53	3.50	+/- 0.10	265.0	+/- 1.0	SMM
1980	100	23:23:36	3.50	+/- 0.10	265.0	+/- 1.0	SMM
1980	100	23:37:34	3.80	+/- 0.20	265.0	+/- 1.0	SMM
1980	100	23:39: 7	3.90	+/- 0.20	265.0	+/- 1.0	SMM
1980	100	23:42:24	4.00	+/- 0.15	265.0	+/- 1.0	SMM
1980	100	23:44: 8	4.05	+/- 0.20	265.0	+/- 1.0	SMM
1980	100	23:47:26	4.10	+/- 0.15	265.0	+/- 1.0	SMM
1980	100	23:50:32	4.15	+/- 0.20	265.0	+/- 1.0	SMM
1980	100	23:54:11	4.40	+/- 0.20	265.0	+/- 1.0	SMM
1980	100	23:59:13	4.60	+/- 0.15	265.0	+/- 1.0	SMM

****
Structure being measured:
Top of Inner Cavity
****

****
OUTPUT:
****

START TIME:

tstart=DOY100 22:25 from derivative = 0
Event begins at 2.78 Solar Radii
Origin defined at DOY100 23:10

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.763E-01 +/- 0.391E-01 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.319E+01 +/- 0.526E-01 [solar radii]
c(2) = 0.181E-01 +/- 0.535E-02 [radii/min]
c(2) = 0.210E+03 +/- 0.621E+02 [km/sec]
c(3) = 0.197E-03 +/- 0.101E-03 [radii/min**2]
c(3) = 0.763E-01 +/- 0.391E-01 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.61388E-01 [radii] Bevington pg 154 (8-30)

Exact error in c(1) = 0.11319E-01 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.53077E-02 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.87648E-03 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.97079E-04 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.16686E-04 [radii/min**] 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) = 265. +/- 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 23:16 = 0.000E+00 km/sec
The TOTAL velocity at 23:16 = 241. km/sec

The TANGENTIAL velocity at 23:20 = 0.000E+00 km/sec
The TOTAL velocity at 23:20 = 256. km/sec

The TANGENTIAL velocity at 23:21 = 0.000E+00 km/sec
The TOTAL velocity at 23:21 = 264. km/sec

The TANGENTIAL velocity at 23:23 = 0.000E+00 km/sec
The TOTAL velocity at 23:23 = 272. km/sec

The TANGENTIAL velocity at 23:37 = 0.000E+00 km/sec
The TOTAL velocity at 23:37 = 336. km/sec

The TANGENTIAL velocity at 23:39 = 0.000E+00 km/sec
The TOTAL velocity at 23:39 = 343. km/sec

The TANGENTIAL velocity at 23:42 = 0.000E+00 km/sec
The TOTAL velocity at 23:42 = 358. km/sec

The TANGENTIAL velocity at 23:44 = 0.000E+00 km/sec
The TOTAL velocity at 23:44 = 366. km/sec

The TANGENTIAL velocity at 23:47 = 0.000E+00 km/sec
The TOTAL velocity at 23:47 = 381. km/sec

The TANGENTIAL velocity at 23:50 = 0.000E+00 km/sec
The TOTAL velocity at 23:50 = 395. km/sec

The TANGENTIAL velocity at 23:54 = 0.000E+00 km/sec
The TOTAL velocity at 23:54 = 412. km/sec

The TANGENTIAL velocity at 23:59 = 0.000E+00 km/sec
The TOTAL velocity at 23:59 = 435. km/sec

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

Fit is ok [ier=1]

Standard Deviation in the height = 0.41
Standard Deviation in start time measurement = 0.137E+02
Value of reduced Chi Squared returned from nllst2 = 0.228E-02
Reduced Chi Squared = 0.194E-01
Chi Squared = 0.174E+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 = 0.1132E+01
The correlation between the data and the time**2 term = 0.1073E+01
The correlation between the data and the complete equation of motion = 0.9952E+00
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]