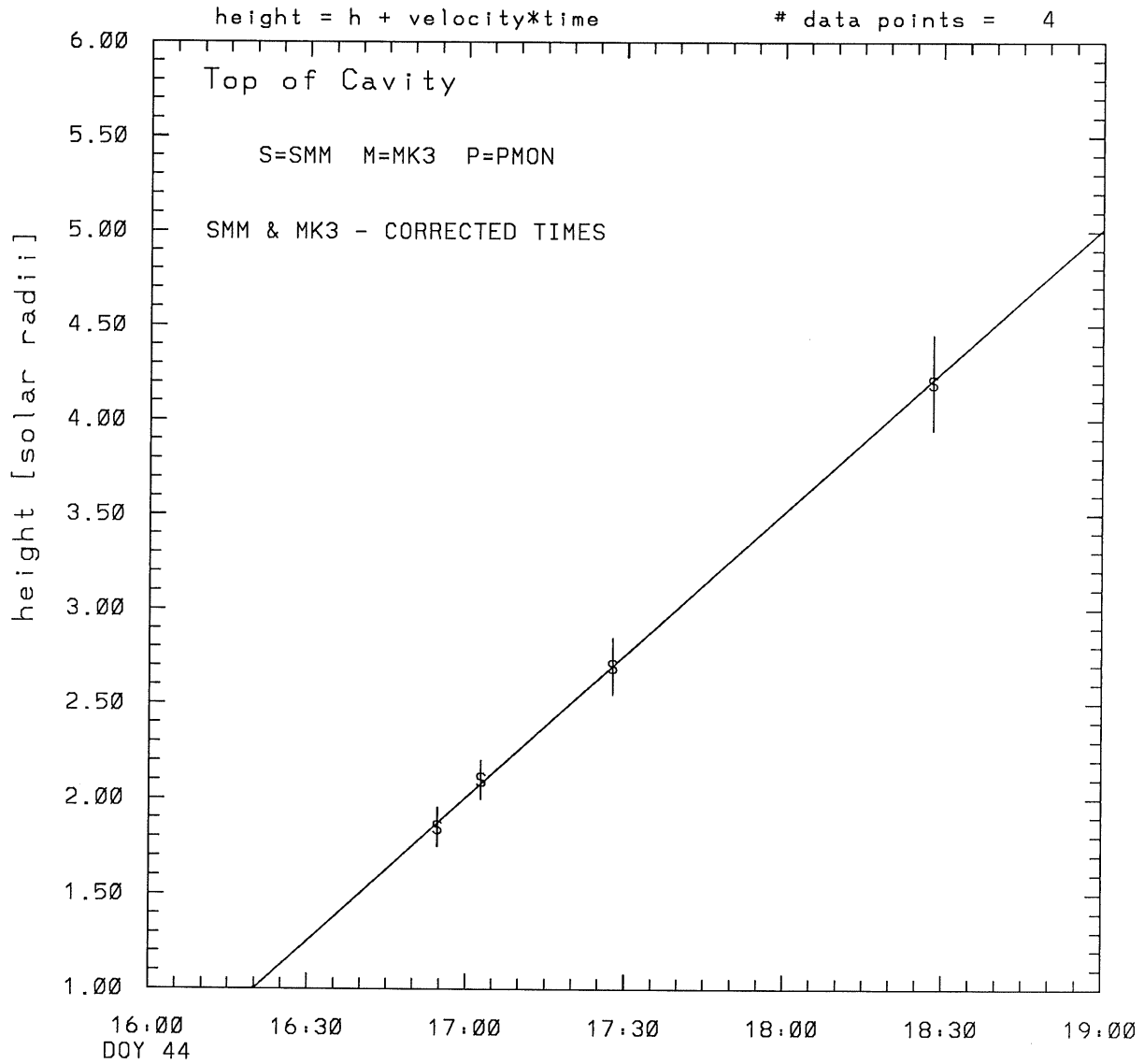
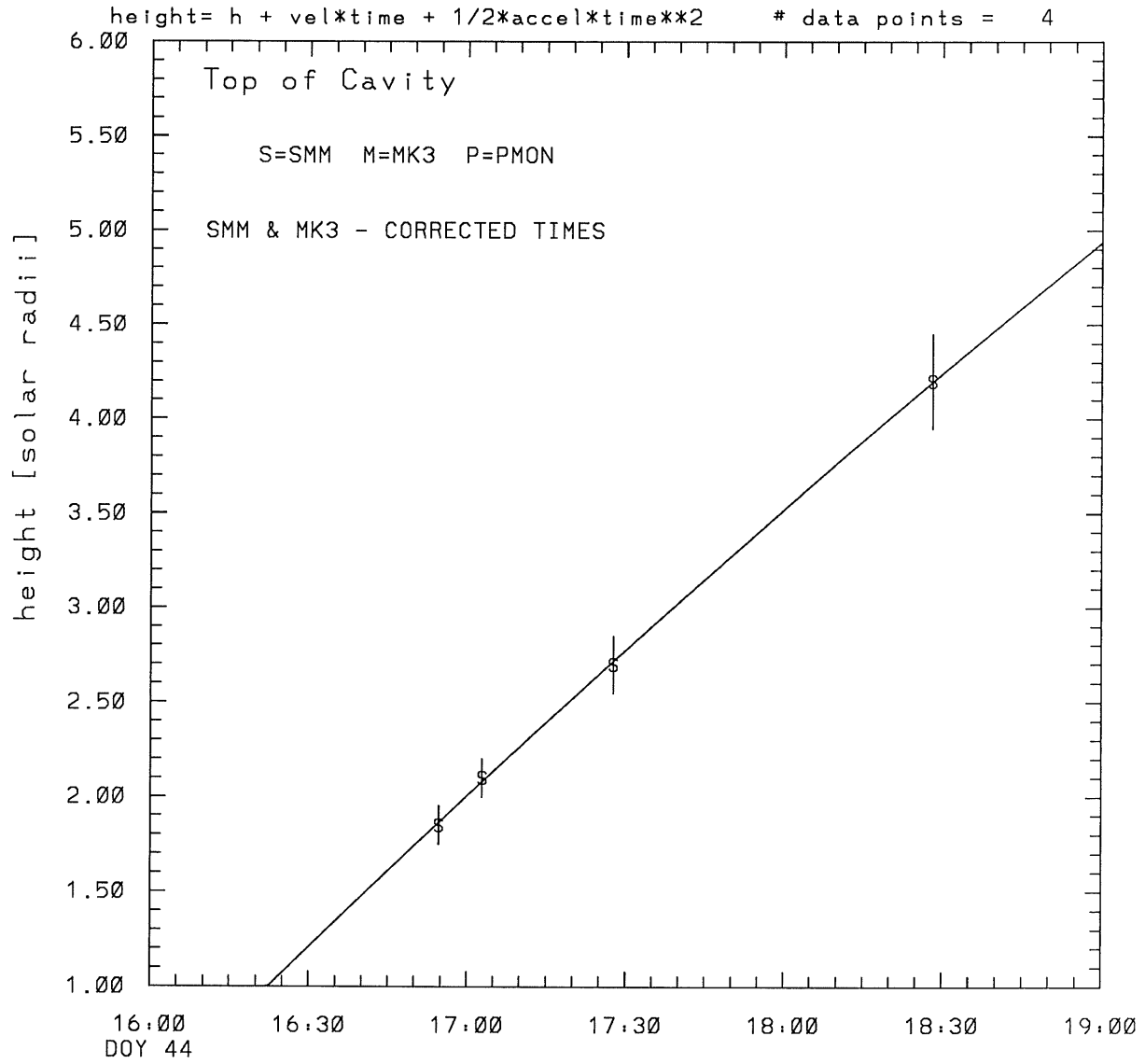


SMM C/P 1989 DOY 44 55 +/- 0 degrees



tstart=DOY 44 16:20 +/- 0.5 [min.]  
radial velocity= 291. +/- 6. [km/sec]

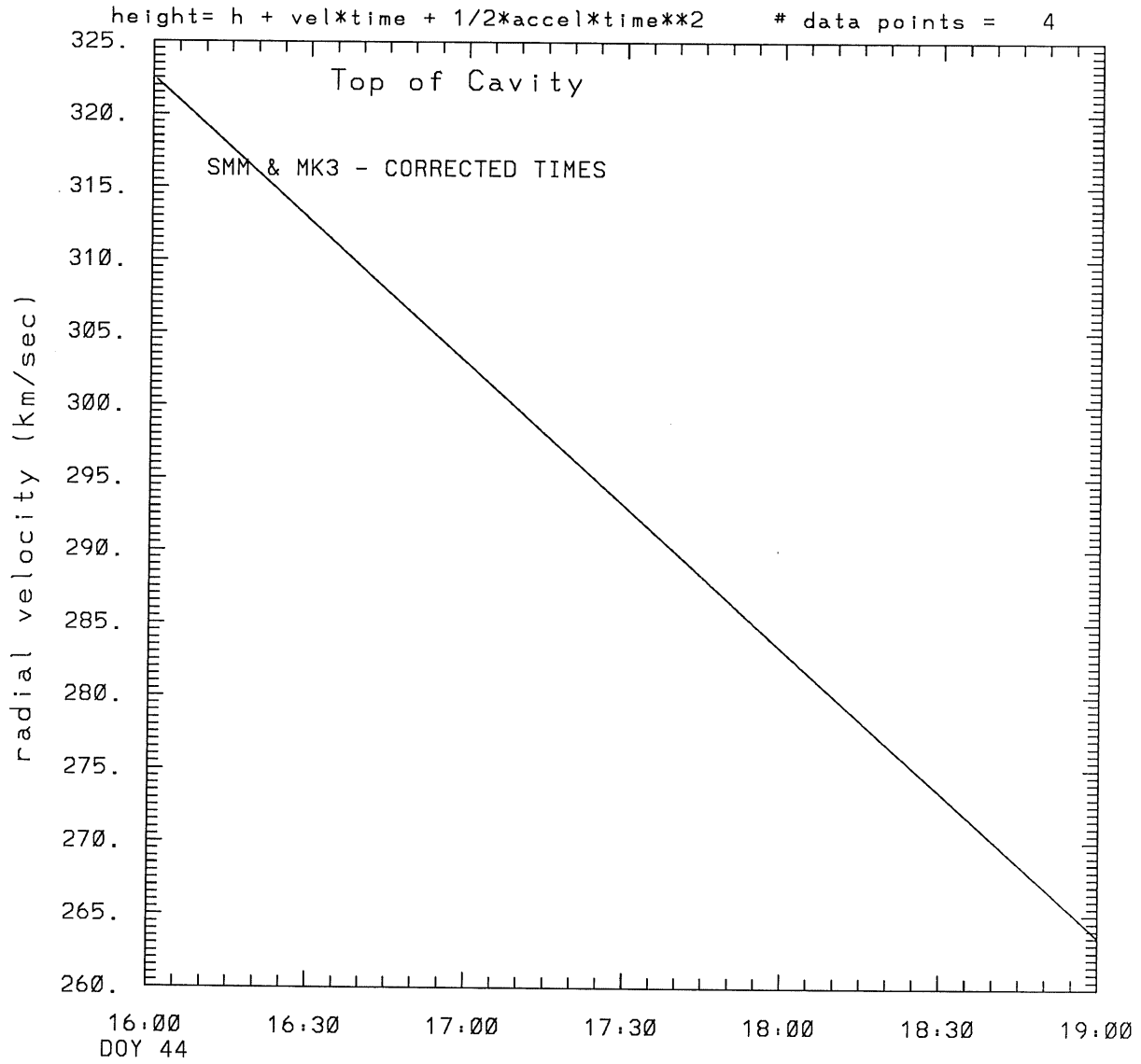
SMM C/P 1989 DOY 44 55 +/- 0 degrees



tstart=DOY 44 16:22 +/- 15.6 [min.]

radial acceleration =  $-0.0055 +/- 0.0068$  [km/sec\*\*2]

SMM C/P 1989 DOY 44 55 +/- 0 degrees



tstart=DOY 44 16:22 +/- 15.6 [min.]

radial acceleration =  $-.546E-02$  km/sec\*\*2

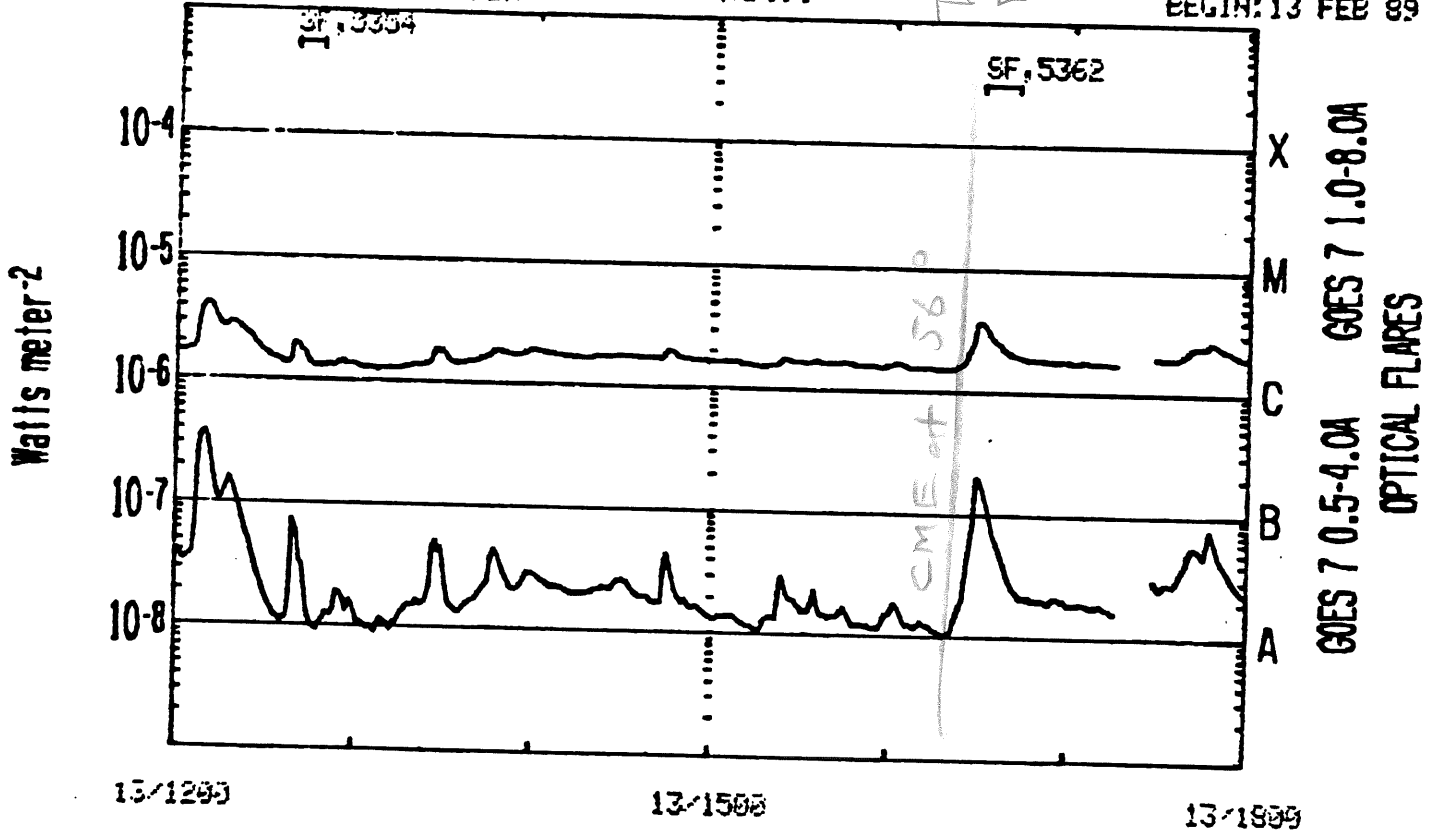
1989 Day 44

Top of Cavity  
[16:20] 1st order  
[16:22] 2nd order

GOES and OPTICAL DATA TOGETHER

STOP  
Ret..

BEGIN: 13 FEB 89



13/1200

13/1500

13/1800

SAA's  
NIGHT

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

RUN: 2244UT  
16 FEB 89

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

\*\*\*\*\*  
INPUT:  
\*\*\*\*\*

year	doy	time	radii	error in radius	error in angle	angle	datatype
1989	44	16:54:37	1.85	+/- 0.10	55.0	+/- 0.5	SMM
1989	44	17: 2:52	2.10	+/- 0.10	55.0	+/- 0.5	SMM
1989	44	17:27:39	2.70	+/- 0.15	55.0	+/- 0.5	SMM
1989	44	18:28: 5	4.20	+/- 0.25	55.0	+/- 0.5	SMM

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

\*\*\*\*\*  
OUTPUT:  
\*\*\*\*\*

START TIME:

Event began at  $t = 0 + 0.199E+02 \pm 0.522E+00$  [minutes]  
In more convenient units:  
Event began at DOY 44 16:20  $\pm 0.522E+00$  [minutes]

Origin defined at DOY 44 16: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 291.  $\pm$  6. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.502E+00 \pm 0.350E-01$  [solar radii]  
 $c(2) = 0.251E-01 \pm 0.479E-03$  [radii/min]  
 $c(2) = 0.291E+03 \pm 0.556E+01$  [km/sec]  
 $c(3) = 0.000E+00 \pm 0.000E+00$  [radii/min\*\*2]  
 $c(3) = 0.000E+00 \pm 0.000E+00$  [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

error in  $c(1) = 0.30913E-01$  [radii] see Bevington pg. 114  
error in  $c(2) = 0.32341E-03$  [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY =  $0.0000E+00 \pm 0.0000E+00$  [radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 55. +/- 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 16:54 = 0. km/sec

The TOTAL velocity at 16:54 = 291. km/sec

The TANGENTIAL velocity at 17: 2 = 0. km/sec

The TOTAL velocity at 17: 2 = 291. km/sec

The TANGENTIAL velocity at 17:27 = 0. km/sec

The TOTAL velocity at 17:27 = 291. km/sec

The TANGENTIAL velocity at 18:28 = 0. km/sec

The TOTAL velocity at 18:28 = 291. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 1.05

Standard Deviation in start time measurement = 0.366E+02

Error in time = 0.13354E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.494E-03

Reduced Chi Squared = 0.109E-02

Chi Squared = 0.218E-02

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.100E+01

The probability that no LINEAR correlation exists between the variables = 0.1506E-03

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

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

\*\*\*\*\*  
INPUT:  
\*\*\*\*\*

year	day	time	radii	error in radius	angle	error in angle	datatype
1989	44	16:54:37	1.85	+/- 0.10	55.0	+/- 0.5	SMM
1989	44	17: 2:52	2.10	+/- 0.10	55.0	+/- 0.5	SMM
1989	44	17:27:39	2.70	+/- 0.15	55.0	+/- 0.5	SMM
1989	44	18:28: 5	4.20	+/- 0.25	55.0	+/- 0.5	SMM

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

\*\*\*\*\*  
OUTPUT:  
\*\*\*\*\*

START TIME:

Event began at  $t = 0 + 0.223E+02 +/- 0.156E+02$  [minutes]  
In more convenient units:  
Event began at DOY 44 16:22 +/- 0.156E+02 [minutes]

Origin defined at DOY 44 16: 0

RADIAL INFORMATION:

RADIAL ACCELERATION =  $-0.546E-02 +/- 0.675E-02$  km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.387E+00 +/- 0.146E+00$  [solar radii]  
 $c(2) = 0.278E-01 +/- 0.343E-02$  [radii/min]  
 $c(2) = 0.323E+03 +/- 0.398E+02$  [km/sec]  
 $c(3) = -0.141E-04 +/- 0.175E-04$  [radii/min\*\*2]  
 $c(3) = -0.546E-02 +/- 0.675E-02$  [km/sec\*\*2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in  $c(1) = 0.17272E+00$  [radii] Bevington pg 154 (8-30)  
Exact error in  $c(1) = 0.87430E-01$  [radii] Bevington pg 154 (8-28)  
Approximate error in  $c(2) = 0.38449E-02$  [radii/min] Bevington pg 154 (8-30)  
Exact error in  $c(2) = 0.19552E-02$  [radii/min] Bevington pg 154 (8-28)  
Approximate error in  $c(3) = 0.18534E-04$  [radii/min\*\*] Bevington pg 154 (8-30)  
Exact error in  $c(3) = 0.92857E-05$  [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) = 55. +/- 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 16:54 = 0. km/sec

The TOTAL velocity at 16:54 = 305. km/sec

The TANGENTIAL velocity at 17: 2 = 0. km/sec

The TOTAL velocity at 17: 2 = 302. km/sec

The TANGENTIAL velocity at 17:27 = 0. km/sec

The TOTAL velocity at 17:27 = 294. km/sec

The TANGENTIAL velocity at 18:28 = 0. km/sec

The TOTAL velocity at 18:28 = 274. km/sec

\*\*\*\*\*

The following info is for estimating goodness of the fit

\*\*\*\*\*

Fit is ok [ier=1]

Standard Deviation in the height = 1.05

Standard Deviation in start time measurement = 0.366E+02

Value of reduced Chi Squared returned from nllst2 = 0.558E-03

Reduced Chi Squared = 0.189E-02

Chi Squared = 0.189E-02

The probability for exceeding chi square = 0.981E+00

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 = 0.8213E+00

The correlation between the data and the time\*\*2 term = 0.7758E+00

The correlation between the data and the complete equation of motion = 0.1001E+01

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