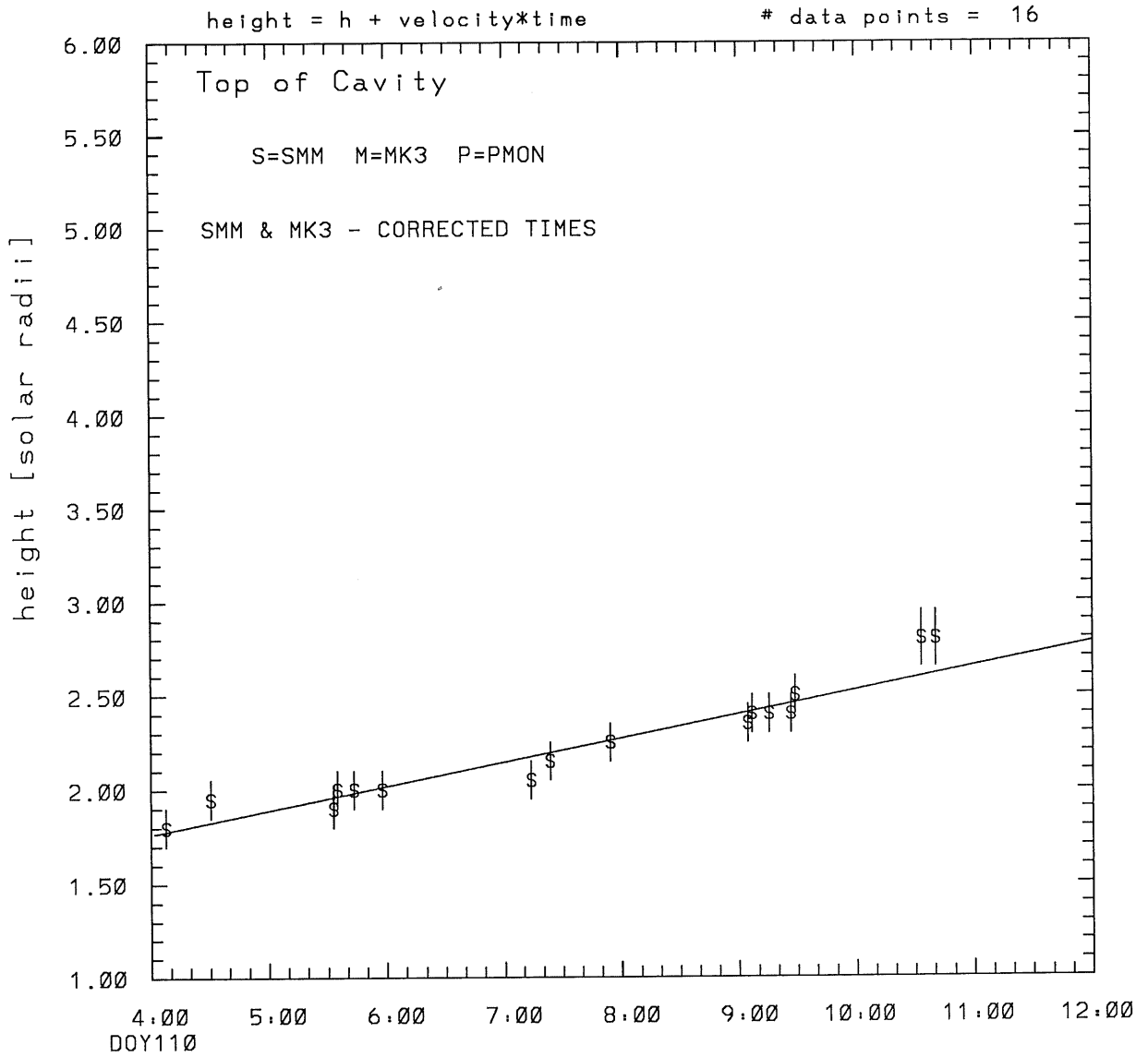
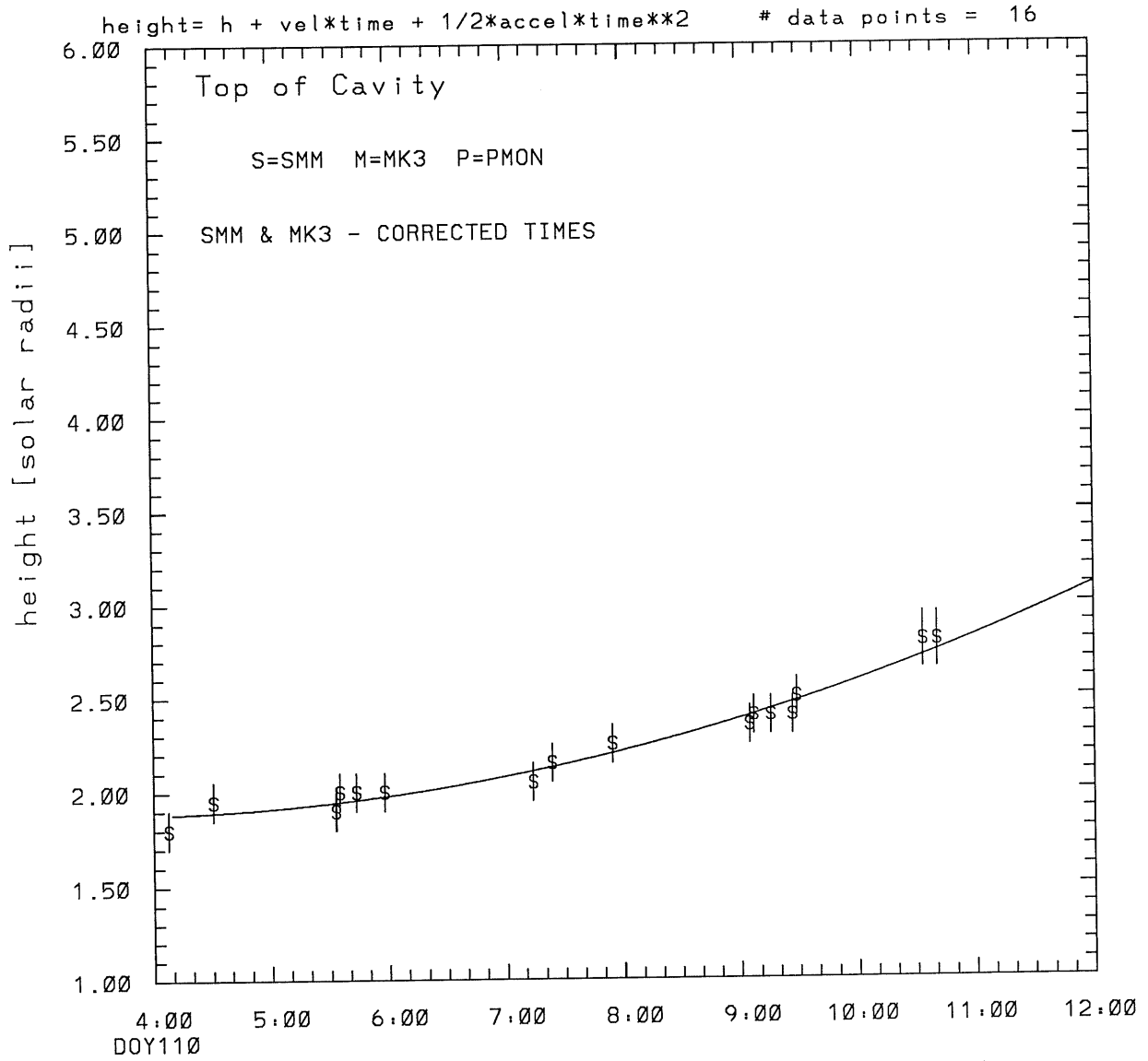


SMM C/P 1980 DOY110 223 +/- 0 degrees



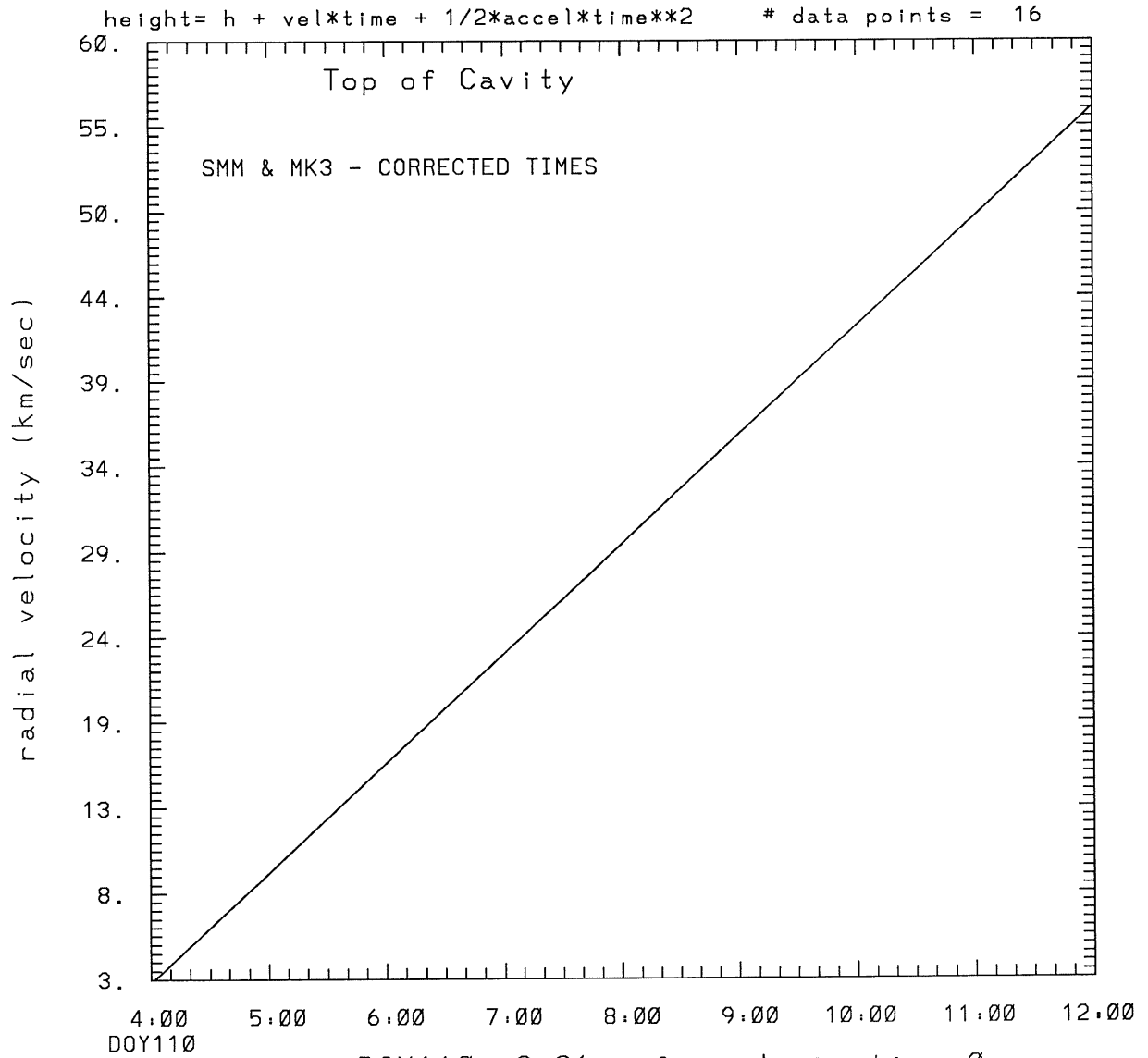
tstart=DOY109 22: 0 +/- 2.7 [min.]
radial velocity= 25. +/- 2. [km/sec]

SMM C/P 1980 DOY110 223 +/- 0 degrees



tstart=DOY110 3.36 from derivative=0
Event begins at 1.88 Solar Radii
radial acceleration = 0.0018 +/- 0.0004 [km/sec**2]

SMM C/P 1980 DOY110 223 +/- 0 degrees



DOY110 tstart=DOY110 3:36 from derivative=0
Event begins at 1.88 Solar Radii
radial acceleration=0.185E-02 km/sec**2

This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in	angle	angle	datatype
1980	110	4: 7:40	1.80	+/- 0.10	223.0	+/- 0.5	SMM	
1980	110	4:30:30	1.95	+/- 0.10	223.0	+/- 0.5	SMM	
1980	110	5:32:55	1.90	+/- 0.10	223.0	+/- 0.5	SMM	
1980	110	5:35: 1	2.00	+/- 0.10	223.0	+/- 0.5	SMM	
1980	110	5:43:29	2.00	+/- 0.10	223.0	+/- 0.5	SMM	
1980	110	5:57:47	2.00	+/- 0.10	223.0	+/- 0.5	SMM	
1980	110	7:13:53	2.05	+/- 0.10	223.0	+/- 0.5	SMM	
1980	110	7:23:42	2.15	+/- 0.10	223.0	+/- 0.5	SMM	
1980	110	7:54:30	2.25	+/- 0.10	223.0	+/- 0.5	SMM	
1980	110	9: 4:38	2.35	+/- 0.10	223.0	+/- 0.5	SMM	
1980	110	9: 6:44	2.40	+/- 0.10	223.0	+/- 0.5	SMM	
1980	110	9:15:30	2.40	+/- 0.10	223.0	+/- 0.5	SMM	
1980	110	9:26:42	2.40	+/- 0.10	223.0	+/- 0.5	SMM	
1980	110	9:28:48	2.50	+/- 0.10	223.0	+/- 0.5	SMM	
1980	110	10:33:23	2.80	+/- 0.15	223.0	+/- 0.5	SMM	
1980	110	10:40:29	2.80	+/- 0.15	223.0	+/- 0.5	SMM	

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

Event began at $t = 0 + -0.362E+03 +/- 0.272E+01$ [minutes]

In more convenient units:

Event began at DOY 109 22:00 +/- 0.272E+01 [minutes]

Event began at DOY 109 22: 0 +/- 0.272E+01 [minutes]

Origin defined at DOY110 4: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 25. +/- 2. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.176E+01 +/- 0.379E-01$ [solar radii]

c(2) = 0.211E-02 +/- 0.162E-03 [radii/min]
c(2) = 0.245E+02 +/- 0.187E+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)= 0.47295E-01 [radii] see Bevington pg. 114

error in c(2)= 0.18978E-03 [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) = 223. +/- 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 4: 7 = 0.000E+00 km/sec

The TOTAL velocity at 4: 7 = 25. km/sec

The TANGENTIAL velocity at 4:30 = 0.000E+00 km/sec

The TOTAL velocity at 4:30 = 25. km/sec

The TANGENTIAL velocity at 5:32 = 0.000E+00 km/sec

The TOTAL velocity at 5:32 = 25. km/sec

The TANGENTIAL velocity at 5:35 = 0.000E+00 km/sec

The TOTAL velocity at 5:35 = 25. km/sec

The TANGENTIAL velocity at 5:43 = 0.000E+00 km/sec

The TOTAL velocity at 5:43 = 25. km/sec

The TANGENTIAL velocity at 5:57 = 0.000E+00 km/sec

The TOTAL velocity at 5:57 = 25. km/sec

The TANGENTIAL velocity at 7:13 = 0.000E+00 km/sec

The TOTAL velocity at 7:13 = 25. km/sec

The TANGENTIAL velocity at 7:23 = 0.000E+00 km/sec

The TOTAL velocity at 7:23 = 25. km/sec

The TANGENTIAL velocity at 7:54 = 0.000E+00 km/sec

The TOTAL velocity at 7:54 = 25. km/sec

The TANGENTIAL velocity at 9: 4 = 0.000E+00 km/sec

The TOTAL velocity at 9: 4 = 25. km/sec

The TANGENTIAL velocity at 9: 6 = 0.000E+00 km/sec
The TOTAL velocity at 9: 6 = 25. km/sec

The TANGENTIAL velocity at 9:15 = 0.000E+00 km/sec
The TOTAL velocity at 9:15 = 25. km/sec

The TANGENTIAL velocity at 9:26 = 0.000E+00 km/sec
The TOTAL velocity at 9:26 = 25. km/sec

The TANGENTIAL velocity at 9:28 = 0.000E+00 km/sec
The TOTAL velocity at 9:28 = 25. km/sec

The TANGENTIAL velocity at 10:33 = 0.000E+00 km/sec
The TOTAL velocity at 10:33 = 25. km/sec

The TANGENTIAL velocity at 10:40 = 0.000E+00 km/sec
The TOTAL velocity at 10:40 = 25. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.30
Standard Deviation in start time measurement = 0.124E+03
Error in time = 0.16711E+03 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.584E-02
Reduced Chi Squared = 0.106E+00
Chi Squared = 0.148E+01
The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.958E+00
The probability that no LINEAR correlation exists between the variables = 0.1855E-07
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	110	4: 7:40	1.80	+/- 0.10	223.0	+/- 0.5	SMM
1980	110	4:30:30	1.95	+/- 0.10	223.0	+/- 0.5	SMM
1980	110	5:32:55	1.90	+/- 0.10	223.0	+/- 0.5	SMM
1980	110	5:35: 1	2.00	+/- 0.10	223.0	+/- 0.5	SMM
1980	110	5:43:29	2.00	+/- 0.10	223.0	+/- 0.5	SMM
1980	110	5:57:47	2.00	+/- 0.10	223.0	+/- 0.5	SMM
1980	110	7:13:53	2.05	+/- 0.10	223.0	+/- 0.5	SMM
1980	110	7:23:42	2.15	+/- 0.10	223.0	+/- 0.5	SMM
1980	110	7:54:30	2.25	+/- 0.10	223.0	+/- 0.5	SMM
1980	110	9: 4:38	2.35	+/- 0.10	223.0	+/- 0.5	SMM
1980	110	9: 6:44	2.40	+/- 0.10	223.0	+/- 0.5	SMM
1980	110	9:15:30	2.40	+/- 0.10	223.0	+/- 0.5	SMM
1980	110	9:26:42	2.40	+/- 0.10	223.0	+/- 0.5	SMM
1980	110	9:28:48	2.50	+/- 0.10	223.0	+/- 0.5	SMM
1980	110	10:33:23	2.80	+/- 0.15	223.0	+/- 0.5	SMM
1980	110	10:40:29	2.80	+/- 0.15	223.0	+/- 0.5	SMM

Structure being measured:

Top of Cavity

OUTPUT:

START TIME:

tstart=DOY110 3:36 from derivative = 0

Event begins at 1.88 Solar Radii

Origin defined at DOY110 4: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.185E-02 +/- 0.449E-03 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.188E+01 +/- 0.389E-01 [solar radii]
c(2) = 0.236E-03 +/- 0.471E-03 [radii/min]
c(2) = 0.274E+01 +/- 0.546E+01 [km/sec]
c(3) = 0.477E-05 +/- 0.116E-05 [radii/min**2]
c(3) = 0.185E-02 +/- 0.449E-03 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.42463E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.11810E-01 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.48571E-03 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.12438E-03 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.11384E-05 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.29245E-06 [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) = 223. +/- 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 4: 7 = 0.000E+00 km/sec
The TOTAL velocity at 4: 7 = 4. km/sec

The TANGENTIAL velocity at 4:30 = 0.000E+00 km/sec
The TOTAL velocity at 4:30 = 6. km/sec

The TANGENTIAL velocity at 5:32 = 0.000E+00 km/sec
The TOTAL velocity at 5:32 = 13. km/sec

The TANGENTIAL velocity at 5:35 = 0.000E+00 km/sec
The TOTAL velocity at 5:35 = 13. km/sec

The TANGENTIAL velocity at 5:43 = 0.000E+00 km/sec
The TOTAL velocity at 5:43 = 14. km/sec

The TANGENTIAL velocity at 5:57 = 0.000E+00 km/sec
The TOTAL velocity at 5:57 = 16. km/sec

The TANGENTIAL velocity at 7:13 = 0.000E+00 km/sec
The TOTAL velocity at 7:13 = 24. km/sec

The TANGENTIAL velocity at 7:23 = 0.000E+00 km/sec
The TOTAL velocity at 7:23 = 25. km/sec

The TANGENTIAL velocity at 7:54 = 0.000E+00 km/sec
The TOTAL velocity at 7:54 = 29. km/sec

The TANGENTIAL velocity at 9: 4 = 0.000E+00 km/sec
The TOTAL velocity at 9: 4 = 36. km/sec

The TANGENTIAL velocity at 9: 6 = 0.000E+00 km/sec
The TOTAL velocity at 9: 6 = 37. km/sec

The TANGENTIAL velocity at 9:15 = 0.000E+00 km/sec
The TOTAL velocity at 9:15 = 38. km/sec

The TANGENTIAL velocity at 9:26 = 0.000E+00 km/sec
The TOTAL velocity at 9:26 = 39. km/sec

The TANGENTIAL velocity at 9:28 = 0.000E+00 km/sec
The TOTAL velocity at 9:28 = 39. km/sec

The TANGENTIAL velocity at 10:33 = 0.000E+00 km/sec
The TOTAL velocity at 10:33 = 46. km/sec

The TANGENTIAL velocity at 10:40 = 0.000E+00 km/sec
The TOTAL velocity at 10:40 = 47. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.30

Standard Deviation in start time measurement = 0.124E+03

Value of reduced Chi Squared returned from nllst2 = 0.284E-02

Reduced Chi Squared = 0.278E-01

Chi Squared = 0.361E+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 = 0.9176E+00

The correlation between the data and the time**2 term = 0.8957E+00

The correlation between the data and the complete equation of motion = 0.9613E+00

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