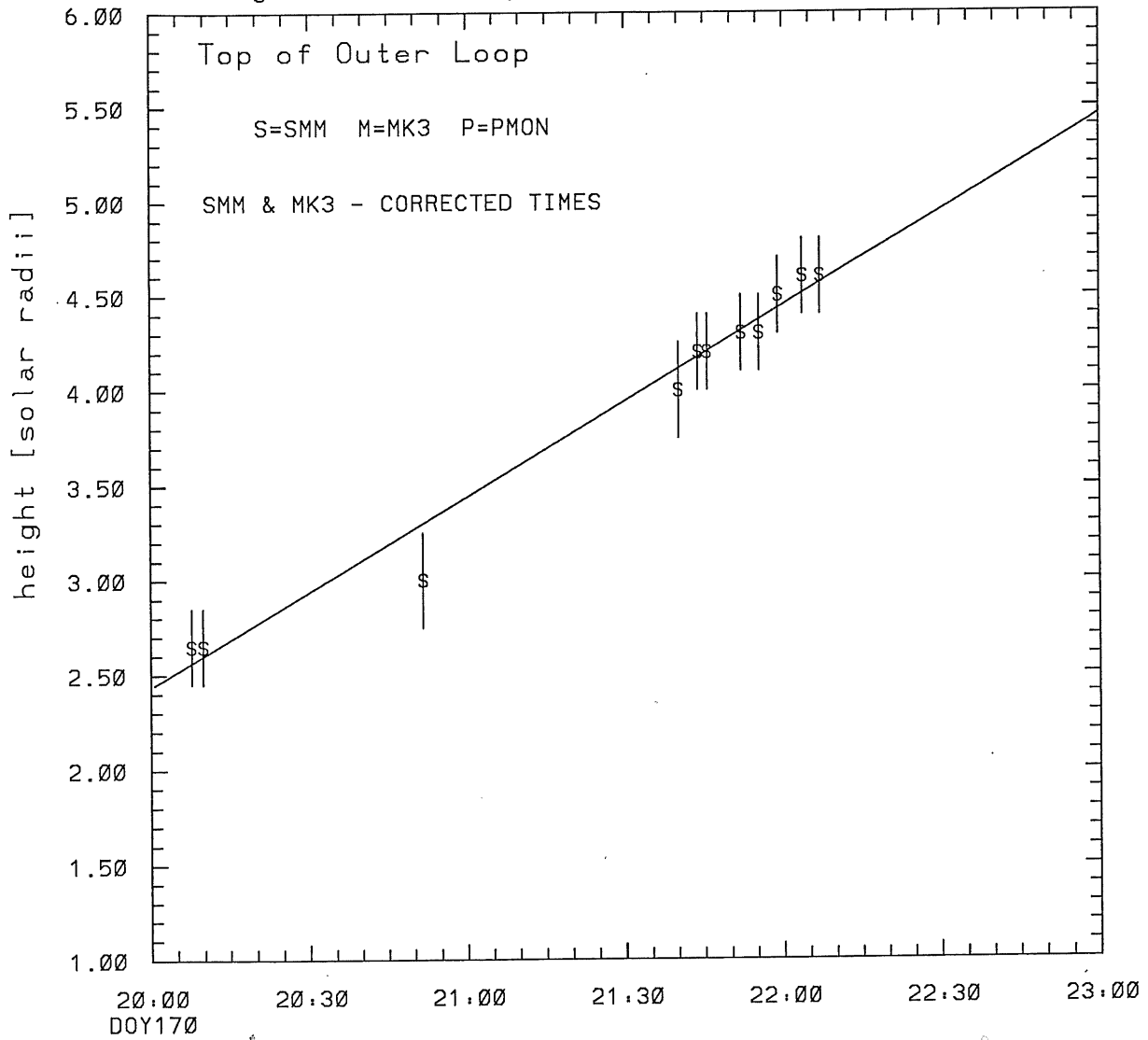


SMM C/P 1980 DOY170 70 +/- 0 degrees

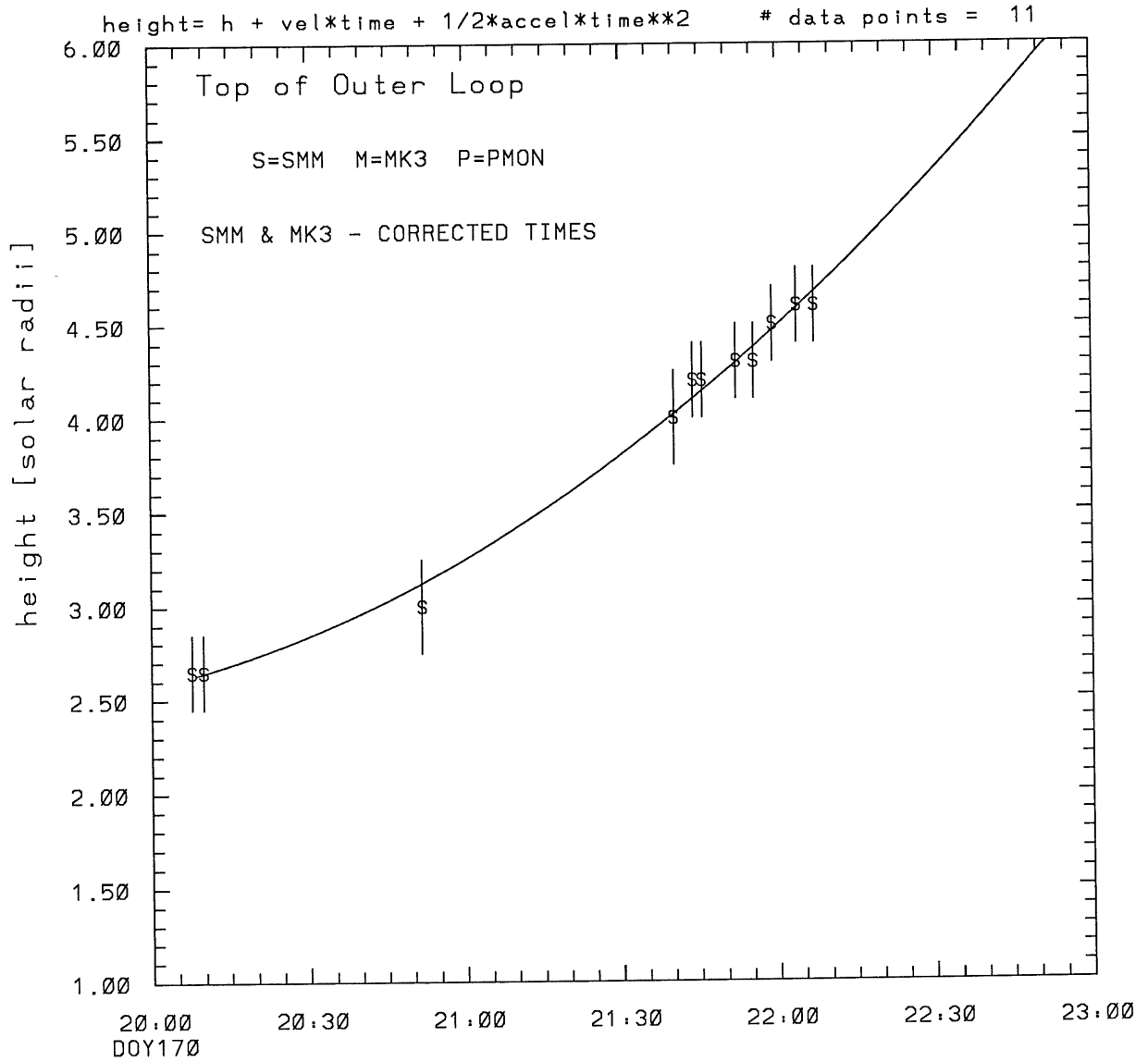
height = h + velocity*time

data points = 11



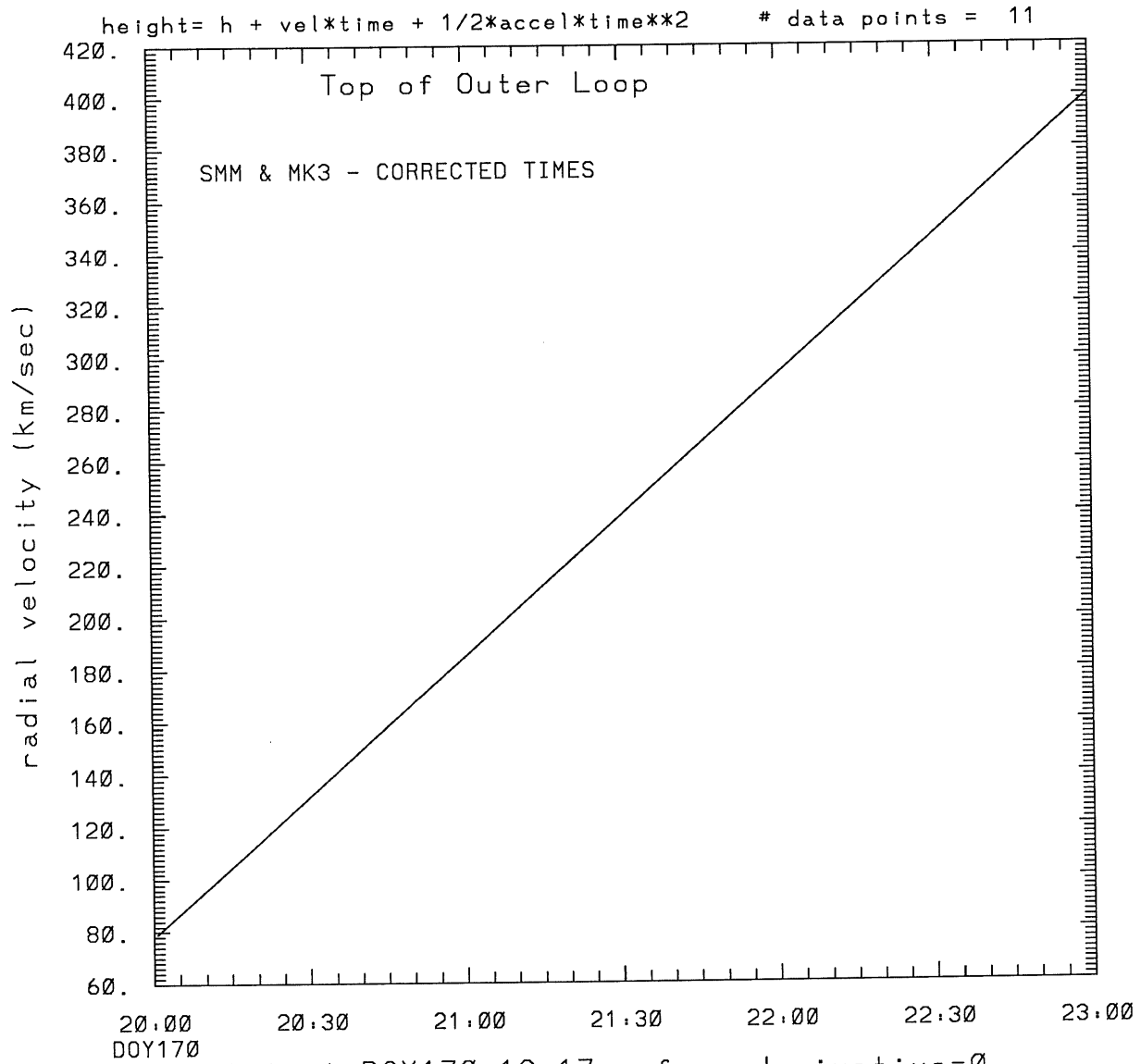
tstart=DOY170 18:36 +/- 0.9 [min.]
radial velocity= 194. +/- 8. [km/sec]

SMM C/P 1980 DOY170 70 +/- 0 degrees



tstart=DOY170 19:17 from derivative=0
Event begins at 2.43 Solar Radii
radial acceleration = 0.0298 +/- 0.0077 [km/sec**2]

SMM C/P 1980 DOY170 70 +/- 0 degrees



DOY170
tstart=DOY170 19:17 from derivative=0
Event begins at 2.43 Solar Radii
radial acceleration=0.298E-01 km/sec**2

This is a 1 order run

INPUT:

year	doy	time	radii	error in radius	angle	error in angle	datatype
1980	170	20: 7:39	2.65	+/- 0.20	70.0	+/- 0.5	SMM
1980	170	20: 9:52	2.65	+/- 0.20	70.0	+/- 0.5	SMM
1980	170	20:51:41	3.00	+/- 0.25	70.0	+/- 1.0	SMM
1980	170	21:40:12	4.00	+/- 0.25	70.0	+/- 1.0	SMM
1980	170	21:43:53	4.20	+/- 0.20	70.0	+/- 1.0	SMM
1980	170	21:45:37	4.20	+/- 0.20	70.0	+/- 1.0	SMM
1980	170	21:52: 9	4.30	+/- 0.20	70.0	+/- 1.0	SMM
1980	170	21:55:30	4.30	+/- 0.20	70.0	+/- 1.0	SMM
1980	170	21:59: 7	4.50	+/- 0.20	70.0	+/- 1.0	SMM
1980	170	22: 3:47	4.60	+/- 0.20	70.0	+/- 1.0	SMM
1980	170	22: 7: 7	4.60	+/- 0.20	70.0	+/- 1.0	SMM

Structure being measured:

Top of Outer Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.856E+02 +/- 0.884E+00$ [minutes]

In more convenient units:

Event began at DOY 170 18:36 +/- 0.884E+00 [minutes]

Origin defined at DOY170 20: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 194. +/- 8. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.243E+01 +/- 0.706E-01 [solar radii]
c(2) = 0.168E-01 +/- 0.709E-03 [radii/min]
c(2) = 0.194E+03 +/- 0.823E+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)= 0.85376E-01 [radii] see Bevington pg. 114
error in c(2)= 0.86808E-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) = 70. +/- 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 20: 7 = 0.000E+00 km/sec

The TOTAL velocity at 20: 7 = 194. km/sec

The TANGENTIAL velocity at 20: 9 = 0.000E+00 km/sec

The TOTAL velocity at 20: 9 = 194. km/sec

The TANGENTIAL velocity at 20:51 = 0.000E+00 km/sec

The TOTAL velocity at 20:51 = 194. km/sec

The TANGENTIAL velocity at 21:40 = 0.000E+00 km/sec

The TOTAL velocity at 21:40 = 194. km/sec

The TANGENTIAL velocity at 21:43 = 0.000E+00 km/sec

The TOTAL velocity at 21:43 = 194. km/sec

The TANGENTIAL velocity at 21:45 = 0.000E+00 km/sec

The TOTAL velocity at 21:45 = 194. km/sec

The TANGENTIAL velocity at 21:52 = 0.000E+00 km/sec

The TOTAL velocity at 21:52 = 194. km/sec

The TANGENTIAL velocity at 21:55 = 0.000E+00 km/sec

The TOTAL velocity at 21:55 = 194. km/sec

The TANGENTIAL velocity at 21:59 = 0.000E+00 km/sec

The TOTAL velocity at 21:59 = 194. km/sec

The TANGENTIAL velocity at 22: 3 = 0.000E+00 km/sec

The TOTAL velocity at 22: 3 = 194. km/sec

The TANGENTIAL velocity at 22: 7 = 0.000E+00 km/sec

The TOTAL velocity at 22: 7 = 194. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.76
Standard Deviation in start time measurement = 0.423E+02
Error in time = 0.21813E+02 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.103E-01
Reduced Chi Squared = 0.577E-01
Chi Squared = 0.519E+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 = 0.1029E-07
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
1980	170	20: 7:39	2.65	+/- 0.20	70.0	+/- 0.5	SMM
1980	170	20: 9:52	2.65	+/- 0.20	70.0	+/- 0.5	SMM
1980	170	20:51:41	3.00	+/- 0.25	70.0	+/- 1.0	SMM
1980	170	21:40:12	4.00	+/- 0.25	70.0	+/- 1.0	SMM
1980	170	21:43:53	4.20	+/- 0.20	70.0	+/- 1.0	SMM
1980	170	21:45:37	4.20	+/- 0.20	70.0	+/- 1.0	SMM
1980	170	21:52: 9	4.30	+/- 0.20	70.0	+/- 1.0	SMM
1980	170	21:55:30	4.30	+/- 0.20	70.0	+/- 1.0	SMM
1980	170	21:59: 7	4.50	+/- 0.20	70.0	+/- 1.0	SMM
1980	170	22: 3:47	4.60	+/- 0.20	70.0	+/- 1.0	SMM
1980	170	22: 7: 7	4.60	+/- 0.20	70.0	+/- 1.0	SMM

Structure being measured:

Top of Outer Loop

OUTPUT:

START TIME:

tstart=DOY170 19:17 from derivative = 0

Event begins at 2.43 Solar Radii

Origin defined at DOY170 20: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.298E-01 +/- 0.772E-02 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.257E+01 +/- 0.577E-01 [solar radii]
c(2) = 0.671E-02 +/- 0.264E-02 [radii/min]
c(2) = 0.778E+02 +/- 0.306E+02 [km/sec]
c(3) = 0.772E-04 +/- 0.200E-04 [radii/min**2]
c(3) = 0.298E-01 +/- 0.772E-02 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.65334E-01 [radii] Bevington pg 154 (8-30)

Exact error in c(1) = 0.40554E-02 [radii] Bevington pg 154 (8-28)

Approximate error in c(2) = 0.27565E-02 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.39518E-03 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.20594E-04 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.32049E-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) = 70. +/- 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 20: 7 = 0.000E+00 km/sec
The TOTAL velocity at 20: 7 = 92. km/sec

The TANGENTIAL velocity at 20: 9 = 0.000E+00 km/sec
The TOTAL velocity at 20: 9 = 96. km/sec

The TANGENTIAL velocity at 20:51 = 0.000E+00 km/sec
The TOTAL velocity at 20:51 = 170. km/sec

The TANGENTIAL velocity at 21:40 = 0.000E+00 km/sec
The TOTAL velocity at 21:40 = 257. km/sec

The TANGENTIAL velocity at 21:43 = 0.000E+00 km/sec
The TOTAL velocity at 21:43 = 264. km/sec

The TANGENTIAL velocity at 21:45 = 0.000E+00 km/sec
The TOTAL velocity at 21:45 = 267. km/sec

The TANGENTIAL velocity at 21:52 = 0.000E+00 km/sec
The TOTAL velocity at 21:52 = 279. km/sec

The TANGENTIAL velocity at 21:55 = 0.000E+00 km/sec
The TOTAL velocity at 21:55 = 285. km/sec

The TANGENTIAL velocity at 21:59 = 0.000E+00 km/sec
The TOTAL velocity at 21:59 = 291. km/sec

The TANGENTIAL velocity at 22: 3 = 0.000E+00 km/sec
The TOTAL velocity at 22: 3 = 299. km/sec

The TANGENTIAL velocity at 22: 7 = 0.000E+00 km/sec
The TOTAL velocity at 22: 7 = 305. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.76
Standard Deviation in start time measurement = 0.423E+02
Value of reduced Chi Squared returned from nllst2 = 0.430E-02
Reduced Chi Squared = 0.292E-01
Chi Squared = 0.234E+00
The probability for exceeding chi square = 0.100E+01

For a second order fit 3 correlation coefficients are given:

(Using equation of motion: $r = a + bt + at^{**2}$)

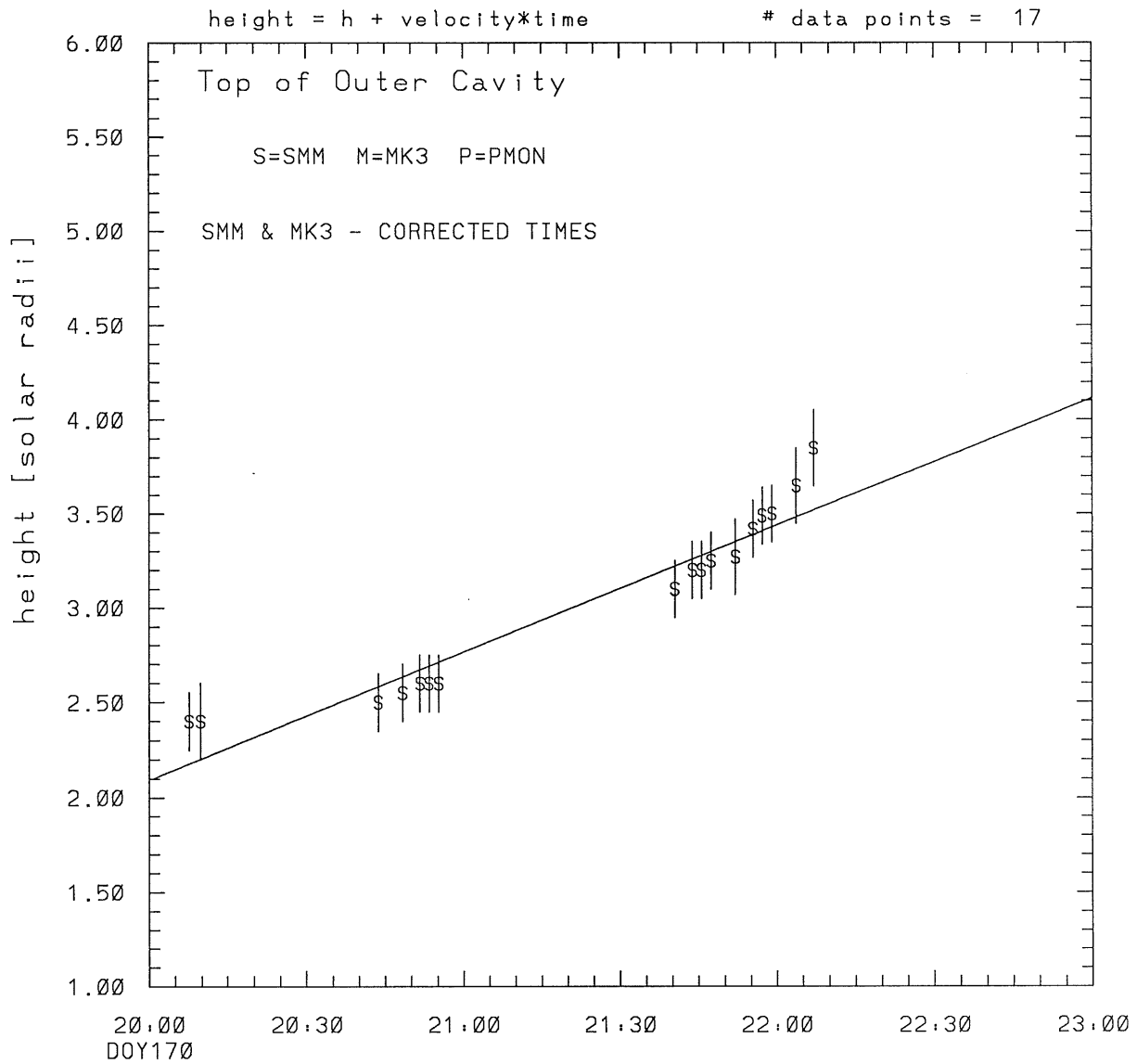
The correlation between the data and the term linear in time = 0.1011E+01

The correlation between the data and the time**2 term = 0.1002E+01

The correlation between the data and the complete equation of motion = 0.9931E+00

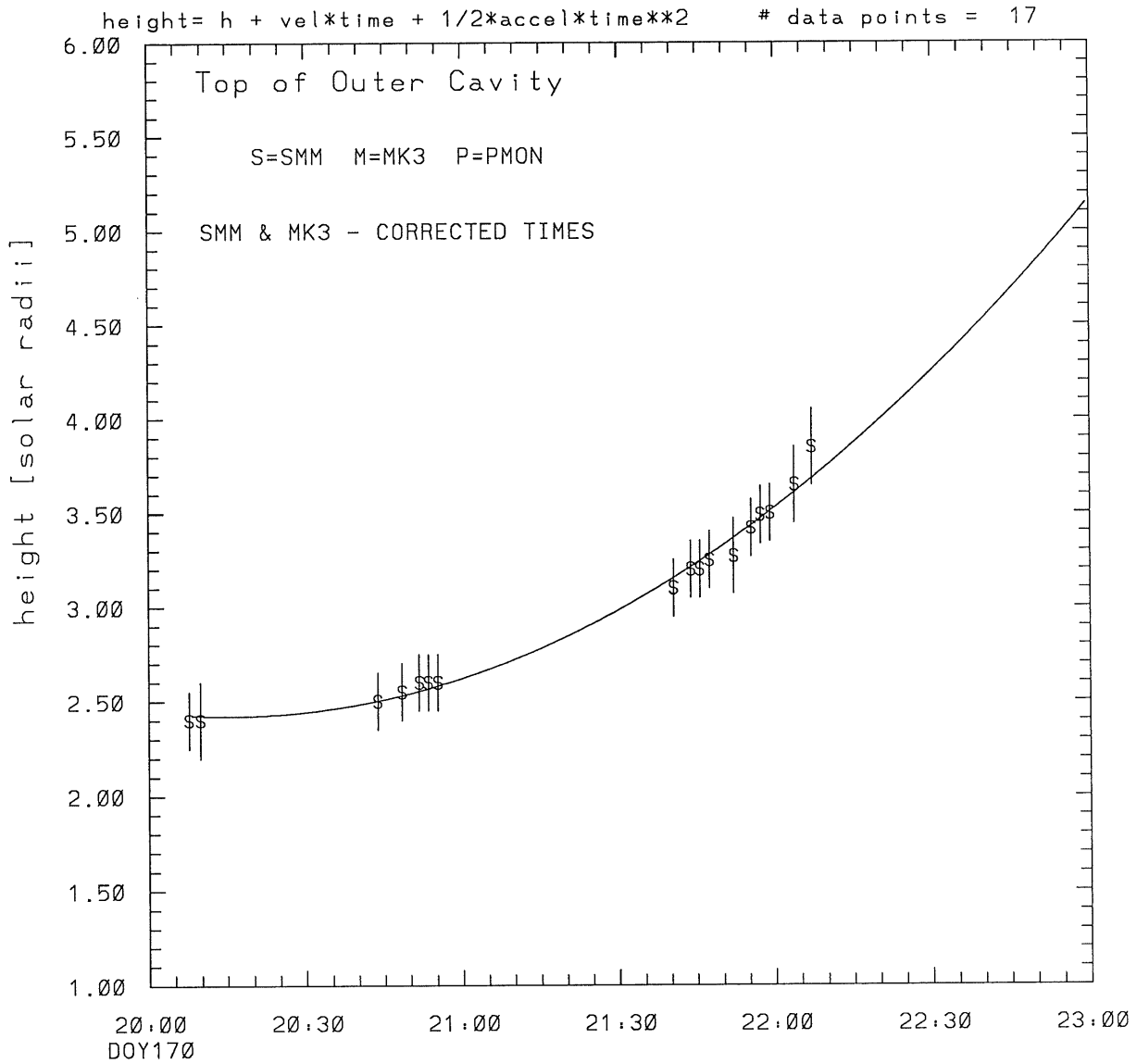
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

SMM C/P 1980 DOY170 70 +/- 0 degrees



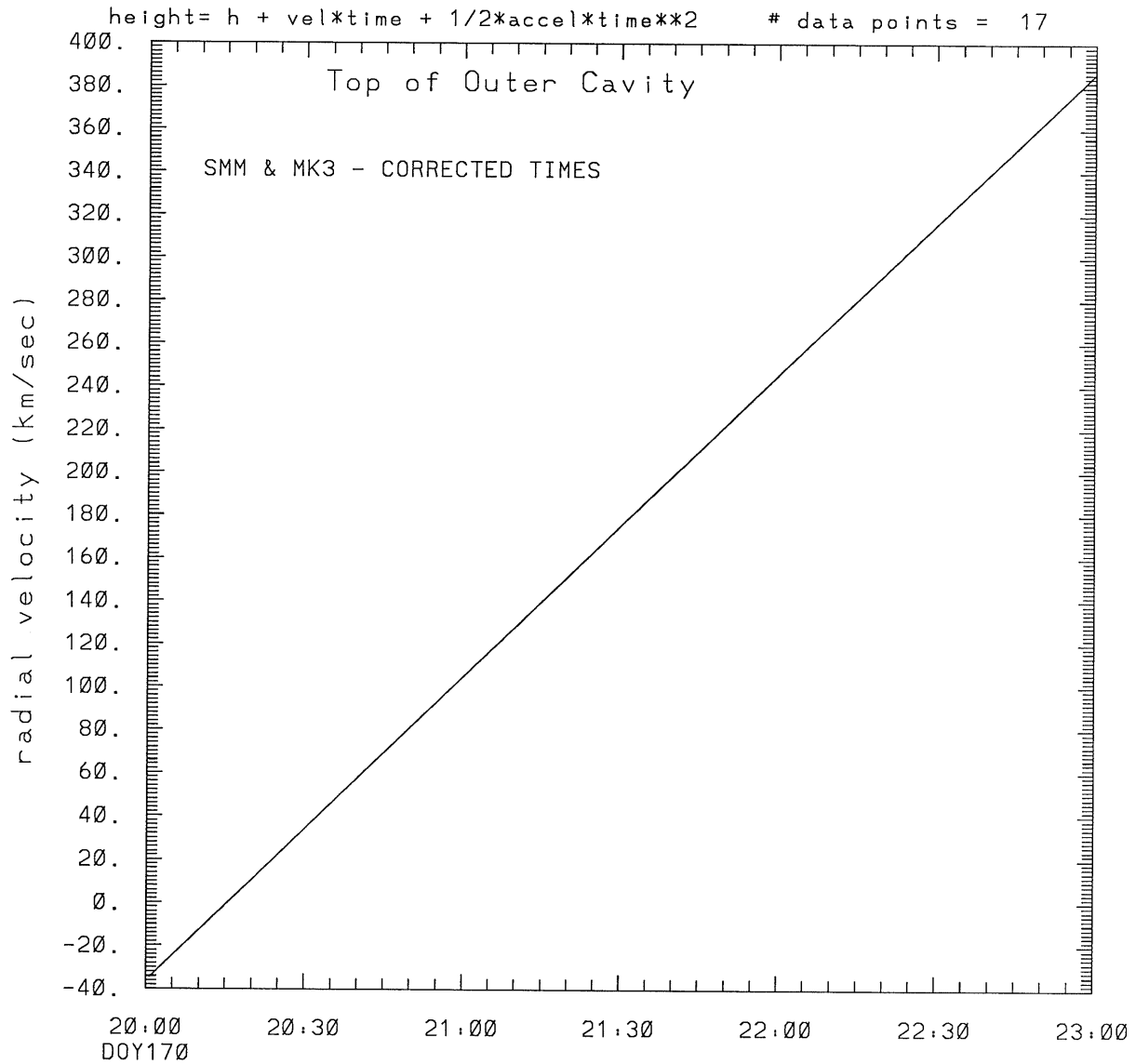
tstart=DOY170 18:23 +/- 1.6 [min.]
radial velocity= 130. +/- 9. [km/sec]

SMM C/P 1980 DOY170 70 +/- 0 degrees



tstart=DOY170 20:15 from derivative=0
Event begins at 2.42 Solar Radii
radial acceleration = 0.0391 +/- 0.0041 [km/sec**2]

SMM C/P 1980 DOY170 70 +/- 0 degrees



tstart=DOY170 20:15 from derivative=0
Event begins at 2.42 Solar Radii
radial acceleration= $0.391E-01$ km/sec**2

This is a 1 order run

INPUT:

year	day	time	radii	radius	error in	angle	angle	error in	datatype
1980	170	20: 7:39	2.40	+/-	0.15	70.0	+/-	0.5	SMM
1980	170	20: 9:52	2.40	+/-	0.20	70.0	+/-	0.5	SMM
1980	170	20:43:41	2.50	+/-	0.15	70.0	+/-	0.5	SMM
1980	170	20:48:20	2.55	+/-	0.15	70.0	+/-	0.5	SMM
1980	170	20:51:41	2.60	+/-	0.15	70.0	+/-	0.5	SMM
1980	170	20:53:26	2.60	+/-	0.15	70.0	+/-	0.5	SMM
1980	170	20:55:18	2.60	+/-	0.15	70.0	+/-	0.5	SMM
1980	170	21:40:32	3.10	+/-	0.15	70.0	+/-	1.0	SMM
1980	170	21:43:53	3.20	+/-	0.15	70.0	+/-	1.0	SMM
1980	170	21:45:37	3.20	+/-	0.15	70.0	+/-	1.0	SMM
1980	170	21:47:30	3.25	+/-	0.15	70.0	+/-	1.0	SMM
1980	170	21:52: 9	3.27	+/-	0.20	70.0	+/-	1.0	SMM
1980	170	21:55:30	3.42	+/-	0.15	70.0	+/-	1.0	SMM
1980	170	21:57:14	3.49	+/-	0.15	70.0	+/-	1.0	SMM
1980	170	21:59: 7	3.50	+/-	0.15	70.0	+/-	1.0	SMM
1980	170	22: 3:47	3.65	+/-	0.20	70.0	+/-	1.0	SMM
1980	170	22: 7: 7	3.85	+/-	0.20	70.0	+/-	1.0	SMM

Structure being measured:

Top of Outer Cavity

OUTPUT:

START TIME:

Event began at t = 0 + -0.971E+02 +/- 0.160E+01 [minutes]

In more convenient units:

Event began at DOY 170 18:23 +/- 0.160E+01 [minutes]

Origin defined at DOY170 20: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 130. +/- 9. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.209E+01 +/- 0.729E-01 [solar radii]

c(2) = 0.112E-01 +/- 0.813E-03 [radii/min]

c(2) = 0.130E+03 +/- 0.943E+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)= 0.81337E-01 [radii] see Bevington pg. 114

error in c(2)= 0.89019E-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) = 70. +/- 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 20: 7 = 0.000E+00 km/sec

The TOTAL velocity at 20: 7 = 130. km/sec

The TANGENTIAL velocity at 20: 9 = 0.000E+00 km/sec

The TOTAL velocity at 20: 9 = 130. km/sec

The TANGENTIAL velocity at 20:43 = 0.000E+00 km/sec

The TOTAL velocity at 20:43 = 130. km/sec

The TANGENTIAL velocity at 20:48 = 0.000E+00 km/sec

The TOTAL velocity at 20:48 = 130. km/sec

The TANGENTIAL velocity at 20:51 = 0.000E+00 km/sec

The TOTAL velocity at 20:51 = 130. km/sec

The TANGENTIAL velocity at 20:53 = 0.000E+00 km/sec

The TOTAL velocity at 20:53 = 130. km/sec

The TANGENTIAL velocity at 20:55 = 0.000E+00 km/sec

The TOTAL velocity at 20:55 = 130. km/sec

The TANGENTIAL velocity at 21:40 = 0.000E+00 km/sec

The TOTAL velocity at 21:40 = 130. km/sec

The TANGENTIAL velocity at 21:43 = 0.000E+00 km/sec

The TOTAL velocity at 21:43 = 130. km/sec

The TANGENTIAL velocity at 21:45 = 0.000E+00 km/sec

The TOTAL velocity at 21:45 = 130. km/sec

The TANGENTIAL velocity at 21:47 = 0.000E+00 km/sec

The TOTAL velocity at 21:47 = 130. km/sec

The TANGENTIAL velocity at 21:52 = 0.000E+00 km/sec

The TOTAL velocity at 21:52 = 130. km/sec

The TANGENTIAL velocity at 21:55 = 0.000E+00 km/sec

The TOTAL velocity at 21:55 = 130. km/sec

The TANGENTIAL velocity at 21:57 = 0.000E+00 km/sec

The TOTAL velocity at 21:57 = 130. km/sec

The TANGENTIAL velocity at 21:59 = 0.000E+00 km/sec

The TOTAL velocity at 21:59 = 130. km/sec

The TANGENTIAL velocity at 22: 3 = 0.000E+00 km/sec

The TOTAL velocity at 22: 3 = 130. km/sec

The TANGENTIAL velocity at 22: 7 = 0.000E+00 km/sec

The TOTAL velocity at 22: 7 = 130. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.48

Standard Deviation in start time measurement = 0.393E+02

Error in time = 0.49692E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.162E-01

Reduced Chi Squared = 0.209E+00

Chi Squared = 0.314E+01

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.957E+00

The probability that no LINEAR correlation exists between the variables = 0.1672E-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	170	20: 7:39	2.40	+/- 0.15	70.0	+/- 0.5	SMM
1980	170	20: 9:52	2.40	+/- 0.20	70.0	+/- 0.5	SMM
1980	170	20:43:41	2.50	+/- 0.15	70.0	+/- 0.5	SMM
1980	170	20:48:20	2.55	+/- 0.15	70.0	+/- 0.5	SMM
1980	170	20:51:41	2.60	+/- 0.15	70.0	+/- 0.5	SMM
1980	170	20:53:26	2.60	+/- 0.15	70.0	+/- 0.5	SMM
1980	170	20:55:18	2.60	+/- 0.15	70.0	+/- 0.5	SMM
1980	170	21:40:32	3.10	+/- 0.15	70.0	+/- 1.0	SMM
1980	170	21:43:53	3.20	+/- 0.15	70.0	+/- 1.0	SMM
1980	170	21:45:37	3.20	+/- 0.15	70.0	+/- 1.0	SMM
1980	170	21:47:30	3.25	+/- 0.15	70.0	+/- 1.0	SMM
1980	170	21:52: 9	3.27	+/- 0.20	70.0	+/- 1.0	SMM
1980	170	21:55:30	3.42	+/- 0.15	70.0	+/- 1.0	SMM
1980	170	21:57:14	3.49	+/- 0.15	70.0	+/- 1.0	SMM
1980	170	21:59: 7	3.50	+/- 0.15	70.0	+/- 1.0	SMM
1980	170	22: 3:47	3.65	+/- 0.20	70.0	+/- 1.0	SMM
1980	170	22: 7: 7	3.85	+/- 0.20	70.0	+/- 1.0	SMM

Structure being measured:

Top of Outer Cavity

OUTPUT:

START TIME:

tstart=DOY170 20:15 from derivative = 0

Event begins at 2.42 Solar Radii

Origin defined at DOY170 20: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.391E-01 +/- 0.415E-02 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.244E+01 +/- 0.471E-01 [solar radii]

c(2) = -0.312E-02 +/- 0.156E-02 [radii/min]

c(2) = -0.362E+02 +/- 0.180E+02 [km/sec]

c(3) = 0.101E-03 +/- 0.107E-04 [radii/min**2]

$$c(3) = 0.391E-01 +/- 0.415E-02 \text{ [km/sec**2]}$$

The computed ERRORS in coefficients [BEVINGTON] are:

$$\text{Approximate error in } c(1) = 0.53772E-01 \text{ [radii] Bevington pg 154 (8-30)}$$

$$\text{Exact error in } c(1) = 0.59611E-02 \text{ [radii] Bevington pg 154 (8-28)}$$

$$\text{Approximate error in } c(2) = 0.18152E-02 \text{ [radii/min] Bevington pg 154 (8-30)}$$

$$\text{Exact error in } c(2) = 0.18851E-03 \text{ [radii/min] Bevington pg 154 (8-28)}$$

$$\text{Approximate error in } c(3) = 0.12564E-04 \text{ [radii/min**] Bevington pg 154 (8-30)}$$

$$\text{Exact error in } c(3) = 0.12003E-05 \text{ [radii/min**] Bevington pg 154 (8-28)}$$

ANGULAR INFORMATION:

$$\text{ANGULAR ACCELERATION} = 0.0000E+00 +/- 0.0000E+00 \text{ [radians/sec**2]}$$

The computed ANGULAR coefficients and errors FROM NLLST2 are:

$$a(1) = 70. +/- 0. \text{ [degrees]}$$

$$a(2) = 0.000E+00 +/- 0.000E+00 \text{ [degrees/min]}$$

$$a(2) = 0.000E+00 +/- 0.000E+00 \text{ [rad/sec]}$$

$$a(3) = 0.000E+00 +/- 0.000E+00 \text{ [degrees/min**2]}$$

$$a(3) = 0.000E+00 +/- 0.000E+00 \text{ [rad/sec**2]}$$

THE TANGENTIAL AND TOTAL VELOCITIES AT EACH DATA POINT ARE:

The TANGENTIAL velocity at 20: 7 = 0.000E+00 km/sec

The TOTAL velocity at 20: 7 = -18. km/sec

The TANGENTIAL velocity at 20: 9 = 0.000E+00 km/sec

The TOTAL velocity at 20: 9 = -13. km/sec

The TANGENTIAL velocity at 20:43 = 0.000E+00 km/sec

The TOTAL velocity at 20:43 = 66. km/sec

The TANGENTIAL velocity at 20:48 = 0.000E+00 km/sec

The TOTAL velocity at 20:48 = 77. km/sec

The TANGENTIAL velocity at 20:51 = 0.000E+00 km/sec

The TOTAL velocity at 20:51 = 85. km/sec

The TANGENTIAL velocity at 20:53 = 0.000E+00 km/sec

The TOTAL velocity at 20:53 = 89. km/sec

The TANGENTIAL velocity at 20:55 = 0.000E+00 km/sec

The TOTAL velocity at 20:55 = 94. km/sec

The TANGENTIAL velocity at 21:40 = 0.000E+00 km/sec

The TOTAL velocity at 21:40 = 200. km/sec

The TANGENTIAL velocity at 21:43 = 0.000E+00 km/sec

The TOTAL velocity at 21:43 = 208. km/sec

The TANGENTIAL velocity at 21:45 = 0.000E+00 km/sec

The TOTAL velocity at 21:45 = 212. km/sec

The TANGENTIAL velocity at 21:47 = 0.000E+00 km/sec
The TOTAL velocity at 21:47 = 216. km/sec

The TANGENTIAL velocity at 21:52 = 0.000E+00 km/sec
The TOTAL velocity at 21:52 = 227. km/sec

The TANGENTIAL velocity at 21:55 = 0.000E+00 km/sec
The TOTAL velocity at 21:55 = 235. km/sec

The TANGENTIAL velocity at 21:57 = 0.000E+00 km/sec
The TOTAL velocity at 21:57 = 239. km/sec

The TANGENTIAL velocity at 21:59 = 0.000E+00 km/sec
The TOTAL velocity at 21:59 = 243. km/sec

The TANGENTIAL velocity at 22: 3 = 0.000E+00 km/sec
The TOTAL velocity at 22: 3 = 254. km/sec

The TANGENTIAL velocity at 22: 7 = 0.000E+00 km/sec
The TOTAL velocity at 22: 7 = 262. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.48

Standard Deviation in start time measurement = 0.393E+02

Value of reduced Chi Squared returned from nllst2 = 0.249E-02

Reduced Chi Squared = 0.501E-01

Chi Squared = 0.701E+00

The probability for exceeding chi square = 0.100E+01

For a second order fit 3 correlation coefficients are given:

(Using equation of motion: $r = a + bt + at^2$)

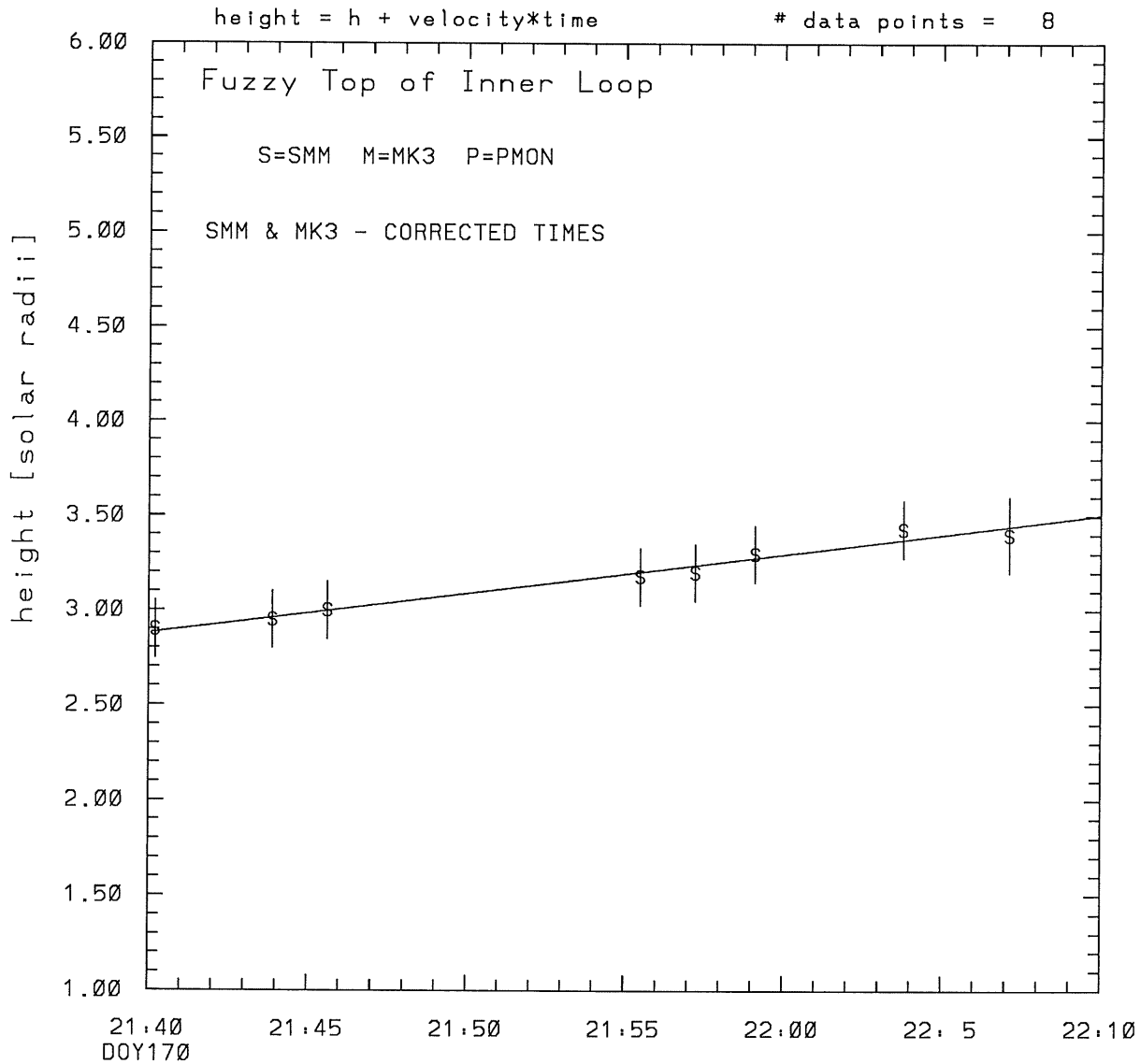
The correlation between the data and the term linear in time = 0.9267E+00

The correlation between the data and the time² term = 0.9629E+00

The correlation between the data and the complete equation of motion = 0.9886E+00

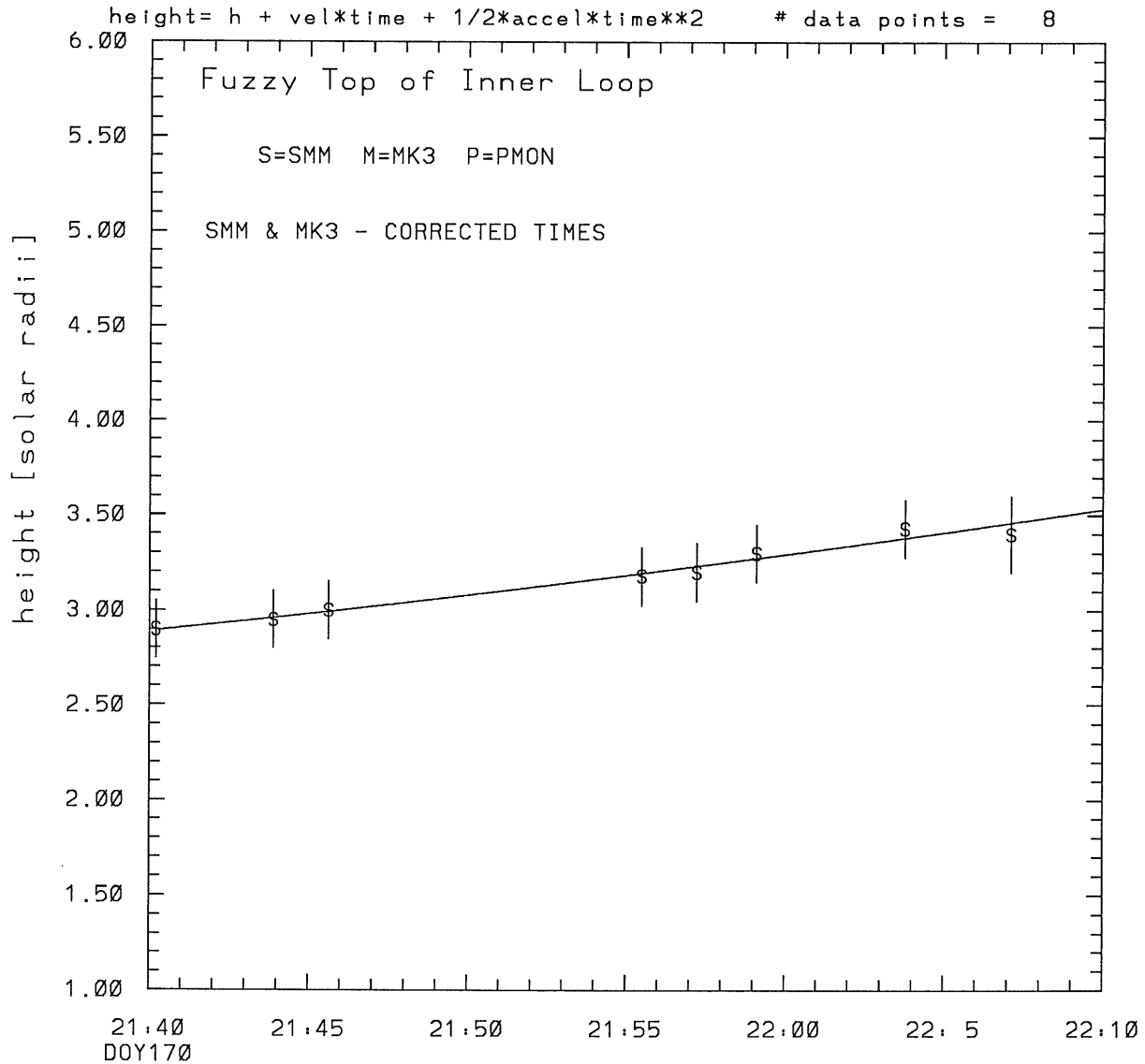
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

SMM C/P 1980 DOY170 50 +/- 0 degrees



tstart=DOY170 20:10 +/- 1.7 [min.]
radial velocity= 242. +/- 15. [km/sec]

SMM C/P 1980 DOY170 50 +/- 0 degrees

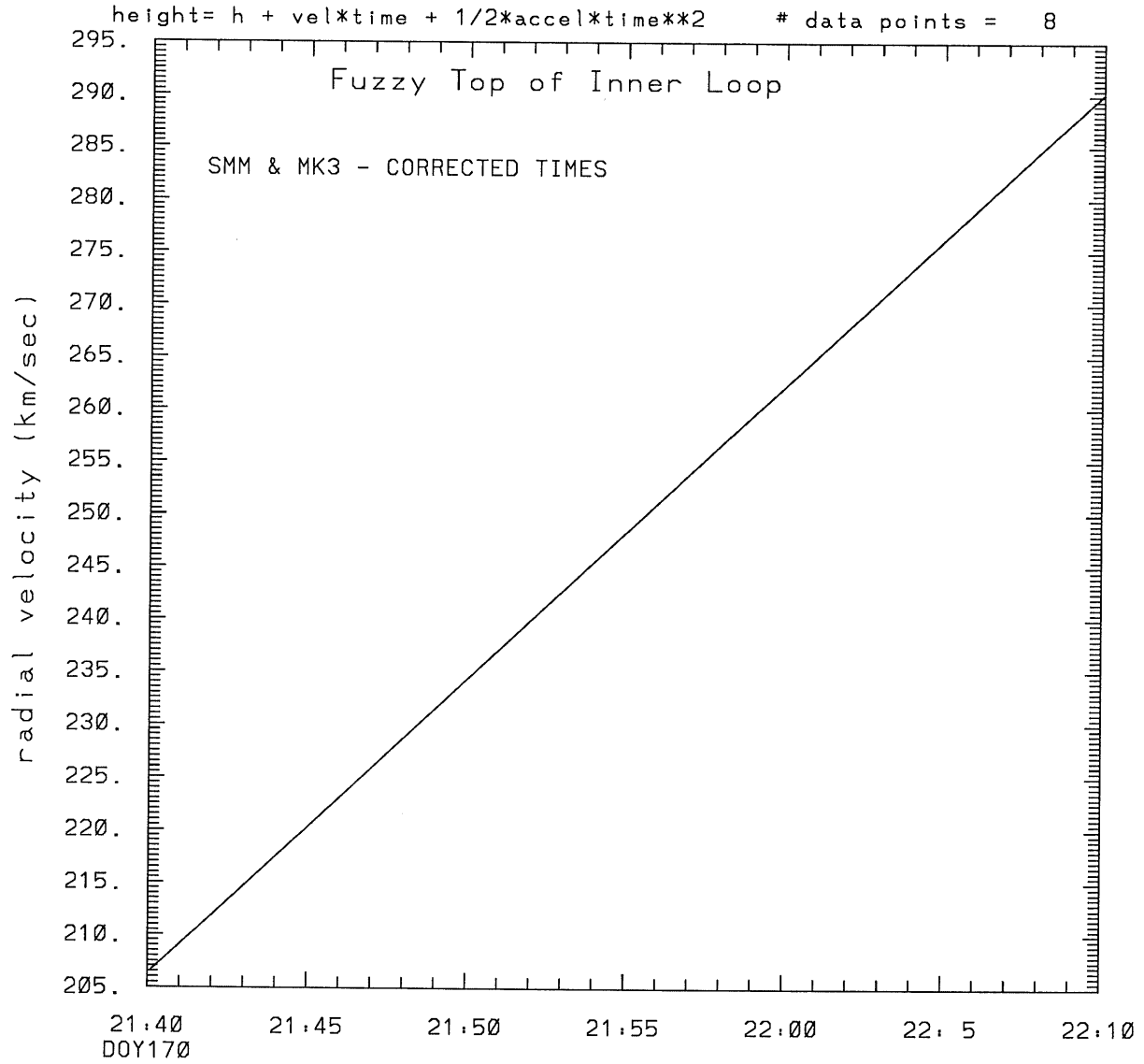


tstart=DOY170 20:27 from derivative=0

Event begins at 2.23 Solar Radii

radial acceleration = 0.0466 +/- 0.0767 [km/sec**2]

SMM C/P 1980 DOY170 50 +/- 0 degrees



tstart=DOY170 20:27 from derivative=0
Event begins at 2.23 Solar Radii
radial acceleration=0.466E-01 km/sec**2

This is a 1 order run

INPUT:

year	day	time	radii	error in radius	angle	error in angle	datatype
1980	170	21:40:12	2.90	+/- 0.15	50.0	+/- 1.0	SMM
1980	170	21:43:53	2.95	+/- 0.15	50.0	+/- 1.0	SMM
1980	170	21:45:37	3.00	+/- 0.15	50.0	+/- 1.0	SMM
1980	170	21:55:30	3.18	+/- 0.15	50.0	+/- 1.0	SMM
1980	170	21:57:14	3.20	+/- 0.15	50.0	+/- 1.0	SMM
1980	170	21:59: 7	3.30	+/- 0.15	50.0	+/- 1.0	SMM
1980	170	22: 3:47	3.43	+/- 0.15	50.0	+/- 1.0	SMM
1980	170	22: 7: 7	3.40	+/- 0.20	50.0	+/- 1.0	SMM

Structure being measured:

Fuzzy Top of Inner Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.901E+02 +/- 0.167E+01$ [minutes]

In more convenient units:

Event began at DOY 170 20:10 +/- 0.167E+01 [minutes]

Origin defined at DOY170 21:40

RADIAL INFORMATION:

RADIAL VELOCITY = 242. +/- 15. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.288E+01 +/- 0.208E-01 [solar radii]
c(2) = 0.209E-01 +/- 0.130E-02 [radii/min]
c(2) = 0.242E+03 +/- 0.151E+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)= 0.23499E-01 [radii] see Bevington pg. 114

error in c(2)= 0.14011E-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) = 50. +/- 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 21:40 = 0.000E+00 km/sec

The TOTAL velocity at 21:40 = 242. km/sec

The TANGENTIAL velocity at 21:43 = 0.000E+00 km/sec

The TOTAL velocity at 21:43 = 242. km/sec

The TANGENTIAL velocity at 21:45 = 0.000E+00 km/sec

The TOTAL velocity at 21:45 = 242. km/sec

The TANGENTIAL velocity at 21:55 = 0.000E+00 km/sec

The TOTAL velocity at 21:55 = 242. km/sec

The TANGENTIAL velocity at 21:57 = 0.000E+00 km/sec

The TOTAL velocity at 21:57 = 242. km/sec

The TANGENTIAL velocity at 21:59 = 0.000E+00 km/sec

The TOTAL velocity at 21:59 = 242. km/sec

The TANGENTIAL velocity at 22: 3 = 0.000E+00 km/sec

The TOTAL velocity at 22: 3 = 242. km/sec

The TANGENTIAL velocity at 22: 7 = 0.000E+00 km/sec

The TOTAL velocity at 22: 7 = 242. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.20

Standard Deviation in start time measurement = 0.915E+01

Error in time = 0.42572E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.106E-02

Reduced Chi Squared = 0.833E-02

Chi Squared = 0.500E-01

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = $0.987E+00$

The probability that no LINEAR correlation exists between the variables = $0.5990E-05$

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	170	21:40:12	2.90	+/- 0.15	50.0	+/- 1.0	SMM
1980	170	21:43:53	2.95	+/- 0.15	50.0	+/- 1.0	SMM
1980	170	21:45:37	3.00	+/- 0.15	50.0	+/- 1.0	SMM
1980	170	21:55:30	3.18	+/- 0.15	50.0	+/- 1.0	SMM
1980	170	21:57:14	3.20	+/- 0.15	50.0	+/- 1.0	SMM
1980	170	21:59: 7	3.30	+/- 0.15	50.0	+/- 1.0	SMM
1980	170	22: 3:47	3.43	+/- 0.15	50.0	+/- 1.0	SMM
1980	170	22: 7: 7	3.40	+/- 0.20	50.0	+/- 1.0	SMM

Structure being measured:

Fuzzy Top of Inner Loop

OUTPUT:

START TIME:

tstart=DOY170 20:27 from derivative = 0

Event begins at 2.23 Solar Radii

Origin defined at DOY170 21:40

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.466E-01 +/- 0.767E-01 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.289E+01 +/- 0.275E-01 [solar radii]
c(2) = 0.178E-01 +/- 0.524E-02 [radii/min]
c(2) = 0.206E+03 +/- 0.608E+02 [km/sec]
c(3) = 0.121E-03 +/- 0.198E-03 [radii/min**2]
c(3) = 0.466E-01 +/- 0.767E-01 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.33235E-01 [radii] Bevington pg 154 (8-30)

Exact error in c(1) = 0.31224E-02 [radii] Bevington pg 154 (8-28)

Approximate error in c(2) = 0.60563E-02 [radii/min] Bevington pg 154 (8-30)

Exact error in c(2) = 0.94967E-03 [radii/min] Bevington pg 154 (8-28)

Approximate error in c(3) = 0.21982E-03 [radii/min**] Bevington pg 154 (8-30)

Exact error in c(3) = 0.47867E-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) = 50. +/- 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 21:40 = 0.000E+00 km/sec

The TOTAL velocity at 21:40 = 207. km/sec

The TANGENTIAL velocity at 21:43 = 0.000E+00 km/sec

The TOTAL velocity at 21:43 = 217. km/sec

The TANGENTIAL velocity at 21:45 = 0.000E+00 km/sec

The TOTAL velocity at 21:45 = 222. km/sec

The TANGENTIAL velocity at 21:55 = 0.000E+00 km/sec

The TOTAL velocity at 21:55 = 250. km/sec

The TANGENTIAL velocity at 21:57 = 0.000E+00 km/sec

The TOTAL velocity at 21:57 = 255. km/sec

The TANGENTIAL velocity at 21:59 = 0.000E+00 km/sec

The TOTAL velocity at 21:59 = 260. km/sec

The TANGENTIAL velocity at 22: 3 = 0.000E+00 km/sec

The TOTAL velocity at 22: 3 = 273. km/sec

The TANGENTIAL velocity at 22: 7 = 0.000E+00 km/sec

The TOTAL velocity at 22: 7 = 282. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.20

Standard Deviation in start time measurement = 0.915E+01

Value of reduced Chi Squared returned from nllst2 = 0.116E-02

Reduced Chi Squared = 0.113E-01

Chi Squared = 0.566E-01

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 = 0.9566E+00

The correlation between the data and the time**2 term = 0.8977E+00

The correlation between the data and the complete equation of motion = 0.9764E+00

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