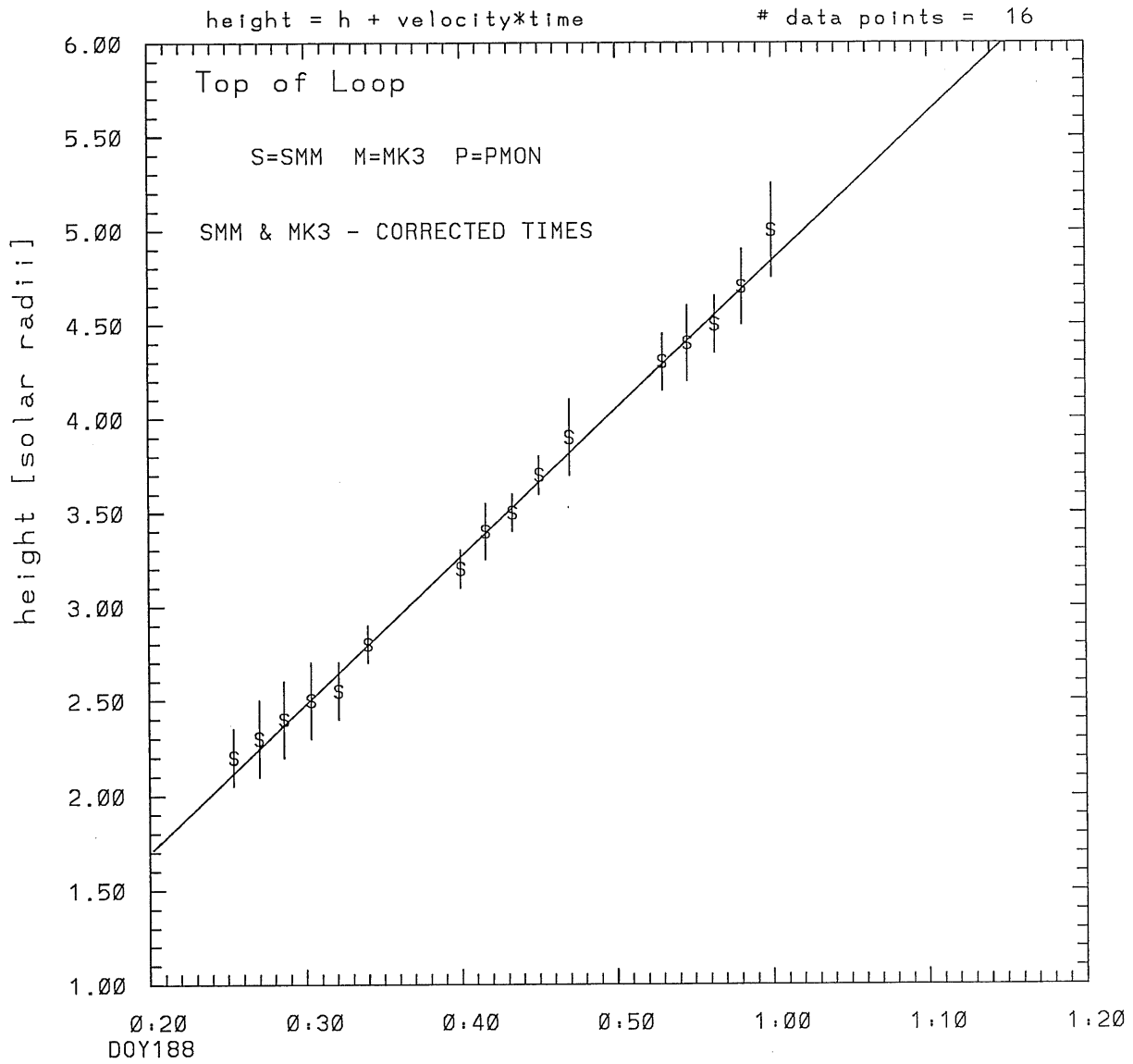
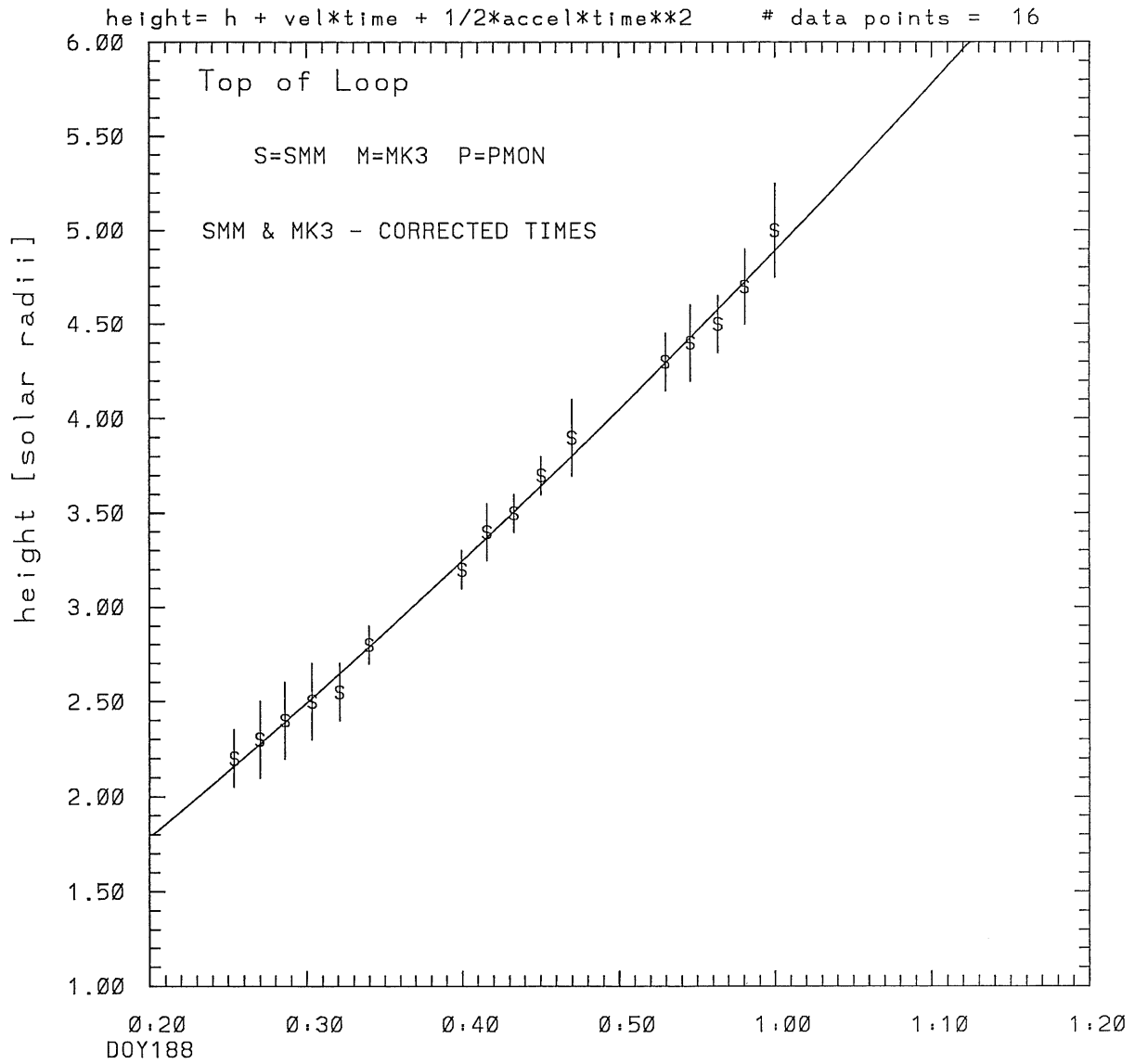


SMM C/P 1980 DOY188 270 +/- 0 degrees



tstart=DOY188 0.13 +/- 0.0 [min.]
radial velocity= 911. +/- 17. [km/sec]

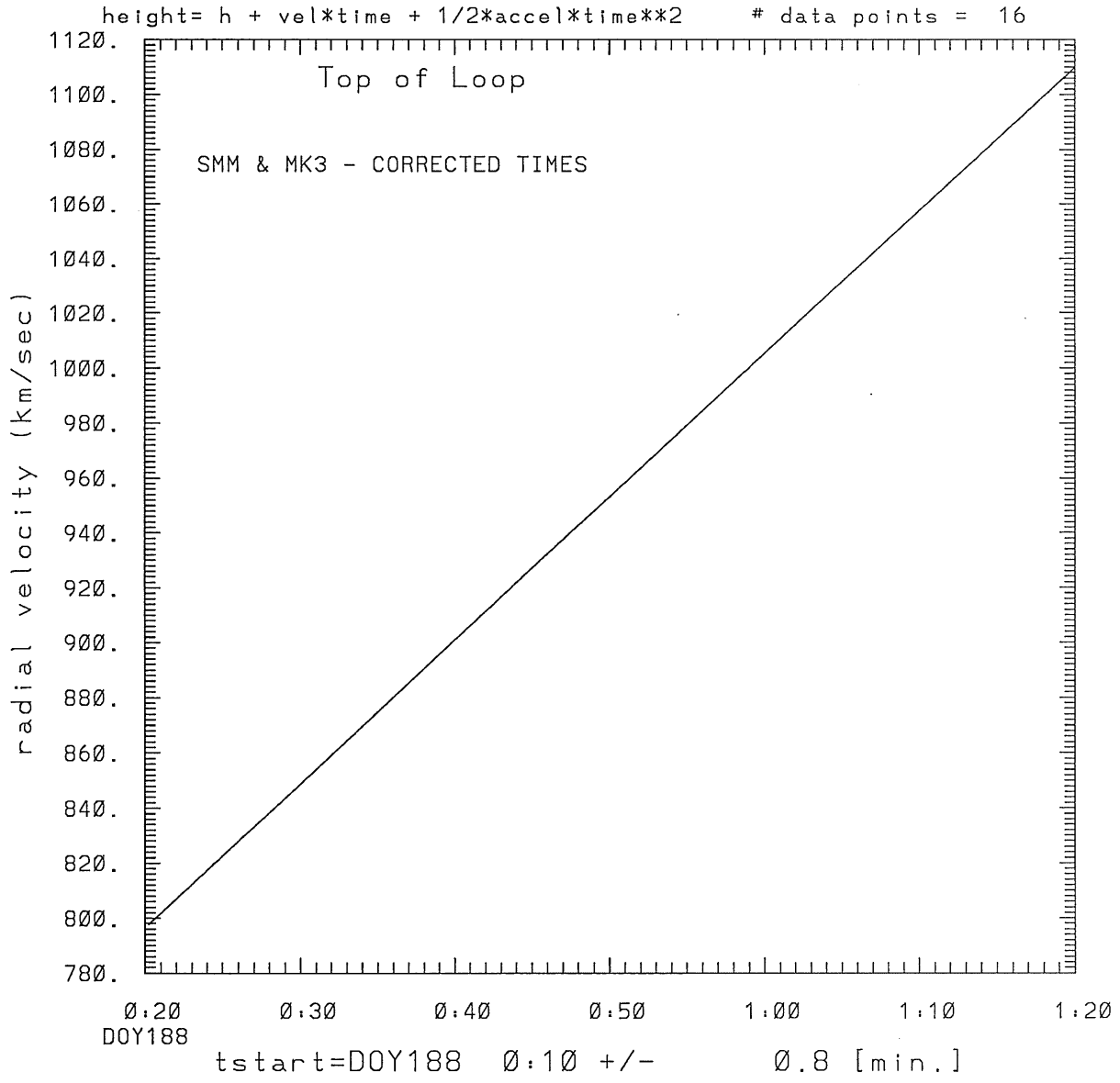
SMM C/P 1980 DOY188 270 +/- 0 degrees



tstart=DOY188 0.10 +/- 0.8 [min.]

radial acceleration = 0.0870 +/- 0.0513 [km/sec**2]

SMM C/P 1980 DOY188 270 +/- 0 degrees



radial acceleration = $0.870E-01$ km/sec**2

This is a 1 order run

INPUT:

year	day	time	radii	error in radius	angle	error in angle	datatype
1980	188	0:25:22	2.20	+/- 0.15	270.0	+/- 0.5	SMM
1980	188	0:26:59	2.30	+/- 0.20	270.0	+/- 0.5	SMM
1980	188	0:28:36	2.40	+/- 0.20	270.0	+/- 0.5	SMM
1980	188	0:30:20	2.50	+/- 0.20	270.0	+/- 0.5	SMM
1980	188	0:32: 5	2.55	+/- 0.15	270.0	+/- 0.5	SMM
1980	188	0:33:59	2.80	+/- 0.10	270.0	+/- 0.5	SMM
1980	188	0:39:59	3.20	+/- 0.10	270.0	+/- 1.0	SMM
1980	188	0:41:35	3.40	+/- 0.15	270.0	+/- 1.0	SMM
1980	188	0:43:19	3.50	+/- 0.10	270.0	+/- 1.0	SMM
1980	188	0:45: 4	3.70	+/- 0.10	270.0	+/- 1.0	SMM
1980	188	0:47: 0	3.90	+/- 0.20	270.0	+/- 1.0	SMM
1980	188	0:52:59	4.30	+/- 0.15	270.0	+/- 1.0	SMM
1980	188	0:54:35	4.40	+/- 0.20	270.0	+/- 1.0	SMM
1980	188	0:56:20	4.50	+/- 0.15	270.0	+/- 1.0	SMM
1980	188	0:58: 4	4.70	+/- 0.20	270.0	+/- 1.0	SMM
1980	188	0:59:59	5.00	+/- 0.25	270.0	+/- 1.0	SMM

Structure being measured:
Top of Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.884E+01 +/- 0.157E-01$ [minutes]
In more convenient units:
Event began at DOY 188 0:13 +/- 0.157E-01 [minutes]

Origin defined at DOY188 0:20

RADIAL INFORMATION:

RADIAL VELOCITY = 911. +/- 17. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.169E+01 +/- 0.338E-01$ [solar radii]
 $c(2) = 0.786E-01 +/- 0.145E-02$ [radii/min]
 $c(2) = 0.911E+03 +/- 0.168E+02$ [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)= 0.36750E-01 [radii] see Bevington pg. 114
error in c(2)= 0.14687E-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) = 270. +/- 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 0:25 = 0.000E+00 km/sec

The TOTAL velocity at 0:25 = 911. km/sec

The TANGENTIAL velocity at 0:26 = 0.000E+00 km/sec

The TOTAL velocity at 0:26 = 911. km/sec

The TANGENTIAL velocity at 0:28 = 0.000E+00 km/sec

The TOTAL velocity at 0:28 = 911. km/sec

The TANGENTIAL velocity at 0:30 = 0.000E+00 km/sec

The TOTAL velocity at 0:30 = 911. km/sec

The TANGENTIAL velocity at 0:32 = 0.000E+00 km/sec

The TOTAL velocity at 0:32 = 911. km/sec

The TANGENTIAL velocity at 0:33 = 0.000E+00 km/sec

The TOTAL velocity at 0:33 = 911. km/sec

The TANGENTIAL velocity at 0:39 = 0.000E+00 km/sec

The TOTAL velocity at 0:39 = 911. km/sec

The TANGENTIAL velocity at 0:41 = 0.000E+00 km/sec

The TOTAL velocity at 0:41 = 911. km/sec

The TANGENTIAL velocity at 0:43 = 0.000E+00 km/sec

The TOTAL velocity at 0:43 = 911. km/sec

The TANGENTIAL velocity at 0:45 = 0.000E+00 km/sec

The TOTAL velocity at 0:45 = 911. km/sec

The TANGENTIAL velocity at 0:47 = 0.000E+00 km/sec

The TOTAL velocity at 0:47 = 911. km/sec

The TANGENTIAL velocity at 0:52 = 0.000E+00 km/sec

The TOTAL velocity at 0:52 = 911. km/sec

The TANGENTIAL velocity at 0:54 = 0.000E+00 km/sec

The TOTAL velocity at 0:54 = 911. km/sec

The TANGENTIAL velocity at 0:56 = 0.000E+00 km/sec

The TOTAL velocity at 0:56 = 911. km/sec

The TANGENTIAL velocity at 0:58 = 0.000E+00 km/sec

The TOTAL velocity at 0:58 = 911. km/sec

The TANGENTIAL velocity at 0:59 = 0.000E+00 km/sec

The TOTAL velocity at 0:59 = 911. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.94

Standard Deviation in start time measurement = 0.114E+02

Error in time = 0.31939E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.293E-02

Reduced Chi Squared = 0.469E-01

Chi Squared = 0.656E+00

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.998E+00

The probability that no LINEAR correlation exists between the variables = -0.1142E-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	188	0:25:22	2.20	+/- 0.15	270.0	+/- 0.5	SMM
1980	188	0:26:59	2.30	+/- 0.20	270.0	+/- 0.5	SMM
1980	188	0:28:36	2.40	+/- 0.20	270.0	+/- 0.5	SMM
1980	188	0:30:20	2.50	+/- 0.20	270.0	+/- 0.5	SMM
1980	188	0:32: 5	2.55	+/- 0.15	270.0	+/- 0.5	SMM
1980	188	0:33:59	2.80	+/- 0.10	270.0	+/- 0.5	SMM
1980	188	0:39:59	3.20	+/- 0.10	270.0	+/- 1.0	SMM
1980	188	0:41:35	3.40	+/- 0.15	270.0	+/- 1.0	SMM
1980	188	0:43:19	3.50	+/- 0.10	270.0	+/- 1.0	SMM
1980	188	0:45: 4	3.70	+/- 0.10	270.0	+/- 1.0	SMM
1980	188	0:47: 0	3.90	+/- 0.20	270.0	+/- 1.0	SMM
1980	188	0:52:59	4.30	+/- 0.15	270.0	+/- 1.0	SMM
1980	188	0:54:35	4.40	+/- 0.20	270.0	+/- 1.0	SMM
1980	188	0:56:20	4.50	+/- 0.15	270.0	+/- 1.0	SMM
1980	188	0:58: 4	4.70	+/- 0.20	270.0	+/- 1.0	SMM
1980	188	0:59:59	5.00	+/- 0.25	270.0	+/- 1.0	SMM

Structure being measured:

Top of Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.119E+02 +/- 0.761E+00$ [minutes]

In more convenient units:

Event began at DOY 188 0:10 +/- 0.761E+00 [minutes]

Origin defined at DOY188 0:20

RADIAL INFORMATION:

RADIAL ACCELERATION = $0.870E-01 +/- 0.513E-01$ km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.178E+01 +/- 0.616E-01$ [solar radii]

$c(2) = 0.687E-01 +/- 0.600E-02$ [radii/min]

$c(2) = 0.797E+03 +/- 0.696E+02$ [km/sec]

c(3) = 0.225E-03 +/- 0.133E-03 [radii/min**2]
c(3) = 0.870E-01 +/- 0.513E-01 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.64177E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.56106E-02 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.66944E-02 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.61893E-03 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.14545E-03 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.14250E-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) = 270. +/- 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 0:25 = 0.000E+00 km/sec

The TOTAL velocity at 0:25 = 825. km/sec

The TANGENTIAL velocity at 0:26 = 0.000E+00 km/sec

The TOTAL velocity at 0:26 = 833. km/sec

The TANGENTIAL velocity at 0:28 = 0.000E+00 km/sec

The TOTAL velocity at 0:28 = 841. km/sec

The TANGENTIAL velocity at 0:30 = 0.000E+00 km/sec

The TOTAL velocity at 0:30 = 850. km/sec

The TANGENTIAL velocity at 0:32 = 0.000E+00 km/sec

The TOTAL velocity at 0:32 = 860. km/sec

The TANGENTIAL velocity at 0:33 = 0.000E+00 km/sec

The TOTAL velocity at 0:33 = 870. km/sec

The TANGENTIAL velocity at 0:39 = 0.000E+00 km/sec

The TOTAL velocity at 0:39 = 901. km/sec

The TANGENTIAL velocity at 0:41 = 0.000E+00 km/sec

The TOTAL velocity at 0:41 = 909. km/sec

The TANGENTIAL velocity at 0:43 = 0.000E+00 km/sec

The TOTAL velocity at 0:43 = 918. km/sec

The TANGENTIAL velocity at 0:45 = 0.000E+00 km/sec

The TOTAL velocity at 0:45 = 927. km/sec

The TANGENTIAL velocity at 0:47 = 0.000E+00 km/sec

The TOTAL velocity at 0:47 = 938. km/sec

The TANGENTIAL velocity at 0:52 = 0.000E+00 km/sec

The TOTAL velocity at 0:52 = 969. km/sec

The TANGENTIAL velocity at 0:54 = 0.000E+00 km/sec

The TOTAL velocity at 0:54 = 977. km/sec

The TANGENTIAL velocity at 0:56 = 0.000E+00 km/sec

The TOTAL velocity at 0:56 = 986. km/sec

The TANGENTIAL velocity at 0:58 = 0.000E+00 km/sec

The TOTAL velocity at 0:58 = 995. km/sec

The TANGENTIAL velocity at 0:59 = 0.000E+00 km/sec

The TOTAL velocity at 0:59 = 1005. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.94

Standard Deviation in start time measurement = 0.114E+02

Value of reduced Chi Squared returned from nllst2 = 0.261E-02

Reduced Chi Squared = 0.387E-01

Chi Squared = 0.503E+00

The probability for exceeding chi square = 0.100E+01

For a second order fit 3 correlation coefficients are given:

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

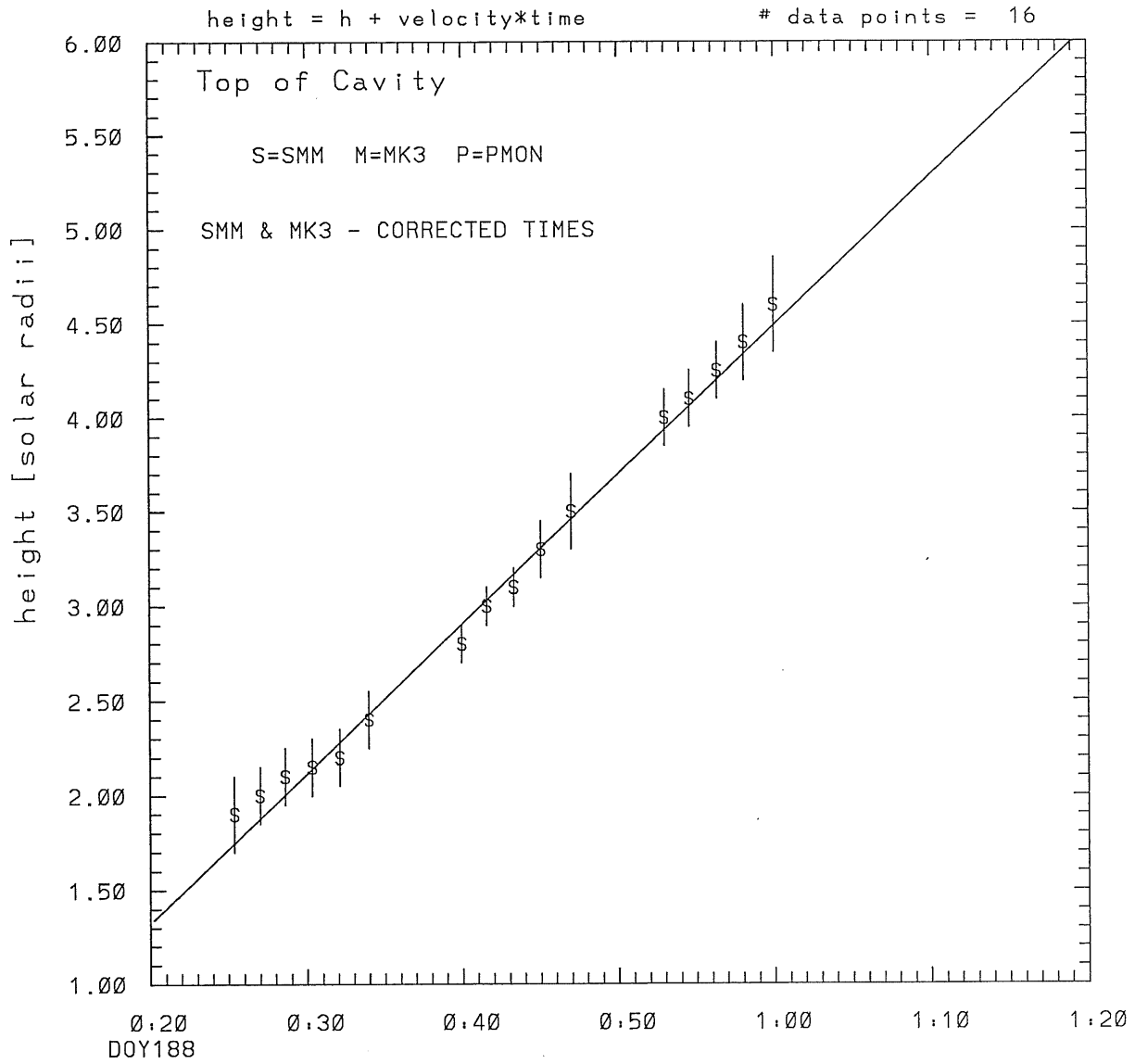
The correlation between the data and the term linear in time = 0.8183E+00

The correlation between the data and the time**2 term = 0.7980E+00

The correlation between the data and the complete equation of motion = 0.9950E+00

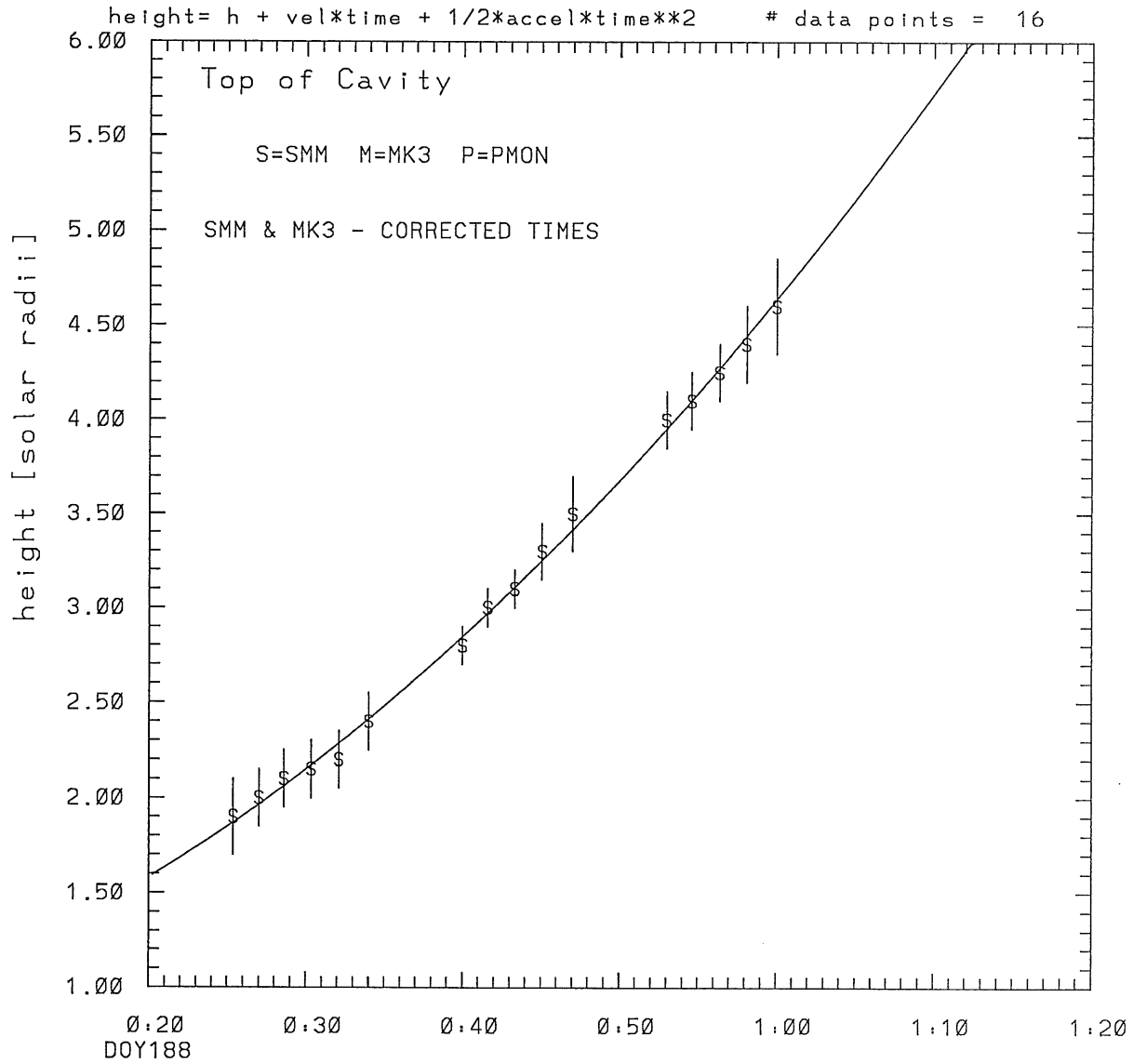
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

SMM C/P 1980 DOY188 270 +/- 0 degrees



tstart=DOY188 0:16 +/- 0.0 [min.]
radial velocity= 918. +/- 23. [km/sec]

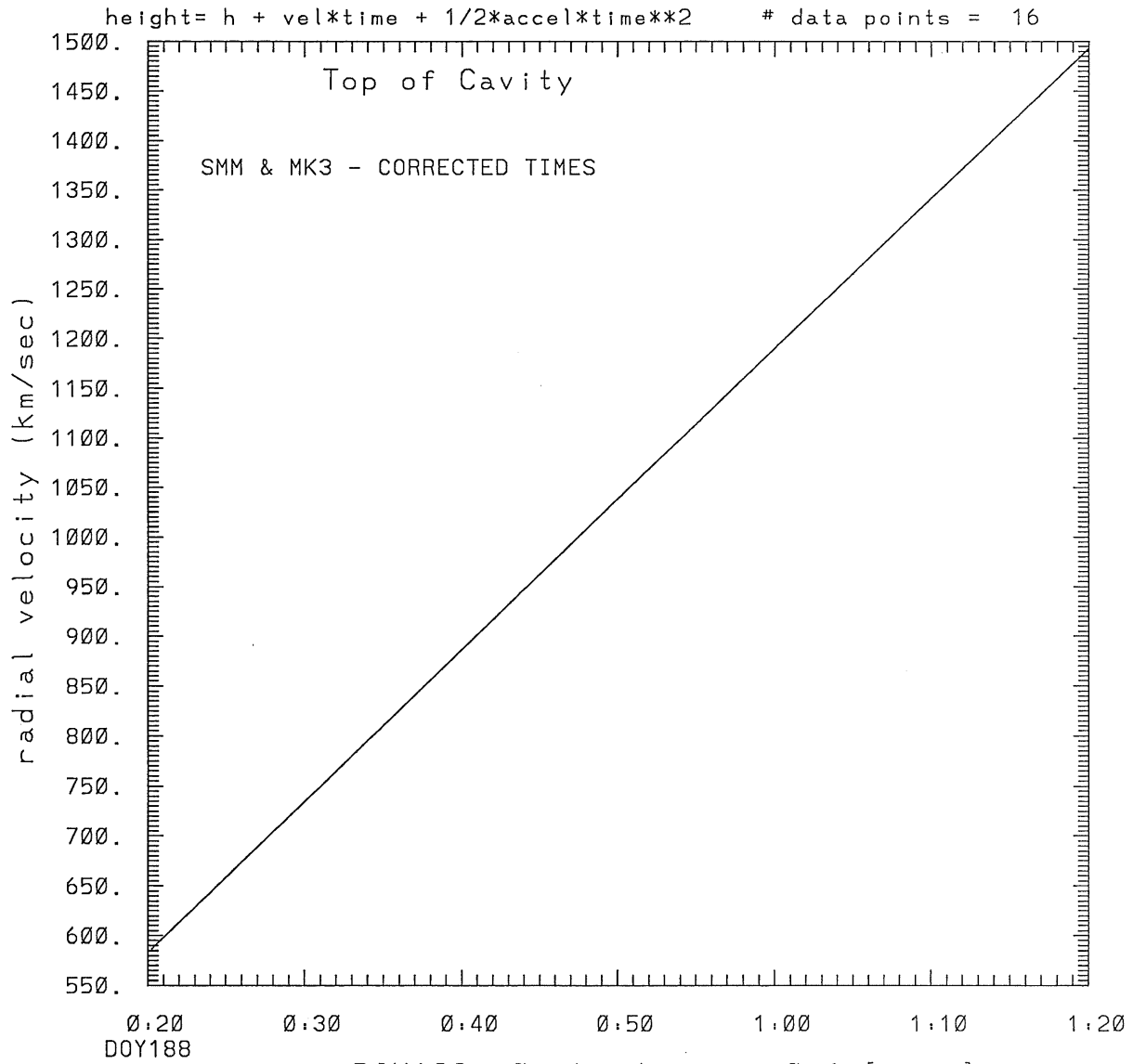
SMM C/P 1980 DOY188 270 +/- 0 degrees



tstart=DOY188 0: 6 +/- 0.4 [min.]

radial acceleration = 0.2528 +/- 0.0431 [km/sec**2]

SMM C/P 1980 DOY188 270 +/- 0 degrees



tstart=DOY188 0: 6 +/- 0.4 [min.]

radial acceleration=0.253E+00 km/sec**2

This is a 1 order run

INPUT:

year	doy	time	radii	error in radius	error in angle	angle	datatype
1980	188	0:25:22	1.90	+/- 0.20	270.0	+/- 0.5	SMM
1980	188	0:26:59	2.00	+/- 0.15	270.0	+/- 0.5	SMM
1980	188	0:28:36	2.10	+/- 0.15	270.0	+/- 0.5	SMM
1980	188	0:30:20	2.15	+/- 0.15	270.0	+/- 0.5	SMM
1980	188	0:32: 5	2.20	+/- 0.15	270.0	+/- 0.5	SMM
1980	188	0:33:59	2.40	+/- 0.15	270.0	+/- 0.5	SMM
1980	188	0:39:59	2.80	+/- 0.10	270.0	+/- 0.5	SMM
1980	188	0:41:35	3.00	+/- 0.10	270.0	+/- 1.0	SMM
1980	188	0:43:19	3.10	+/- 0.10	270.0	+/- 1.0	SMM
1980	188	0:45: 4	3.30	+/- 0.15	270.0	+/- 1.0	SMM
1980	188	0:47: 0	3.50	+/- 0.20	270.0	+/- 1.0	SMM
1980	188	0:52:59	4.00	+/- 0.15	270.0	+/- 1.0	SMM
1980	188	0:54:35	4.10	+/- 0.15	270.0	+/- 1.0	SMM
1980	188	0:56:20	4.25	+/- 0.15	270.0	+/- 1.0	SMM
1980	188	0:58: 4	4.40	+/- 0.20	270.0	+/- 1.0	SMM
1980	188	0:59:59	4.60	+/- 0.25	270.0	+/- 1.0	SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

Event began at $t = 0 + -0.408E+01 +/- 0.156E-01$ [minutes]
In more convenient units:
Event began at DOY 188 0:16 +/- 0.156E-01 [minutes]

Origin defined at DOY188 0:20

RADIAL INFORMATION:

RADIAL VELOCITY = 918. +/- 23. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.132E+01 +/- 0.471E-01$ [solar radii]
 $c(2) = 0.791E-01 +/- 0.201E-02$ [radii/min]
 $c(2) = 0.918E+03 +/- 0.233E+02$ [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)= 0.46075E-01 [radii] see Bevington pg. 114

error in c(2)= 0.18414E-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) = 270. +/- 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 0:25 = 0.000E+00 km/sec

The TOTAL velocity at 0:25 = 918. km/sec

The TANGENTIAL velocity at 0:26 = 0.000E+00 km/sec

The TOTAL velocity at 0:26 = 918. km/sec

The TANGENTIAL velocity at 0:28 = 0.000E+00 km/sec

The TOTAL velocity at 0:28 = 918. km/sec

The TANGENTIAL velocity at 0:30 = 0.000E+00 km/sec

The TOTAL velocity at 0:30 = 918. km/sec

The TANGENTIAL velocity at 0:32 = 0.000E+00 km/sec

The TOTAL velocity at 0:32 = 918. km/sec

The TANGENTIAL velocity at 0:33 = 0.000E+00 km/sec

The TOTAL velocity at 0:33 = 918. km/sec

The TANGENTIAL velocity at 0:39 = 0.000E+00 km/sec

The TOTAL velocity at 0:39 = 918. km/sec

The TANGENTIAL velocity at 0:41 = 0.000E+00 km/sec

The TOTAL velocity at 0:41 = 918. km/sec

The TANGENTIAL velocity at 0:43 = 0.000E+00 km/sec

The TOTAL velocity at 0:43 = 918. km/sec

The TANGENTIAL velocity at 0:45 = 0.000E+00 km/sec

The TOTAL velocity at 0:45 = 918. km/sec

The TANGENTIAL velocity at 0:47 = 0.000E+00 km/sec

The TOTAL velocity at 0:47 = 918. km/sec

The TANGENTIAL velocity at 0:52 = 0.000E+00 km/sec
The TOTAL velocity at 0:52 = 918. km/sec

The TANGENTIAL velocity at 0:54 = 0.000E+00 km/sec
The TOTAL velocity at 0:54 = 918. km/sec

The TANGENTIAL velocity at 0:56 = 0.000E+00 km/sec
The TOTAL velocity at 0:56 = 918. km/sec

The TANGENTIAL velocity at 0:58 = 0.000E+00 km/sec
The TOTAL velocity at 0:58 = 918. km/sec

The TANGENTIAL velocity at 0:59 = 0.000E+00 km/sec
The TOTAL velocity at 0:59 = 918. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.94
Standard Deviation in start time measurement = 0.114E+02
Error in time = 0.39755E+01 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.592E-02
Reduced Chi Squared = 0.457E-01
Chi Squared = 0.640E+00
The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.997E+00
The probability that no LINEAR correlation exists between the variables = 0.8704E-08
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	188	0:25:22	1.90	+/- 0.20	270.0	+/- 0.5	SMM
1980	188	0:26:59	2.00	+/- 0.15	270.0	+/- 0.5	SMM
1980	188	0:28:36	2.10	+/- 0.15	270.0	+/- 0.5	SMM
1980	188	0:30:20	2.15	+/- 0.15	270.0	+/- 0.5	SMM
1980	188	0:32: 5	2.20	+/- 0.15	270.0	+/- 0.5	SMM
1980	188	0:33:59	2.40	+/- 0.15	270.0	+/- 0.5	SMM
1980	188	0:39:59	2.80	+/- 0.10	270.0	+/- 0.5	SMM
1980	188	0:41:35	3.00	+/- 0.10	270.0	+/- 1.0	SMM
1980	188	0:43:19	3.10	+/- 0.10	270.0	+/- 1.0	SMM
1980	188	0:45: 4	3.30	+/- 0.15	270.0	+/- 1.0	SMM
1980	188	0:47: 0	3.50	+/- 0.20	270.0	+/- 1.0	SMM
1980	188	0:52:59	4.00	+/- 0.15	270.0	+/- 1.0	SMM
1980	188	0:54:35	4.10	+/- 0.15	270.0	+/- 1.0	SMM
1980	188	0:56:20	4.25	+/- 0.15	270.0	+/- 1.0	SMM
1980	188	0:58: 4	4.40	+/- 0.20	270.0	+/- 1.0	SMM
1980	188	0:59:59	4.60	+/- 0.25	270.0	+/- 1.0	SMM

Structure being measured:
Top of Cavity

OUTPUT:

START TIME:

Event began at $t = 0 + -0.142E+02 +/- 0.407E+00$ [minutes]

In more convenient units:

Event began at DOY 188 0: 6 +/- 0.407E+00 [minutes]

Origin defined at DOY188 0:20

RADIAL INFORMATION:

RADIAL ACCELERATION = $0.253E+00 +/- 0.431E-01$ km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = $0.158E+01 +/- 0.513E-01$ [solar radii]

c(2) = $0.503E-01 +/- 0.505E-02$ [radii/min]

c(2) = $0.583E+03 +/- 0.586E+02$ [km/sec]

c(3) = 0.654E-03 +/- 0.112E-03 [radii/min**2]
c(3) = 0.253E+00 +/- 0.431E-01 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.51161E-01 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.81489E-02 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.53367E-02 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.75988E-03 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.11595E-03 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.15591E-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) = 270. +/- 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 0:25 = 0.000E+00 km/sec

The TOTAL velocity at 0:25 = 664. km/sec

The TANGENTIAL velocity at 0:26 = 0.000E+00 km/sec

The TOTAL velocity at 0:26 = 689. km/sec

The TANGENTIAL velocity at 0:28 = 0.000E+00 km/sec

The TOTAL velocity at 0:28 = 714. km/sec

The TANGENTIAL velocity at 0:30 = 0.000E+00 km/sec

The TOTAL velocity at 0:30 = 740. km/sec

The TANGENTIAL velocity at 0:32 = 0.000E+00 km/sec

The TOTAL velocity at 0:32 = 766. km/sec

The TANGENTIAL velocity at 0:33 = 0.000E+00 km/sec

The TOTAL velocity at 0:33 = 795. km/sec

The TANGENTIAL velocity at 0:39 = 0.000E+00 km/sec

The TOTAL velocity at 0:39 = 886. km/sec

The TANGENTIAL velocity at 0:41 = 0.000E+00 km/sec

The TOTAL velocity at 0:41 = 910. km/sec

The TANGENTIAL velocity at 0:43 = 0.000E+00 km/sec

The TOTAL velocity at 0:43 = 937. km/sec

The TANGENTIAL velocity at 0:45 = 0.000E+00 km/sec

The TOTAL velocity at 0:45 = 963. km/sec

The TANGENTIAL velocity at 0:47 = 0.000E+00 km/sec

The TOTAL velocity at 0:47 = 993. km/sec

The TANGENTIAL velocity at 0:52 = 0.000E+00 km/sec

The TOTAL velocity at 0:52 = 1083. km/sec

The TANGENTIAL velocity at 0:54 = 0.000E+00 km/sec

The TOTAL velocity at 0:54 = 1108. km/sec

The TANGENTIAL velocity at 0:56 = 0.000E+00 km/sec

The TOTAL velocity at 0:56 = 1134. km/sec

The TANGENTIAL velocity at 0:58 = 0.000E+00 km/sec

The TOTAL velocity at 0:58 = 1160. km/sec

The TANGENTIAL velocity at 0:59 = 0.000E+00 km/sec

The TOTAL velocity at 0:59 = 1190. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.94

Standard Deviation in start time measurement = 0.114E+02

Value of reduced Chi Squared returned from nllst2 = 0.184E-02

Reduced Chi Squared = 0.195E-01

Chi Squared = 0.254E+00

The probability for exceeding chi square = 0.100E+01

For a second order fit 3 correlation coefficients are given:

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

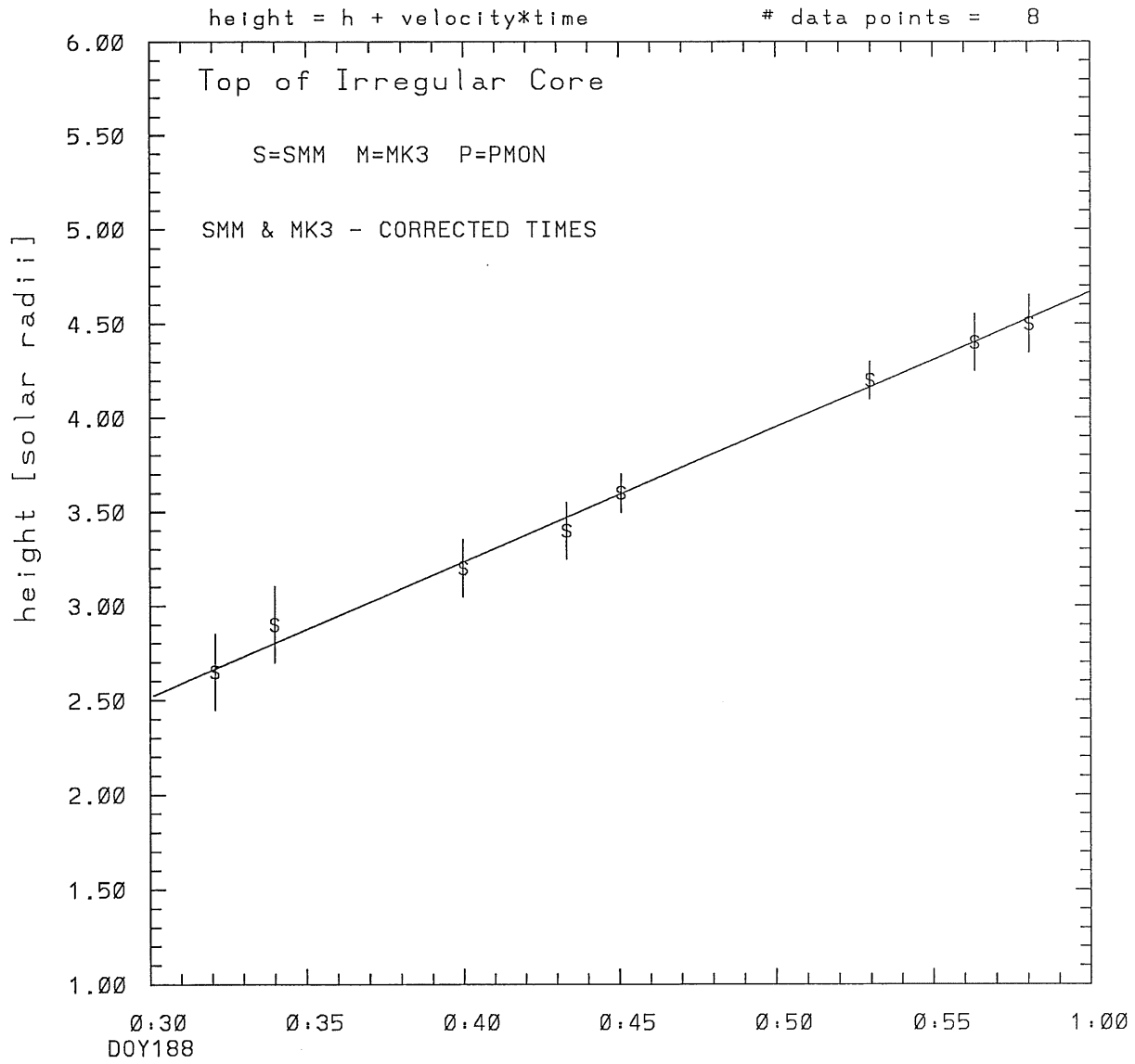
The correlation between the data and the term linear in time = 0.8386E+00

The correlation between the data and the time**2 term = 0.8290E+00

The correlation between the data and the complete equation of motion = 0.9969E+00

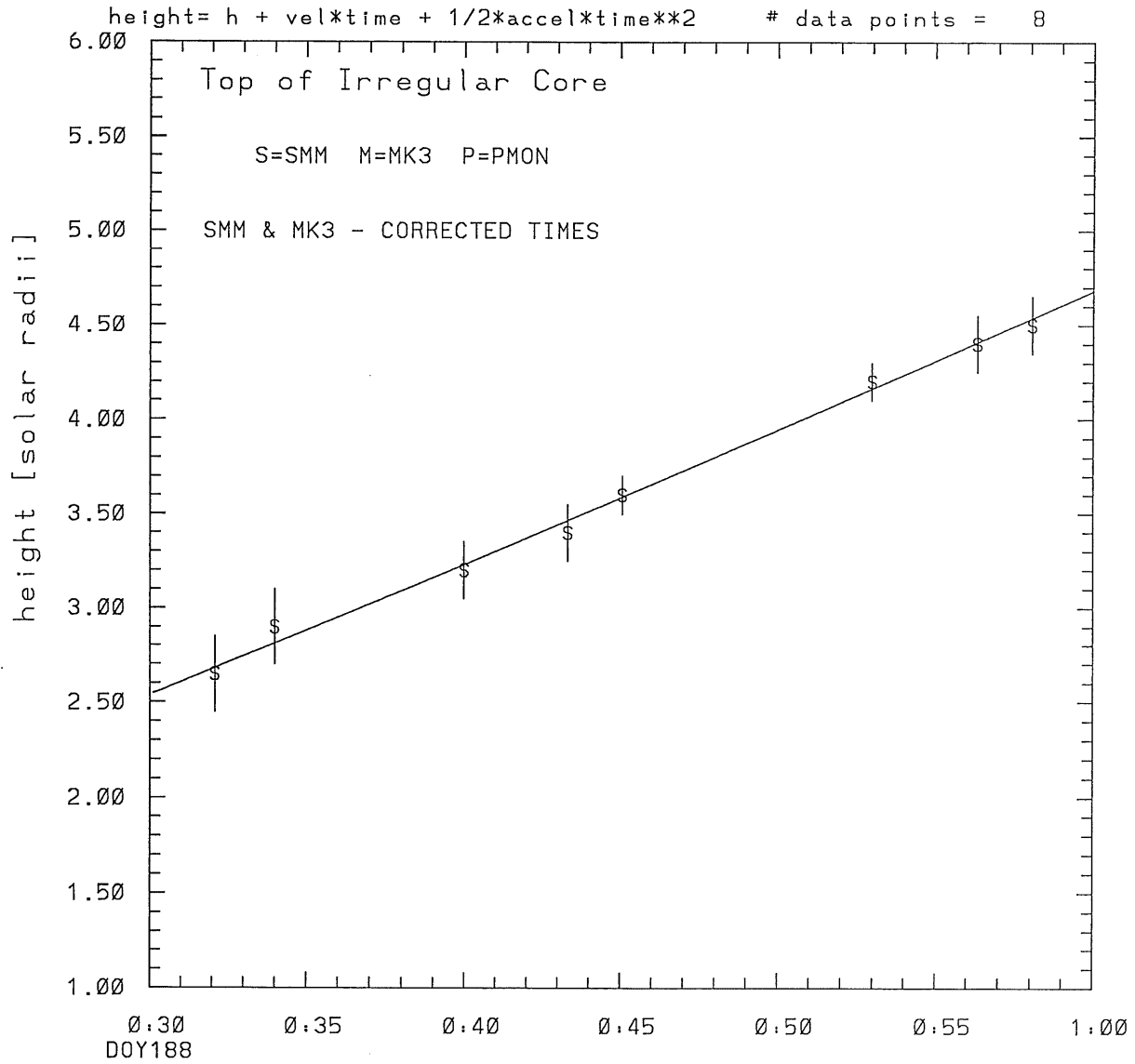
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

SMM C/P 1980 DOY188 250 +/- 0 degrees



tstart=DOY188 0.9 +/- 0.1 [min.]
radial velocity= 832. +/- 23. [km/sec]

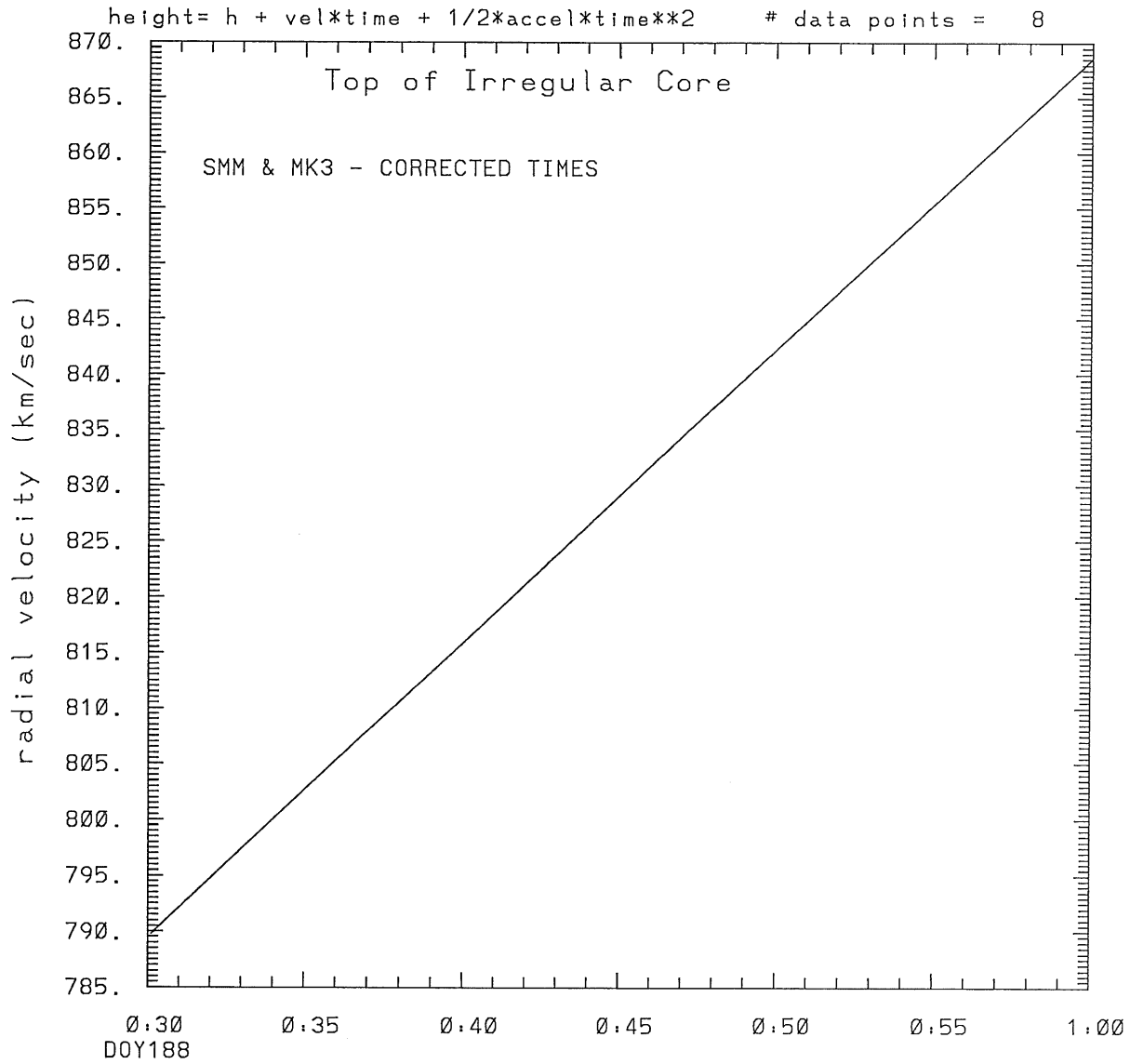
SMM C/P 1980 DOY188 250 +/- 0 degrees



tstart=DOY188 0: 8 +/- 11.2 [min.]

radial acceleration = 0.0439 +/- 0.1031 [km/sec**2]

SMM C/P 1980 DOY188 250 +/- 0 degrees



tstart=DOY188 0: 8 +/- 11.2 [min.]

radial acceleration= $0.439E-01$ km/sec**2

This is a 1 order run

INPUT:

year	day	time	radii	radius	error in	angle	error in	datatype
1980	188	0:32: 5	2.65	+/- 0.20	250.0	+/- 0.5	SMM	
1980	188	0:33:59	2.90	+/- 0.20	250.0	+/- 0.5	SMM	
1980	188	0:39:59	3.20	+/- 0.15	250.0	+/- 1.0	SMM	
1980	188	0:43:19	3.40	+/- 0.15	250.0	+/- 1.0	SMM	
1980	188	0:45: 4	3.60	+/- 0.10	250.0	+/- 1.0	SMM	
1980	188	0:52:59	4.20	+/- 0.10	250.0	+/- 1.0	SMM	
1980	188	0:56:20	4.40	+/- 0.15	250.0	+/- 1.0	SMM	
1980	188	0:58: 4	4.50	+/- 0.15	250.0	+/- 1.0	SMM	

Structure being measured:

Top of Irregular Core

OUTPUT:

START TIME:

Event began at $t = 0 + -0.211E+02 +/- 0.595E-01$ [minutes]

In more convenient units:

Event began at DOY 188 0: 9 +/- 0.595E-01 [minutes]

Origin defined at DOY188 0:30

RADIAL INFORMATION:

RADIAL VELOCITY = 832. +/- 23. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.252E+01 +/- 0.369E-01$ [solar radii]
 $c(2) = 0.717E-01 +/- 0.195E-02$ [radii/min]
 $c(2) = 0.832E+03 +/- 0.226E+02$ [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 $c(1) = 0.37527E-01$ [radii] see Bevington pg. 114

error in $c(2) = 0.21087E-02$ [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) = 250. +/- 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 0:32 = 0.000E+00 km/sec

The TOTAL velocity at 0:32 = 832. km/sec

The TANGENTIAL velocity at 0:33 = 0.000E+00 km/sec

The TOTAL velocity at 0:33 = 832. km/sec

The TANGENTIAL velocity at 0:39 = 0.000E+00 km/sec

The TOTAL velocity at 0:39 = 832. km/sec

The TANGENTIAL velocity at 0:43 = 0.000E+00 km/sec

The TOTAL velocity at 0:43 = 832. km/sec

The TANGENTIAL velocity at 0:45 = 0.000E+00 km/sec

The TOTAL velocity at 0:45 = 832. km/sec

The TANGENTIAL velocity at 0:52 = 0.000E+00 km/sec

The TOTAL velocity at 0:52 = 832. km/sec

The TANGENTIAL velocity at 0:56 = 0.000E+00 km/sec

The TOTAL velocity at 0:56 = 832. km/sec

The TANGENTIAL velocity at 0:58 = 0.000E+00 km/sec

The TOTAL velocity at 0:58 = 832. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.70

Standard Deviation in start time measurement = 0.921E+01

Error in time = 0.18764E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.183E-02

Reduced Chi Squared = 0.954E-02

Chi Squared = 0.573E-01

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = $0.997E+00$

The probability that no LINEAR correlation exists between the variables = $-0.3404E-07$

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

This is a 2 order run

INPUT:

year	doy	time	radii	radius	error in	angle	angle	datatype
1980	188	0:32: 5	2.65	+/- 0.20	250.0	+/- 0.5	SMM	
1980	188	0:33:59	2.90	+/- 0.20	250.0	+/- 0.5	SMM	
1980	188	0:39:59	3.20	+/- 0.15	250.0	+/- 1.0	SMM	
1980	188	0:43:19	3.40	+/- 0.15	250.0	+/- 1.0	SMM	
1980	188	0:45: 4	3.60	+/- 0.10	250.0	+/- 1.0	SMM	
1980	188	0:52:59	4.20	+/- 0.10	250.0	+/- 1.0	SMM	
1980	188	0:56:20	4.40	+/- 0.15	250.0	+/- 1.0	SMM	
1980	188	0:58: 4	4.50	+/- 0.15	250.0	+/- 1.0	SMM	

Structure being measured:

Top of Irregular Core

OUTPUT:

START TIME:

Event began at $t = 0 + -0.235E+02 +/- 0.112E+02$ [minutes]

In more convenient units:

Event began at DOY 188 0: 8 +/- 0.112E+02 [minutes]

Origin defined at DOY188 0:30

RADIAL INFORMATION:

RADIAL ACCELERATION = $0.439E-01 +/- 0.103E+00$ km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = $0.254E+01 +/- 0.656E-01$ [solar radii]
c(2) = $0.681E-01 +/- 0.883E-02$ [radii/min]
c(2) = $0.790E+03 +/- 0.102E+03$ [km/sec]
c(3) = $0.114E-03 +/- 0.267E-03$ [radii/min**2]
c(3) = $0.439E-01 +/- 0.103E+00$ [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = $0.61114E-01$ [radii] Bevington pg 154 (8-30)

Exact error in c(1) = $0.16238E-01$ [radii] Bevington pg 154 (8-28)

Approximate error in c(2) = $0.97715E-02$ [radii/min] Bevington pg 154 (8-30)

Exact error in c(2) = 0.19500E-02 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.31073E-03 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.54023E-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) = 250. +/- 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 0:32 = 0.000E+00 km/sec
The TOTAL velocity at 0:32 = 795. km/sec

The TANGENTIAL velocity at 0:33 = 0.000E+00 km/sec
The TOTAL velocity at 0:33 = 800. km/sec

The TANGENTIAL velocity at 0:39 = 0.000E+00 km/sec
The TOTAL velocity at 0:39 = 816. km/sec

The TANGENTIAL velocity at 0:43 = 0.000E+00 km/sec
The TOTAL velocity at 0:43 = 825. km/sec

The TANGENTIAL velocity at 0:45 = 0.000E+00 km/sec
The TOTAL velocity at 0:45 = 829. km/sec

The TANGENTIAL velocity at 0:52 = 0.000E+00 km/sec
The TOTAL velocity at 0:52 = 850. km/sec

The TANGENTIAL velocity at 0:56 = 0.000E+00 km/sec
The TOTAL velocity at 0:56 = 859. km/sec

The TANGENTIAL velocity at 0:58 = 0.000E+00 km/sec
The TOTAL velocity at 0:58 = 863. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.70
Standard Deviation in start time measurement = 0.921E+01
Value of reduced Chi Squared returned from nllst2 = 0.207E-02
Reduced Chi Squared = 0.114E-01

Chi Squared = 0.571E-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 = 0.8714E+00

The correlation between the data and the time**2 term = 0.8727E+00

The correlation between the data and the complete equation of motion = 0.9934E+00

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