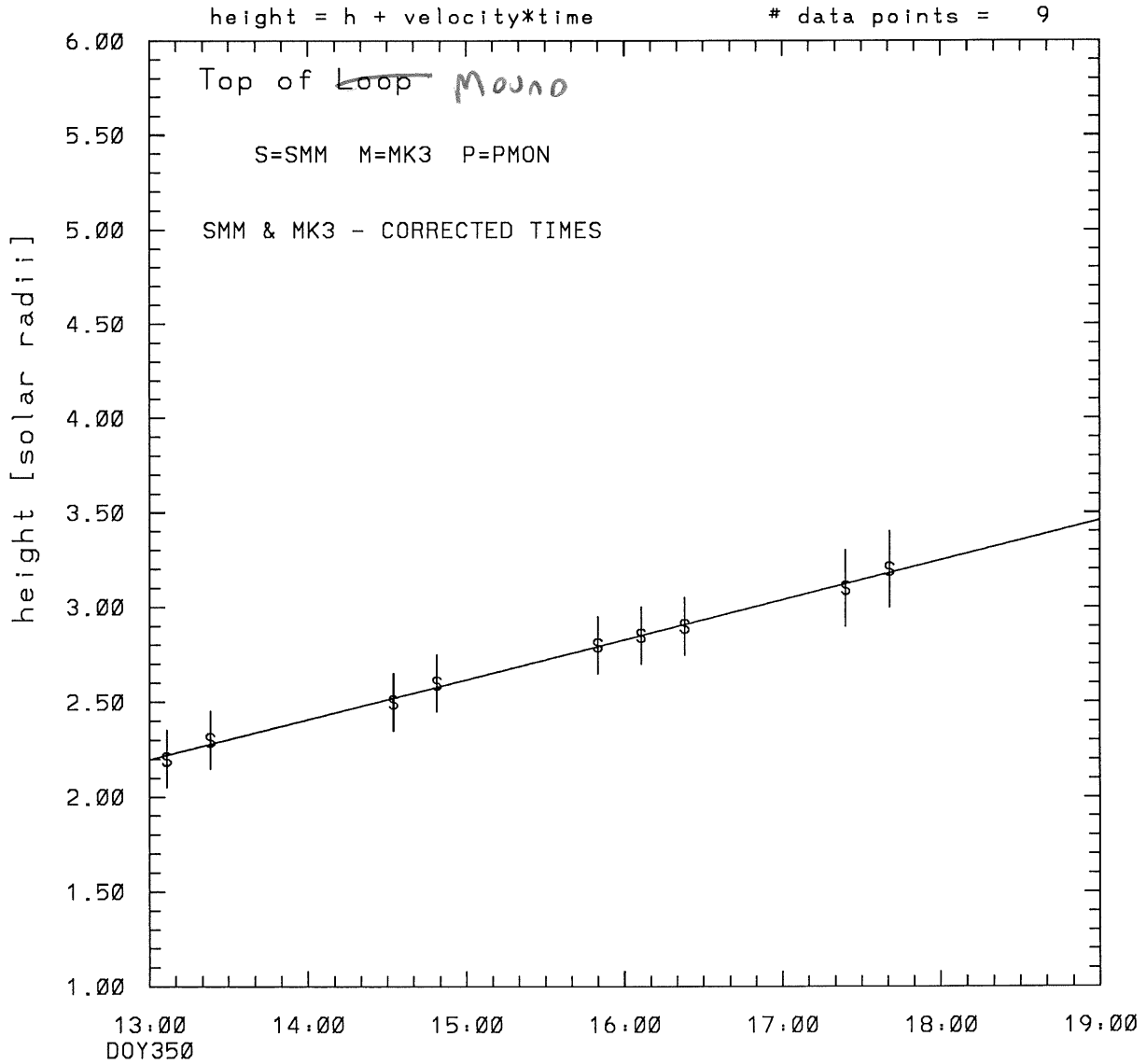
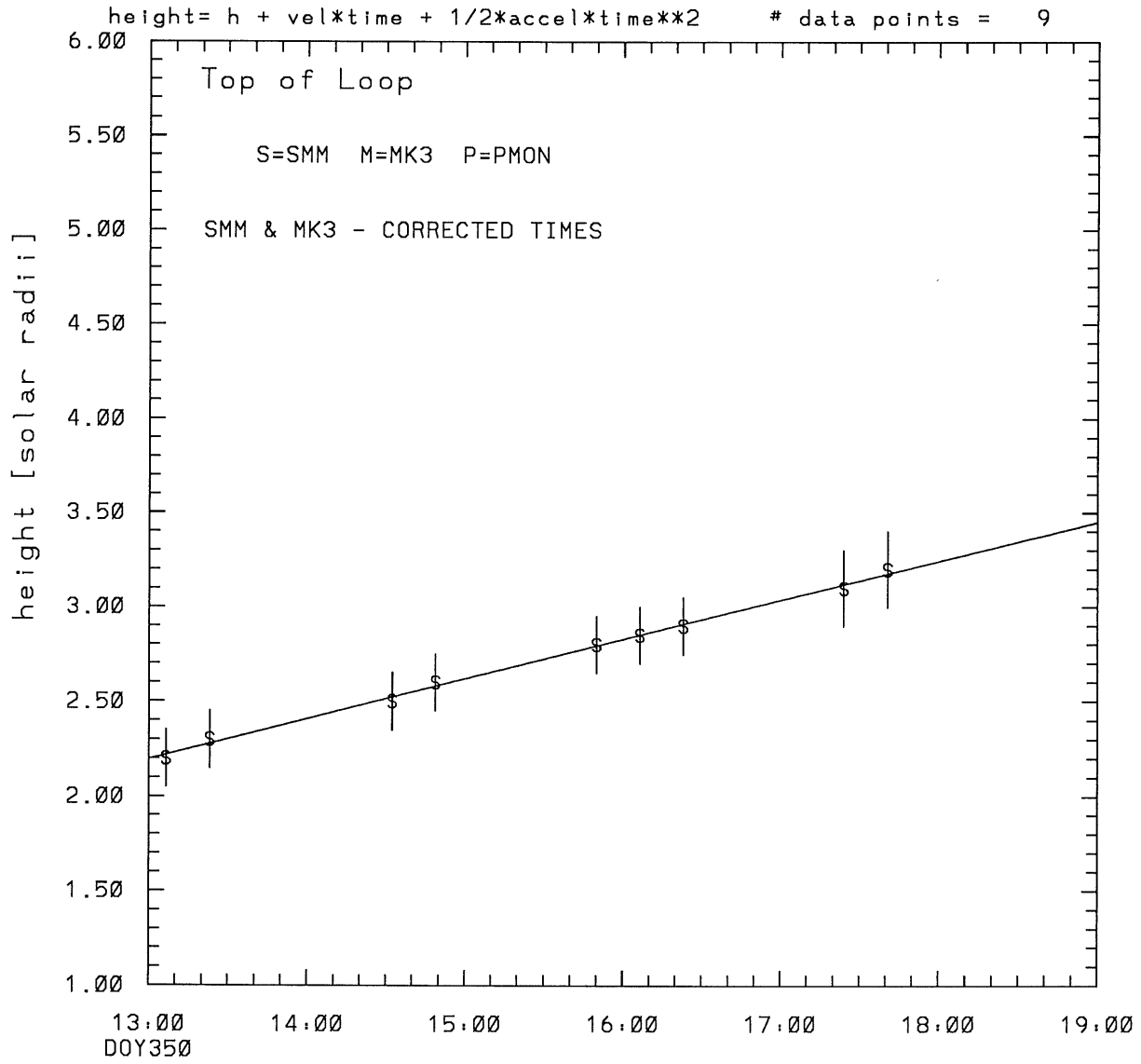


SMM C/P 1987 DOY350 130 +/- 0 degrees



tstart=DOY350 7:20 +/- 2.6 [min.]
radial velocity= 41. +/- 1. [km/sec]

SMM C/P 1987 DOY350 130 +/- 0 degrees

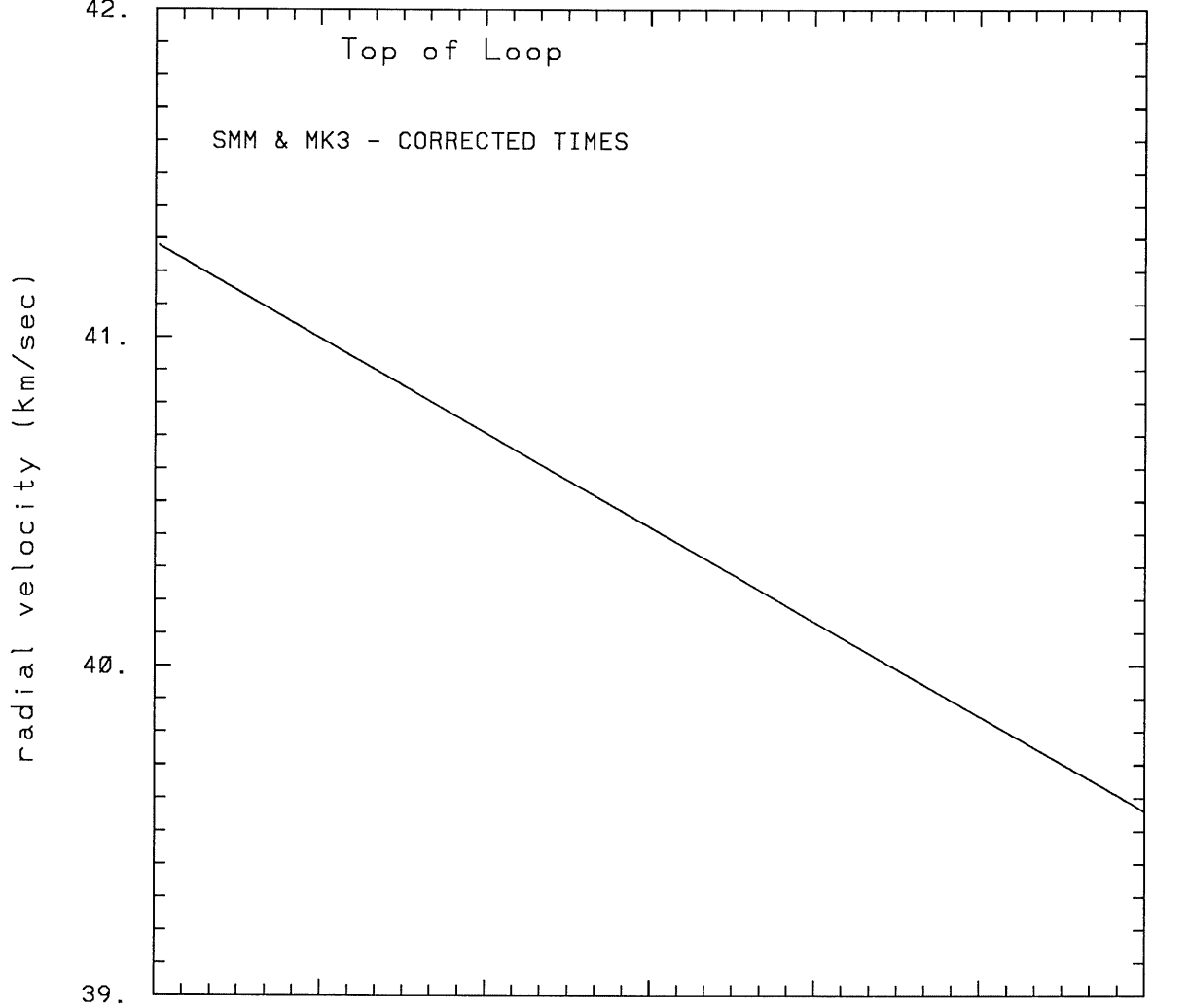


tstart=DOY350 7.31 +/- 464.2 [min.]

radial acceleration = -0.0001 ± 0.0004 [km/sec**2]

SMM C/P 1987 DOY350 130 +/- 0 degrees

height= h + vel*time + 1/2*accel*time**2 # data points = 9



13:00
DOY350

tstart=DOY350 7:31 +/- 464.2 [min.]

radial acceleration=-.799E-04 km/sec**2

This is a 1 order run

INPUT:

year	doy	time	radii	radius	error in	angle	angle	datatype
1987	350	13: 6:29	2.20	+/- 0.15	130.0	+/- 0.5	SMM	
1987	350	13:23: 0	2.30	+/- 0.15	130.0	+/- 0.5	SMM	
1987	350	14:32:16	2.50	+/- 0.15	130.0	+/- 0.5	SMM	
1987	350	14:48:45	2.60	+/- 0.15	130.0	+/- 0.5	SMM	
1987	350	15:49:57	2.80	+/- 0.15	130.0	+/- 0.5	SMM	
1987	350	16: 6:27	2.85	+/- 0.15	130.0	+/- 0.5	SMM	
1987	350	16:22:57	2.90	+/- 0.15	130.0	+/- 0.5	SMM	
1987	350	17:24: 7	3.10	+/- 0.20	130.0	+/- 1.0	SMM	
1987	350	17:40:37	3.20	+/- 0.20	130.0	+/- 1.0	SMM	

Structure being measured:

Top of Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.342E+03 +/- 0.263E+01$ [minutes]

In more convenient units:

Event began at DOY 350 7:20 +/- 0.263E+01 [minutes]

Origin defined at DOY350 13: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 41. +/- 1. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.220E+01 +/- 0.112E-01$ [solar radii]
 $c(2) = 0.350E-02 +/- 0.701E-04$ [radii/min]
 $c(2) = 0.406E+02 +/- 0.813E+00$ [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 $c(1) = 0.12637E-01$ [radii] see Bevington pg. 114
error in $c(2) = 0.72390E-04$ [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) = 130. +/- 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 13: 6 = 0.000E+00 km/sec

The TOTAL velocity at 13: 6 = 41. km/sec

The TANGENTIAL velocity at 13:23 = 0.000E+00 km/sec

The TOTAL velocity at 13:23 = 41. km/sec

The TANGENTIAL velocity at 14:32 = 0.000E+00 km/sec

The TOTAL velocity at 14:32 = 41. km/sec

The TANGENTIAL velocity at 14:48 = 0.000E+00 km/sec

The TOTAL velocity at 14:48 = 41. km/sec

The TANGENTIAL velocity at 15:49 = 0.000E+00 km/sec

The TOTAL velocity at 15:49 = 41. km/sec

The TANGENTIAL velocity at 16: 6 = 0.000E+00 km/sec

The TOTAL velocity at 16: 6 = 41. km/sec

The TANGENTIAL velocity at 16:22 = 0.000E+00 km/sec

The TOTAL velocity at 16:22 = 41. km/sec

The TANGENTIAL velocity at 17:24 = 0.000E+00 km/sec

The TOTAL velocity at 17:24 = 41. km/sec

The TANGENTIAL velocity at 17:40 = 0.000E+00 km/sec

The TOTAL velocity at 17:40 = 41. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.34

Standard Deviation in start time measurement = 0.921E+02

Error in time = 0.15103E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.334E-03

Reduced Chi Squared = 0.183E-02

Chi Squared = 0.128E-01

The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.999E+00

The probability that no LINEAR correlation exists between the variables = 0.3681E-09

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
1987	350	13: 6:29	2.20	+/- 0.15	130.0	+/- 0.5	SMM
1987	350	13:23: 0	2.30	+/- 0.15	130.0	+/- 0.5	SMM
1987	350	14:32:16	2.50	+/- 0.15	130.0	+/- 0.5	SMM
1987	350	14:48:45	2.60	+/- 0.15	130.0	+/- 0.5	SMM
1987	350	15:49:57	2.80	+/- 0.15	130.0	+/- 0.5	SMM
1987	350	16: 6:27	2.85	+/- 0.15	130.0	+/- 0.5	SMM
1987	350	16:22:57	2.90	+/- 0.15	130.0	+/- 0.5	SMM
1987	350	17:24: 7	3.10	+/- 0.20	130.0	+/- 1.0	SMM
1987	350	17:40:37	3.20	+/- 0.20	130.0	+/- 1.0	SMM

Structure being measured:
Top of Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.329E+03 \pm 0.464E+03$ [minutes]
In more convenient units:
Event began at DOY 350 7:31 $\pm 0.464E+03$ [minutes]

Origin defined at DOY350 13: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = $-0.799E-04 \pm 0.353E-03$ km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = $0.220E+01 \pm 0.152E-01$ [solar radii]
c(2) = $0.356E-02 \pm 0.255E-03$ [radii/min]
c(2) = $0.413E+02 \pm 0.296E+01$ [km/sec]
c(3) = $-0.207E-06 \pm 0.914E-06$ [radii/min**2]
c(3) = $-0.799E-04 \pm 0.353E-03$ [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = $0.17678E-01$ [radii] Bevington pg 154 (8-30)
Exact error in c(1) = $0.63569E-02$ [radii] Bevington pg 154 (8-28)

Approximate error in c(2) = 0.28495E-03 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.79890E-04 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.96466E-06 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.29108E-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) = 130. +/- 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 13: 6 = 0.000E+00 km/sec

The TOTAL velocity at 13: 6 = 41. km/sec

The TANGENTIAL velocity at 13:23 = 0.000E+00 km/sec

The TOTAL velocity at 13:23 = 41. km/sec

The TANGENTIAL velocity at 14:32 = 0.000E+00 km/sec

The TOTAL velocity at 14:32 = 41. km/sec

The TANGENTIAL velocity at 14:48 = 0.000E+00 km/sec

The TOTAL velocity at 14:48 = 41. km/sec

The TANGENTIAL velocity at 15:49 = 0.000E+00 km/sec

The TOTAL velocity at 15:49 = 40. km/sec

The TANGENTIAL velocity at 16: 6 = 0.000E+00 km/sec

The TOTAL velocity at 16: 6 = 40. km/sec

The TANGENTIAL velocity at 16:22 = 0.000E+00 km/sec

The TOTAL velocity at 16:22 = 40. km/sec

The TANGENTIAL velocity at 17:24 = 0.000E+00 km/sec

The TOTAL velocity at 17:24 = 40. km/sec

The TANGENTIAL velocity at 17:40 = 0.000E+00 km/sec

The TOTAL velocity at 17:40 = 40. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.34
Standard Deviation in start time measurement = 0.921E+02
Value of reduced Chi Squared returned from nllst2 = 0.378E-03
Reduced Chi Squared = 0.220E-02
Chi Squared = 0.132E-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 = 0.9532E+00

The correlation between the data and the time² term = 0.8670E+00

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

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