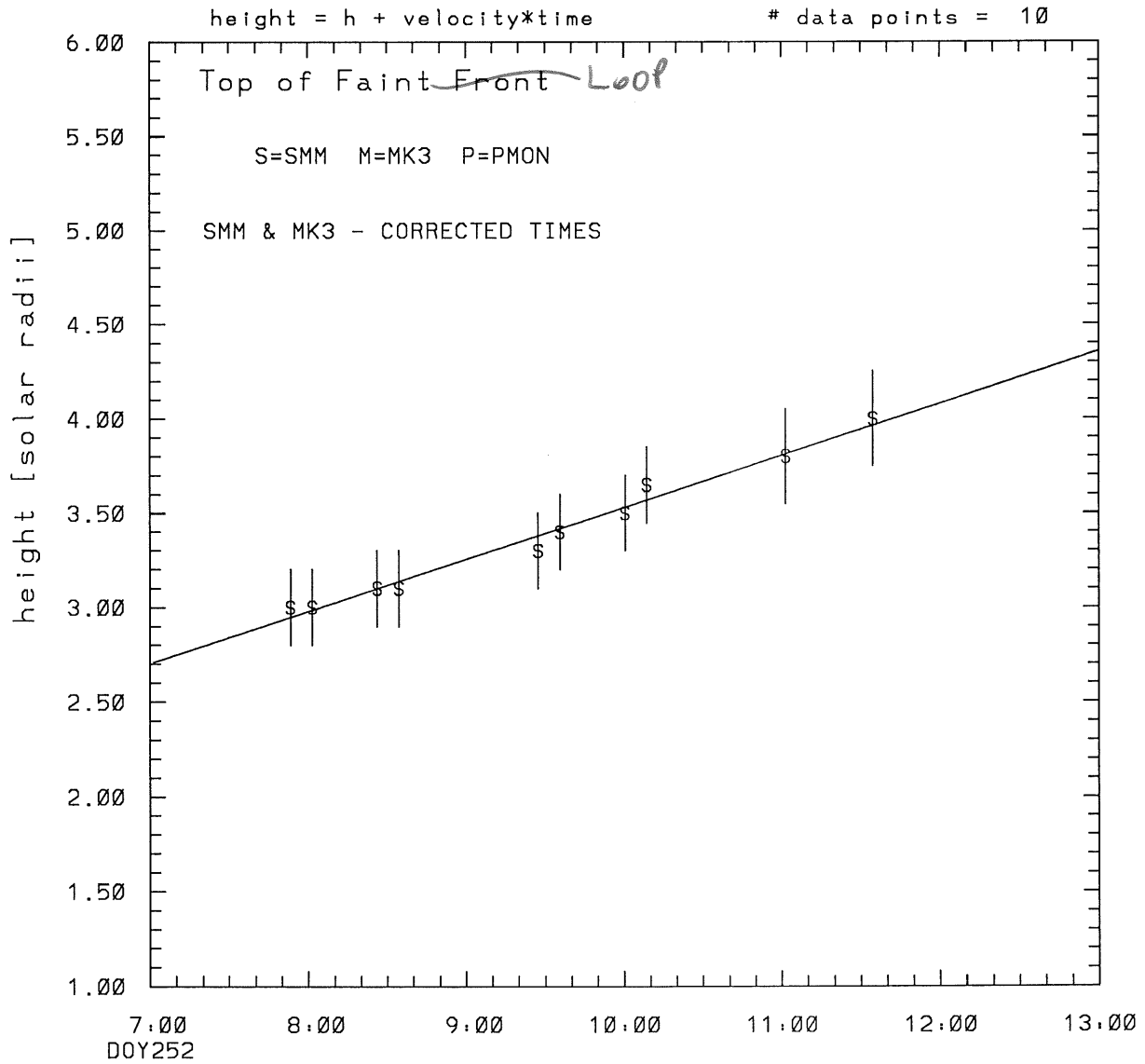


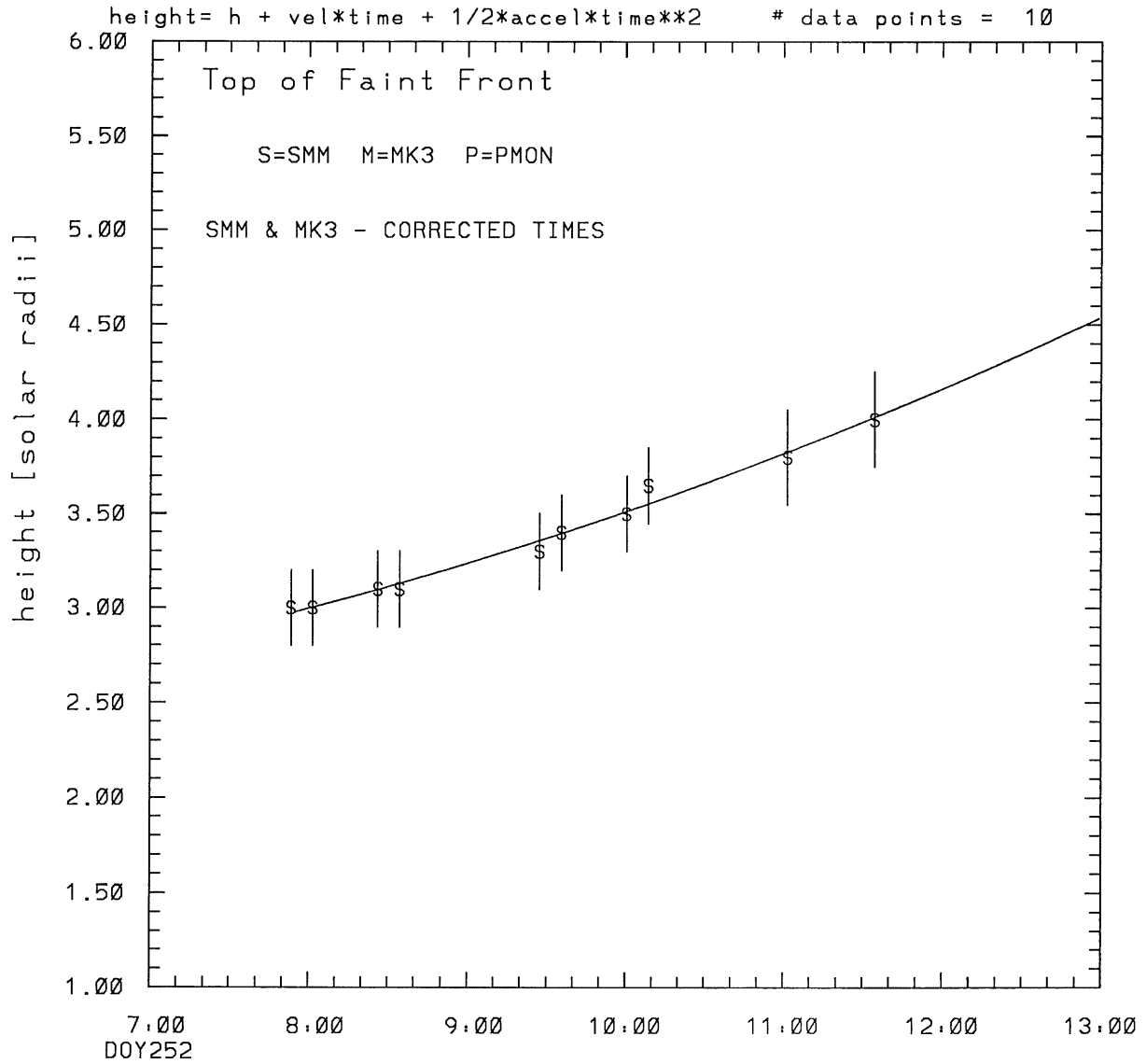
SMM C/P 1987 DOY252 65 +/- 0 degrees



tstart=DOY252 0:49 +/- 2.0 [min.]

radial velocity= 53. +/- 3. [km/sec]

SMM C/P 1987 DOY252 65 +/- 0 degrees

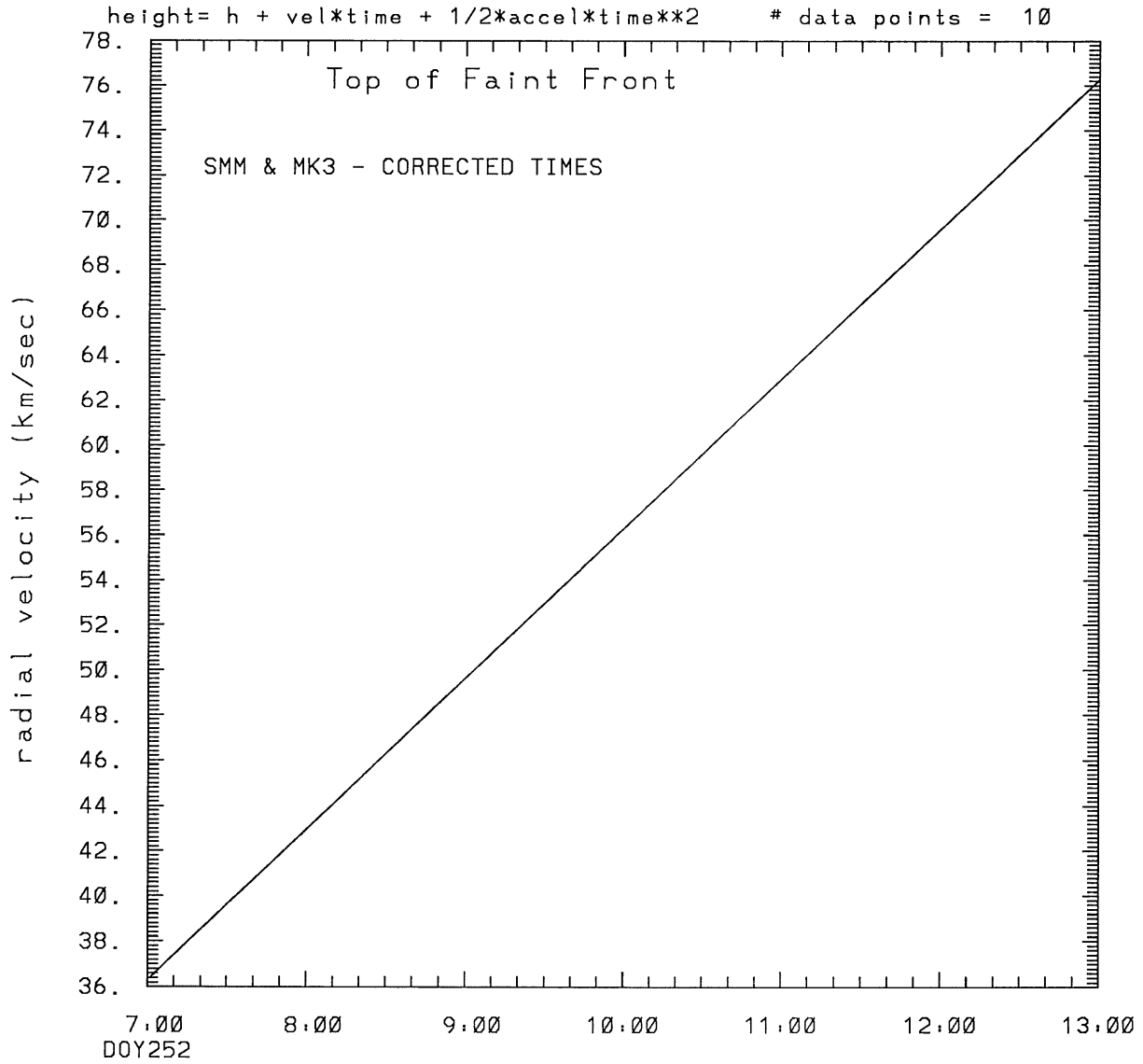


tstart=DOY252 1:34 from derivative=0

Event begins at 2.28 Solar Radii

radial acceleration = 0.0019 ± 0.0012 [km/sec**2]

SMM C/P 1987 DOY252 65 +/- 0 degrees



tstart=DOY252 1:34 from derivative=0
Event begins at 2.28 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	error in	datatype
1987	252	7:53:13	3.00	+/- 0.20	65.0	+/- 1.0	SMM	
1987	252	8: 1:29	3.00	+/- 0.20	65.0	+/- 1.0	SMM	
1987	252	8:26:14	3.10	+/- 0.20	65.0	+/- 1.0	SMM	
1987	252	8:34:29	3.10	+/- 0.20	65.0	+/- 1.0	SMM	
1987	252	9:27:26	3.30	+/- 0.20	65.0	+/- 1.0	SMM	
1987	252	9:35:42	3.40	+/- 0.20	65.0	+/- 1.0	SMM	
1987	252	10: 0:26	3.50	+/- 0.20	65.0	+/- 1.0	SMM	
1987	252	10: 8:42	3.65	+/- 0.20	65.0	+/- 1.0	SMM	
1987	252	11: 1:40	3.80	+/- 0.25	65.0	+/- 1.0	SMM	
1987	252	11:34:41	4.00	+/- 0.25	65.0	+/- 1.0	SMM	

Structure being measured:
Top of Faint Front

OUTPUT:

START TIME:

Event began at $t = 0 + -0.371E+03 +/- 0.197E+01$ [minutes]

In more convenient units:

Event began at DOY 252 0:49 +/- 0.197E+01 [minutes]

Origin defined at DOY252 7: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 53. +/- 3. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.270E+01 +/- 0.355E-01$ [solar radii]
 $c(2) = 0.459E-02 +/- 0.229E-03$ [radii/min]
 $c(2) = 0.532E+02 +/- 0.266E+01$ [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 $c(1) = 0.36529E-01$ [radii] see Bevington pg. 114

error in c(2)= 0.22191E-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) = 65. +/- 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 7:53 = 0.000E+00 km/sec

The TOTAL velocity at 7:53 = 53. km/sec

The TANGENTIAL velocity at 8: 1 = 0.000E+00 km/sec

The TOTAL velocity at 8: 1 = 53. km/sec

The TANGENTIAL velocity at 8:26 = 0.000E+00 km/sec

The TOTAL velocity at 8:26 = 53. km/sec

The TANGENTIAL velocity at 8:34 = 0.000E+00 km/sec

The TOTAL velocity at 8:34 = 53. km/sec

The TANGENTIAL velocity at 9:27 = 0.000E+00 km/sec

The TOTAL velocity at 9:27 = 53. km/sec

The TANGENTIAL velocity at 9:35 = 0.000E+00 km/sec

The TOTAL velocity at 9:35 = 53. km/sec

The TANGENTIAL velocity at 10: 0 = 0.000E+00 km/sec

The TOTAL velocity at 10: 0 = 53. km/sec

The TANGENTIAL velocity at 10: 8 = 0.000E+00 km/sec

The TOTAL velocity at 10: 8 = 53. km/sec

The TANGENTIAL velocity at 11: 1 = 0.000E+00 km/sec

The TOTAL velocity at 11: 1 = 53. km/sec

The TANGENTIAL velocity at 11:34 = 0.000E+00 km/sec

The TOTAL velocity at 11:34 = 53. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.35

Standard Deviation in start time measurement = 0.712E+02
Error in time = 0.30801E+02 using best fit method
See Taylor Error Analysis [Univ of Colorado] pg.78

Value of reduced Chi Squared returned from nllst2 = 0.233E-02
Reduced Chi Squared = 0.145E-01
Chi Squared = 0.116E+00
The probability for exceeding chi square = 0.100E+01

The correlation coefficient = 0.991E+00
The probability that no LINEAR correlation exists between the variables = 0.4398E-07
SEE BEVINGTON "Data Reduction and Error Analysis" [1969]

This is a 2 order run

INPUT:

year	doy	time	radii	radius	error in angle	error in angle	datatype
1987	252	7:53:13	3.00	+/- 0.20	65.0	+/- 1.0	SMM
1987	252	8: 1:29	3.00	+/- 0.20	65.0	+/- 1.0	SMM
1987	252	8:26:14	3.10	+/- 0.20	65.0	+/- 1.0	SMM
1987	252	8:34:29	3.10	+/- 0.20	65.0	+/- 1.0	SMM
1987	252	9:27:26	3.30	+/- 0.20	65.0	+/- 1.0	SMM
1987	252	9:35:42	3.40	+/- 0.20	65.0	+/- 1.0	SMM
1987	252	10: 0:26	3.50	+/- 0.20	65.0	+/- 1.0	SMM
1987	252	10: 8:42	3.65	+/- 0.20	65.0	+/- 1.0	SMM
1987	252	11: 1:40	3.80	+/- 0.25	65.0	+/- 1.0	SMM
1987	252	11:34:41	4.00	+/- 0.25	65.0	+/- 1.0	SMM

Structure being measured:
Top of Faint Front

OUTPUT:

START TIME:

tstart=DOY252 1:34 from derivative = 0
Event begins at 2.28 Solar Radii
Origin defined at DOY252 7: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.185E-02 +/- 0.124E-02 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

- c(1) = 0.279E+01 +/- 0.684E-01 [solar radii]
- c(2) = 0.313E-02 +/- 0.100E-02 [radii/min]
- c(2) = 0.363E+02 +/- 0.116E+02 [km/sec]
- c(3) = 0.479E-05 +/- 0.320E-05 [radii/min**2]
- c(3) = 0.185E-02 +/- 0.124E-02 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

- Approximate error in c(1) = 0.72161E-01 [radii] Bevington pg 154 (8-30)
- Exact error in c(1) = 0.37728E-02 [radii] Bevington pg 154 (8-28)
- Approximate error in c(2) = 0.10306E-02 [radii/min] Bevington pg 154 (8-30)

Exact error in c(2) = 0.63668E-04 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.31868E-05 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.22625E-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) = 65. +/- 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 7:53 = 0.000E+00 km/sec
The TOTAL velocity at 7:53 = 42. km/sec

The TANGENTIAL velocity at 8: 1 = 0.000E+00 km/sec
The TOTAL velocity at 8: 1 = 43. km/sec

The TANGENTIAL velocity at 8:26 = 0.000E+00 km/sec
The TOTAL velocity at 8:26 = 46. km/sec

The TANGENTIAL velocity at 8:34 = 0.000E+00 km/sec
The TOTAL velocity at 8:34 = 47. km/sec

The TANGENTIAL velocity at 9:27 = 0.000E+00 km/sec
The TOTAL velocity at 9:27 = 53. km/sec

The TANGENTIAL velocity at 9:35 = 0.000E+00 km/sec
The TOTAL velocity at 9:35 = 54. km/sec

The TANGENTIAL velocity at 10: 0 = 0.000E+00 km/sec
The TOTAL velocity at 10: 0 = 56. km/sec

The TANGENTIAL velocity at 10: 8 = 0.000E+00 km/sec
The TOTAL velocity at 10: 8 = 57. km/sec

The TANGENTIAL velocity at 11: 1 = 0.000E+00 km/sec
The TOTAL velocity at 11: 1 = 63. km/sec

The TANGENTIAL velocity at 11:34 = 0.000E+00 km/sec
The TOTAL velocity at 11:34 = 67. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.35

Standard Deviation in start time measurement = 0.712E+02

Value of reduced Chi Squared returned from nllst2 = 0.205E-02

Reduced Chi Squared = 0.152E-01

Chi Squared = 0.106E+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 = 0.9327E+00

The correlation between the data and the time² term = 0.8964E+00

The correlation between the data and the complete equation of motion = 0.9838E+00

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