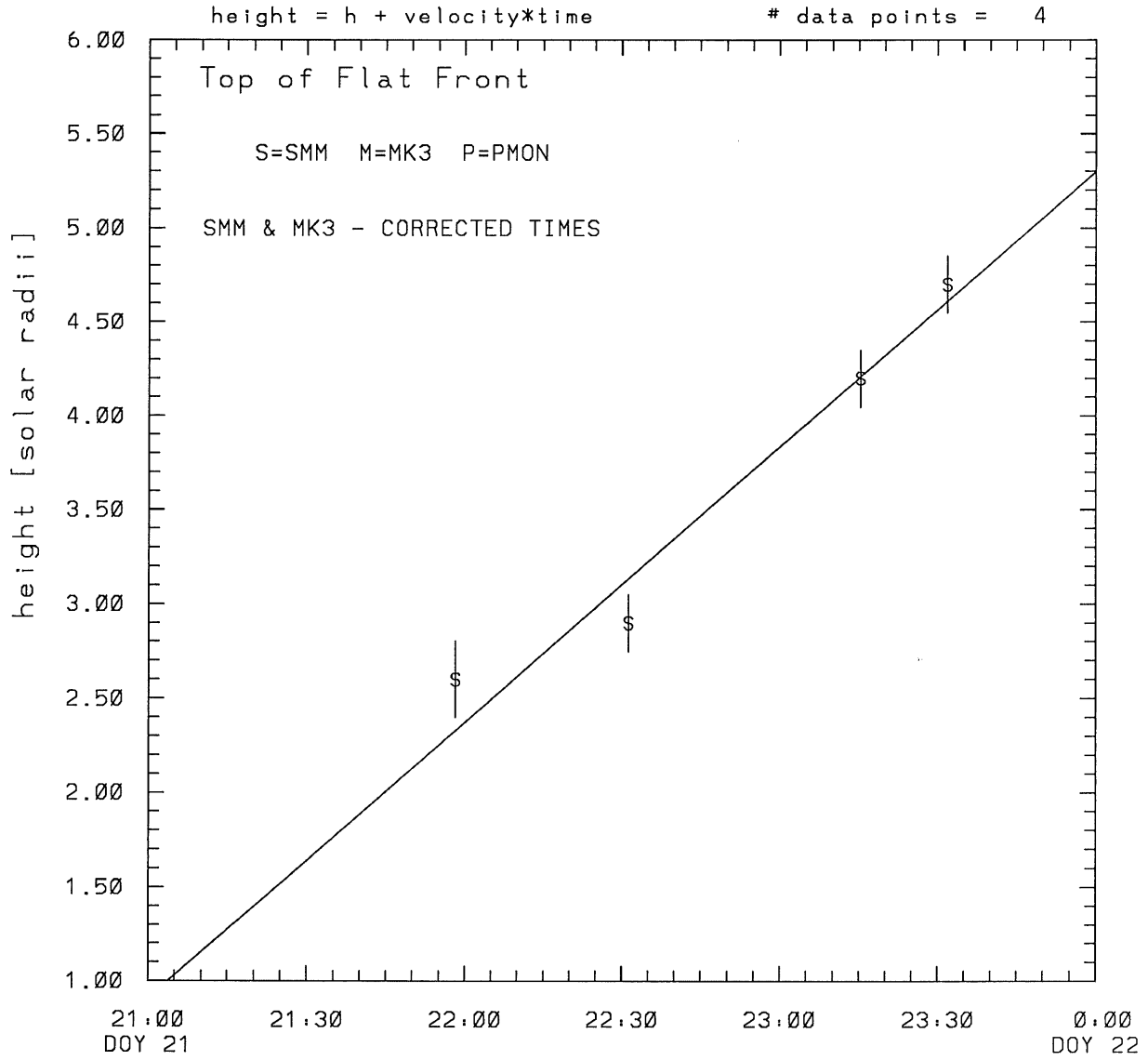
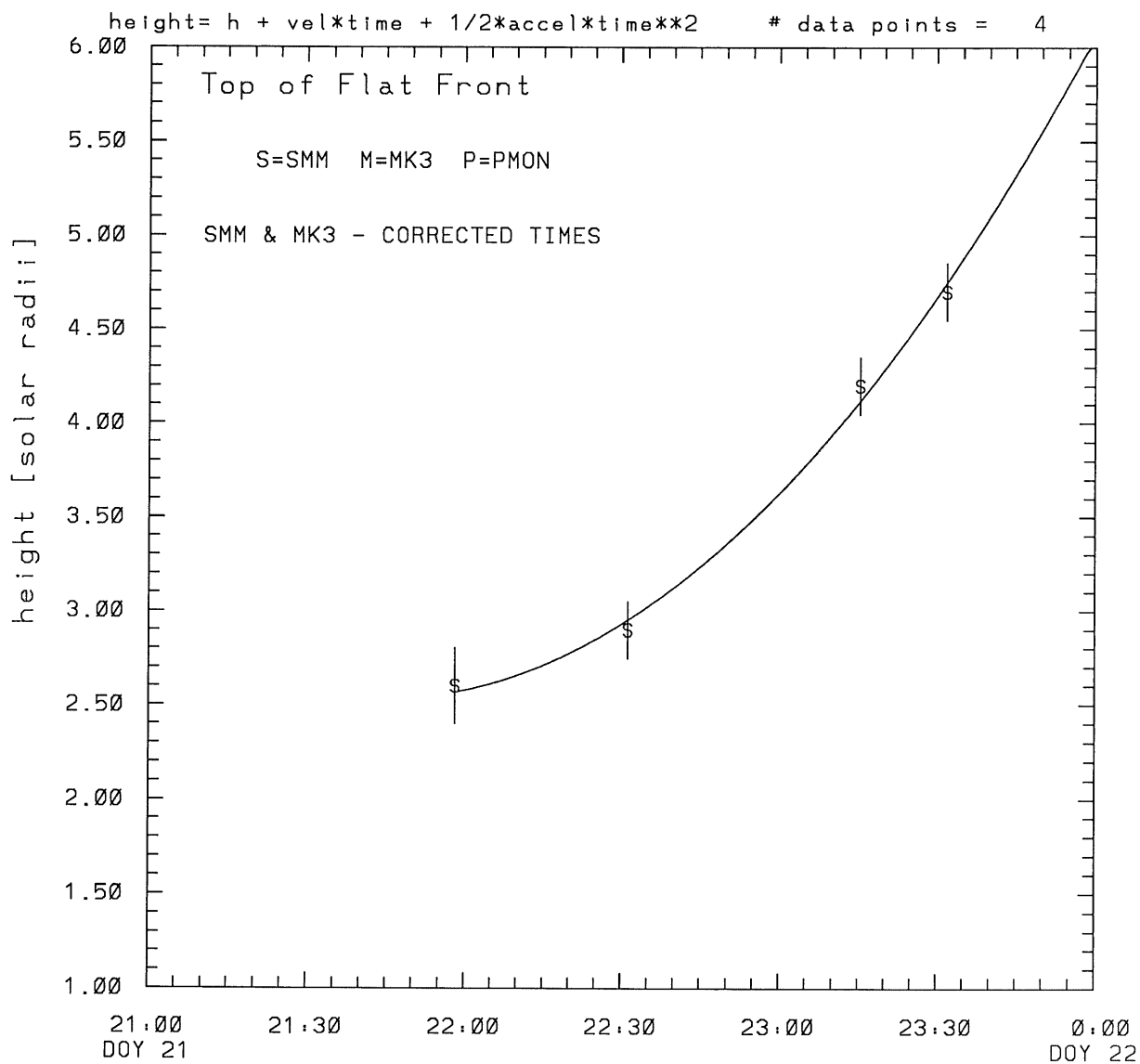


SMM C/P 1989 DOY 21 300 +/- 0 degrees



tstart=DOY 21 21: 4 +/- 1.1 [min.]
radial velocity= 283. +/- 34. [km/sec]

SMM C/P 1989 DOY 21 300 +/- 0 degrees

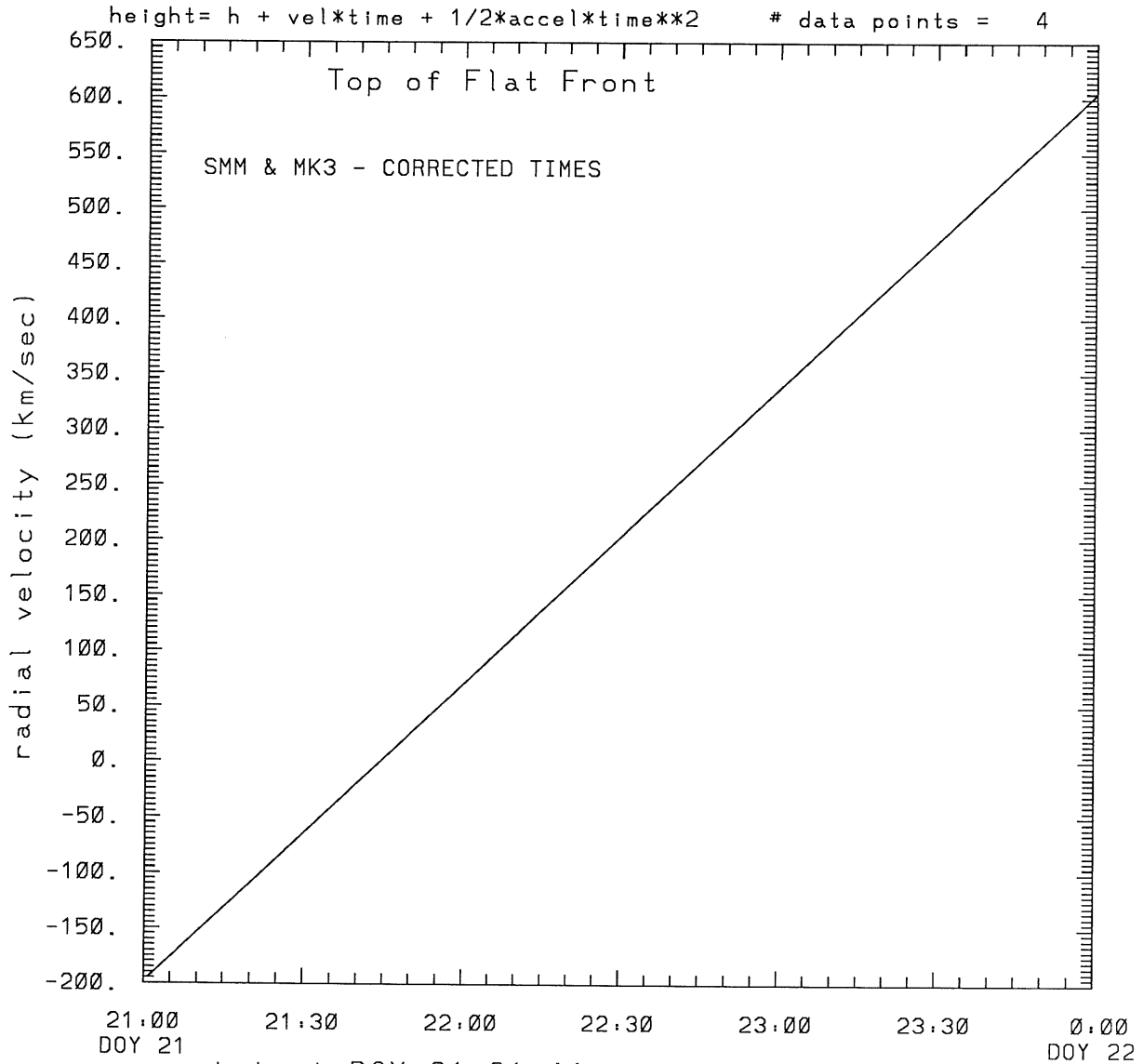


tstart=DOY 21 21:44 from derivative=0

Event begins at 2.53 Solar Radii

radial acceleration = 0.0743 ± 0.0192 [km/sec**2]

SMM C/P 1989 DOY 21 300 +/- 0 degrees



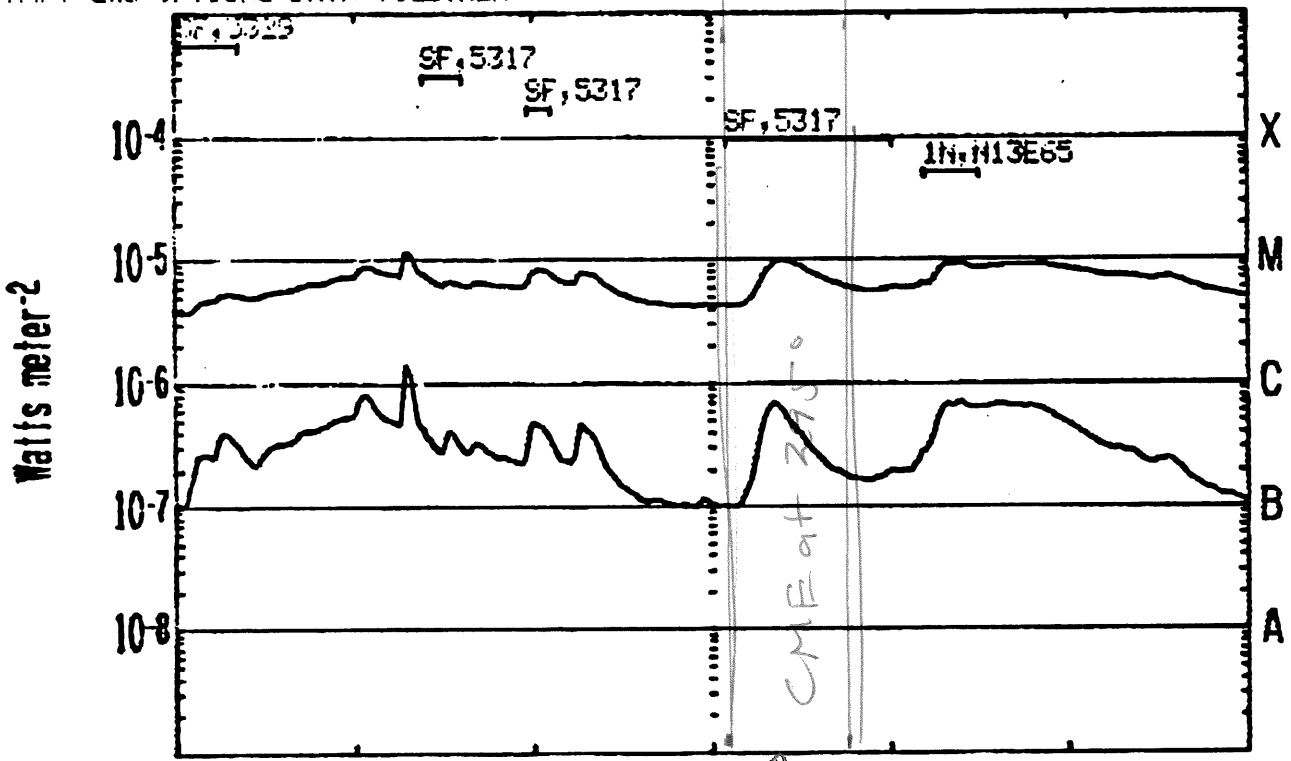
tstart=DOY 21 21:44 from derivative=0
Event begins at 2.53 Solar Radii
radial acceleration= $0.743E-01$ km/sec**2

1989 Jan 21

XRAY and OPTICAL DATA TOGETHER

STOP Ret..

BEGIN: 21 JAN 89



GOES 7 0.5-4.0A GOES 7 1.0-8.0A
OPTICAL FLARES

21/1900

21/2100 ^{MAY} ~21:25

22/0000

SAA's NIGHT

GOES-7 1 MIN DATA: OPTICAL FLARE DUR. IMP. REGION

RUN: 1614UT
26 JAN 89

This is a 1 order run

INPUT:

year	day	time	radii	error in radius	angle	error in angle	datatype
1989	21	21:58:14	2.60	+/- 0.20	300.0	+/- 0.5	SMM
1989	21	22:31:18	2.90	+/- 0.15	300.0	+/- 0.5	SMM
1989	21	23:15:22	4.20	+/- 0.15	300.0	+/- 0.5	SMM
1989	21	23:31:53	4.70	+/- 0.15	300.0	+/- 0.5	SMM

Structure being measured:

Top of Flat Front

OUTPUT:

START TIME:

Event began at $t = 0 + 0.374E+01 \pm 0.105E+01$ [minutes]

In more convenient units:

Event began at DOY 21 21: 4 $\pm 0.105E+01$ [minutes]

Origin defined at DOY 21 21: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 283. \pm 34. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.909E+00 \pm 0.349E+00 [solar radii]
c(2) = 0.244E-01 \pm 0.290E-02 [radii/min]
c(2) = 0.283E+03 \pm 0.336E+02 [km/sec]
c(3) = 0.000E+00 \pm 0.000E+00 [radii/min**2]
c(3) = 0.000E+00 \pm 0.000E+00 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

error in c(1)= 0.40910E+00 [radii] see Bevington pg. 114

error in c(2)= 0.35500E-02 [radii/min] see Bevington pg. 114

ANGULAR INFORMATION:

ANGULAR VELOCITY = 0.0000E+00 \pm 0.0000E+00[radians/sec]

The computed ANGULAR coefficients and errors FROM NLLST2 are:

a(1) = 300. +/- 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 21:58 = 0. km/sec

The TOTAL velocity at 21:58 = 283. km/sec

The TANGENTIAL velocity at 22:31 = 0. km/sec

The TOTAL velocity at 22:31 = 283. km/sec

The TANGENTIAL velocity at 23:15 = 0. km/sec

The TOTAL velocity at 23:15 = 283. km/sec

The TANGENTIAL velocity at 23:31 = 0. km/sec

The TOTAL velocity at 23:31 = 283. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 1.01

Standard Deviation in start time measurement = 0.368E+02

Error in time = 0.15172E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.391E-01

Reduced Chi Squared = 0.108E+00

Chi Squared = 0.216E+00

The probability for exceeding chi square = 0.962E+00

The correlation coefficient = 0.979E+00

The probability that no LINEAR correlation exists between the variables = 0.2087E-01

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
1989	21	21:58:14	2.60	+/- 0.20	300.0	+/- 0.5	SMM
1989	21	22:31:18	2.90	+/- 0.15	300.0	+/- 0.5	SMM
1989	21	23:15:22	4.20	+/- 0.15	300.0	+/- 0.5	SMM
1989	21	23:31:53	4.70	+/- 0.15	300.0	+/- 0.5	SMM

Structure being measured:

Top of Flat Front

OUTPUT:

START TIME:

tstart=DOY 21 21:44 from derivative = 0

Event begins at 2.53 Solar Radii

Origin defined at DOY 21 21: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.743E-01 +/- 0.192E-01 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.291E+01 +/- 0.536E+00 [solar radii]
c(2) = -0.171E-01 +/- 0.108E-01 [radii/min]
c(2) = -0.198E+03 +/- 0.125E+03 [km/sec]
c(3) = 0.192E-03 +/- 0.496E-04 [radii/min**2]
c(3) = 0.743E-01 +/- 0.192E-01 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.66327E+00 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.26606E+00 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.13942E-01 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.59175E-02 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.65805E-04 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.28341E-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) = 300. +/- 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 21:58 = 0. km/sec

The TOTAL velocity at 21:58 = 62. km/sec

The TANGENTIAL velocity at 22:31 = 0. km/sec

The TOTAL velocity at 22:31 = 209. km/sec

The TANGENTIAL velocity at 23:15 = 0. km/sec

The TOTAL velocity at 23:15 = 406. km/sec

The TANGENTIAL velocity at 23:31 = 0. km/sec

The TOTAL velocity at 23:31 = 479. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 1.01

Standard Deviation in start time measurement = 0.368E+02

Value of reduced Chi Squared returned from nllst2 = 0.689E-02

Reduced Chi Squared = 0.357E-01

Chi Squared = 0.357E-01

The probability for exceeding chi square = 0.934E+00

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 = 0.9226E+00

The correlation between the data and the time**2 term = 0.9568E+00

The correlation between the data and the complete equation of motion = 0.9959E+00

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