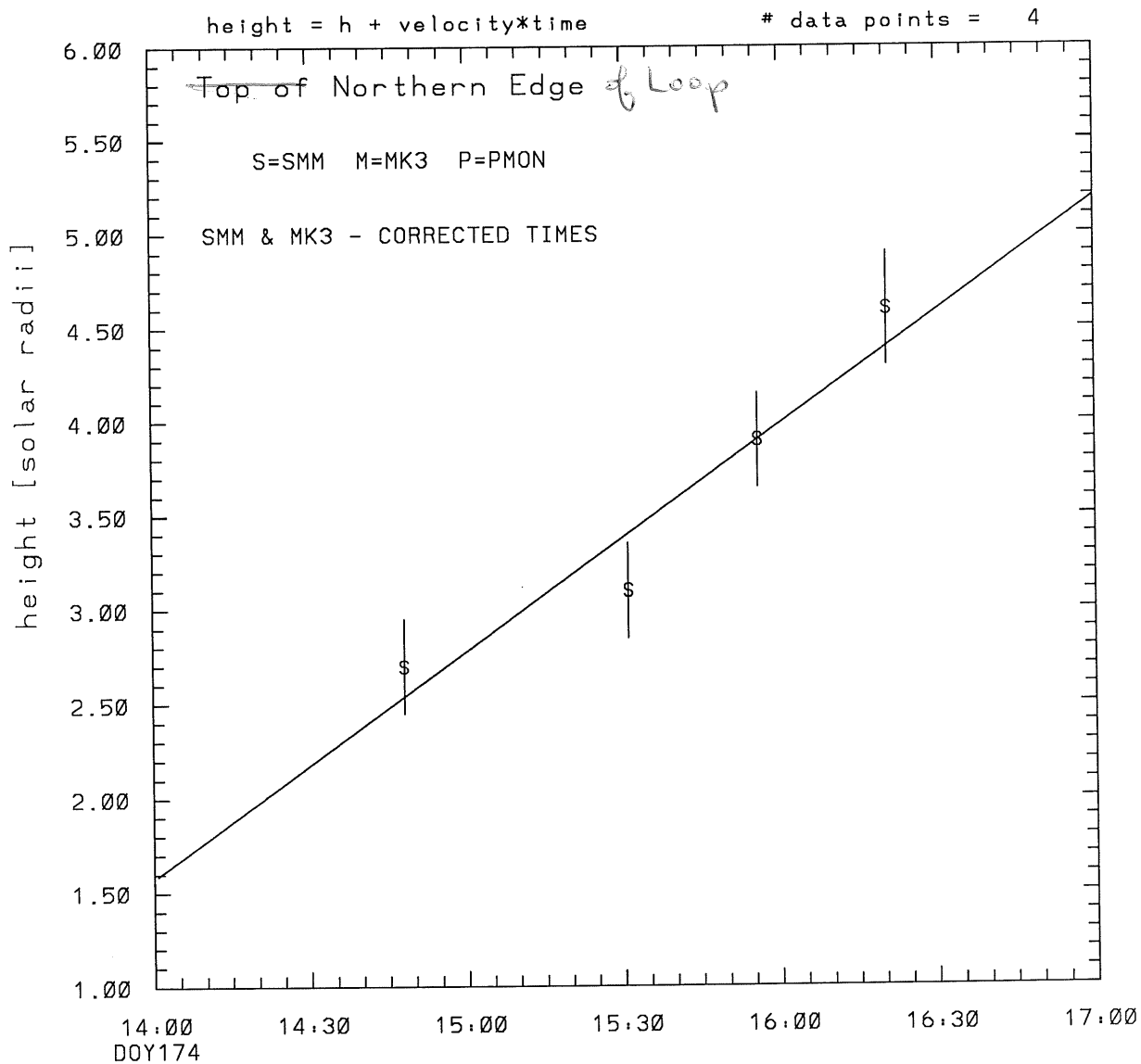
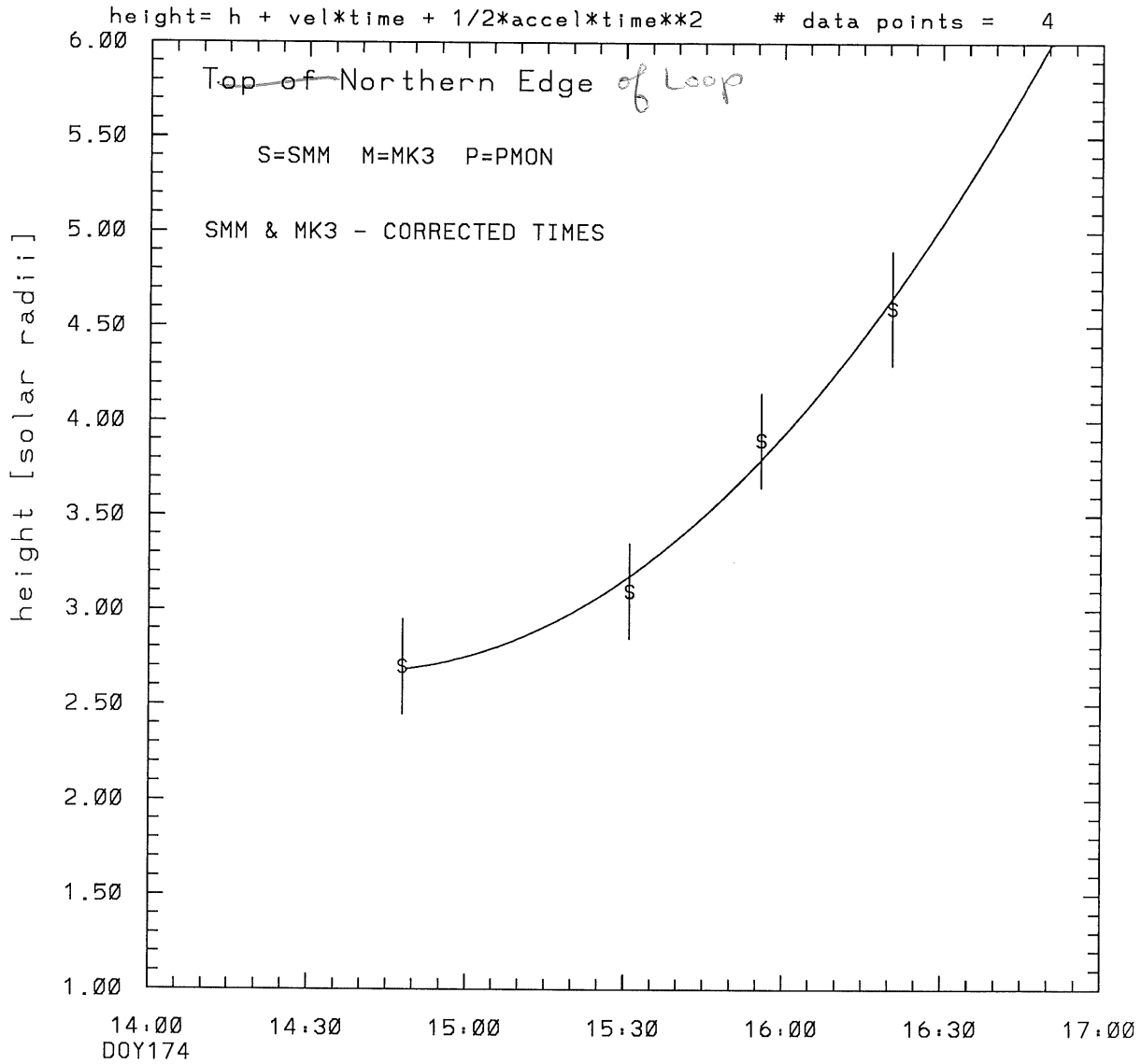


SMM C/P 1989 DOY174 240 +/- 0 degrees



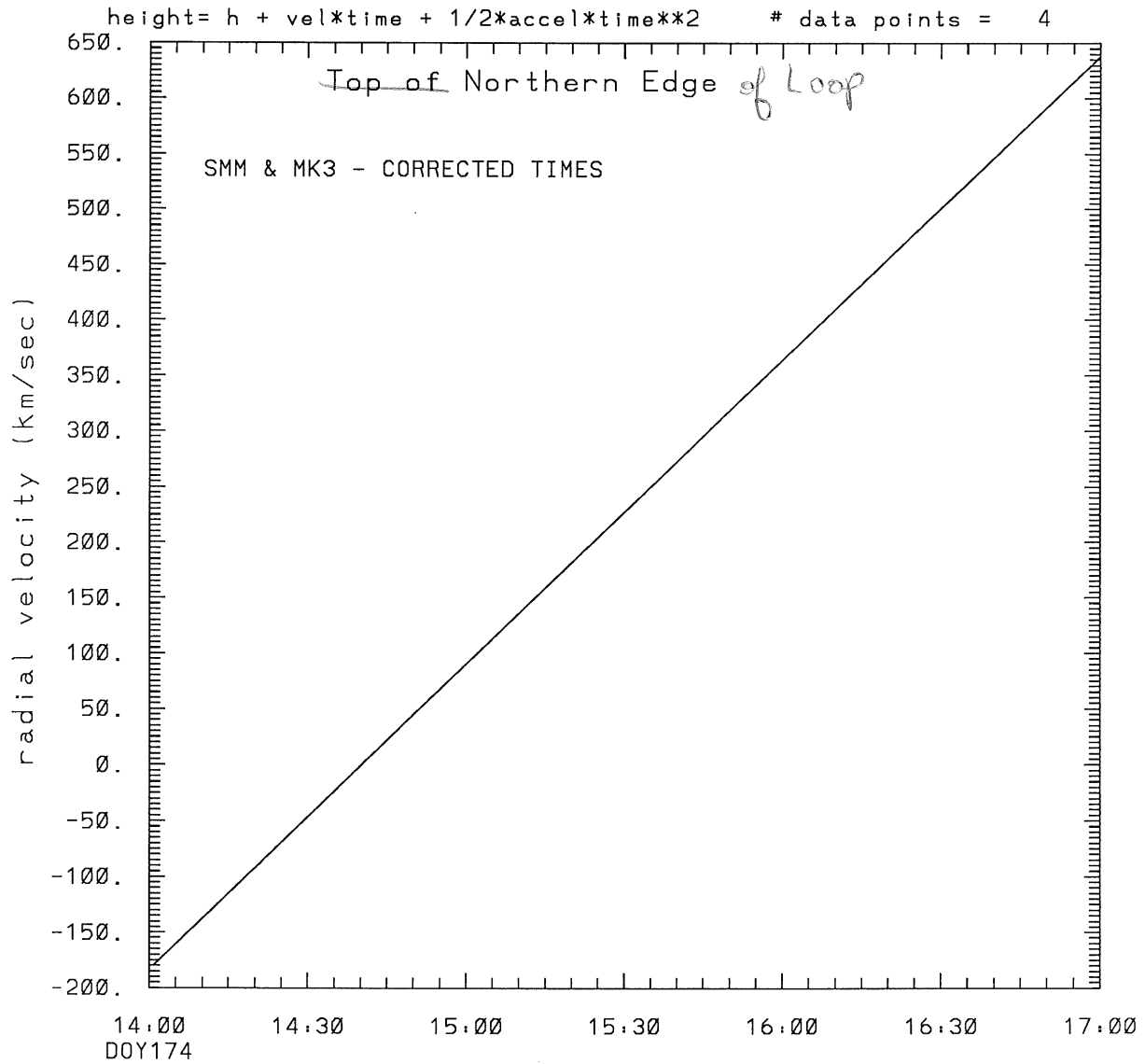
tstart=DOY174 13:33 +/- 4.2 [min.]
radial velocity= 233. +/- 40. [km/sec]

SMM C/P 1989 DOY174 240 +/- 0 degrees



tstart=DOY174 14.40 from derivative=0
Event begins at 2.67 Solar Radii
radial acceleration = 0.0760 +/- 0.0210 [km/sec**2]

SMM C/P 1989 DOY174 240 +/- 0 degrees



tstart=DOY174 14:40 from derivative=0
Event begins at 2.67 Solar Radii
radial acceleration= $0.760E-01$ km/sec**2

This is a 1 order run

INPUT:

year	day	time	radii	error in radius	angle	error in angle	datatype
1989	174	14:47:58	2.70	+/- 0.25	240.0	+/- 0.5	SMM
1989	174	15:31: 2	3.10	+/- 0.25	240.0	+/- 1.0	SMM
1989	174	15:55:50	3.90	+/- 0.25	240.0	+/- 1.0	SMM
1989	174	16:20:35	4.60	+/- 0.30	240.0	+/- 1.0	SMM

Structure being measured:
Top of Northern Edge of Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.287E+02 +/- 0.415E+01$ [minutes]
In more convenient units:
Event began at DOY 174 13:33 +/- 0.415E+01 [minutes]

Origin defined at DOY174 14: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 233. +/- 40. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

$c(1) = 0.158E+01 +/- 0.348E+00$ [solar radii]
 $c(2) = 0.201E-01 +/- 0.345E-02$ [radii/min]
 $c(2) = 0.233E+03 +/- 0.400E+02$ [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 $c(1) = 0.43099E+00$ [radii] see Bevington pg. 114
error in $c(2) = 0.41202E-02$ [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) = 240. +/- 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 14:47 = 0. km/sec

The TOTAL velocity at 14:47 = 233. km/sec

The TANGENTIAL velocity at 15:31 = 0. km/sec

The TOTAL velocity at 15:31 = 233. km/sec

The TANGENTIAL velocity at 15:55 = 0. km/sec

The TOTAL velocity at 15:55 = 233. km/sec

The TANGENTIAL velocity at 16:20 = 0. km/sec

The TOTAL velocity at 16:20 = 233. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.85

Standard Deviation in start time measurement = 0.342E+02

Error in time = 0.19860E+02 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.528E-01

Reduced Chi Squared = 0.187E+00

Chi Squared = 0.374E+00

The probability for exceeding chi square = 0.949E+00

The correlation coefficient = 0.963E+00

The probability that no LINEAR correlation exists between the variables = 0.3713E-01

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
1989	174	14:47:58	2.70	+/- 0.25	240.0	+/- 0.5	SMM	
1989	174	15:31: 2	3.10	+/- 0.25	240.0	+/- 1.0	SMM	
1989	174	15:55:50	3.90	+/- 0.25	240.0	+/- 1.0	SMM	
1989	174	16:20:35	4.60	+/- 0.30	240.0	+/- 1.0	SMM	

Structure being measured:

Top-of Northern Edge of Loop

OUTPUT:

START TIME:

tstart=DOY174 14:40 from derivative = 0

Event begins at 2.67 Solar Radii

Origin defined at DOY174 14: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.760E-01 +/- 0.210E-01 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.299E+01 +/- 0.420E+00 [solar radii]
c(2) = -0.158E-01 +/- 0.100E-01 [radii/min]
c(2) = -0.183E+03 +/- 0.116E+03 [km/sec]
c(3) = 0.197E-03 +/- 0.542E-04 [radii/min**2]
c(3) = 0.760E-01 +/- 0.210E-01 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.59098E+00 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.23360E+00 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.13885E-01 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.65123E-02 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.73799E-04 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.35600E-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) = 240. +/- 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 14:47 = 0. km/sec

The TOTAL velocity at 14:47 = 36. km/sec

The TANGENTIAL velocity at 15:31 = 0. km/sec

The TOTAL velocity at 15:31 = 232. km/sec

The TANGENTIAL velocity at 15:55 = 0. km/sec

The TOTAL velocity at 15:55 = 345. km/sec

The TANGENTIAL velocity at 16:20 = 0. km/sec

The TOTAL velocity at 16:20 = 458. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.85

Standard Deviation in start time measurement = 0.342E+02

Value of reduced Chi Squared returned from nllst2 = 0.105E-01

Reduced Chi Squared = 0.565E-01

Chi Squared = 0.565E-01

The probability for exceeding chi square = 0.919E+00

For a second order fit 3 correlation coefficients are given:

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

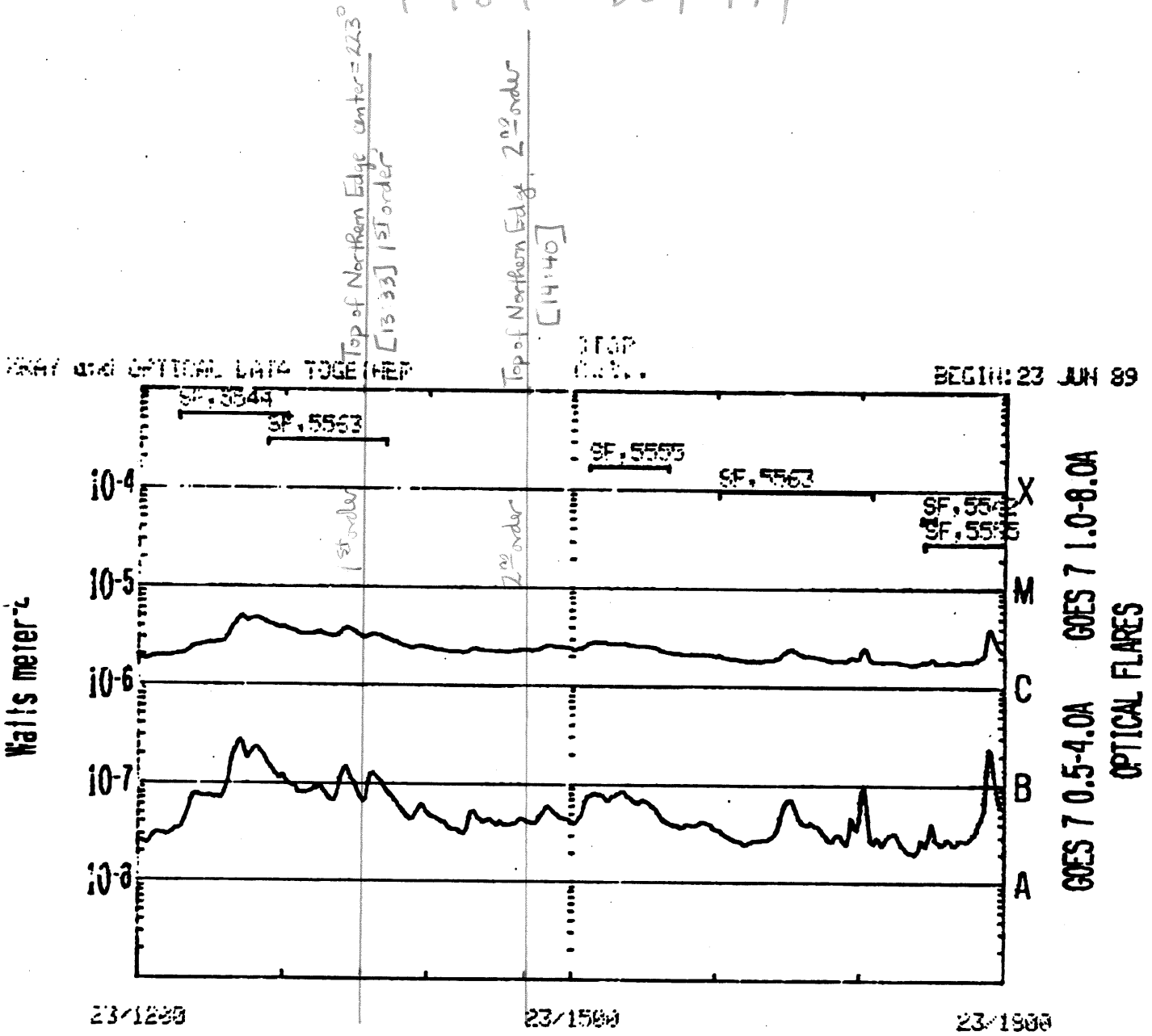
The correlation between the data and the term linear in time = 0.9393E+00

The correlation between the data and the time**2 term = 0.9515E+00

The correlation between the data and the complete equation of motion = 0.9901E+00

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

1989 DOY 174



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

END: 1643UT
23 JUN 89