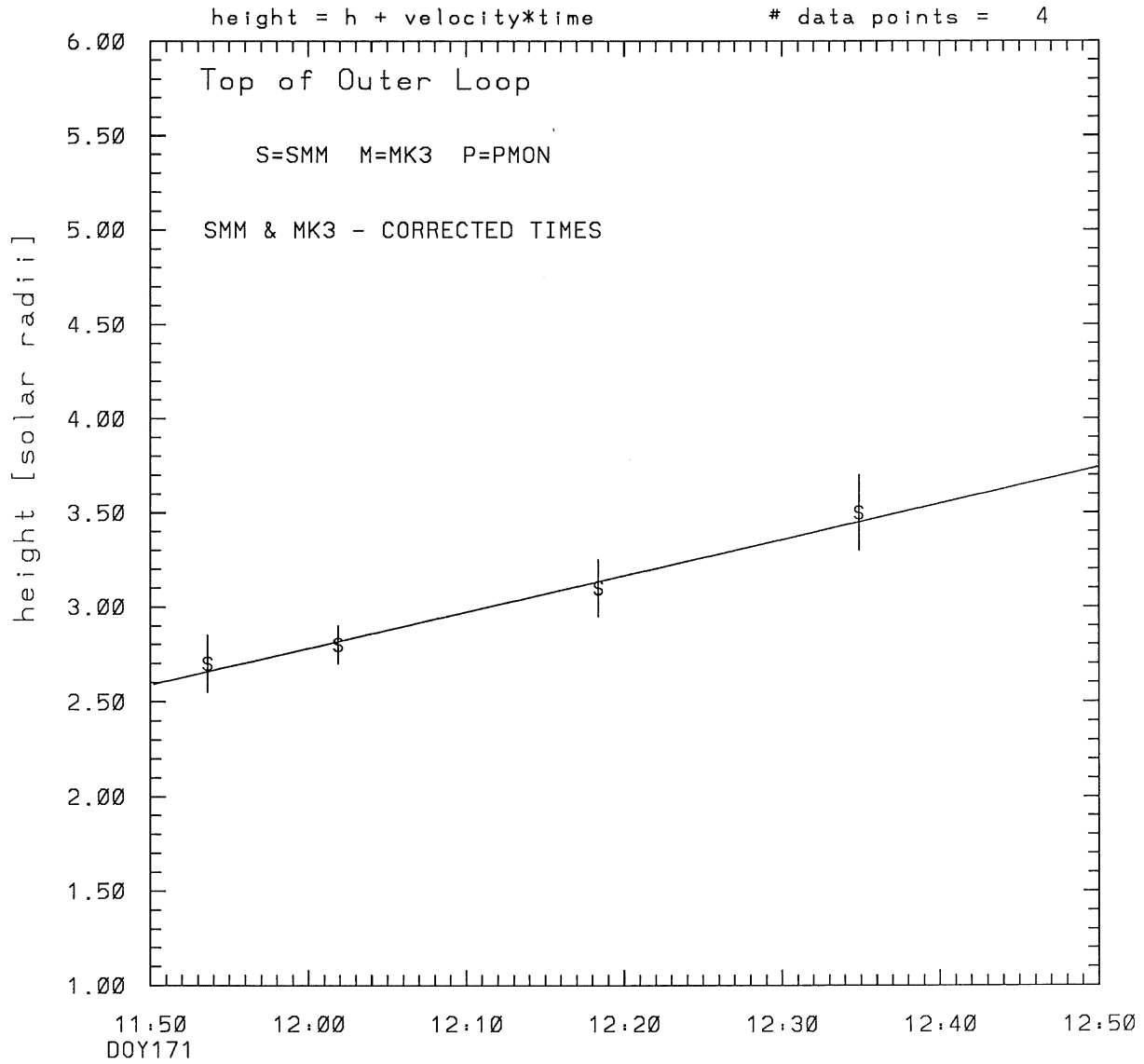
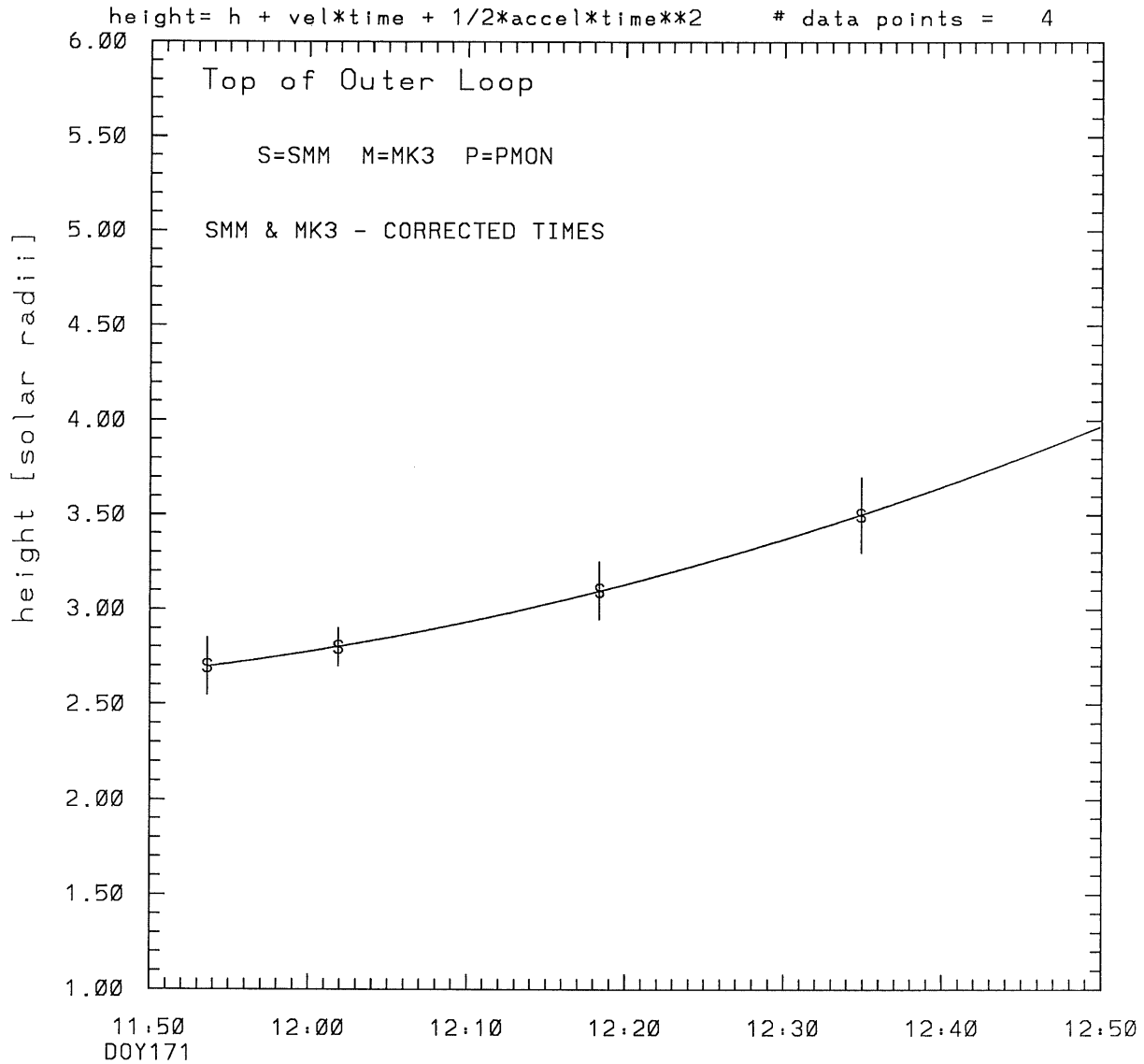


SMM C/P 1989 DOY171 335 +/- 0 degrees



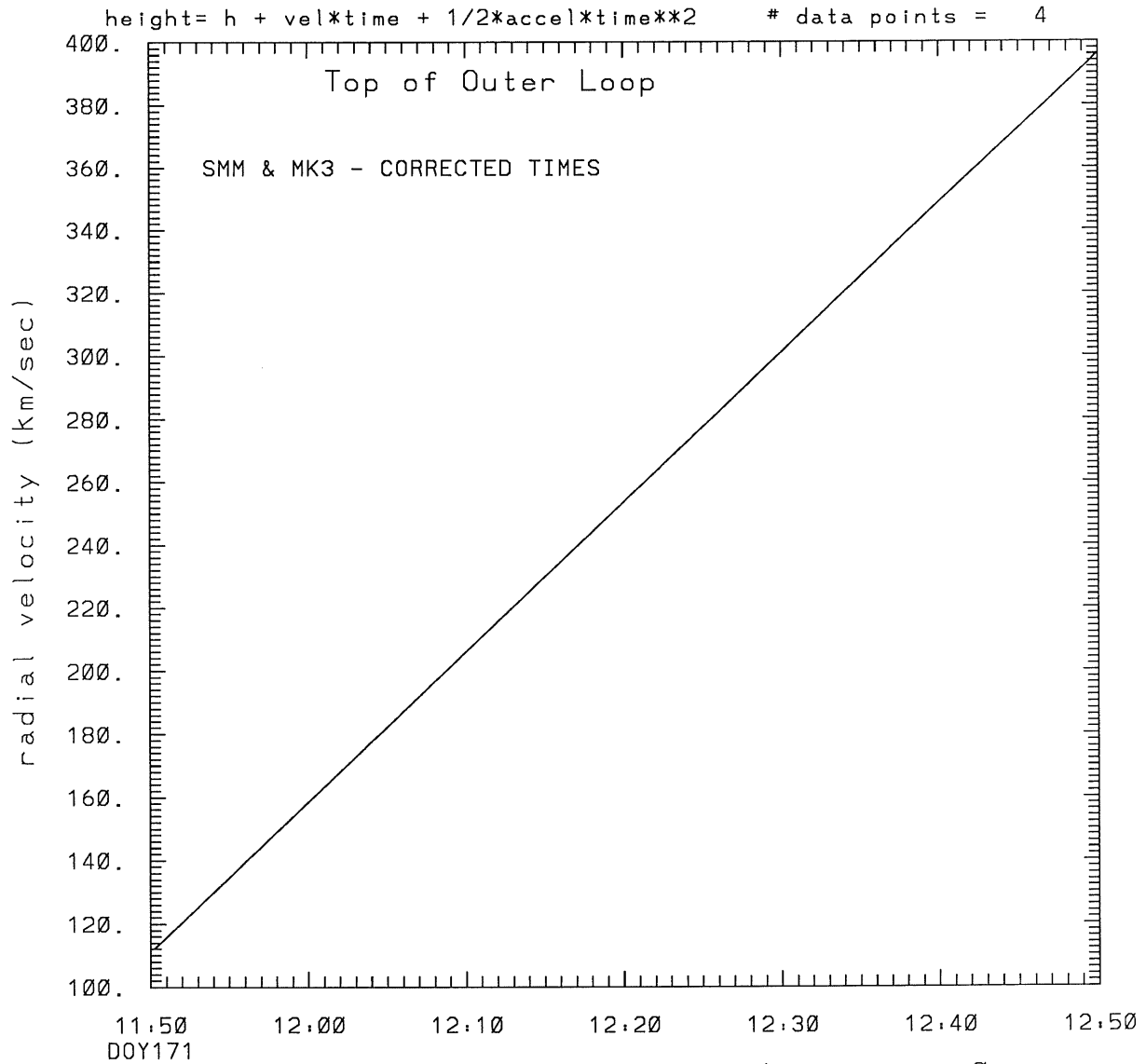
tstart=DOY171 10:29 +/- 3.9 [min.]
radial velocity= 223. +/- 17. [km/sec]

SMM C/P 1989 DOY171 335 +/- 0 degrees



tstart=DOY171 11:27 from derivative=0
Event begins at 2.55 Solar Radii
radial acceleration = 0.0793 +/- 0.0049 [km/sec**2]

SMM C/P 1989 DOY171 335 +/- 0 degrees



DOY171 tstart=DOY171 11:27 from derivative=0
Event begins at 2.55 Solar Radii
radial acceleration=0.793E-01 km/sec**2

1989 Day 171

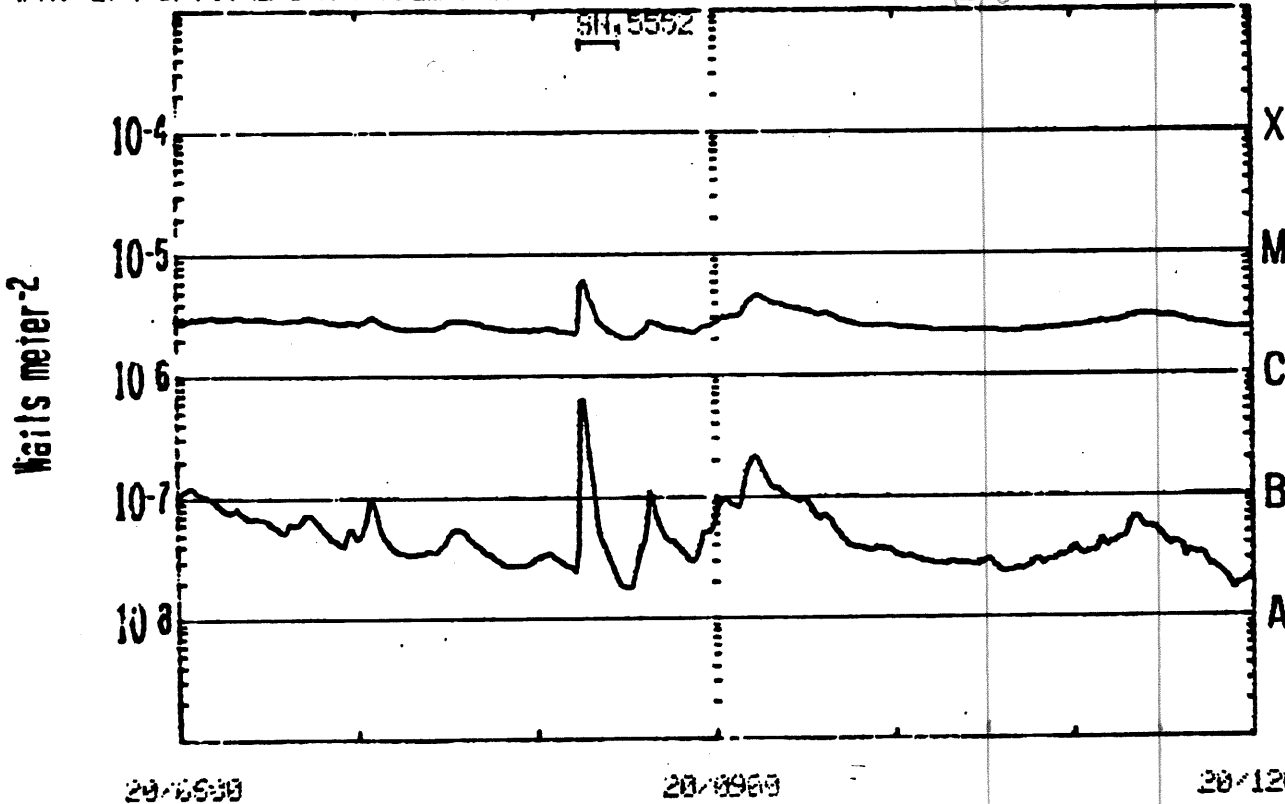
Top of Outer Loop
center = 330°, [10:29], 1st order

Top of Outer Loop, 2nd order
[11:27]

WAY AND OPTICAL DATA TOGETHER

STOP
Net..

20/1200 BEGIN: 20 JUN 89



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

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

SAA's
NIGHT

ELN: 1522UT
24 JUN 89

This is a 1 order run

INPUT:

year	day	time	radii	error in radius	angle	error in angle	datatype
1989	171	11:53:37	2.70	+/- 0.15	335.0	+/- 0.5	SMM
1989	171	12: 1:53	2.80	+/- 0.10	335.0	+/- 0.5	SMM
1989	171	12:18:23	3.10	+/- 0.15	335.0	+/- 1.0	SMM
1989	171	12:34:53	3.50	+/- 0.20	335.0	+/- 1.0	SMM

Structure being measured:
Top of Outer Loop

OUTPUT:

START TIME:

Event began at $t = 0 + -0.825E+02 +/- 0.386E+01$ [minutes]
In more convenient units:
Event began at DOY 171 10:29 +/- 0.386E+01 [minutes]

Origin defined at DOY171 11:50

RADIAL INFORMATION:

RADIAL VELOCITY = 223. +/- 17. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

- c(1) = 0.259E+01 +/- 0.310E-01 [solar radii]
- c(2) = 0.192E-01 +/- 0.143E-02 [radii/min]
- c(2) = 0.223E+03 +/- 0.165E+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)= 0.45612E-01 [radii] see Bevington pg. 114
error in c(2)= 0.16727E-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) = 335. +/- 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 11:53 = 0. km/sec

The TOTAL velocity at 11:53 = 223. km/sec

The TANGENTIAL velocity at 12: 1 = 0. km/sec

The TOTAL velocity at 12: 1 = 223. km/sec

The TANGENTIAL velocity at 12:18 = 0. km/sec

The TOTAL velocity at 12:18 = 223. km/sec

The TANGENTIAL velocity at 12:34 = 0. km/sec

The TOTAL velocity at 12:34 = 223. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.36

Standard Deviation in start time measurement = 0.158E+02

Error in time = 0.38976E+01 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.136E-02

Reduced Chi Squared = 0.767E-02

Chi Squared = 0.153E-01

The probability for exceeding chi square = 0.999E+00

The correlation coefficient = 0.993E+00

The probability that no LINEAR correlation exists between the variables = 0.6610E-02

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

This is a 2 order run

INPUT:

year	day	time	error in radii	error in radius	error in angle	error in angle	datatype
1989	171	11:53:37	2.70 +/- 0.15	2.70 +/- 0.15	335.0 +/- 0.5	335.0 +/- 0.5	SMM
1989	171	12: 1:53	2.80 +/- 0.10	2.80 +/- 0.10	335.0 +/- 0.5	335.0 +/- 0.5	SMM
1989	171	12:18:23	3.10 +/- 0.15	3.10 +/- 0.15	335.0 +/- 1.0	335.0 +/- 1.0	SMM
1989	171	12:34:53	3.50 +/- 0.20	3.50 +/- 0.20	335.0 +/- 1.0	335.0 +/- 1.0	SMM

Structure being measured:
Top of Outer Loop

OUTPUT:

START TIME:

tstart=DOY171 11:27 from derivative = 0
Event begins at 2.55 Solar Radii
Origin defined at DOY171 11:50

RADIAL INFORMATION:

RADIAL ACCELERATION = 0.793E-01 +/- 0.487E-02 km/sec**2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.266E+01 +/- 0.552E-02 [solar radii]
c(2) = 0.956E-02 +/- 0.613E-03 [radii/min]
c(2) = 0.111E+03 +/- 0.712E+01 [km/sec]
c(3) = 0.205E-03 +/- 0.126E-04 [radii/min**2]
c(3) = 0.793E-01 +/- 0.487E-02 [km/sec**2]

The computed ERRORS in coefficients [BEVINGTON] are:

Approximate error in c(1) = 0.71816E-02 [radii] Bevington pg 154 (8-30)
Exact error in c(1) = 0.38617E-02 [radii] Bevington pg 154 (8-28)
Approximate error in c(2) = 0.78881E-03 [radii/min] Bevington pg 154 (8-30)
Exact error in c(2) = 0.44311E-03 [radii/min] Bevington pg 154 (8-28)
Approximate error in c(3) = 0.15763E-04 [radii/min**] Bevington pg 154 (8-30)
Exact error in c(3) = 0.84583E-05 [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) = 335. +/- 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 11:53 = 0. km/sec

The TOTAL velocity at 11:53 = 128. km/sec

The TANGENTIAL velocity at 12: 1 = 0. km/sec

The TOTAL velocity at 12: 1 = 167. km/sec

The TANGENTIAL velocity at 12:18 = 0. km/sec

The TOTAL velocity at 12:18 = 246. km/sec

The TANGENTIAL velocity at 12:34 = 0. km/sec

The TOTAL velocity at 12:34 = 324. km/sec

The following info is for estimating goodness of the fit

Fit is ok [ier=1]

Standard Deviation in the height = 0.36

Standard Deviation in start time measurement = 0.158E+02

Value of reduced Chi Squared returned from nllst2 = 0.153E-04

Reduced Chi Squared = 0.745E-04

Chi Squared = 0.745E-04

The probability for exceeding chi square = 0.997E+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 = 0.8621E+00

The correlation between the data and the time**2 term = 0.8589E+00

The correlation between the data and the complete equation of motion = 0.9991E+00

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