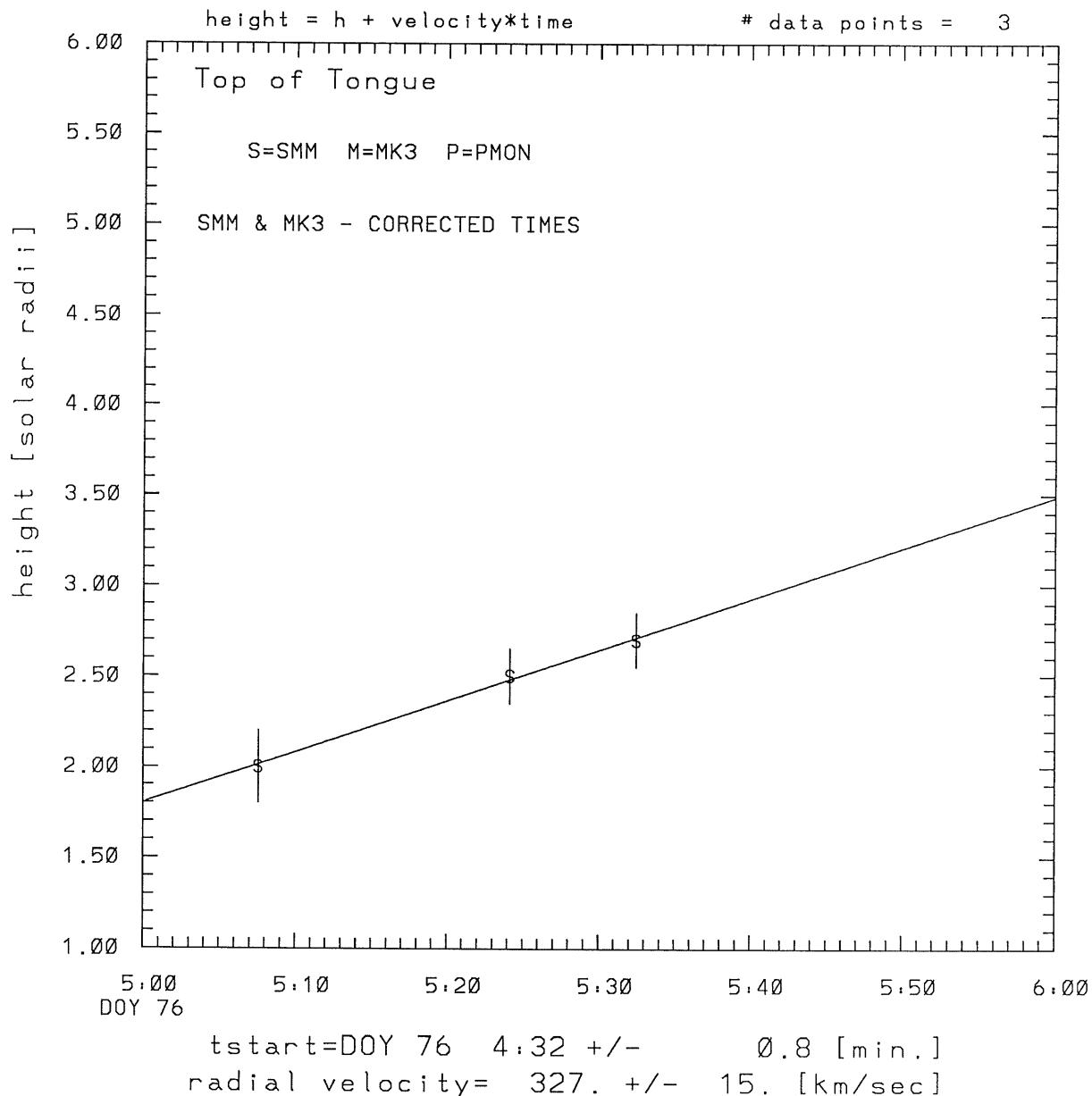
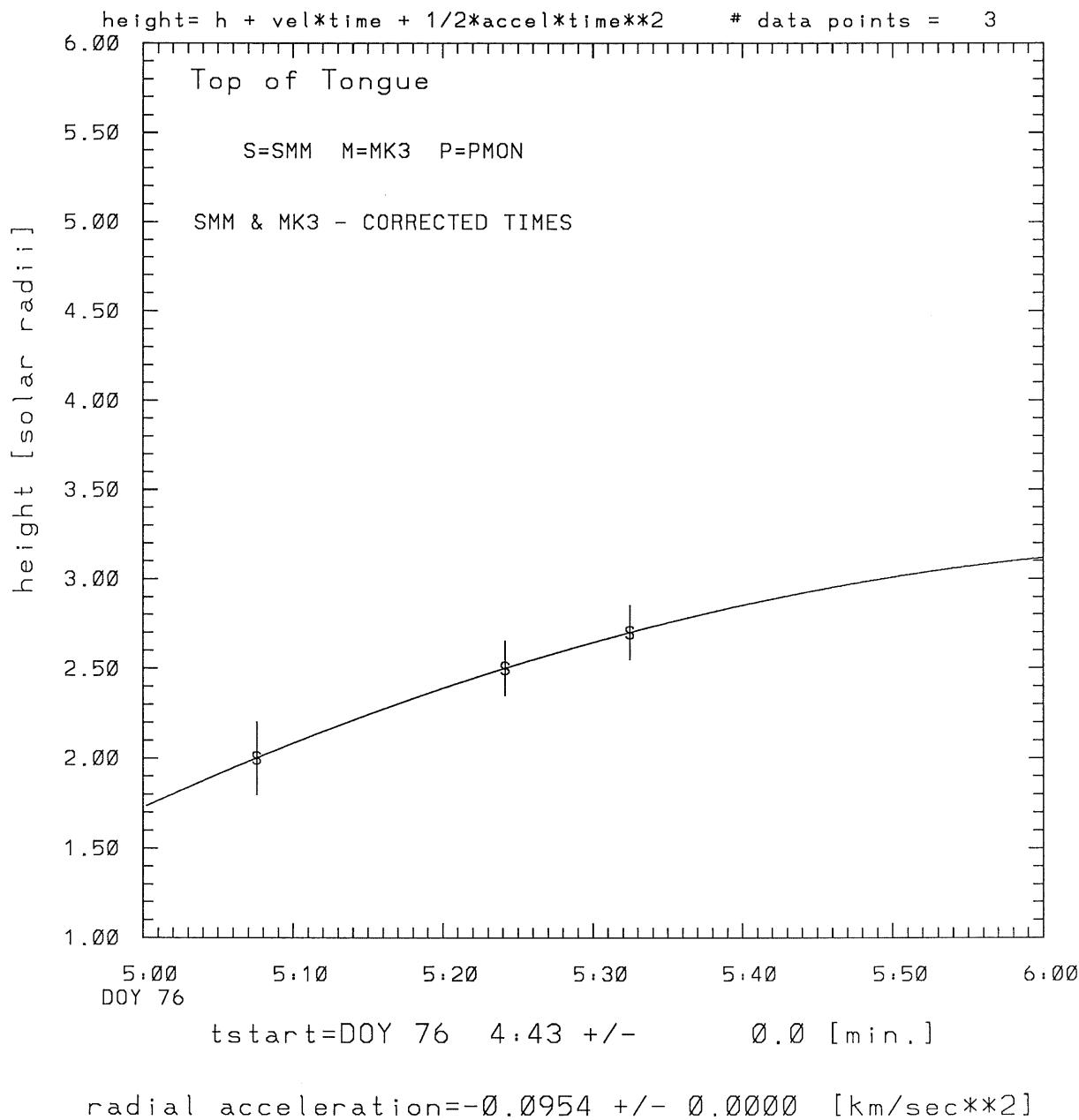


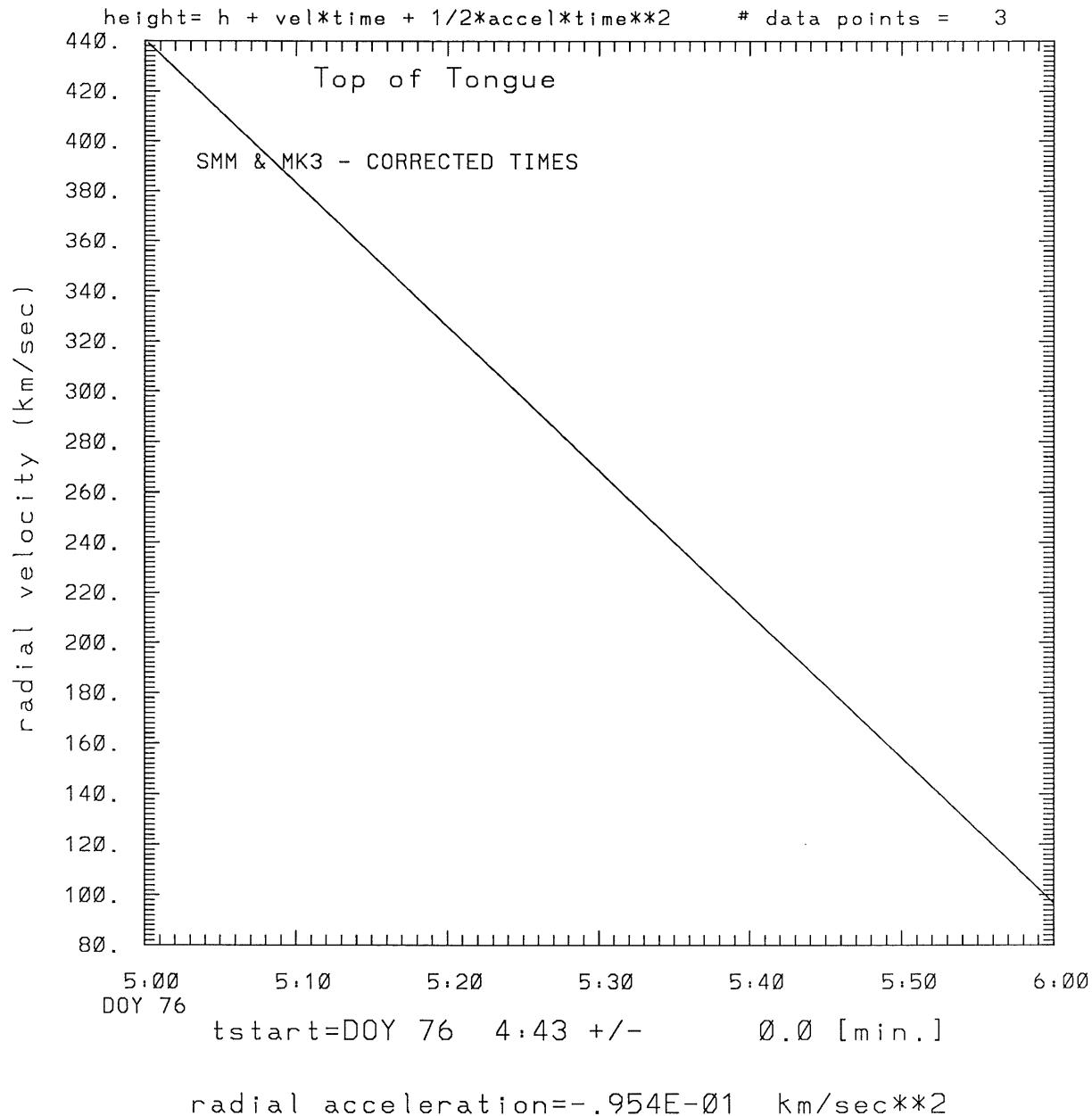
SMM C/P 1989 DOY 76 130 +/- 0 degrees



SMM C/P 1989 DOY 76 130 +/- 0 degrees



SMM C/P 1989 DOY 76 130 +/- 0 degrees



1989 Day 076

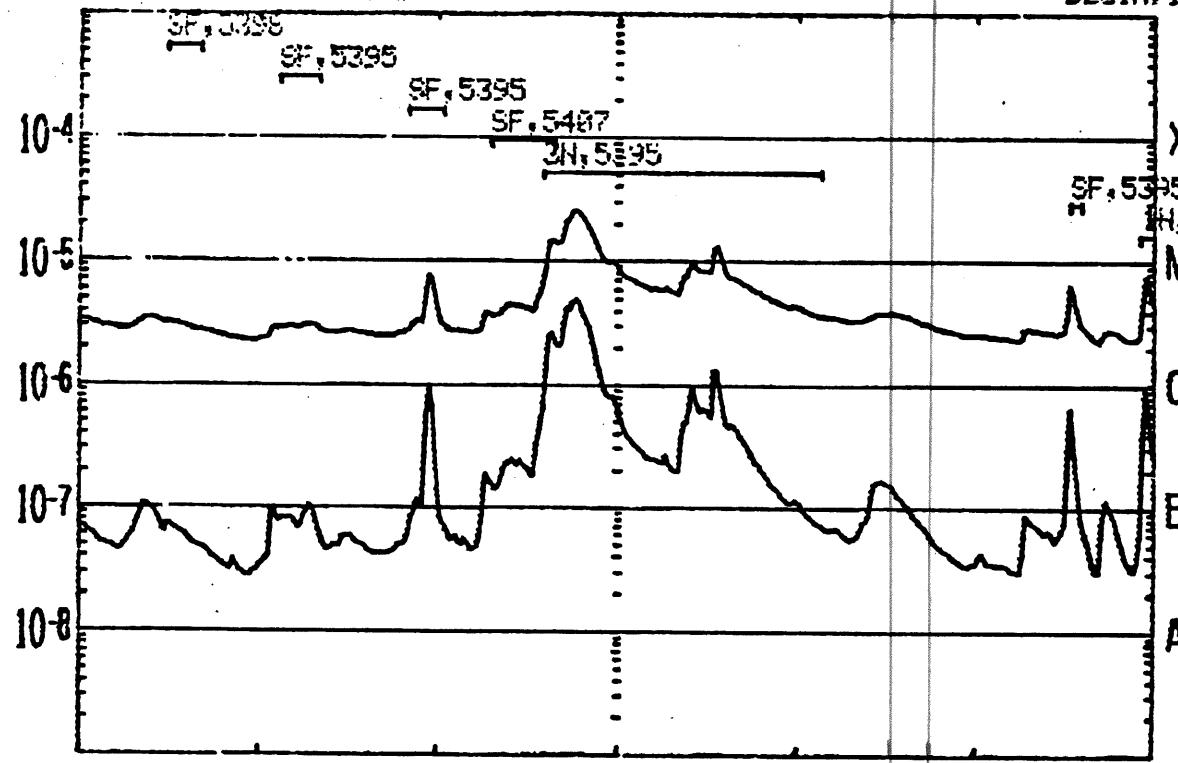
SOHO and OPTICAL DATA TOGETHER

STOP  
Rec.

1<sup>st</sup> order  
2<sup>nd</sup> order

BEGIN: 17 MAR 89

Watts meter<sup>-2</sup>



GOES 7 0.5-4.0A    GOES 7 0.5-4.0A

OPTICAL FLARES

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

RUN: 1934UT  
19 MAR 89

Top of Tongue, Center = 125°  
[4:32], 1<sup>st</sup> order

\*\*\*\*\*

This is a 1 order run

\*\*\*\*\*

\*\*\*\*\*

INPUT:

\*\*\*\*\*

| year | doy | time    | radii | radius   | error in angle | error in angle | datatype |
|------|-----|---------|-------|----------|----------------|----------------|----------|
| 1989 | 76  | 5: 7:33 | 2.00  | +/- 0.20 | 130.0          | +/- 0.5        | SMM      |
| 1989 | 76  | 5:24: 8 | 2.50  | +/- 0.15 | 130.0          | +/- 0.5        | SMM      |
| 1989 | 76  | 5:32:28 | 2.70  | +/- 0.15 | 130.0          | +/- 0.5        | SMM      |

\*\*\*\*\*

Structure being measured:

Top of Tongue

\*\*\*\*\*

\*\*\*\*\*

OUTPUT:

\*\*\*\*\*

START TIME:

Event began at t = 0 + -0.284E+02 +/- 0.784E+00 [minutes]

In more convenient units:

Event began at DOY 76 4:32 +/- 0.784E+00 [minutes]

Origin defined at DOY 76 5: 0

RADIAL INFORMATION:

RADIAL VELOCITY = 327. +/- 15. km/sec

The computed RADIAL coefficients and errors FROM NLLST2 are:

|        |           |               |                |
|--------|-----------|---------------|----------------|
| c(1) = | 0.180E+01 | +/- 0.321E-01 | [solar radii]  |
| c(2) = | 0.282E-01 | +/- 0.126E-02 | [radii/min]    |
| c(2) = | 0.327E+03 | +/- 0.146E+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)= 0.36888E-01 [radii] see Bevington pg. 114

error in c(2)= 0.15526E-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) = 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 5:7 = 0. km/sec

The TOTAL velocity at 5:7 = 327. km/sec

The TANGENTIAL velocity at 5:24 = 0. km/sec

The TOTAL velocity at 5:24 = 327. km/sec

The TANGENTIAL velocity at 5:32 = 0. km/sec

The TOTAL velocity at 5:32 = 327. 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 = 0.104E+02

Error in time = 0.98922E+00 using best fit method

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

Value of reduced Chi Squared returned from nllst2 = 0.415E-03

Reduced Chi Squared = 0.159E-02

Chi Squared = 0.159E-02

The probability for exceeding chi square = 0.984E+00

The correlation coefficient = 0.999E+00

The probability that no LINEAR correlation exists between the variables = 0.3421E-01

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

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This is a 2 order run

\*\*\*\*\*

\*\*\*\*\*

INPUT:

\*\*\*\*\*

| year | doy | time    | radii | radius   | error in | angle   | error in | datatype |
|------|-----|---------|-------|----------|----------|---------|----------|----------|
| 1989 | 76  | 5: 7:33 | 2.00  | +/- 0.20 | 130.0    | +/- 0.5 | SMM      |          |
| 1989 | 76  | 5:24: 8 | 2.50  | +/- 0.15 | 130.0    | +/- 0.5 | SMM      |          |
| 1989 | 76  | 5:32:28 | 2.70  | +/- 0.15 | 130.0    | +/- 0.5 | SMM      |          |

\*\*\*\*\*

Structure being measured:

Top of Tongue

\*\*\*\*\*

\*\*\*\*\*

OUTPUT:

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START TIME:

Event began at t = 0 + -0.172E+02 +/- 0.000E+00 [minutes]

In more convenient units:

Event began at DOY 76 4:43 +/- 0.000E+00 [minutes]

Origin defined at DOY 76 5: 0

RADIAL INFORMATION:

RADIAL ACCELERATION = -0.954E-01 +/- 0.843E-05 km/sec\*\*2

The computed RADIAL coefficients and errors FROM NLLST2 are:

c(1) = 0.173E+01 +/- 0.755E-05 [solar radii]  
c(2) = 0.380E-01 +/- 0.882E-06 [radii/min]  
c(2) = 0.440E+03 +/- 0.102E-01 [km/sec]  
c(3) = -0.247E-03 +/- 0.218E-07 [radii/min\*\*2]  
c(3) = -0.954E-01 +/- 0.843E-05 [km/sec\*\*2]

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 5: 7 = 0. km/sec  
The TOTAL velocity at 5: 7 = 397. km/sec

The TANGENTIAL velocity at 5:24 = 0. km/sec  
The TOTAL velocity at 5:24 = 302. km/sec

The TANGENTIAL velocity at 5:32 = 0. km/sec  
The TOTAL velocity at 5:32 = 255. km/sec

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The following info is for estimating goodness of the fit  
\*\*\*\*\*

Number data points = number of coefficients. No error analysis is possible.

Correlation coefficient is not computable!

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