
Subject: BUG in IDL 5.0.2 VERSION OF POLY_FIT
Posted by [Jack Saba](#) on Tue, 16 Sep 1997 07:00:00 GMT
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Name: Jack Saba
E-mail Address: jack@magus.stx.com
IDL version: 5.0.2
Platform and OS: HP 9000/700 HP-UX 10.20

Description of Behavior:

POLY_FIT returns "Singular matrix detected" with data that ran fine under IDL 4.

Example Code:

```
t = FINDGEN(1000)
Unconvolved = a 1000-element perfect Gaussian centered near t=500.
UFit = GAUSSFIT ( t, Unconvolved, UCoefs)
```

```
> % Compiled module: GAUSSFIT.
> % Compiled module: POLY_FIT.
> % POLY_FIT: Singular matrix detected.
> % Error occurred at: POLY_FIT      104
> /usr/local/rsi/idl_5/lib/poly_fit.pro
> %          GAUSSFIT      161
> /usr/local/rsi/idl_5/lib/gaussfit.pro
> %          $MAIN$      45 anal.pro
```

Known Workarounds or Fixes:

See below

RSI Technical Support Response:

The problem you are experiencing is from an error introduced into POLY_FIT(). The following lines should be changed such that the error does not occur -- on lines 103/104 (I believe) of POLY_FIT(), change

```
CORRM = INVERT(CORRM, status) ;INVERT MATRIX.
    if status ne 0 then message, "Singular matrix detected."
```

to

```
CORRM = INVERT(CORRM, status) ;INVERT MATRIX.
```

```
if status eq 1 then message, "Singular matrix detected.", $  
    /INFORMATIONAL ;optional INFORMATIONAL keyword
```

The condition exists because a "2" is returned in the STATUS positional parameter for ill-conditioned Vander Monde matrices. Often with these matrices, they are ill-conditioned though the solution from POLY_FIT() is sound.

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Jack Saba <jack@magus.stx.com>
