
Subject: help with curve fitting

Posted by [paulartcoelho](#) on Sat, 03 Aug 2013 23:29:47 GMT

[View Forum Message](#) <> [Reply to Message](#)

hello,

i'm trying to use idl to fit (x,y) data using MPFIT by C. Markwardt. This is my first time doing curve fitting with IDL. I need to fit an exponential function of the form:

$$y = p[0]*(p[1]^{(x/p[2])})+p[3]$$

which I empirically found to be a good fit to the data (by eye, plotting the data and overplotting the function with some parameter guesses). By eye as well I sorted out good first guesses (don't know if i can attach a picture here). Nevertheless, I can't make it fit:

```
IDL> print,expr
```

```
P[0]*(p[1]^(x/p[2]))+p[3]
```

```
IDL> print,start
```

```
4.00000 -0.870000 180.000 1.00000
```

```
IDL> result=mpfitexpr(expr,l,f,1,start)
```

```
Iter 1 CHI-SQUARE = -NaN
```

```
P(0) = 4.00000
```

```
P(1) = -0.870000
```

```
P(2) = 180.000
```

```
P(3) = 1.00000
```

```
% MPFITEXPR: ERROR: parameter or function value(s) have become infinite; check model function for
```

```
over- and underflow
```

```
% Program caused arithmetic error: Floating illegal operand
```

Could someone point me out in the direction to solve this? Plotting the function with the same parameters and datasets do not generate any under- overflow error.

many thx

Paula

Subject: Re: help with curve fitting

Posted by [paulartcoelho](#) on Tue, 06 Aug 2013 01:02:10 GMT

[View Forum Message](#) <> [Reply to Message](#)

never mind, the initial parameters were producing complex numbers.

it should have been

```
start=[-4.,0.87,180.,1].
```

i wonder how IDL plots complex numbers without complaining... :)

p.
