## Subject: Re: Fitting a function with multiple independent variables Posted by maarten on Wed, 20 Apr 2005 08:06:04 GMT

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Hello,

You can use the built in routine curvefit. cheers maarten

```
Sean Davis wrote:
```

```
> Hello all,
```

\_

- > I am currently trying to fit a function with multiple independent variables.
- > I have used IDL's REGRESS routine, which does a multiple linear regression,
- > such as fits to something like:

```
Y = 5 + 3*X1 - 4*X2
```

>

- > But what if I want one of my independent variables to vary non-linearly,
- > like
- $Y = 5 + 3*X1^2 4*X2$

>

- > (I assume this is called non-linear regression?)
- > I've heard of Craig M.'s fitting library, so I suppose I should look there.
- > But for the record, are there any built-in programs in IDL to do this???
- > Thanks,
- > Sean

>

Subject: Re: Fitting a function with multiple independent variables Posted by Sean Davis on Wed, 20 Apr 2005 16:30:24 GMT

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## maarten wrote:

- > Hello,
- \_
- > You can use the built in routine curvefit.
- > cheers maarten
- >
- > Sean Davis wrote:
- >> Hello all,
- >>
- >> I am currently trying to fit a function with multiple independent

```
>> variables. I have used IDL's REGRESS routine, which does a multiple
>> linear regression, such as fits to something like:
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>> I've heard of Craig M.'s fitting library, so I suppose I should look
>> there. But for the record, are there any built-in programs in IDL to do
>> this???
>>
>> Thanks,
>> Sean
>>
Actually, CURVEFIT does not work for that task. CURVEFIT fits a function
with multiple parameters (a,b,c), like
y = a^*x + b^*x^2 + c^*exp(x),
but not functions with multiple independent variables AND paramaters, like
y = a*x1 + b*x2^2 + c*exp(x3)
-Sean
```

Subject: Re: Fitting a function with multiple independent variables Posted by Craig Markwardt on Wed, 20 Apr 2005 18:31:44 GMT View Forum Message <> Reply to Message

Sean Davis <seand@colorado.edu> writes:

```
    Actually, CURVEFIT does not work for that task. CURVEFIT fits a function
    with multiple parameters (a,b,c), like
    y = a*x + b*x^2 + c*exp(x),
    but not functions with multiple independent variables AND paramaters, like
    y = a*x1 + b*x2^2 + c*exp(x3)
```

This is not true. CURVEFIT does nonlinear least squares, such as your second expression. The number of independent variables is irrelevant. You can have no independent variables if you want! The comments here:

Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response

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Subject: Re: Fitting a function with multiple independent variables Posted by Sean Davis on Wed, 20 Apr 2005 20:02:47 GMT View Forum Message <> Reply to Message

Problem Solved!!!

A Big thanks to Craig M. and his fitting routines!!! http://cow.physics.wisc.edu/~craigm/idl/idl.html

Specifically, I downloaded MPFITFUN.pro and MPFIT.pro

-Sean

maarten wrote:

- > Hello,
- >
- > You can use the built in routine curvefit.
- > cheers maarten
- >
- > Sean Davis wrote:
- >> Hello all,
- >>
- >> I am currently trying to fit a function with multiple independent
- >> variables. I have used IDL's REGRESS routine, which does a multiple
- >> linear regression, such as fits to something like:
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- >> Y = 5 + 3\*X1 4\*X2
- >>
- >> But what if I want one of my independent variables to vary non-linearly,
- >> like
- >>

```
>> Y = 5 + 3*X1^2 - 4*X2
>>
>> (I assume this is called non-linear regression?)
>>
>> I've heard of Craig M.'s fitting library, so I suppose I should look
>> there. But for the record, are there any built-in programs in IDL to do
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>> Sean
>>
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