Subject: Re: How to plot linear regression relation of two array? Posted by Vince Hradil on Mon, 09 Feb 2009 20:12:22 GMT View Forum Message <> Reply to Message

On Feb 9, 1:45 pm, Hu <jha...@gmail.com> wrote:

> Hi,

> I am trying to plot a linear regression relation of two array

> (supposing A and B) by using IDL. What I want is to got a chart like

> this link shows (the group is unable to post figure
directly):http://serc.carleton.edu/images/introgeo/teachingw data/LeastSquaresGr...

> especially, How can I got the black straight line and the coefficients

> R^2 ?

Have you looked in the help for linfit()?

> Thanks

Subject: Re: How to plot linear regression relation of two array? Posted by Hu on Mon, 09 Feb 2009 20:42:50 GMT

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On Feb 9, 12:12 pm, Vince Hradil <vincehra...@gmail.com> wrote:

> On Feb 9, 1:45 pm, Hu <jha...@gmail.com> wrote:

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> especially, How can I got the black straight line and the coefficients

>> R^2 ?

> Thanks

> Have you looked in the help for linfit()?

Yes, I use function linfit() to get the parameters a and b (Y=a+b*X)

But How can I get the R^2 ?

Subject: Re: How to plot linear regression relation of two array? Posted by Hu on Mon, 09 Feb 2009 20:51:10 GMT

```
On Feb 9, 12:12 pm, Vince Hradil <vincehra...@gmail.com> wrote:

> On Feb 9, 1:45 pm, Hu <jha...@gmail.com> wrote:

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>> R^2?
> Thanks
> Have you looked in the help for linfit()?

BTW, I set MEASURE_ERRORS to SQRT(ABS(Y)), just follow the example, but what is MEASURE_ERRORS? and what is R^2 mean in the above picture?
```

Subject: Re: How to plot linear regression relation of two array? Posted by Vince Hradil on Mon, 09 Feb 2009 21:13:06 GMT View Forum Message <> Reply to Message

```
On Feb 9, 2:51 pm, Hu <jha...@gmail.com> wrote:

> On Feb 9, 12:12 pm, Vince Hradil <vincehra...@gmail.com> wrote:

> On Feb 9, 1:45 pm, Hu <jha...@gmail.com> wrote:

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> especially, How can I got the black straight line and the coefficients
>>> R^2 ?
> Thanks
> Have you looked in the help for linfit()?
```

Thank you very much

- > BTW, I set MEASURE_ERRORS to SQRT(ABS(Y)), just follow the example,
- > but what is MEASURE_ERRORS? and what is R^2 mean in the above picture?

>

> Thank you very much

Sounds like you're using REGRESS() not LINFIT()?

I'd use LINFIT() to get the nice line and use CORRELATE() to get the Pearson correlation coefficient. I think CORRELATE() gives you the Pearson correlation coefficient, r, which, in this case can be squared to get R^2.

Subject: Re: How to plot linear regression relation of two array? Posted by David Fanning on Mon, 09 Feb 2009 21:20:56 GMT View Forum Message <> Reply to Message

Hu writes:

- > Yes, I use function linfit() to get the parameters a and b (Y=3Da+b*X)
- > But How can I get the R^2?

R is the correlation coefficient. I typically get it from CORRELATE:

```
params = LinFit(x, y, /DOUBLE)
r = Correlate(x, y, /DOUBLE)
r_sqrd = r^2
```

You can put it on to your plot with XYOUTS:

```
XYOUTS, 0.1, 0.9, /NORMAL, 'R^2 = ' + $
StrTrim(String(r_sqrd, FORMAT='(F8.2)'),2)
```

Cheers,

David

--

David Fanning, Ph.D.
Coyote's Guide to IDL Programming (www.dfanning.com)
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: How to plot linear regression relation of two array? Posted by Hu on Mon, 09 Feb 2009 21:21:19 GMT View Forum Message <> Reply to Message

```
On Feb 9, 1:13 pm, Vince Hradil <vincehra...@gmail.com> wrote:
 On Feb 9, 2:51 pm, Hu < jha...@gmail.com> wrote:
>
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> I'd use LINFIT() to get the nice line
> and use CORRELATE() to get the Pearson correlation coefficient. I
> think CORRELATE() gives you the Pearson correlation coefficient, r,
> which, in this case can be squared to get R^2.
I use Linfit(), this function need a MEASURE_ERRORS parameter to run.
Anyway, I will try your suggestion, CORRELATE()
```

Subject: Re: How to plot linear regression relation of two array? Posted by pgrigis on Mon, 09 Feb 2009 22:39:48 GMT

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Tnaks

With all due respect, if you don't know what R^2 is, why do you want to put it in your plot? What will you do when

somebody asks you "what is R"?

```
Ciao,
Paolo
```

```
Hu wrote:
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```

Subject: Re: How to plot linear regression relation of two array? Posted by Vince Hradil on Mon, 09 Feb 2009 23:09:11 GMT View Forum Message <> Reply to Message

```
On Feb 9, 3:21 pm, Hu <jha...@gmail.com> wrote:

> On Feb 9, 1:13 pm, Vince Hradil <vincehra...@gmail.com> wrote:

> >

> On Feb 9, 2:51 pm, Hu <jha...@gmail.com> wrote:

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>> which, in this case can be squared to get R^2.
> I use Linfit(), this function need a MEASURE_ERRORS parameter to run.
> Anyway, I will try your suggestion, CORRELATE()
> Tnaks
Oh right, I've just never used it. Maybe these will help?
```