
Subject: Re: How to plot linear regression relation of two array?

Posted by [Vince Hradil](#) on Mon, 09 Feb 2009 20:12:22 GMT

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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...](http://serc.carleton.edu/images/introgeo/teachingw%20data/LeastSquaresGr...)

>

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

> R^2 ?

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> Thanks

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

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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> 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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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

Subject: Re: How to plot linear regression relation of two array?

Posted by [Vince Hradil](#) on Mon, 09 Feb 2009 21:13:06 GMT

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

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

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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
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Hu writes:

> Yes, I use function linfit() to get the parameters a and b ($Y=3Da+bX$)
> 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
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On Feb 9, 1:13 pm, Vince Hradil <vincehra...@gmail.com> wrote:

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I use `Linfit()`, this function need a `MEASURE_ERRORS` parameter to run.

Anyway, I will try your suggestion, `CORRELATE()`

Tnaks

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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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

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

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> On Feb 9, 1:13 pm, Vince Hradil <vincehra...@gmail.com> wrote:
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> 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?
http://en.wikipedia.org/wiki/Linear_regression
http://en.wikipedia.org/wiki/Coefficient_of_determination
