Subject: normal probability plot
Posted by dietpoel on Fri, 13 Mar 2015 07:46:40 GMT
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Dear IDL users,

I would like to make in IDL a normal probability plot: The x-axis is just a log-scale, while the y-axis is a special axis, chosen in such a way that when the data are normally distributed, it would tend to yield a straight line. I find on the net that it is possible to create such a plot in 'matlab (normplot)' or in 'R', but because I am used to work in IDL, i was wondering if you know of such a possibility?

Subject: Re: normal probability plot
Posted by Russell[1] on Fri, 13 Mar 2015 15:29:31 GMT
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On Friday, March 13, 2015 at 3:46:42 AM UTC-4, diet...@gmail.com wrote:
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>
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I've never heard of doing such a thing, but this would be my first guess...

Whenever I hear that a there is a straight line in a plot, I think you're plotting x vs. x to some extent. That said, I would think something like this might be what you're after

 h=histogram(randomn(seed,10000),locations=b,min=-5,max=5,bin =0.1)

plot,exp(-0.5*b^2),h,ps=2

Is that close to what you had in mind?

-Russell

Subject: Re: normal probability plot
Posted by dietpoel on Thu, 19 Mar 2015 16:40:08 GMT
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Op vrijdag 13 maart 2015 16:29:35 UTC+1 schreef rrya...@gmail.com:
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> -Russell

Dear Russell,

sorry for this late reply to your answer above. It is not really what I am looking for, and is hard to describe in words. Hereafter a link I've found on the web. The second figure of this page uses a less ordinary y-axis. It is such a y-axis I would like to create in IDL if possible:
http://www.oswego.edu/~srp/stats/normal_prb_plot.htm

Subject: Re: normal probability plot
Posted by Russell[1] on Thu, 19 Mar 2015 20:51:25 GMT
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Hello,

I looked at the plot, yes of course it's possible to make in IDL. But the problem isn't IDL or the tools in IDL, it's that you don't entirely seem to understand what you're asking. From what I've read on the internet is essentially a plot of x vs. x, but you need to understand what those variables are.

 http://www.itl.nist.gov/div898/handbook/eda/section3/normprp l.htm

You need to compute:

The normal probability plot is formed by:
Vertical axis: Ordered response values
Horizontal axis: Normal order statistic medians

The normal ordered statistic means are compute from the percent point function (or the inverse cumulative distribution, which in your case of Gaussian data is just the error function). But the normal ordered statistics are coming from the uniform, which they give an expression for. The other axis of the plot seems to be your data rank ordered (ie. sorted).

No, there is nothing in IDL to do this natively (at least not that I am aware of). But from what little I've read, the reason nothing exists exactly is because this is a pretty straightforward thing to compute for yourself. I'd try this web page and see how far you can get.

Russell

On Thursday, March 19, 2015 at 12:40:10 PM UTC-4, diet...@gmail.com wrote:
> Op vrijdag 13 maart 2015 16:29:35 UTC+1 schreef rrya...@gmail.com:
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