Subject: Re: slightly shifted plots (?)
Posted by David Fanning on Fri, 07 Nov 2003 15:01:39 GMT
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Antonio writes:

> I was wondering whether there would be any routine that enable to
> slightly shift two almost identical functions so that they do not
> overlap in the same plot.

How about something like this:

```
y = Smooth( Randomu(-5L, 101), 10, /Edge_Truncate)
x = Indgen(10
Plot, x, y
OPlot, x+1, y
```

Cheers,

David
--
David W. Fanning, Ph.D.
Fanning Software Consulting, Inc.
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Coyote's Guide to IDL Programming: http://www.dfanning.com/
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Subject: Re: slightly shifted plots (?)
Posted by the_cacc on Fri, 07 Nov 2003 20:34:22 GMT
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angaspx@yahoo.it (Antonio) wrote in message
news:<5d449dc5.0311070325.4d9a3d1d@posting.google.com>...
> hi all,
> I was wondering whether there would be any routine that enable to
> slightly shift two almost identical functions so that they do not
> overlap in the same plot.
> thanks, cheers!
> a.

You could try a log plot (alog10)? May show the differences more clearly.

Subject: Re: slightly shifted plots (?)
Posted by Pepijn Kenter on Fri, 07 Nov 2003 21:25:31 GMT

Antonio wrote:
> hi all,
> I was wondering whether there would be any routine that enable to
> slightly shift two almost identical functions so that they do not
> overlap in the same plot.
> thanks, cheers!
> a.

I would not approve of shifting the plot, you might suggest an effect that is not present. If one line completely blocks the other then you could use different linestyles.

You could also plot the difference or the ratio of the two lines to gain more insight.

Pepijn Kenter.

Subject: Re: slightly shifted plots (?)
Posted by mmiller3 on Fri, 07 Nov 2003 22:51:03 GMT

>>>> > "Antonio" == Antonio <angaspx@yahoo.it> writes:

> hi all, I was wondering whether there would be any routine
> that enable to slightly shift two almost identical
> functions so that they do not overlap in the same plot.
> thanks, cheers! a.

One method that can work well to separate overlapping data is to add a small amount of random noise (jitter) to the data points as they are plotted. This will tend to move overlapping values apart on the plot, but does not affect calculations as it is only added in the plot, not to the actual data. If the random noise is small compared to the distribution of the data itself, then the quality of the plot is not changed. This may not work for calculations that don't include any noise though - it is hard to add a small amount of 0...

Mike

P.S. For one implementation, see "jitter" from R
http://stat.ethz.ch/R-manual/R-patched/library/base/html/jit ter.html
http://www.r-project.org

Chambers, J. M., Cleveland, W. S., Kleiner, B. and Tukey, P.A. (1983) _Graphical Methods for Data Analysis._ Wadsworth; figures 2.8, 4.22, 5.4.

Chambers, J. M. and Hastie, T. J. (1992) _Statistical Models in S._ Wadsworth & Brooks/Cole.

Subject: Re: slightly shifted plots (?)
Posted by JD Smith on Sat, 08 Nov 2003 01:14:55 GMT
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On Fri, 07 Nov 2003 04:25:18 -0700, Antonio wrote:

> hi all,
> I was wondering whether there would be any routine that enable to
> slightly shift two almost identical functions so that they do not
> overlap in the same plot.
> thanks, cheers!
> a.

The standard in astronomy is to add, say, 5 units to the data of one curve and mention, e.g., "Curve #2 shifted by 5 units for clarity". If their near equality is what's of interest, a ratio or difference plot might prove more interesting.

JD

Subject: Re: slightly shifted plots (?)
Posted by R.G. Stockwell on Sat, 08 Nov 2003 03:10:05 GMT
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"David Fanning" <david@dfanning.com> wrote in message news:MPG.1a1561bcc6e365ca989735@news.frii.com...
> Antonio writes:
>
>> I was wondering whether there would be any routine that enable to
>> slightly shift two almost identical functions so that they do not
>> overlap in the same plot.
>
> How about something like this:
>
> y = Smooth(Randomu(-5L, 101), 10, /Edge_Truncate)
> x = Indgen(10
> Plot, x, y

> OPlot, x+1, y
>
> Cheers,
>
> David
> --
> David W. Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Phone: 970-221-0438, E-mail: david@dfanning.com
> Coyote's Guide to IDL Programming: http://www.dfanning.com/
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Perhaps a shift in the y direction would be appropriate. :)

```
y1 = Smooth( Randomu(-5L, 101), 10, /Edge_Truncate)
y2 = y1 + Smooth( Randomu(-5L, 101), 10, /Edge_Truncate)/4
x = Indgen(10)
Plot, x, y1,yr=[min(y1) < min(y2),max(y1) > max(y2)]
OPlot, x, y2
```

Cheers,
bob

Subject: Re: slightly shifted plots (?)
Posted by R.G. Stockwell on Sat, 08 Nov 2003 03:11:41 GMT
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>
> Perhaps a shift in the y direction would be appropriate. :)
>
> y1 = Smooth(Randomu(-5L, 101), 10, /Edge_Truncate)
> y2 = y1 + Smooth(Randomu(-5L, 101), 10, /Edge_Truncate)/4
> x = Indgen(10)
> Plot, x, y1,yr=[min(y1) < min(y2),max(y1) > max(y2)]
> OPlot, x, y2

duh... i mean.. with the shift in the oplot ..... duh...

```
yshift = 1
OPlot, x, y2+yshift
```

> Cheers,
> bob
>
>
>

Subject: Re: slightly shifted plots (?)
Posted by David Fanning on Sat, 08 Nov 2003 03:26:14 GMT
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R.G. Stockwell writes:

> duh... i mean.. with the shift in the oplot ..... duh...
> yshift = 1
> OPlot, x, y2+yshift

I'm pretty big on aesthetics, but I have to admit,
manipulating the data so that it *looks better* gives
me the willies. After my fairly flippant answer this
morning, I think I would agree with JD. Look for
more creative ways to present the *real* data,
not sneaky ways to fix it. :-)

Cheers,

David

--
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Subject: Re: slightly shifted plots (?)
Posted by R.Bauer on Sun, 09 Nov 2003 09:59:43 GMT
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David Fanning wrote:

> R.G. Stockwell writes:
>
>> duh... i mean.. with the shift in the oplot ..... duh...
>> yshift = 1
>> OPlot, x, y2+yshift
>
> I'm pretty big on aesthetics, but I have to admit,
> manipulating the data so that it *looks better* gives
> me the willies. After my fairly flippant answer this
> morning, I think I would agree with JD. Look for
> more creative ways to present the *real* data,
> not sneaky ways to fix it. :-)
>

> Cheers,
>
> David
>

What is with an additional axis with small differences in the range?

Reimar

--
Forschungszentrum Juelich
email: R.Bauer@fz-juelich.de
http://www.fz-juelich.de/icg/icg-i/
 ========== ======
a IDL library at ForschungsZentrum Juelich
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