Subject: Re: convolution
Posted by Chris[1] on Fri, 28 Mar 2003 16:17:33 GMT
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Hi Larry;

Someday I'm going to get IDL installed on the same machine I write mail from, but till then....
W/r to your problem, formally one of the forward fft's should be conjugated; and when you plot the results, plot the absolute values, or explicitly the real and complex parts, and see if that helps.

Chris

"Larry Morgan" <lkm8@ukc.ac.uk> wrote in message news:b61e00khl1@athena.ukc.ac.uk...
> Hi,
> I am at a loss to explain the output from the program below and although
> it's not strictly an idl problem I was wondering if anyone could help me.
> I want to convolve the two functions in the left half of the plot window
> together. When I multiply their fourier transforms together and inverse
> transform the result back I get what appears in the right hand window.
This
> is not at all what I expected although from everything I've read there is
> nothing wrong with the method I have used.
> Can anyone help me?
> cheers
> Larry
>
> Pro convolve
>
> xxx=((DINDGEN(20000))*0.01)
>
>
beamlong=(0.960944*exp(-((xxx-100.)^2)/(2*(10.6337^2))))+(0. 0390565*exp(-((x
xx-100.)^2)/(2*(33.2939^2))))
>
> loz_850=0.00060018403/(4.0*(((xxx-100.)/27.269890)^2.0)+1.0)
>
> loz_850=loz_850/max(loz_850)
>
> !p.multi=[0,2,1,0,0]
> plot,xxx,loz_850,linestyle=1
> oplot,xxx,beamlong
> imconv_850=fft(fft(loz_850)*fft(beamlong),/inverse)
>
> plot,xxx,imconv_850

```
> !p.multi=0
> end
>
```