Subject: convolution
Posted by Larry Morgan on Fri, 28 Mar 2003 17:08:07 GMT
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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(-((xxx-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
```