Subject: Re: FFT+inverse FFT
Posted by David Fanning on Sun, 05 Dec 2010 19:06:30 GMT
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Natalya Lyskova writes:

> Hey! I'm a beginner at IDL and have problem with FFT. I'm trying to
> perform 2d-FFT but the code doesn't work properly even on test images.
> So I create an image, make the Fourier transform, then the inverse
> Fourier transform and finally I expect to get the initial image. But
> the resulting image is the initial one, reversed with respect to the
> center.
>
> My code:
> nx=256L
> x1=findgen(nx)-nx/2.0+1.0
> x2=findgen(nx)-nx/2.0+1.0
>
> ytest=fltarr(nx,nx)
> for i=0l,nx-1 do begin
> for j=0l,nx-1 do begin
> if (x1[i] le 20.0 and x1[i] ge 0.0 and x2[j] le 20.0 and x2[j] ge
> 0.0) then begin
> ytest[i,j]=1.0
> endif
> endfor
> endfor
>
> ; So the initial image is a squre in the right upper corner
>
> FFTtest=FFT(ytest)
> sh_FFTtest=SHIFT(FFTtest,nx/2.0-1.0,nx/2.0-1.0)
> inv_test=FFT(FFTtest,-1)
>
> ;The result is the square in the LEFT LOWER corner.
>
> I would be very grateful for comments/advices/solutions

I think you need to read the on-line help for the FFT function. :-)

Your code should look like this:

```
FFTtest = FFT(ytest, -1)
inv_test = Real_Part(FFT(FFTtest, 1))
```

Now ytest and inv_test are essentially the same.

Cheers,

David

--
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Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")
