Subject: Re: FFT+inverse FFT
Posted by burton449 on Sun, 05 Dec 2010 20:05:30 GMT
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On Dec 5, 2:06 pm, David Fanning <n...@dfanning.com> wrote:
> 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
>
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Coyote's Guide to IDL Programming:http://www.dfanning.com/
> Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Hello,
Im working with the FFT also but not directly in IDL, I work in ENVI.
I wonder how ENVI or IDL can perform a FFT on a rectangular image?
Theorically the image must be a square of dimension of coefficient of
2. (512x512, 1024 x1024 etc...) So what is the process that make
possible to do a FFT on a rectangular image? Other Image Processing
software like PCI Geomatica cant do that.

Thank you,
Max
