Subject: Re: Can it be done?
Posted by john on Sat, 05 Jan 2002 13:33:58 GMT
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Hi

I want to do this:
Open and read a BMP file
And then carry out a 2D-FFT
Save the result as BMP file, but with data shifted such that DC
component is in the middle of the image.

I tried the followings:

MYIMAGE=READ_TIFF('c:\image2c.tif')
TV, MYIMAGE
R=FFT(MYIMAGE)
TV, R

It seems the displayed result is the FFT result, but is it really a
2D-FFT ?
And could anyone show me how to shift the dc point at the center of the
display ?

Many Thanks in advance

John

john ï¿½gï¿½Jï¿½G
>
> Hi
>
> I am new on IDL and actually have just installed the trial yesterday.
> I am wondering could anyone help and provide me some sample on the
> following task:
>
> Open and read a BMP file
> And then carry out a 2D-FFT
> Save the result as BMP file, but with data shifted such that DC
> component is in the middle of the image.
>
> Can it be done easily with only a few command ?
> Would youshow me how ?
> Many Thanks in advance

>
> Best Regards
>
> John

Subject: Re: Can it be done?
Posted by Martin Downing on Sat, 05 Jan 2002 17:31:56 GMT
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"john" <johnmm91@hotmail.com> wrote in message
news:3C3700C6.527F8BB@hotmail.com...
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> 2D-FFT ?
to quote the help docs:
"The FFT function returns a result equal to the complex, discrete Fourier
transform of Array. "

What most people display is the log power spectrum, ie the logarithm of the
complex conjugate:

disp_im = alog(abs(R)+MIN_FOURIER_VALUE)

where MIN_FOURIER_VALUE is added to prevent very low powers dominating the
display

> And could anyone show me how to shift the dc point at the center of the
> display ?

for the shift:
dim = size(r, /dim)
r = shift(r, dim[0]/2, dim[1]/2)

or all in one:
tvscl, alog(abs(shift(r, dim[0]/2, dim[1]/2))+MIN_FOURIER_VALUE)

note the image should have dimentions which are a power of 2

Cheers

Martin
