Subject: Re: FFT OF A NON RECTANGULAR IMAGE
Posted by R.G. Stockwell on Tue, 28 Oct 2008 18:58:24 GMT
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<legall_alice@yahoo.fr> wrote in message
news:4a2c3474-def0-48fc-8611-05635d75f05d@v39g2000pro.google groups.com...
> Hi all:
>
> How can we do a FFT on a 2D-function that defines a non-rectangular
> image?
>
> Here is an example: the region of interest is an inclined ellipse. To
> be able to apply FFT(array,1), I created an array where all the pixels
> around the ellipse are set to the value zero. I would like to exclude
> from the FFT process the black area (zero value pixels) surrounding
> the ellipse.

No. The typical FFT requires uniform sampling, with constant length rows and columns.

So if you put your ellipse of data into this form, then you are essentially multiplying the rectangle with an eclipse shaped window (= 1 where you have data, and 0 where you don't), and you are therefore convolving the 2D spectrum with the spectrum of that window.

So, you can do it, but there are consequences.

Cheers,
bob