Subject: Re: Correction: 2D FFt
Posted by thompson on Tue, 22 Oct 1996 07:00:00 GMT
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Walid Atia <atia@wam.umd.edu> writes:

> ... And why does IDL store the 2D transform this way--doesn't
> the usual 2D transform treat the center of the array as zero frequency,
> so as to get a symmetrical function given a symmetrical image?

Actually, every Fortran FFT I've ever worked with stores the data in this way. It makes a certain amount of sense, in that the power at zero frequency is at (0,0), just like the 1D power at zero frequency is at (0). But it does take a bit of getting used to.

A lot of times, one is only interested in the power, and only needs the lower left quadrant of the FFT, i.e. F(0:NX,0:NY), where NX and NY are the Nyquist frequencies in the two dimensions.

Note that the IDL DIST() function provides the radius vector in frequency space, for forming filters that are symmetric, i.e. depend only on the spatial frequency.

Bill Thompson