Subject: Re: Correction: 2D FFt
Posted by peter on Tue, 22 Oct 1996 07:00:00 GMT
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Walid Atia (atia@wam.umd.edu) wrote:
: Hi,

: I just realized that FFT(data,-1) takes the FFT of an array of up to 7
: dimensions. What confused me was that when I plotted, say, the FFT of a
: gaussian, I got values only near the sides. However, the FFT of a
: gaussian is a gaussian, so I thought that the FFT routine must not be
: working correctly for my array. Just in case anyone out there is
: interested, the problem lies in the way IDL stores the FFT data. The
: edges are taken as 0 frequency, rather than the more intuitively obvious
: center to be zero. A simple shift in the FFT'd image solves the
: problem, and yields the expected results. The code which illustrates
: this is:

<snip>

: Does anyone know of a more direct (and elegant) way of performing this
: transform? 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?

The customary way to perform FFTs always places DC in element 0, not in
the middle. IDL follows this convention. You'll confuse more than a
few people if you adopt any other rule, so please don't!

Peter