Subject: Re: Reorganizing 2D FFT for Conventional Viewing [?]
Posted by Rolf P. W\"urtz on Thu, 22 Jun 1995 07:00:00 GMT
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trond@smith.phys.ucalgary.ca (Trond Steinar Trondsen) wrote:
> I'm trying to rearrange the 2D FFT so that zero frq is in the middle,
> and all other frqs end up in the right place.

sx = size(x)
y=fft(x, -1)
rearranged = shift(y,sx(1)/2, sx(2)/2)

If youre array dimensions are even, zero frq cannot be in the middle,
it ends up at coords sx(1)/2, sx(2)/2.

Greetings
Rolf

Subject: Re: Reorganizing 2D FFT for Conventional Viewing [?]
Posted by rivers on Thu, 22 Jun 1995 07:00:00 GMT
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In article <3s9jdc$dsc@ds2.acs.ucalgary.ca>, trond@smith.phys.ucalgary.ca (Trond Steinar Trondsen) writes:
> I'm trying to rearrange the 2D FFT so that zero frq is in the middle,
> and all other frqs end up in the right place. Using the Fourier shift
> theorem prior to transforming does work, but it really slows things down!
> Doing lots of loops to simply rearrange the final array takes a while
> too, and it doesn't look very nice....
> Any _elegant_ (fast) ways of doing this?
>
a = fltarr(256, 256)
b = fft(a, 1)
; b will be 256x256 with the zero frequency in the "corners"
b = shift(b, 128, 128) ; Put zero frequency in the middle

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Subject: Re: Reorganizing 2D FFT for Conventional Viewing [?]
Posted by Chris Jacobsen on Fri, 23 Jun 1995 07:00:00 GMT

For 2D FFT, I like to do

```
n=256
it=complexarr(n,n)
it_xform=shift(fft(shift(it,n/2,n/2),-1),n/2,n/2)
```