
Subject: Re: Reverse FFT ?

Posted by [Jonas](#) on Wed, 09 Aug 2000 07:00:00 GMT

[View Forum Message](#) <> [Reply to Message](#)

Hi Rich

If the image data you have is not complex, then it is not possible to retrieve the correct k-space data by doing an FFT. A reconstructed MR image is always in complex form (to be represented by a magnitude and a phase angle, or by a real and an imaginary number), but the image shown on the screen is the magnitude of each complex number. If you only have the magnitude data, you have "thrown away" some important information, and will not be able to get a correct k-space. k-space is by definition filled with complex data.

Furthermore, if I remember my MR physics correct, you are supposed to do a forward transform when going from image space to k-space, but I am not sure...

However, if you just want to have a look at a "general k-space", you might take a look at the magnitude of a FFT of a magnitude image... don't forget to shift the transformed data so that the lowest frequency is centered in the image....

regards
Jonas

--

=====

Jonas Svensson, MSc
Medical Physicist, MRI
Department of Radiation Physics

+46 40 331021 (phone), +46 40 963185 (FAX)

Richard Tyc <richt@sbrc.umanitoba.ca> skrev i
diskussionsgruppsmeddelandet:8mpv4l\$rtl\$1@canopus.cc.umanitoba.ca...
> Can you do a reverse FFT in IDL and how is it implemented ?
> ie. FFT provides a complex array - How do you get the original Time domain
> back from the complex series.
>
> I am trying to retrieve "k" space data back from real/imaginary MRI data.
I

> would like to see how time consuming this really is.
>
> Thanks
> Rich
>
>
