Subject: Re: What are the errors in the FFT?
Posted by Kenneth Bowman on Thu, 08 Feb 2007 18:24:52 GMT
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In article <1170953635.505681.59040@v33g2000cwv.googlegroups.com>,
 monty@lanl.gov wrote:

> For a given function f(t) I am finding:
>
> FFT(FFT(f(t),-1),1) -f(t) varies between about 10^-7 to 1-^-8 for
> floating point
> and about 10^-14 to 10^-16 for double precision
>
> (I.e. the inverse transform of the transform deviates from the
> original function)
>
> Is this aproblem with the IDL implementation of the FFT, or is this a
> more fundamental issue with the algorithm itself?
>
> -Monty Wood

That is simply roundoff error. Unavoidable with floating-point
calculations, I'm afraid.

Ken Bowman