Subject: Re: Inverse FFT
Posted by R.G. Stockwell on Mon, 16 Dec 2002 17:53:33 GMT
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Colin Ault wrote:

> Hi,
>
> I hope someone help me with a problem I am having with the FFT
> function.
>
> I have a signal f_t, which I then take the FFT of to produce its
> corresponding spectral components. I then want to manually compute its
> inverse FT, rather than using the IDL FFT(.../inverse) function.
>
> The reason for this is that I want each spectral component to
> propogate at different velocitys over a time period t. Hence, when the
> signal is recombined t seconds later, the signal *should* look
> different.
>
> I am not having much luck at the moment, so any suggestions on this
> problem will be gratefully received.
>
> Thanks,
> Colin

To "manually compute" the inverse fft in the same way IDL does,
make sure you have use the + argument in your exp(), and calculate
the straight sum (i.e. do not divide by N).
Having said that, there is absolutely no difference in fft(/inv) and
your manual method, so I suggest using the fft method. The only difference
is in the algorithm for calculating the result.

To "propogate at different velocitys over a time period t", perhaps you
can implement that by adjusting the phase of your fft componets (using
the fft shift theorem) to get your desired results.

Cheers,
bob