Subject: Re: Inverse FFT
Posted by aultc on Tue, 17 Dec 2002 11:06:18 GMT
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Hi,

Thanks for the comments and suggestions.

I am packing the negative frequencies correctly (I hope!) - just using the same method in the online FFT example. I call this array k_points, and this ranges thus 0, 0.01, 0.02.....,0.50, -0.49, ..., -0.02, -0.01. This is for 100 points sampled at T=1.0 seconds.

I then compute the FFT via the normal method, FFT(function), and obtain my expected spectral pattern. So far, so good!

I then use the following code to compute (manually) the inverse:

```
FOR j=0, n-1 DO BEGIN

 spec_sig = FT*exp(2*pi*k_points * t[j]/n)

 new_signal[j] = TOTAL(spec_sig)

ENDFOR
```

FT is an array holding the fourier transform of my function
n is the number of points (100)
k_points is the same as mentioned above
t is an array from 0,1,..100, i.e the times at which the function is sampled.

I then just carry out the summation and put it in new_signal. This is then plotted.

Unfortunately this still doesn't work! Any further suggestions would be greatly welcomed.

Colin

then just carries out the summation

aultc@astro.warwick.ac.uk (Colin Ault) wrote in message

news:<24be9e8e.0212160833.7d214a6a@posting.google.com>...
> 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
