
Subject: Re: FFT-help!

Posted by [Paul van Delst](#) on Fri, 30 Jun 2000 07:00:00 GMT

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Rachel wrote:

>
> Hi, I am a new IDL user and I am struggling with the FFT function. Given an
> array with periodic data, (intensity vs. time), I want to find the fourier
> transform (and thereby find the frequency).
>
> thanks,
>
> bridget

Check out the fft wrappers I wrote on my website at

<http://airs2.ssec.wisc.edu/~paulv/#idl>

and click on the "Spectral" link. Have a gander at the
fft_to_interferogram.pro (spectrum->IFG) and fft_to_spectrum.pro (IFG ->
spectrum) - and associated - routines. The routines are for FFTing
spectra of atmospheric IR emission but ideally it shouldn't matter what
the input x/y values are (yeah, right!). I spent a lot of time agonising
over how to reduce the ringing introduced by truncation (also known as
Gibbs phenomena) and decided that that was best handled separately by
users before FFTing. Everyone has their favourite apodisation functions.
(I use a cosine rolloff filter or a Strong-Beer depending on my mood :o)

Hope they're somewhat useful.

cheers,

paulv

p.s. The fft_to_interferogram returns a shifted double-sided IFG since
that is more like what an actual interferometer would measure, thus the
fft_to_spectrum can handle both simulated and real data.

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