Subject: Re: Dynamic Spectrum
Posted by jdu on Mon, 02 Jun 2008 13:17:00 GMT
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On Jun 2, 5:59 pm, Lasse Clausen <la...@lbnc.de> wrote:
> On 2 Jun, 10:23, "dux...@gmail.com" <dux...@gmail.com> wrote:
>
>
>
>> On Jun 2, 11:44 am, David Fanning <n...@dfanning.com> wrote:
>
>>> dux...@gmail.com writes:
>>>> I have a set of data and their measued time.
>>>> I want to get the similary Dynamic Spectrum which is shown in
>>>> http://urap.gsfc.nasa.gov/www/reiner/spectra.html.
>>>> Is there any IDL procedure to get the Dynamic Spectrum?
>
>>> I'm not sure you need a procedure. The picture you
>>> reference would take, at most, three IDL commands.
>
>>> Which have you tried that you are having trouble with?
>
>>> Cheers,
>
>>> David
>>> --
>>> David Fanning, Ph.D.
>>> Fanning Software Consulting, Inc.
>>> Coyote's Guide to IDL Programming:http://www.dfanning.com/
>>> Sepore ma de ni thui. ("Perhaps thou speakest truth.")
>
>> I think you misunderstood my meanings.
>> The data I have is a time series.
>> I want to know how to get the dynamic spectrum from the time series
>> data.
>
>> Can three IDL commands achive this purpose?
>
>> Du Jian
>
> No, I have the feeling we did not misunderstand what you meant. To me
> it seems that you have not understood what a dynamic spectrum is, if
> you don't mind me patronising you here. It is pretty straight forward
> to calculate a dynamic spectrum:
>
> Say you have the data in an array called boogidiboo.
> You then extract a certain subset of boogidiboo and calculate the FFT.
> Move the subset by a certain number of points and caluclate FFT.

> Move the subset by a certain number of points and caluclate FFT.
> Move the subset by a certain number of points and caluclate FFT.
> ...
>
> Or, as IDL code sniplet
>
> raw_fft = make_array(fft_len, number_of_ffts, /float)
> FOR i=0L, number_of_ffts-1L do begin
> data = boogidiboo[i*fft_len:(i+1L)*fft_len-1L]
> raw_fft[*,i] = FFT(data, -1)
> ENDFOR
>
> Ok, you could do that in three lines, I guess. ;-) However, you might
> want to think about tapering your data. Also, FFT returns complex
> numbers so if you want the FFT power, you need to do a ABS(raw_fft)^2.
> And also, FFT returns negative frequencies as well, which you can
> usually throw away. Read the IDL FFT help for more info.
>
> Cheers
> Lasse Clausen

Thank you very much!
It is very helpful.

Du Jian
