Subject: Re: wavelet spectra help
Posted by Michael Werger on Tue, 07 Oct 1997 07:00:00 GMT
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Rick McDaniel wrote:

> The matlab wavelet toolbox documentation and examples do not describe
> how to form wavelet spectra from a time series. The way I do spectra
> using the wavelet toolbox is as follows:
>
> 1. I call cwt.m to get the wavelet coefficients.
>
> 2. I then form a new matrix of abs(coefs)^2 to get the wavelet energy
> density at a given location in wavelet space.
>
> 3. I use the morlet wavelet, so i can find the frequency = 1./scale.
> Where scale is returned by cwt.m.
>
> 4. If a contour plot is made of the wavelet energy density, where the x
> axis is time and the y axis is frequency, the plot indicates wavelet
> energy density as a function of freq and time.
>
> 5. If I take a vertical cut through the plot in part 4, and plot wavelet
> energy density (y axis) versus frequency (x axis) does this represent a
> local spectra?
>
> Is the above procedure esentially correct? Does anyone have any IDL code
> to check these results? Any suggestions greatly appreciated.
> Thanks!
>
> Rick McDaniel

Rick,
I 'm not so familiar with the Matlab waveleb package.
Best and shortest tip I can give you is to download the latest (a bit old)
version of
the wavelet workbench for IDL available at RSI
(ftp://ftp.rsinc.com/pub/user_contrib/wwb)

If you need more information, have also a look at www.wavelet.org and
contact us
(Amara Graps <amara@amara.com> - the original author of the WWB) or/ and me
directly.
Regards,
Michael

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