Subject: Using Haar wavelet with wv_cwt
Posted by owentrefonwys on Sun, 18 Dec 2016 19:32:18 GMT
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Hi all,
I've been trying to use wv_cwt to perform the wavelet transform on a 1d time series. It works fine with the morlet and paul wavelets but I cannot use it with the Haar wavelet. All I get in the console is "Keyword parameters not allowed in call."

Any thoughts?

Many thanks,
Owen

Subject: Re: Using Haar wavelet with wv_cwt
Posted by benjamin.castellani on Fri, 13 Oct 2017 17:12:44 GMT
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On Sunday, December 18, 2016 at 12:32:21 PM UTC-7, owentr...@gmail.com wrote:
> Hi all,
> I've been trying to use wv_cwt to perform the wavelet transform on a 1d time series. It works fine with the morlet and paul wavelets but I cannot use it with the Haar wavelet. All I get in the console is "Keyword parameters not allowed in call."
>
> Any thoughts?
>
> Many thanks,
> Owen

I apologize that our wavelet documentation is a little "light" and confusing. The issue is that the Haar wavelet family is of type discrete. WV_CWT is for continuous wavelets only. You will want to use WV_DWT (for discrete).

You need to run WV_FN_HAAR separately first to create your coefficients based on the order you define.
Then you input all that information into WV_DWT to develop create wavelet transform.

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Example:

coefficents_parameters = wv_fn_haar(1,scaling,wavelet,ioff,joff)
data = randomu(1,64)
part_wv = wv_dwt(data, wavelet,scaling,ioff,joff, N_LEVELS=3)

Does this make sense? For continuous families, you can use WV_CWT directly. For discrete families, you must wave the WV_FN_FAMILYNAME function first, then WV_DWT.

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Hope this helps.

P.S. I will look into making this more clear in the IDL Documentation Center.

Ben Castellani
IDL Team
Harris Geospatial Solutions

Subject: Re: Using Haar wavelet with wv_cwt
Posted by o.wyn.roberts on Wed, 13 Dec 2017 13:14:25 GMT
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Hi Ben,

Thanks for your reply. That helps somewhat but I still cannot achieve what I want to do. I want to be able to plot a power scaleogram, but the output here is an array with the same dimensions as the input data and not as a function of data point and scale. I can get a plot of a scaleogram with the haar wavelet in the WV_APPLET but I want to be able to manipulate the scaleogram array myself which I cannot do in the applet (or at least I haven't figured out how to do it yet).

Cheers,
Owen
