Subject: Need help with Wavelet Workbench
Posted by jkbishop on Wed, 07 Apr 1999 07:00:00 GMT
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I'm trying to use Wavelet Workbench on a long (48000 pt) signal. I think that two separate problems are occuring.

I upsampled the data set to 65536 points (by zero padding in frequency space). I hacked wreaddat, wdyadlng, wdyad, and wfwtpo to use long integers in some places. The result is that I can now plot the scalogram for my data set (wreaddat, wintwave, wdoscog are the programs I'm calling). However, the plot of the scalogram looks like only the first half of the data set is being used. The coarser scales have some variation just beyond the half-way point (bleed-over from the convolution process?), but the more detailed scales show a solid color in the upper half of the time axis. Anyone have any ideas what is going on?

So far, I have tried upsampling again to 2*65536 points (whatever that is). The result is that the convolution-by-FFT process in wmfilt takes forever (I didn't wait for it to finish; it was taking at least 10 times as long as the 65536 point set, as verified by printed status statements). I don't understand why, but would the FFT process be the problem with the 65536 data set?

To get an answer, my next approach was to downsample to 32768 points. This brings me to the second problem, which is a type conversion problem in wintwave. For the 65536 point data set, this part seems to work fine (with the adjustment of 2 to 2L in the line that finds n_work). When I put the 32768 point set in, the data set gets truncated to 16384 points because fix(alog(n_elements(x_work))/alog(2))) evaluates to 14 instead of 15. alog(n_elements(x_work))/alog(2)) is given as 15.0000. Can someone explain this so even a mechanical engineer can understand? To get around this one, I have just inhibited the length check; I just have to be careful to only use dyadic length sets.

Any help would be appreciated.

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