

## ***Interactive comment on “Power-law behavior in millennium climate simulations” by S. V. Henriksson et al.***

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Having read the reviews and the authors’ short response I want to make some suggestions for what needs to be in a revised draft and the authors’ final response.

My reading of the paper is that the primary claimed novelty of this study is methodological given that power-law behavior is already well established for time series such as analyzed (e.g. the various Blender/Fraedrich studies and many others going back at least to Wunsch, 1972). But, the reviewers have pointed out that the methodology is also not new, Welch’s method has been used for many years, and indeed is discussed as being a standard method in textbooks (such as "Climate Time Series Analysis: Classical Statistical and Bootstrap Methods", by Mudelsee) and in commonly used software tools (such as REDFIT, "Schulz, M. and Mudelsee, M. (2002): REDFIT: estimating red-

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noise spectra directly from unevenly spaced paleoclimatic time series. Computers and Geosciences, 28, 421-426.").

In their short responses the authors have danced around this issue by saying that their estimate is somehow better than previous ones (which I guess is aimed at making the study novel in terms of its results) or saying that their new method probably has been independently derived many times since it is an obvious extension of spectral analysis (I’ll note that this is not much of an argument for novelty). This approach is not likely to be a successful basis for a revised manuscript unless the authors can make a convincing argument that either their technique is new or their results are informative in some novel way. Simply saying it’s so does not make it so. If the method is novel then show how it is novel after a careful and thorough discussion of other methods. If it is better, but not new, then show that it is better (which involves more work on confidence intervals, as well).

Any revised submission will go out to for re-review, probably to the same reviewers so the arguments should be convincing.

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Interactive comment on Earth Syst. Dynam. Discuss., 3, 391, 2012.