

Interactive comment on “Evaluation of empirical mode decomposition for quantifying multi-decadal variations in sea level records” by D. P. Chambers

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Dear Dr. D. P. Chambers,
thanks for your answers and for changing some parts of the paper considering my suggestions. Only a last comment about point 9.

You said: “I also point out that although you state that in Case 1 you should be able to extract the physical modes in a single EMD, I demonstrate that you cannot”. Yes, this is exactly the point, theoretically you could because of the simulated signals respond to IMF’s definition, so it’s necessary to run the EMD to observe how works. You shown how actually the EMD works, and for this reason I think that it’s interesting.

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Instead, about case 2, I had understood that many scientists are trying to analyze individual IMFs for climate signals, and I know that’s wrong. However (I report what I wrote) “In the case 2, instead, because of ENSO/PDO doesn’t respond to IMF’s definition, you know already in principle that you can’t capture this signal trough a single IMF”, so you mathematically expect this from the experiment, and you actually observe this. So, presenting the case 2, I think it should be underline this difference that exists, in principle, between case 1 and 2, adding a short conceptually comparison (based on the IMF’s definition) of the simulated signals.

P.s. by the way, it was this conceptual point from it was started my suggestion to perform the other analysis (adding, some IMFs to the base signal instead than ENSO and PDO...), because in this case in principle you could capture these signals trough singles IMFs but, like in case 1, we need the experiment to see if this actually happens. However, it was only a suggestion that you clearly could decline, and I absolutely don’t ask to discuss again about this.

Cheers,
Emanuele Bevacqua

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