Geoscientific

Model Development

Discussions

GMDD

Interactive

comment

Interactive comment on "A new tool for model assessment in the frequency domain – Spectral Taylor Diagram : application to a global ocean general circulation model with tides" *by* Mabel Costa Calim et al.

Mabel Costa Calim et al.

mabelcalim@gmail.com

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Thank you for taking your time for the review. I hope I can clear respond your comments.

The STD it's build by a geometric relationship between this tree statistical quantities: coherence, standard deviation of power and centered RMS error, that satisfied the law of cosines. This three statistical quantities were chosen to satisfied this geometric relationship, it's not by chance as shown in Figure 2. From Taylor Diagram it's not

possible to isolate frequency or band of frequencies and compared them in terms of amplitude, power and phase. It's possible to demonstrate that a time series created from a isolate frequency or band of frequencies (by inverse Fourier Transform) can be correlated to the reference in time domain. The key of this STD tool it's to work in frequency domain and be able to compare frequencies in terms of coherence and power.

This paper also demonstrate the need of new tool that better expresses both changes in amplitude and phase that it's not captured by power spectrum analysis, as shown in Figure 3.

I agree with you that centered RMS difference can be better express as centered RMS error. It's just some typing issue that I'll reviewed before publication.

If any other doubt or question arise I'll be pleased to answer it. Thank you again for your interest in our paper.

Best regards

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