

Interactive comment on “A new method to assess mesoscale contributions to meridional heat transport in the North Atlantic Ocean” by Andrew Delman and Tong Lee

Anonymous Referee #2

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This paper is well written and I recommend publication after some revision/addition.

The paper points to its novel aspect a being a new way to do the separation of the eddy vs. large-scale contributions, and primarily as a different view than the Hall and Bryden (1982) separation of the baroclinic component of the heat transport. As such, I think the authors should directly compare some of the computations and maps to the Hall and Bryden method.

For example, in Figure 3, would the HB82 eddy term look different? Same in Figure 4, etc. Jayne and Marotzke (Rev. of Geophys. 2001) did some comparisons of the HB82 decomposition vs. the other time-varying heat transport terms.

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Figure 5 seems to indicate that the separation between their large-scale vs. mesoscale is not very great. That is the spatial filter they used doesn't seem to really separate the spatial scales well, and the spectra in Figure show there isn't really a strong scale separation, especially in the temperature. It should be commented on.

Interactive comment on Ocean Sci. Discuss., <https://doi.org/10.5194/os-2020-20>, 2020.

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