

## ***Interactive comment on “Global dataset of thermohaline staircases obtained from Argo floats and Ice Tethered Profilers” by Carine G. van der Boog et al.***

### **Anonymous Referee #1**

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General Comments: Excellent work, taking into account that the diapycnal fluxes at the interfaces of the stepped structures are considered comparable to those of the surface fluxes. The further use of the current results (in a next paper) can provide at global scale the contribution of the stepped structure diapycnal fluxes.

Specific Comments: A sentence is needed why only Argo floats and ice tethered profilers were used. Why not the high vertical resolution of the CTD profiles, which in most cases the vertical profiles are deeper than those of the floats. Before or after the Figure 6, add a sentence about the depth the stepped structures were detected, i.e. diffusive convection mostly was detected at depths between 300-400 m, while the salt finger

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between 400-700 m.

Will be of interesting to see in a new paper using the CTD data from the SeaDataNet and or EMODNET portals applying the same technology of this ms to reveal the deepest stepped structures, as well as the fluxes estimates.

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