Third review of EGUsphere-2024-3436
Effect of double diffusion processes in the deep ocean on the distribution and dynamics of particulate and dissolved matter: a case study in Tyrrhenian Sea
by Durrieu de Madron et al.

Overview

The manuscript by Durrieu de Madron et al. presents CTD, ADCP and optical profile data along a section crossing the Tyrrhenian Sea and investigates salt finger staircase effects on particulate and dissolved matter distribution.

The authors have adequately addressed all the reviewers' comments which has strengthened the manuscript. I only have some minor further comments below.

Line 308: stratification is lower

Figure 3d: Ri would be best shown in log10 scale to emphasize Ri¡0.25

Lines 320-329: The part about vertical velocity seems a bit half-baked, if you are showing the figure perhaps there can be a bit more to say? For example, is there a significant difference in the histogram for w within the steps vs outside of the steps? Or at least between profiles with vs without steps?

Line 322: in the upper 300 m

Line 428: across the basin from west to east during

Line 461: absent in the upper 1000 m at the stations within the anticyclonic eddy

Line 473: delete 'drops'

Line 613: particulate organic matter? .

Line 653: vertical flux

Line 667: vertical fluxes