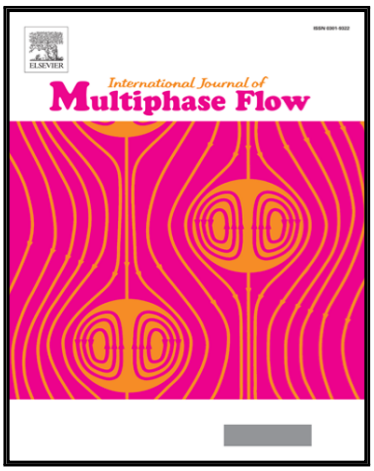

Drift by air bubbles crossing an interface of a stratified medium at moderate Reynolds number

L. Díaz, A. Ruiz-Angulo, R. Zenit

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Highlights

- The partial volume drift of bubbles crossing the interface between two miscible stably stratified fluids is studied experimentally.
- The volume is found to increase with the gravimetric Froude number, but to decrease as the Reynolds number increases.
- Two modes of volume drift are identified: stable and unstable. These correspond to the way in which the bubble moves, either rectilinear or in zig-zag, respectively.
- A model is proposed for the stable case. Good agreement with experiments is found.