

Abstract Submitted  
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**A new technique to linearly stratify a fluid** MICKAEL BOSCO, PATRICE MEUNIER, None, ROTATING AND GEOPHYSICAL FLOWS TEAM — Given that oceans and the atmosphere are stratified, most environmental flows like island and mountain range wakes are strongly influenced by the mean density gradient. Consequently, a great number of laboratory experiments have been run using stratified fluids to study geophysical flow. The double-bucket method is generally used to create a stable linearly stratified fluid. The water from the first bucket filled with salted water is slowly deposited at the surface of the tank with a floater and the density of the first bucket is gradually decreased by the addition of fresh water from a second bucket. Nevertheless, this method is not very convenient for large tank as the two buckets are very large and can easily be bulky. A simple method has been created which only needs two walls inside the tank. One plain barrier will ensure watertightness between the two sides of the tank and one holey barrier will allow density-driven exchanges at the origin of a stable linear stratification. One of the motivations was to analyze a stratified cylinder wake. The study has revealed four 3D unstable modes that appears behind the cylinder.

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None

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