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Localized turbulent spots in a stratified shear flow JOHN TAYLOR, DAMTP, University of Cambridge — Despite the large Reynolds numbers involved, turbulence in geophysical flows is often highly intermittent in space and time as the stabilizing effects of density stratification inhibit vertical motions. Direct numerical simulations of stratified turbulence exhibit highly localized 'bursting' events. The transient nature of these bursts makes them difficult to study systematically. Here, we use a new control technique to study localized patches of turbulence in stratified shear flows. The Richardson number, controlling the 'heaviness' of dense fluid is adjusted in time to maintain a fixed level of turbulent kinetic energy. This process allows us to maintain localized turbulent spots and study their properties.

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