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A buoyancy-adjusted extension of the stretched-vortex subgrid-scale model DANIEL CHUNG, GEORGIOS MATHEOU, Jet Propulsion Laboratory/California Institute of Technology — We present a buoyancy-adjusted extension of the stretched-vortex subgrid-scale (SGS) model suitable for large-eddy simulation (LES) of stratified flows. The model remains free of parameters and is consistent with features of anisotropic mixing frequently observed in stratified flows. The vortex-based construction naturally constrains the mixing in the horizontal provided the vortex alignment is favorable even at high gradient Richardson numbers. We will compare the LES results with direct numerical simulation (DNS) of homogeneous stably stratified flows.

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