

Abstract Submitted  
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**Moist, Double-diffusive convection** JEFFREY OISHI, Bates College, KEATON BURNS, Department of Physics, MIT, BEN BROWN, Astrophysical and Planetary Sciences, University of Colorado, Boulder, DANIEL LECOANET, Princeton Center for Theoretical Sciences, Princeton University, GEOFFREY VASIL, School of Mathematics Statistics, University of Sydney — Double-diffusive convection occurs when the competition between stabilizing and a destabilizing buoyancy source is mediated by a difference in the diffusivity of each source. Such convection is important in a wide variety of astrophysical and geophysical flows. However, in giant planets, double-diffusive convection occurs in regions where condensation of important components of the atmosphere occurs. Here, we present preliminary calculations of moist, double-diffusive convection using the Dedalus pseudospectral framework. Using a simple model for phase change, we verify growth rates for moist double diffusive convection from linear calculations and report on preliminary relationships between the ability to form liquid phase and the resulting Nusselt number in nonlinear simulations.

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