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Simulations of mixing in Inertial Confinement Fusion with front tracking and sub-grid scale models VERINDER RANA, HYUNKYUNG LIM, JEREMY MELVIN, Stony Brook University, BAOLIAN CHENG, Los Alamos National Laboratory, JAMES GLIMM, Stony Brook University, DAVID SHARP, Los Alamos National Laboratory — We present two related results. The first discusses the Richtmyer-Meshkov (RMI) and Rayleigh-Taylor instabilities (RTI) and their evolution in Inertial Confinement Fusion simulations. We show the evolution of the RMI to the late time RTI under transport effects and tracking. The role of the sub-grid scales helps capture the interaction of turbulence with diffusive processes. The second assesses the effects of concentration on the physics model and examines the mixing properties in the low Reynolds number hot spot. We discuss the effect of concentration on the Schmidt number. The simulation results are produced using the University of Chicago code FLASH and Stony Brook University's front tracking algorithm.

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