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Effects of Large Scale Intermittency on Small Scale Turbulence DANIEL BLUM, SURENDRA KUNWAR, EMMALEE RIEGLER, RACHEL BROWN, GREG A. VOTH, Wesleyan University — We report on the effect of temporal fluctuations of the large scales in a turbulent flow on small scale turbulence statistics. A stereoscopic high-speed imaging system (3D PTV) is used to obtain Lagrangian trajectories in a flow between oscillating grids in 1m x 1m x 1.5m tank. A novel real-time image compression system allows us to obtain very large data sets. We report measurements of structure functions and the energy dissipation rate conditioned on the phase of the driving grid or conditioned on the instantaneous velocity.

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