Abstract Submitted for the DFD07 Meeting of The American Physical Society

Particle settling in a stratified fluid ROMAN STOCKER, MIT -Civil and Environmental Engineering, KING-YEUNG YICK, MIT - Mathematics, THOMAS PEACOCK, MIT - Mechanical Engineering, CARLOS TORRES, Universidad Autónoma de Baja California — Particles settling in a stratified fluid experience an increased drag caused by the vertical displacement of isopycnals. Using a combination of microscale Synthetic Schlieren experiments and numerical simulations, we have quantified the extra drag due to stratification at low and moderate Reynolds numbers for particles as small as 157  $\mu$ m. Our results suggest that the extra drag depends on a combination of the Reynolds, Froude and Prandtl numbers through a single dimensionless parameter which we called the Stratification number.

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Date submitted: 08 Aug 2007

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