

Abstract Submitted
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Dripping and Jetting in a Co-flowing Fluid Stream ANDREW UTADA, ALBERTO FERNANDEZ-NIEVES, Division of Engineering and Applied Sciences, Harvard University, DAVID WEITZ, Department of Physics and the Division of Engineering and Applied Sciences, Harvard University — We present preliminary data on drop formation from a nozzle in a co-flowing fluid. This problem has been addressed for cases where the outer fluid is a gas or a stationary viscous fluid. We observe that drop formation is affected by the co-flowing fluid. We focus on the dripping-jetting transition, jet size and shape, and drop sizes. Finally, we relate the physics of drop formation to a recently reported microcapillary device (1,2) that generates monodisperse double emulsions.

(1) A. S. Utada, E. Lorenceau, D. R. Link, P. Kaplan, H. A. Stone, D. A. Weitz, *Science* 308, 537 (2005)

(2) E. Lorenceau, A. S. Utada, D. R. Link, G. Cristobal, M. Joanicot, D. A. Weitz, *Langmuir* in press, (2005).

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