

Abstract Submitted  
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**The Bouncing Jet: A Newtonian Liquid Rebounding off a Free Surface** MATTHEW THRASHER, University of Texas at Austin, SUNGHWAN JUNG, YEE KWONG PANG, CHIH-PIAO CHUU, HARRY L. SWINNEY — We find that a liquid jet can bounce off a bath of the same liquid if the bath is moving horizontally with respect to the jet. Previous observations of jets rebounding off a bath (e.g. Kaye effect) have been reported only for non-Newtonian fluids, while we observe bouncing jets in a variety of Newtonian fluids, including mineral oil poured by hand. A thin layer of air separates the bouncing jet from the bath, and the relative motion replenishes the film of air. Jets with one or two bounces are stable for a range of viscosity, jet flow rate and velocity, and bath velocity. The bouncing jet phenomenon can be observed in many household fluids using only minimal equipment, making it accessible as a classroom demonstration and a science project.

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