

Abstract Submitted
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Hourglass Bubble Plumes MICHAEL HIGLEY, ANDREW BELMONTE, Penn State — We present an experiment in which millimetric bubbles are injected into water from a small number of closely-spaced pipettes. These bubbles form a dilute plume with a repeated hourglass pattern of widening and narrowing diameter. We detail parameters affecting the formation and characteristics of this pattern. Two factors are shown to be particularly important: the initial radial spread of the bubbles from their sources, and their subsequent helical trajectories. A simple model which treats the bubbles as independent reproduces the hourglass pattern.

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