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Jet Direction in Bubble Collapse Within Rectangular and Triangular Channels LEBO MOLEFE, Ecole Polytechnique Federale de Lausanne, IVO PETERS, University of Southampton — A vapor bubble collapsing near a solid boundary in a liquid produces a liquid jet that points toward the boundary. The direction of this jet has been studied for boundaries such as flat planes and parallel walls enclosing a channel. Extending these investigations to enclosed polygonal boundaries, we experimentally measure jet direction for collapsing bubbles inside a square and an equilateral triangular channel. Following the method of Tagawa and Peters [Phys. Rev. Fluids 3, 081601 (2018)] for predicting the jet direction in corners, we model the bubble as a sink in a potential flow and demonstrate by experiment that analytical solutions accurately predict jet direction within an equilateral triangle and square. We further use the method to develop predictions for several other polygons, specifically, a rectangle, an isosceles right triangle, and a $30^\circ - 60^\circ - 90^\circ$ right triangle.

Lebo Molefe
Ecole Polytechnique Federale de Lausanne

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