

Abstract Submitted
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The collapse of a cavitation bubble in a corner IVO PETERS, University of Southampton, YOSHIYUKI TAGAWA, Tokyo University of Agriculture and Technology — The collapse of cavitation bubbles is influenced by the surrounding geometry. A classic example is the collapse of a bubble near a solid wall, where a fast jet is created towards the wall. The addition of a second wall creates a non-axisymmetric flow field, which influences the displacement and jet formation during the collapse of a bubble. In this experimental study we generate mm-sized vapor bubbles using a focused pulsed laser, giving us full control over the position of the bubble. The corner geometry is formed by two glass slides. High-speed imaging reveals the directional motion of the bubble during the collapse. We find that the bubble displacement cannot be fully described by a simple superposition of the bubble dynamics of the two walls individually. Comparison of our experimental results to a model based on potential flow shows a good agreement for the direction of displacement.

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