

Abstract Submitted  
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**Resolving Droplet Splashing with Adaptive Mesh Refinement and Accurate Curvature Estimation**<sup>1</sup> SAMUEL JOHNSON, JEAN-PIERRE DELPLANQUE, University of California Davis — The numerical simulation of droplet splashing is a particularly difficult task. This is due in part to the necessity of accurately representing the liquid-gas interface's geometry and physics. However, a possibly more significant obstacle is resolving important droplet features with disparate length scales, while maintaining a reasonable level of computational efficiency. Presented here is an advanced parallel implementation of the volume-of-fluid method with accurate interface reconstruction and curvature estimation. Adaptive mesh refinement is used to resolve small length-scale features, without the unnecessary computational cost of over-resolving trivial regions of the computational domain. This implementation of the volume-of-fluid method is well suited to the task of simulating droplet splashing and is applied to that problem here.

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