

Abstract Submitted
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The Normal Impact of Small Hydrophobic Bodies JEFF ARISTOFF, JOHN BUSH, Massachusetts Institute of Technology — We present the results of a combined experimental and theoretical investigation of the normal impact of hydrophobic spheres on a horizontal water surface. Particular attention is given to characterizing the shape of the resulting air cavity in both the low Bond number and low Weber number limits. A parameter study reveals the dependence of the cavity structure on the governing dimensionless groups, which we rationalize by scaling arguments. A theoretical model is developed to describe the evolution of the cavity shape, and is found to compare favorably with our experimental observations.

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