

Abstract Submitted
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Impact of a Hydrophobic Sphere onto a Bath¹ DANIEL M. HARRIS, Brown University, JOHN EDMONDS, University of North Carolina at Chapel Hill, CARLOS A. GALEANO-RIOS, PAUL A. MILEWSKI, University of Bath — Small hydrophobic particles impacting a water surface can rebound completely from the interface (Lee & Kim, *Langmuir*, 2008). In the present work, we focus on the bouncing dynamics of millimetric hydrophobic spheres impacting the surface of a quiescent water bath. Particular attention is given to the dependence of the normal coefficient of restitution and contact time on the impact velocity and the radius and density of the sphere. Our experimental observations are compared to the predictions of a fluid model derived from linearized Navier-Stokes under the assumption of a high Reynolds number regime (Galeano-Rios et al., *JFM*, in press). In the model, the motions of the sphere and the fluid interface are found by imposing the natural geometric and kinematic compatibility conditions. Future directions will be discussed.

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