

Abstract Submitted  
for the DFD15 Meeting of  
The American Physical Society

**Surface topography measurements for pilot-wave hydrodynamics<sup>1</sup>**

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JOHN BUSH, MIT — We present the results of our attempt to refine the surface Schlieren technique originally developed by Moisy et al. (2009, 2012) to resolve the surface topography associated with capillary wave fields. Our technique is applied to infer the wave field that accompanies millimetric droplets self-propelling on the surface of a vibrating fluid bath. Apart from a shadow region on the order of the drops cross-sectional area, the waves are resolved to a micron scale, allowing for quantitative comparison with existing theoretical models of the wave field. The technique is used to yield insight into the interaction between walking droplets and submerged barriers.

<sup>1</sup>Thanks to the NSF.

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Date submitted: 01 Aug 2015

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