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Diffraction of walking droplets¹ DANIEL M. HARRIS, Massachusetts Institute of Technology, GIUSEPPE PUCCI, University of Calabria, JOHN W.M. BUSH, Massachusetts Institute of Technology — We present results from our revisitation of the experiment of a walking droplet passing through a single slit, originally investigated by Couder & Fort (PRL, 2006). On each passage, the walker's trajectory is deviated as a result of the spatial confinement of its guiding wave. We explore the role of the droplet size and the bath's vibration amplitude on both the dynamics and statistics. We find the behavior to be remarkably sensitive to these control parameters. A complex physical picture emerges.

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