Abstract Submitted
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Hydrodynamic quantum analogues: droplets walking on the impossible pilot wave[1] JOHN BUSH, Department of Mathematics, MIT — Yves Couder and coworkers have demonstrated that droplets walking on a vibrating fluid bath exhibit several features previously thought to be peculiar to the microscopic quantum realm. We explore the connection between this hydrodynamic system and the pilot-wave theory of quantum mechanics proposed by de Broglie and extended by workers in the field of stochastic electrodynamics. Critical common features of these ostensibly disparate systems are identified, and quantitative differences noted.

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