

Abstract Submitted  
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**Faraday Pilot-Waves: Generation and Propagation**<sup>1</sup> CARLOS GALEANO-RIOS<sup>2</sup>, IMPA, PAUL MILEWSKI, University of Bath, ANDRÉ NACHBIN, IMPA, JOHN BUSH, MIT — We examine the dynamics of drops bouncing on a fluid bath subjected to vertical vibration. We solve a system of linear PDEs to compute the surface wave generation and propagation. Waves are triggered at each bounce, giving rise to the Faraday pilot-wave field. The model captures several of the behaviors observed in the laboratory, including transitions between a variety of bouncing and walking states, the Doppler effect, and droplet-droplet interactions.

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