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A model for Faraday pilot-waves over variable topography LUIZ FARIA, MIT — In 2005 Yves Couder and co-workers discovered that droplets walking on a vibrating bath posses certain features previously thought to be exclusive to quantum systems. These millimetric droplets synchronize with their Faraday wavefield, creating a macroscopic pilot-wave system. In this talk we exploit the fact that the waves generated are nearly monochromatic and propose a hydrodynamic model capable of capturing the interaction between bouncing drops and a variable topography. We show that our model is able to reproduce some important experiments involving the drop-topography interaction, such as non-specular reflection and single-slit diffraction.

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