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A model for bouncing droplets: effects of obstacles and confinements ASLAN KASIMOV, KAUST, LUIZ FARIA, KAUST, MIT — We propose a simple model for particle-wave interactions that captures many aspects of experiments with droplets bouncing on a vibrating bath. The model results from shallow water, small viscosity, and linear approximation to free surface hydrodynamics. The droplet motion is governed by an equation with a force that depends on the wave slope. We study a droplet motion in a wave guide, a droplet passing through a single/double slits, and other interactions that are known experimentally to exhibit quantum effects.

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