

Coalescence and Walking Thresholds of Bouncing Drops

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A vibrating liquid bath can sustain small droplets in a periodic bouncing motion. We provide a simple model predicting the minimal amplitude of vibration necessary to prevent these droplets from coalescing with the bath. Droplets within a certain range of sizes can be made to "walk" with a sufficiently large forcing of the bath. We try to rationalize the experimentally observed walking threshold curves and predict the walking speed above the threshold.