

Abstract Submitted
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Snap-in of particles at curved liquid interfaces CHAO LI, MOMENE MORADIAFRAPOLI, JEREMY MARSTON, Texas Tech University — The contact of particles with liquid interfaces constitutes the first stage in the formation of a particle-laden interface, the so-called "snap-in effect". Here, we report on an experimental study using high-speed video to directly visualize the snap-in process and the approach to the equilibrium state of a particle at a curved liquid interface (i.e. droplet surface). We image the evolution of the contact line, which is found to follow a power-law scaling in time, and the dynamic contact angle during the snap-in. Both hydrophilic and hydrophobic particles are explored and we match the lift-off stage of the particles with a simple force balance. We also explore some multi-particle experiments, eluding to the dynamics of particle-laden interface formation.

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