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**Capillary Thinning of Particle-laden Drops** BRAYDEN WAGONER, SUMEET THETE, MATT JAHNS, Purdue Univ, PANKAJ DOSHI, Chemical Engineering and Process Development, National Chemical Laboratory, Pune, India, OSMAN BASARAN, Purdue Univ — Drop formation is central in many applications such as ink-jet printing, microfluidic devices, and atomization. During drop formation, a thinning filament is created between the about-to-form drop and the fluid hanging from the nozzle. Therefore, the physics of capillary thinning of filaments is key to understanding drop formation and has been thoroughly studied for pure Newtonian fluids. The thinning dynamics is, however, altered completely when the fluid contains particles, the physics of which is not well understood. In this work, we explore the impact of solid particles on filament thinning and drop formation by using a combination of experiments and numerical simulations.

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