

Abstract Submitted
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Viscous fingering of a draining suspension YUN CHEN, FRANK MALAMBRI, SUNGYON LEE, Texas A&M University — The Saffman-Taylor viscous fingering arises when a viscous oil is withdrawn from a Hele-Shaw cell that is filled with a less viscous fluid. When particles are introduced into the draining fluid, new behaviors emerge, which are unobserved in the well-established pure oil case. We experimentally investigate the particle-modified inward fingering for varying particle concentrations. In particular, the fingering growth rate and number of fingers are experimentally quantified and are shown to be directly affected by the presence of particles. The physical mechanism of the particle-modified fingering is also discussed.

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