

Abstract Submitted
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Influence of viscosity coefficients during spreading and coalescence of droplets in liquids¹ THOMAS CUBAUD, BIBIN M. JOSE, Stony Brook University — We experimentally characterize the role of absolute viscosities on the dynamics of droplet spreading on solids and droplet-droplet coalescence in liquid/liquid systems for a broad range of fluid parameters. In particular, we show the existence of a viscous function based on both inner and outer fluid viscosities that allows for the determination of the critical wetting velocity and the evolution of the contact diameter during immersed spreading and coalescence of droplets. Our approach demonstrates the reduced influence of fluid viscosity from initial wetting to spreading and coalescence of droplets and provides insights into the influence of wetting contact lines on spontaneous capillary phenomena

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