Abstract Submitted
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Advancing contact line dynamics in the presence of surfactant above the critical micelle concentration[1] DAVID BEACHAM, RICHARD CRASTER, OMAR MATAR, Imperial College London — We examine the dynamics of a contact line in the presence of surfactant above the critical micelle concentration. We couple a lubrication model to advection-diffusion equations for surfactant transport allowing for micelle formation and break-up in the bulk and adsorptive fluxes at both the gas-liquid and liquid-solid interfaces. Equations of state are used to model variations in surface tension and wettability. We also account for the structural component of the disjoining pressure within our lubrication model, which is dependent on the concentration of the micelles. We discuss this effect on the spreading rate and on the shape of the interface in the vicinity of the contact line.

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