

Abstract Submitted
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Simulations of surfactant laden drops settling in sharp stratifications DAVID MARTIN, FRANCOIS BLANCHETTE, University of California Merced — To model oil droplets in the oceans, we present simulations of surfactant-laden drops settling in stratifications. Our model uses a thin, axisymmetric interface, treated as a two dimensional front, and we track the local surfactant concentration. By altering the relative surface tension of the drop with the ambient, surfactants impact the flow around the drop as well as the settling speed of the drop. The ambient stratification also affects surface tension, giving rise to complex dynamics. Settling speeds are obtained in the presence of surfactant, and compared to the surfactant free case, and the effects of the stratification are quantified.

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