Abstract Submitted
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Surfactant-laden drops rising in a stratified ambient FRANCOIS BLANCHETTE, DAVID MARTIN, UC Merced — We present results of a numerical study of the dynamics of rising drops in the presence of both surfactants and stratification. Our simulations model oil drops rising in the oceans, where naturally occurring or man-made surfactants are present. We study surfactant covered drops in uniform and density-stratified ambients, as well as clean drops entering a dissolved surfactant layer. We quantify the effects of entrainment for various Reynolds and Marangoni numbers. We also report a brief acceleration followed by a significant deceleration as a clean drop enters a surfactant layer, and describe how the adsorption rate affects those dynamics.

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