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Effect of Salt on Drainage via Stratification in Micellar Foam Films SUBINUER YILIXIATI, RABEES RAFIQ, YIRAN ZHANG , VIVEK SHARMA, Univ of Illinois - Chicago — Understanding and controlling the drainage kinetics of thin films is an important problem that underlies the stability, lifetime and rheology of foams and emulsions. Foam films containing micelles, colloidal particles or polyelectrolyte-surfactant mixtures exhibit step-wise thinning or stratification, due to the influence of non-DLVO forces, including supramolecular oscillatory structural forces. In this study, we use Interferometry, Digital, Imaging, Optical Microscopy protocols to investigate the drainage and stratification in micellar foam films (<100 nm) with high spatial (thickness <10 nm) and temporal resolution (<1 ms). We determine how the concentration of surfactants and added salt influences the nanoscopic topography, stratification kinetics and step size of foam films formed using micellar sodium dodecyl sulfate (SDS) solutions.

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