

Abstract Submitted  
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**Gravitational Drainage of Foam: Planar Films, Stability and Foamability** SOUMYADIP SETT, RAKESH SAHU, ALEXANDER YARIN, Univ of Illinois - Chicago — Gravitational drainage from thin plane vertical surfactant films was studied experimentally by using microinterferometry. Anionic surfactant Sodium Dodecyl Sulfate (SDS), cationic surfactant Dodecyltrimethylammonium Bromide (DTAB), nonionic surfactant Tetraethylene Glycol Monooctyl Ether (C8E4) and nonionic superspreader trisiloxane SILWET L-77 were used. The experimental results were used to measure the Gibbs surface elasticities of these surfactants, as well as the disjoining pressure of the superspreader. The interpretation of the experimental results was based on the theoretical model developed in the present work. Foamability and foam stability of foams generated from these surfactant solutions were studied experimentally in a settler column. Solutions and foams of SDS and the superspreader mixtures were also studied, and the resulting mechanism of drainage deceleration uncovered.

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