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Flow of a surfactant-laden thin liquid film down an inclined plane RACHEL LEVY, Harvey Mudd College, MICHAEL SHEARER, North Carolina State University, THOMAS WITELSKI, Oxford Centre for Industrial and Applied Mathematics — A thin liquid film flowing down an inclined plane can be described by a scalar fourth-order partial differential equation. The addition of insoluble surfactant dramatically alters the free surface of the film. A second equation modeling the transport and diffusion of surfactant is coupled to the height equation. Using numerical simulations and asymptotics, we explore the dependence of traveling wave solutions on capillary, Peclet and Bond numbers.

Prefer Oral Session
 Prefer Poster Session

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