

Abstract Submitted  
for the DFD17 Meeting of  
The American Physical Society

**Fluorescence microscopy of precursor films in evaporating droplets.** SAHAR ANDALIB, PIROUZ KAVEHPOUR, UCLA — Precursor films are present near the contact line of wetting fluids during spreading process on a solid surface. Despite its importance in many industrial applications like coating technologies, microfluidics, heat pipes, etc., the underlying mechanism of precursor films is not yet fully understood. In the present study, fluorescence microscopy is used to visualize and study the behavior of an evaporating precursor film. In spite of the limitations of other techniques such as ellipsometry, interferometry, and atomic force microscopy in capturing the phenomena, fluorescence microscopy provides adequate spatial as well as temporal range and resolution and is a noninvasive method. This work will contribute to our understanding of the physics of evaporating contact lines where there exists a gap between numerical and theoretical models due to singularity in evaporation rate and viscous forces. Detailed experimental data will provide valuable insight into the mechanism of fluid spreading and interfacial phenomena.

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Date submitted: 01 Aug 2017

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