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**Evolution of the Diffusive Precursor Film of a Wetting Fluid at the Vicinity of the Moving Contact Line** ANNA HOANG, PIROUZ KAVEHPOUR, UCLA — For wetting fluids, a microscopic film, which is known as the precursor film, exists at the front of the moving contact line. The structure of this thin film has been studied theoretically, but previous experimental investigations were limited by the resolution of the measurement system (lateral or vertical). We studied the evolution of the profile of a spreading droplet near the moving contact line using total internal reflection fluorescence microscopy (TIR-FM). Our technique provides the lateral resolution and dynamic range required to capture the features of the macroscopic drop (spherical cap), wedge region, and precursor film within a single experiment. The dynamic characteristics of the precursor film are in good agreement with the theoretical results.

Anna Hoang  
UCLA

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