

Abstract Submitted  
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**Micron-scale measurement of dynamic contact angles in the vicinity of moving contact lines** BIAN QIAN, KENNETH BREUER, Brown University — Directly probing the liquid-vapor interface shape near moving contact lines is critical to understanding the microscopic physics of dynamic contact line behavior. Using a novel high resolution optical technique, we report on the meniscus shape in the immediate vicinity of moving contact lines. The liquid is fluorescently-dyed and illuminated with a highly focused laser beam. The strongest illumination intensity occurs at the laser focus and this bright and tiny spot serves as a probe which changes in intensity and shape near the liquid-vapor interface. This experimental setup enables us to resolve the meniscus shape with submicron resolution within 10 microns of the contact line. Using this technique, we report on the dependence of the interface shape on the contact line speed and compare it with theoretical predictions.

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