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Dynamics of Wetting of Ultra Hydrophobic Surfaces ALIREZA MOHAMMAD KARIM, University of California, Los Angeles (UCLA), JEONG-HYUN KIM, JONATHAN ROTHSTEIN, University of Massachusetts, Amherst, PIROUZ KAVEHPOUR, University of California, Los Angeles (UCLA), MECHANICAL AND INDUSTRIAL ENGINEERING, UNIVERSITY OF MASSACHUSETTS, AMHERST COLLABORATION — Controlling the surface wettability of hydrophobic and super hydrophobic surfaces has extensive industrial applications ranging from coating, painting and printing technology and waterproof clothing to efficiency increase in power and water plants. This requires enhancing the knowledge about the dynamics of wetting on these hydrophobic surfaces. We have done experimental investigation on the dynamics of wetting on hydrophobic surfaces by looking deeply in to the dependency of the dynamic contact angles both advancing and receding on the velocity of the three-phase boundary (Solid/Liquid/Gas interface) using the Wilhelmy plate method with different ultra-hydrophobic surfaces. Several fluids with different surface tension and viscosity are used to study the effect of physical properties of liquids on the governing laws.

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