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**Advancing contact angles on large structured surfaces** YUMIKO YOSHITAKE, YOSHINORI ITAKURA, JUNICHI GOBO, TSUTOMU TAKAHASHI, Nagaoka University of Technology — To understand wetting phenomena on complex surfaces, simple modeling experiments in two-dimension system would be one of the most efficient approaches. We develop a new experimental method for wetting dynamics using a large pseudo two- dimensional droplet. This method is useful to examine theoretical studies developed in two dimensional systems. In this study, we examine a pinning and depinning phenomena on millimeter-size structured surface to explain the origin of contact angle hysteresis. Contact lines of the droplet are pinned and deppined at the edge of surface texture. The contact lines can move when the contact angle is equal to the Young's contact angle which are determined by the balance of the surface and interfacial tension immediate vicinity of the contact lines, which is different from the Wenzel's low. Our approach enables to realize a macroscopic modelling experiment of wetting on complex surfaces, which opens a path to design functional surfaces with chemical and physical structure.

Yumiko Yoshitake  
Nagaoka University of Technology

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