

Abstract Submitted
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Advancing contact line in presence of colloids. LAURENT LIMAT, EMMANUELLE RIO, ADRIAN DAERR, Laboratoire PMMH, UMR7636 of CNRS, and Laboratoire MSC, UMR 7057, ESPCI, 10 rue Vauquelin, 75231 Paris Cedex 05, France., FRANÇOIS LEQUEUX, Laboratoire PPMD, UMR 7615 of CNRS, ESPCI, 10 rue Vauquelin, 75231 Paris Cedex 05, France — Coating a solid with colloids often involves an advancing moving contact line that leaves behind a thin film progressively evaporating. We have investigated the interaction between wetting and colloids on a simple experiment: a drop of colloid is pushed at constant speed over a solid. Depending on the drop velocity V and on the colloid concentration c , different behaviours are observed. At low c or high V , the contact line remains stationary. At high c or low V , a stick-slip motion of the contact line is observed. This induces irregularities of the colloid deposition, explored by transmission electron microscopy. We have investigated these phenomena varying drop speed and colloid concentration, and proposed a simple physical model of the stick-slip appearance and of its properties.

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