

Abstract Submitted
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Windswept droplets KEVIN NJIFENJU, JOSE BICO, PMMH-ESPCI, Paris, EMMANUELLE ANDRES, Technocentre Renault, Guyancourt, MARC FERMIGIER, PMMH-ESPCI, Paris — A droplet deposited on a flat surface (e.g. a car windshield) tends to remain pinned due to contact angle hysteresis. However the droplet may be displaced when sheared by airflow or under the action of gravity. We investigate the conditions that enable the motion of a windswept droplet and describe the liquid dynamics as a function of the combined action of wind shear, gravity and capillary forces. In particular we show that these dynamics can be rationalized in terms of non-dimensional Weber, Bond and Capillary numbers. We finally describe the interaction between multiple moving droplets.

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