

Abstract Submitted  
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**Impact of liquid drops on a moving surface**<sup>1</sup> CHRISTOPHE PI-RAT, HENRI LASTAKOWSKI, FRANCOIS BOYER, ANNE-LAURE BIANCE, CHRISTOPHE YBERT, ILM, Univ. Lyon1 CNRS — When a liquid drop impacts on a solid surface, it is well known that, depending on the impact velocity, liquid and surface properties, it can experience various, rich and complex dynamics. In this experimental study, we focus on the specific case of a water drop that impacts on a smooth surface having a tangential velocity. For a rather high surface velocity, a thin layer of air intercalates between the surface and the drop throughout the spreading, leading to a low friction condition similar to what is observed for a leidenfrost impact. For a low surface velocity, the surface can carry the full drop away. We report here on the intermediate regime: a partial rebound observed when a droplet detaches “upstream” from the rest of the drop. We study the threshold below which the surface cannot pull the liquid film without breaking-up anymore. Two distinct situations are observed, depending on the relative strength of capillary and viscous effects.

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