

Abstract Submitted  
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**Drop Impact on to Moving Liquid Pools**<sup>1</sup> BEATRIZ NATIVIDAD MUÑOZ-SÁNCHEZ, Xaar plc, United Kingdom, JOSÉ RAFAEL CASTREJÓN-PITA, University of Cambridge, ALFONSO ARTURO CASTREJÓN-PITA, University of Oxford, IAN M. HUTCHINGS, University of Cambridge — The deposition of droplets on to moving liquid substrates is an omnipresent situation both in nature and industry. A diverse spectrum of phenomena emerges from this simple process. In this work we present a parametric experimental study that discerns the dynamics of the impact in terms of the physical properties of the fluid and the relative velocity between the impacting drop and the moving liquid pool. The behaviour ranges from smooth coalescence (characterized by little mixing) to violent splashing (generation of multiple satellite droplets and interfacial vorticity). In addition, transitional regimes such as bouncing and surfing are also found. We classify the system dynamics and show a parametric diagram for the conditions of each regime.

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Jose Rafael Castrejon-Pita  
University of Cambridge

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