

Abstract Submitted  
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**Numerical simulation of drop impact on interfaces with surfactant effects**<sup>1</sup> JALEL CHERGUI, LIMSI, CNRS, ASSEN BATCHVAROV, LYES KAHOUADJI, Imperial College London, DAMIR JURIC, LIMSI, CNRS, SEUNGWON SHIN, Hongik University, Korea, RICHARD V. CRASTER, OMAR K. MATAR, Imperial College London, ZHIZHAO CHE, Tianjin University, China — Direct numerical simulations of droplet impact on a thin film are carried out using *Blue*, a front-tracking-based solver. We first vary the droplet size, thickness of the liquid film, and initial droplet height in order to observe the different effects that these parameters have on impact outcomes in the absence of surfactants; this is the ‘benchmark case. The surfactant-laden case is then considered wherein the impact of a drop of surfactant solution on a thin film of the same solution is simulated. The collision outcomes between both clean and surfactant-laden cases are compared. All the results are analysed with the aid of a number of dimensionless quantities such as Bond number, Weber number, and Ohnesorge number.

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