

Abstract Submitted
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Influence of gas properties in drop splashing CHRISTOPHE JOSSERAND, ZHEN JIAN, Institut D'Alembert, CNRS & UPMC, STEPHANE POPINET, NIWA, PASCAL RAY, STEPHANE ZALESKI, Institut D'Alembert, CNRS & UPMC, FCIH COLLABORATION — We study numerically the influence of the surrounding gas in the drop impact dynamics. We observe that when superhydrophobic boundary conditions are taken, splashing is always present, that we explain through a lubrication argument. On the other hand, when partial wetting is allowed, a splashing/spreading transition is observed. This transition is strongly influenced by the viscosity ratio but shows also a slight dependence with the gas pressure in qualitative agreement with experimental results.

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