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To splash or not to splash? That is the question GUILLAUME RIBOUX, JOSE MANUEL GORDILLO, Universidad de Sevilla — When a drop impacts a smooth, dry surface at a velocity above the so-called critical speed for drop splashing, the initial liquid volume losses its integrity, fragmenting into tiny droplets violently ejected radially and vertically outwards. Supported by experimental evidence, we obtained a theoretical criterium for the critical velocity for which a spherical liquid drop impacting onto a smooth dry surface produces the splash (Riboux G. & Gordillo J. M., Phys. Rev. Lett., 113, 024507, 2014). Our theory reveals that splashing is a consequence of the aerodynamic take-off experienced by the edge of the thin lamella which is ejected as a consequence of the impact. In this presentation, we apply our theory to describe what happens when the drop impact velocity is above the critical one. More precisely, we quantify the spatio-temporal evolution of the edge of the lamella, from which drops are ejected vertically and radially outwards once the rim destabilizes due to capillary effects.

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