

Abstract Submitted
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Effect of the pool depth on drop impact splashing HOSSAIN CHIZARI, MARIE-JEAN THORAVAL, Xi'an Jiaotong University — We investigate the effect of the pool depth on the splashing dynamics of drop impact. The splashing of a single drop impacting into a deep pool or on wet surface has been investigated for many years both numerically and experimentally. However, recent results have demonstrated the importance of the vorticity produced during the impact on the splashing behavior. More specifically, the shedding of a vortex ring inside the liquid during the impact can separate the splash jet into several parts. The shedding of the vorticity can be influenced by the proximity of the bottom of the pool, if the pool depth is small enough. We study here how the pool depth can affect the vorticity shedding and the resulting splashing jets. We perform axisymmetric numerical simulations of the impacts with the open sources codes Gerris and Basilisk, and systematically vary the impact conditions, focusing on the effect of pool depth in the splashing regimes.

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