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Precursors to Droplet Splashing on a Solid Surface SHREYAS MANDRE, MADHAV MANI, MICHAEL BRENNER, School of Engineering and Applied Sciences, Harvard University — We consider a liquid droplet moving towards a solid surface with sufficiently high velocity. We demonstrate that in the absence of intermolecular attraction between the liquid and the solid, the liquid does not contact the solid, and instead spreads on a very thin air film. The junction between the air film and the spherical droplet develops a high curvature and emits capillary waves. We hypothesize that the amplification of these capillary waves is the primary cause of splashing.

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