

Abstract Submitted  
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**How does the micro-splashing threshold change with drop size?**

SAM J. BOOS, RACHEL E. PEPPER, Univ of Puget Sound — Micro-splashing is a newly discovered type of splashing that appears within microseconds of first contact between liquid drop and surface, producing tiny droplets with diameters of approximately 10-50  $\mu\text{m}$ . The droplets are ejected outwards at speeds over ten times that of the parent drop. Previously discovered splashing phenomena, like prompt or corona splashing, happen much later in the drop impact and produce larger, slower droplets compared to micro-splashing. A greater understanding of micro-splashing may be important in industry and global health because micro-splashes may, for example, affect the quality of ink printing or contribute to atmospheric aerosolization of particles and toxins. An initial study (Thoroddsen ST, Takehara K, Etoh TG. *J. Fluid Mech.* 706 (2012)) discovered this new type of splashing, described the nature of the micro-splashes, and proposed a mechanism behind their generation. However, micro-splashing is yet to be fully understood. We use high-speed video to determine how drop size affects the threshold velocity for micro-splashing, as a step towards further understanding this phenomenon.

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