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Abstract Submitted  
for the DFD11 Meeting of  
The American Physical Society

**Splashing or not** JULIE ALBAGNAC, Brown University, JOHN KOLINSKI, SHMUEL RUBINSTEIN, Harvard University, SHREYAS MANDRE, Brown University — The splashing of a droplet when impacting a solid surface is common to our everyday experience as well as to industrial applications that require controlled deposition of liquid mass. Still the mechanism for splashing is not well understood. A recent study showed that a decrease in the ambient pressure inhibits splashing, motivating a hypothesis on the existence of a thin film of air trapped between the drop and the surface. The early dynamics of splashing could occur while the drop is still spreading on an air film. To gain insight into this early dynamics, we supplement the side view with a synchronized bottom view, obtained using a novel Total Internal Reflection technique. I will discuss the existence of a transition regime between spreading and splashing. This regime appears by changing the impact velocity or the ambient pressure, while keeping the other fixed.

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