

Abstract Submitted  
for the DFD08 Meeting of  
The American Physical Society

**The crown splash** ROBERT DEEGAN, University of Michigan, PHILIPPE BRUNET, CNRS, JENS EGGERS, University of Bristol — The impact of a drop onto a liquid layer and the subsequent splash has important implications for diverse physical processes such as air-sea gas transfer, cooling, and combustion. In the *crown splash* parameter regime, the splash pattern is highly regular. We focus on this case as a model for the mechanism that leads to secondary droplets, and thus explain the drop size distribution resulting from the splash. We show that the mean number of secondary droplets is determined by the most unstable wavelength of the Rayleigh-Plateau instability. Variations from this mean are governed by the width of the spectrum. Our results for the crown splash will provide the basis for understanding more complicated splashes.

Robert Deegan  
University of Michigan

Date submitted: 31 Jul 2008

Electronic form version 1.4