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On the nature of the crown forming instability in the drop splash problem ROUSLAN KRECHETNIKOV, University of Alberta, GEORGE HOMSY, University of California at Santa Barbara — This talk describes some recent experiments on the drop splash problem in which a drop impinges on a thin film of the same liquid. We provide some novel experimental insights onto the nature of the fundamental instability. Our experimental study also reveals the bifurcation picture in the crown behavior as the inertia of the drop is varied, and identifies a few fundamental states characterized by the azimuthal structure of the interface. Finally, the pecularities of using milk as opposed to water are studied, and a fundamental cause of the differences is pointed out.

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