

Abstract Submitted
for the DFD08 Meeting of
The American Physical Society

Drop Break-up in Concentrated Surfactant Solutions ITAI COHEN, JOHN SAVAGE, Cornell University, PATRICK SPICER, MARCO CAGGIONI, P&G — Droplets break-up in air is a common phenomenon that occurs all around us. At the point of break-up, the drop radius shrinks to zero in a finite amount of time. The pressure exerted by the interface is inversely proportional to the minimum radius and becomes singular at break-up. In Newtonian fluids, this finite time singularity gives rise to universal features in the breakup process that can be described by similarity solutions for the fluid air interface. In this talk I will address the question of how this process is altered when observed in concentrated surfactant solutions. Remarkably we find that breakup in these systems is a mix between universal and non-universal behavior.

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Date submitted: 02 Aug 2008

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