

Sheets of complex fluids

Laurence Ramos

Laboratoire Charles Coulomb UMR 5221 CNRS-Université de Montpellier, Montpellier

Liquid sheets that freely expand in air can be produced by the impact of a small drop of liquid on a cylindrical target of size comparable to that of the drop. In this talk I will illustrate with two examples how the imaging with a fast camera of the dynamics of the sheets thus formed can shed light on fundamental and industrial issues. On the one hand, we quantify the interplay between elasticity and viscosity and the effects of a strong and fast deformation on viscoelastic droplets. On the other hand, we rationalize the role of dilute emulsions in the destabilization mechanism of liquid sheets and its consequence for anti-drift phenomena in agricultural sprays.

