

Abstract Submitted
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Fractal pattern formation in metallic ink sessile droplets MILOUD HADJ-ACHOUR, DAVID BRUTIN, Aix-Marseille University - IUSTI UMR 7343 — We report a fingering instability that occurs during the spreading and evaporation of a nanosuspension droplet. The patterns has a fractal structure similar to those reported by N. Shahidzadeh-Bonn and al. (2008) for salt crystallisation, during evaporation of saturated Na_2SO_4 on a hydrophilic surface. The fingering instability has been widely studied for both Newtonian and non-Newtonian fluids. However, we describe for the first time that a fingering instability is observed for the spreading of a nanosuspension sessile droplet. We demonstrate that in certain cases, the contact line evolves through different spreading regimes according to J. De Coninck et al. (2001) with an enhancement in the evaporation rate due the formation of the fractal patterns.

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