Comparison of Lattice Boltzmann simulation of droplet evaporation and experiments

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Abstract

By using a lattice Boltzmann method for simulating droplet evaporation (R. Ledesma-Aguilar et al., Soft Matter, 2014, 10, 8267) we investigate the evaporation of single and multiple droplets. The numerical results show a good agreement with experiments of the evaporation of alcohol droplets in water with regards to the typical timescales and the convection fields. We also show the slow-down in the evaporation timescales when considering geometries consisting of a larger number of droplets. We discuss how to choose the correct boundary conditions in simulations to correctly reproduce experimental setups.