

MODELLING DROPS ON MICROPATTERNED SURFACES

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ABSTRACT

We discuss the use of free energy lattice Boltzmann algorithms as tools to investigate multiphase flow at surfaces and in microchannels with chemical and topographic patterning. Putting together arguments based on the Gibbs criterion for interface pinning, and the numerical results, we show how capillary filling and imbibition can be controlled by surface patterning.