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Elasticity of the contact line for droplets on anisotropic superhydrophobic surfaces MARCO RIVETTI, ANAIS GAUTHIER, JEREMIE TEISSEIRE, ETIENNE BARTHEL, CNRS - Saint Gobain — We present an experimental and numerical investigation on the receding of contact line for water droplets on glass superhydrophobic surfaces. In particular, we focus our attention on surfaces textured with anisotropic lattice posts. We measure that the receding contact angle is not affected by the anisotropy of the lattice. This surprising behavior is closely related to the elastic deformations of the contact line which can be by studied by direct observation. We interpret this phenomenon in term of propagation of kink defects along the lattice. We detail the influence of the morphology of the lattice on the propagation of kinks, as well as the importance of the shape of the posts. Three dimensional numerical simulations confirm that kinks are the key ingredient for the comprehension of the receding contact angle.

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