

Publication

## Atomic Friction Investigations on Ordered Superstructures

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We review recent friction measurements on ordered superstructures performed by atomic force microscopy. In particular, we consider ultrathin KBr films on NaCl(001) and Cu(001) surfaces, single and bilayer graphene on SiC(0001), and the herringbone reconstruction of Au(111). Atomically resolved friction images of these systems show periodic features spanning across several unit cells. Although the physical mechanisms responsible for the formation of these superstructures are quite different, the experimental results can be interpreted within the same phenomenological framework. A comparison between experiments and modeling shows that, in the cases of KBr films on NaCl(001) and of graphene films, the tip-surface interaction is well described by a potential with the periodicity of the substrate which is modulated or, respectively, superimposed with a potential with the symmetry of the superstructure.

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