

## Water on an inorganic surface

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The boron nitride nanomesh [1] is taken as a model system for an atomically clean system for the study of the interaction of water with an inorganic surface. The nanomesh is a single layer hexagonal boron nitride on a rhodium surface. It consists in a 3 nanometer unit cell with electronically distinct regions, i.e. wires and pores.

Water has a higher affinity to the pores where the self assembly of ice nuclei may be studied with scanning tunneling microscopy. At low temperature we find pentagonal and hexagonal ice clusters [2].

In the second part I will address the nanomesh/water interface in view of dynamic contact angle measurements. Below a certain electrochemical potential the nanomesh corrugation between wires and pores disappears, where it can be shown that this change in structure at the nanometer scale finds a macroscopic expression in the contact angles of an aqueous electrolyte [3].

[1] Corso et al. Boron Nitride Nanomesh, *Science* 303 (2004) 217.

[2] HF. Ma, et al. Chiral Distortion of Confined Ice Oligomers ( $n = 5,6$ ), *Langmuir* 28 (2012) 15246.

[3] S. Mertens et al. Switching stiction and adhesion of a liquid on a solid, *Nature* 534 (2016) 676.