



Max Planck lecture for natural sciences

December 4th, 2019 at 15:00 pm - DESY Auditorium Bldg. 5

Bahrenfeld Campus, Notkestraße 85, Hamburg 22607

A Molecular View of Water and Ice Interfaces

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Water and ice surfaces and interfaces are ubiquitous, not just in nature, but also in many technological applications. Water is a rather unique liquid, owing to its strong intermolecular interactions: strong hydrogen bonds hold water molecules together. At the surface of water and ice, the water hydrogen-bonded network is abruptly interrupted, conferring distinct properties on the interface, compared to bulk.

I will present some challenges (“how can we study the ~1 monolayer of water molecules that is in direct contact with the other phase, and distinguish this ~Angstrom-thin layer from the bulk?”) and progress in the study of interfacial water. I will specifically address the interaction of water with charged interfaces, and attempt to explain why ice is slippery.

