

Full Quantum Nature of Interfacial Water

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Abstract:

Water-solid interactions are of broad importance in nature and technology. Using a combination of experimental (cryogenic STM) and theoretical (first-principle electronic structures and molecular dynamics) methods, we systematically studied the full quantum nature of water on salt surface. These results shed light on our understanding of water-solid interactions, which would be helpful in designing novel water/solid interface structures and utilizing such structures for the study of water clustering and concerted proton tunneling in more complicated systems.