

Coupling of Hydration and electrostatic effects at surfaces

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The molecular layer of water molecules on surfaces is important for the interaction between neutral as well as charged surfaces. We study how hydration and dielectric properties of interfacial water layers can be used to explain diverse phenomena such as the hydration repulsion between phospholipid membranes, cavitation between hydrophobic surfaces, surface capacitance data and deviations from Poisson-Boltzmann theory.