Exploring new phenomena in salty ices and ice clathrates under planetary conditions

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Abstract

Compressed water is overspread on Earth at depth and in the extra-terrestrial space, both interstellar and on outer planets and moons. Under the extreme p-T conditions experienced in these celestial bodies water displays an incredibly rich phase diagram, anomalous dynamical properties, proton conductivity, and unusual affinity for both ionic and gaseous species. In this talk I will review our recent experimental results on, pure1,2, salt-doped (LiCl, NaCl, KCl)3,4,5, and gas (H2, CH4)6- "stuffed" ices under the extreme conditions experienced in the ice bodies of our solar system.
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