

Abstract Submitted
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Study of Hydrogen Bond and Dipolar Interaction in Water-like Fluid with Toy Model Y.S. JHO, KAIST/UCSB, C.S. CHANG, KAIST/NYU, P.A. PINCUS, UCSB/KAIST, M.W. KIM, KAIST/UCSB — Hydrogen bond and dipolar interaction, which originated from the high polarizability of asymmetric water-like molecules, give rise to anomalous properties. Anionic interface of water-like fluid is understandable as a result of hydrogen bond and excluded interactions of OH^- and H_3O^+ . Range of dipolar interaction reaches over several water-like molecule size. And, the interaction between dipole and ion affects on about 20 times longer than the size of water-like molecule. Therefore, the interaction between charged particles within this range shows different behavior compared to interaction in a uniform dielectric medium. Toy model gives physical insights and helps comprehensions to complex phenomena. In this study we give the numerical simulation to investigate these phenomena.

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