MODELING THE BEHAVIOR OF WATER SYSTEMS

 $[V. Ya. \ Antonchenko]^1$, L.A. $Bulavin^2$, V.V. $Ilyin^3$, L.M. $Maksymiuk^1$

¹Bogolyubov Institute for Theoretical Physics, Nat. Acad. of Sci. of Ukraine (14b, Metrolohichna Str., Kyiv 03143, Ukraine), ²Taras Shevchenko National University of Kyiv (2, Prosp. Academician Glushkov, Kyiv 03022, Ukraine), ³Department of Chemical Physics, The Weizmann Institute of Science (Rehovot 76100, Israel)

S u m m a r y

The properties of water systems and the reasons for their specific behavior are considered. The results of thermodynamic modeling and the structural characteristics are presented. We discuss the theory of proton transfer between water molecules connected by hydrogen bonds. The general patterns of molecular organization of a water-surface region are shown.