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Electronic structure of water

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Abstract

Analysis of the electronic structure of water in the chain of causality: atoms of hydrogen and oxygen \rightarrow water molecules \rightarrow ice, water has been given. A new approach to the description of the electronic structure of water, based on a new understanding of the nature of the covalent bond between the hydrogen and oxygen atoms has been presented. A model of the "oxygen-hydrogen" bonding as a basis for constructing the supramolecular structure of water has been analyzed. The substantiation of the activation mechanism of intraand intermolecular electron transfer has been given. The basic physical properties of water in the light of new ideas about the electronic structure of water have been discussed.