

Displaying pseudocrystalline symmetry clusters in water oxyhydrates of d-and f-elements

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Abstract

The paper describes the structural formation of gels of oxides of d-and f-elements in their rheological flow. Presented and analyzed experimental data on the change of instantaneous dynamic viscosity, caused by polarized electric double-layer gel and interaction of molecular and ion flows with the wall of rotating coaxial cylinder.

Basing on the analysis of experimental data it is concluded that the rheological method for observing the changes of viscosity characteristics of the gel systems of d-and f-elements using the device *Rheotest-2* is a kind of digital phase molecular-force microscope. Calculated attractors are phase pseudocrystalline mapping the structure of the oxyhydrates. During the rheological flow of oxyhydrate gels structures are formed that reflect pseudocrystalline symmetry clusters of bound water, as well as pseudocrystalline structures of high-polymer component of oxyhydrate. And we can watch quasisymmetry of these structures at different stages of the gel aging under different conditions of the rheological flow of gel.