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The effect of clay morphology on water relaxation

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Abstract

The frequency dependence of the permittivity of water in calcium kaolinite (clay) is measured. It is shown that two mechanisms contribute to dipole relaxation of water. One refers to water in the free volume of pores in the clay. The other is associated with bound water covering the porous surface. Experimental data are treated in terms of a fractal model of the medium. The frequency dependence of the permittivity in a wide range of water content in the clay is accounted for theoretically. © 2001 MAIK "Nauka/Interperiodica".

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