

INFLUENCE OF COAL SORBENTS ON WATER MOLECULES DYNAMICS

O. A. Vasilkevich, T. V. Karmazina, V. I. Slisenko, V. M. Omelchenko

The results of investigations of the effect of non- and porous sorbents on water dynamics have been discussed. Characteristics of dynamics by the spectra was obtained of quasi-elastic slow neutron scattering have been calculated. The total coefficient of self-diffusion of water molecules the contributions to it from collective (Lagrange) motion and single-particle (Frankel) motion; molecule lifetime at oscillation state and length of molecule jump from one to another equilibrium center have been quantitative estimated. Nonporous sorbents don't effect on water dynamics but porous sorbents decrease total coefficient of self-diffusion at the constant value of the contribution from collective motion has been established for the condition of experiment.

Keywords: neutron scattering, liquids, diffusion, sorbents.