

PECULIARITIES IN THE ESTABLISHMENT
OF EQUILIBRIUM STATE IN DILUTED AQUEOUS
SOLUTIONS OF GLYCEROL

L.A. Bulavin¹, V.Ya. Gotsulskiy¹, V.E. Chechko²

¹Taras Shevchenko National University of Kyiv,
Faculty of Physics
(4, Academician Glushkov Ave., Kyiv 03127, Ukraine;
e-mail: vygot@onu.edu.ua),

²I.I. Mechnikov National University of Odesa,
Scientific and Research Institute of Physics
(27, Pasteur Str., Odesa, Ukraine)

S u m m a r y

The dynamics of the thermodynamic equilibrium establishment in the aqueous solutions of alcohols in a vicinity of specific points is studied on the basis of dilute aqueous solutions of glycerol. At the molar fractions of alcohol $x \sim 0.05$, the systems concerned reveal characteristic anomalies testifying to the presence of structural phase transitions. However, the unreliable reproducibility of anomalous light scattering, a phenomenon typical of aqueous alcohol solutions, makes this conclusion debatable. In this work, it was shown that the parameters of aqueous glycerol solutions, which are determined with the help of light scattering phenomenon, become stable only in a certain time interval after the solution preparation. The typical dimensions of optical non-uniformities, the coefficients of scattered light depolarization, and the asymmetry of scattering indicatrix have been found as functions of the time elapsed since the solution preparation.