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On the advisability of applying the Schrödinger-Batanov equation for the statistical description of colloidal systems

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Abstract

Colloidal oxyhydrates are involved in complex chemical interactions. These interactions can have both the actual chemical, and the nature of electrical and mechanical interactions, while it is difficult to distinguish which type of interaction is the determining one.

On the other hand, the oscillatory nature of the changes occurring in the colloid gel makes one think about the need to use either an equation of oscillations or statistical equations that would allow the apparatus of random processes to be applied to colloidal systems.

Because of the great complexity of the chemical systems for the study of these systems, in this paper we will use the statistical equations that give one or another function of the statistical distribution.

Accordingly, it is difficult to determine the statistical characteristics, as well as the nature of the random process itself, from the available experimental data. A random process is defined with a sufficiently large share of ambiguity. Thus, the statistical equation will also be ambiguous. In this case it is difficult to determine which distribution should be used. Therefore, there is no significant difference between the Kolmogorov equation and the Schrödinger-Batanov equation (that is, the statistical interpretation of the Schrödinger equation), whose solution is limited by the quasilinearity of the change in the colloidal particles.

But the use of the statistical analogue of the Schrödinger equation makes it possible to draw a conclusion about the expediency of the wave approach to colloidal substances. Namely, this approach corresponds to a number of experimental data presented in this paper. Consequently, based on the results already obtained and the experimental data, it is convenient to construct an equation that would allow us to construct a distribution-density function that has a periodic character.

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