

## NEW ASPECTS FOR THE ESTIMATION OF THE STATE OF THE NATURAL WATER

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**Abstract.** The hydrochemical composition and physicochemical properties of natural water samples from various sources in the Voronezh and Moscow regions have been studied. The highest mineralization of water was found in the snow taken near the highway, and the highest content of N-containing compounds in the water of the Usman River in the Voronezh Reserve. Two model systems are proposed for assessing the state of the aquatic environment and its effect on biological objects: UV spectrometry with spectrum decomposition by the Gauss method and spontaneous aggregation of lecithin in a polar medium. The presence of various organic, N- and P-containing compounds, even at low concentrations, leads to significant changes in the ability of lecithin to form nanosized aggregates and change their electrophoretic properties. The size of lecithin aggregates decreases, and the value of their zeta potential increases with an increase in the content of hydrophobic compounds in natural water.

**Keywords:** lecithin, UV-Vis spectroscopy, dynamic light scattering, hydrochemical indices, Gauss method, criteria of water quality.