

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

Viacheslav Shvydkiy^{a*}, Sergey Dolgov^b, Alexander Dubovik^{a,c},
Mikhail Kozlov^a, Alisa Povkh^a, Lyudmila Shishkina^a, Gheorghe Duca^d

^aEmanuel Institute of Biochemical Physics, Russian Academy of Sciences, 4, Kosygin str., Moscow 119334, Russia

^bInstitute of Geography, Russian Academy of Sciences, 29, p.4, Staromonetny lane, Moscow 119017, Russia

^cA.N.Nesmeyanov Institute of Organoelement Compounds, Russian Academy of Sciences,
28, Vavilov str., Moscow 119991, Russia

^dInstitute of Chemistry, 3, Academiei str., Chisinau MD-2028, Republic of Moldova

*e-mail: slavuta58@gmail.com; phone: (+749)59 397 493; fax: (+749)91 374 101

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 collected 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 UV spectroscopy 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 lecithin ability to form nanosized aggregates and change their electrophoretic properties. Based on the performed investigation, it was determined that 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, hydrochemical index, water quality, UV-Vis spectroscopy, Gauss method.

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