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EXTREMELY LOW FREQUENCY (50Hz) MAGNETIC FIELD INFLUENCES PHYSICO-CHEMICAL PROPERTIES OF WATER

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Abstract

50 Hz sinusoidal magnetic field influence on physico-chemical properties of water was studied. Tanks with distilled water (120 ml) were exposed one by one to action of homogenous 50 Hz magnetic field, in the center of Helmholtz coils system. For magnetically exposure have been used different values of magnetic flux density (between 1 and 5 mT) and different durations of exposure (between 5 and 240 minutes). The physico-chemical properties of exposed samples (like density, surface tension, viscosity, pH, oxygen concentrations and electrical conductivity) compared with the control one, have explored. The visible light absorption spectra of water samples were also recorded. Some physico-chemical parameters analyzed in this experimental study were found changed. The electrical conductivity, viscosity, surface tension and dissolved oxygen rate have increased when the distilled water samples were exposed to the 50 Hz magnetic field. After exposure, the density results no statistically significant changes revealed. The intensity of absorbance peaks had slight increases with enhancing of magnetic flux density.

Key words: extremely low frequency, magnetic field, physico-chemical properties, water

Received: March, 2017; Revised final: June, 2018; Accepted: September, 2018