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

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Abstract

The influence of 50 Hz sinusoidal magnetic field on physico-chemical properties of water was studied. Tanks with distilled water (120 mL) were individually exposed to action of homogenous 50 Hz magnetic fields, using a 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). By means of this experimental study the physico-chemical properties of exposed water samples compared with the control ones have explored. Density, viscosity, surface tension, pH, oxygen concentration and electrical conductivity were recorded. Some physico-chemical parameters analyzed in this experimental study were found changed. The electrical conductivity, viscosity, surface tension and dissolved oxygen rate have been increased when the water samples were under the 50 Hz magnetic field influences. 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: distilled water, extremely low frequency magnetic field, properties, electrical conductivity, viscosity

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