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## **EPR spectroscopy of the radiation-induced paramagnetic centers in glasses** Bohdan V.Padlyak

The X-band EPR spectra of the UV -, X -, and  $\gamma$ - irradiated glasses of the SiO<sub>2</sub>-Na<sub>2</sub>O-CaO-P<sub>2</sub>O<sub>5</sub> (Bioglass<sup>®</sup>) and CaO-Ga<sub>2</sub>O<sub>3</sub>-GeO<sub>2</sub> systems with different chemical compositions have been investigated at temperatures 77 and 300 K. It was shown that the efficiency of generation of the electron and hole centers in glasses of both systems strongly depends on their basic composition and is almost independent of the type of ionizing radiation and the presence of the non-controlled Fe<sup>3+</sup> ions and other impurities in the glass network. The spin Hamiltonian parameters and ranges of thermal stability of radiation-induced centers in the investigated glasses are determined and analyzed. The electron structure, features of formation and possible models of the radiation-induced paramagnetic centers in the SiO<sub>2</sub>-Na<sub>2</sub>O-CaO-P<sub>2</sub>O<sub>5</sub> and CaO-Ga<sub>2</sub>O<sub>3</sub>-GeO<sub>2</sub> glass network have been discussed.