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Development Boron and Gadolinium-Containing Composite Materials Based on Natural Polymers for Protection Against Neutron Radiation



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Abstract Neutron radiation is widely used in various industries due to its high penetrating power. It is one of the most dangerous types of radiation. Its impact on biological tissue leads to material ionization and significant changes in body cell functionality or loss of recovery ability. Creating materials based on Boron and Gadolinium is one of today's promising directions. Such materials have the property to absorb neutron flow. The article analyzes existing Boron and Gadolinium-containing composite materials, shows their advantages, and outlines prospects for further research in creating Gd-containing composite materials based on biopolymers of natural origin.

Keywords Boron · Gadolinium · Natural polymers · Neutron radiation

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