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APPLICATION OF PHOTONIC CRYSTALS FOR GENERATION OF BROADBAND RADIATION AT THE LINAC-200 LINEAR ACCELERATOR

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The possibility of using ordered three-dimensional arrays of photonic crystals to generate gigahertz, optical, and neutron radiation during the interaction with them a beam of high-energy electrons is considered. Experiments were carried out to record two-dimensional images of objects in gamma and neutron fluxes obtained as a result of the interaction of an electron beam with various neutron-generating targets. The experimentally obtained characteristics of electromagnetic and neutron fields are presented. Comparative images of a biological object were obtained in gamma and neutron beams generated by a target irradiated by an electron beam.

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