

Photoneutron Source Based on Linear Induction Accelerator

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The work addresses the concept of photoneutron source based on the linear induction accelerator (LIA) that has been developed by BINP SB RAS jointly with RFNC-VNIITF to perform X-ray experiments. The possibility of implementing the LIA-based powerful photoneutron source is determined by the parameters of an electron beam formed by the accelerator, i.e. beam current and beam energy. The pulsed power of accelerator reaches 40 GW, that allows generating a photoneutron source with unique characteristics. The work presents the results of numerical and experimental studies on generation of photoneutron flows at the linear induction accelerator. The different types and materials of photoneutron targets are described.