

LaBr₃(Ce) gamma-ray detector for neutron capture therapy

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Results of developing of a gamma-ray detector based on LaBr₃(Ce) scintillation crystal for neutron capture therapy are presented. A energy resolution of the detector measured by photomultiplier tube Hamamatsu R6233-100 is showed. It was 2,9% for gamma line 662 keV from a source ¹³⁷Cs. For radiative capture gamma line of isotope ¹⁰B (478 keV) and annihilation line (511 keV) the value was 3,3 and 3,4 %, respectively. Data analysis of gamma spectra for an estimation of energy resolution threshold the required for visual identification gamma lines 478 keV and 511 keV was made.

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