

Determination characteristics of plastic scintillators using experimental data by numerical modeling

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The possibility of determination of plastic scintillator characteristics for detection nuclei with high ionizing density by numerical modeling was studied in this report. The scintillator detectors have the following main characteristics: light collection, transparency and light yield efficiencies. It was carried out numerically modeling scintillation photon generation and propagation in detector and evaluated the interrelating between signal amplitude from a photomultiplier and energy deposition of particles and nuclei. Using experimental data for the sample detector and comparing them with numerical modeling main characteristics of the selected plastic scintillator was obtained.

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