

Simulation of Gamma-400 calorimeter physical characteristics with considering of optical processes in scintillation crystal.

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Simulation of Gamma-400 calorimeter physical characteristics with considering processes of generation, propagation and detection of optical photons in scintillation crystal was performed using Geant4 toolkit with G4OpticalPhoton library, which contains the characteristics of processes with participation of optical photons and its processing procedures. Including of optical processes into simulation of scintillation material allow to investigate the influence of following processes (light yield fluctuations, absorption, reflection and refraction on material borders, light detector characteristics) on the most important detection characteristics of scintillation calorimeter.

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