

Diploma thesis abstract "Modeling experimental results of acceleration of electrons in dense laser plasma using Monte Carlo methods", by Zavorotnyi A. Ju., academic advisor Saveljev-Trofimov A.B.

The paper is concerned with investigation of the relation between electron beam parameters, which is aimed at a metallic target-converter, and parameters of gamma-particle beam, which is generated in the process of interaction of electron beam with the target. To carry out digital simulation, a program was created using the Geant4 toolkit, along with a multitude of simulation result data processing programs. The characteristics of the relation between the parameters of initial electron beam and generated gamma beam were investigated in two basic cases: directed electron beam without spatial divergence and point source of electrons.