

Activation Database: Simulation of the Induced Activation of Irradiated Material

Bachelor Thesis, Monte Carlo Simulation

Abstract:

The lasers that will be installed at ELI Beamlines will be so powerful to generate ionizing radiation. This radiation is able to activate the materials used for the various experimental devices. In order to drive the identification of the most suited material for each specific task, the Monte Carlo group has started creating a so-called "Activation Database". The work consists of simulating the irradiation of a material with a beam of particles of given energy with different irradiation profile. Running simulations for different configurations (material, particle type, particle energy, irradiation profile) will allow to generate an activation database. At a later stage it will be necessary to identify a suitable format for storing the results and make them available for the wider radiation protection community.

Contact:

Roberto Versaci, PhD

E-mail: Roberto.Versaci@eli-beams.eu