

## **Geant4 : a modern toolkit for the simulation of the passage of particles through matter**

The study of processes occurring in a matter when ionizing radiation passes through it is important for solving various problems. Examples of such problems are applied and fundamental tasks in physics, chemistry, material science and technology, biology, nuclear medicine and so on.

Computer modeling makes it possible to perform preliminary computational experiments in cases where real experiments are dangerous or expensive, etc.

An overview of some features of the Geant4 toolkit [1] is presented in the report. Examples of code developed for nuclear medicine, detectors development and applied physics are presented. Some tools for creating an application with GUI and data processing are presented in the report.

[1] <https://geant4.web.cern.ch/>

**Primary author:** Dr MALYKHINA, Tetiana (Aalto University, Finland)

**Presenter:** Dr MALYKHINA, Tetiana (Aalto University, Finland)

**Track Classification:** Track 1