

Geant4 is a toolkit for the simulation of the interaction of particles with matter.

It is used for different areas of physics:

- High Energy Physics with the simulation of large and complex detectors
- Medical physics for the study of radiation doses in therapy planning
- Space physics for the simulation of the impact of cosmic ray on satellites
- Industrial and beam transportation applications

In this lecture the different Geant4 capabilities will be presented. An introduction to the toolkit and to its application areas will be reviewed.

Brief overview of the implemented physics processes will be shown together with a description of key performances and future challenges.