

Summer Student 1

Project GeantV

Supervisor M.Novak

Project description

The student will work in the SFT group project aimed at the reengineering and optimisation of the detector simulation code (Geant-V project). In particular the student will work at the development of testing and plotting utilities for the cross-section and final state database extracted from the Geant4 programme and that are used for the simulation of the physics interactions in the prototype.

The student will profit from training in C++ computing and in learning the basic concept of particle transport in matter and of cross sections.

The work will be 75% computing and 25% physics.

The student will gain experience in advanced C++ programming on modern architectures. The student will also learn the basic of the simulation of the passage of particles in matter and of MonteCarlo simulation in general. The student will come in contact with the concepts of code optimization, parallel programming and performance assessment, computing graphics and data comparison.

The student should be familiar with computer programming, better if in C++. The student should also have basic training in physics. Notions of quantum physics and statistics would help.