

The DESIRE Project: Geant4 simulations of the Columbus/ISS radiation environment

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The DESIRE (Dose Estimation by Simulation of the ISS Radiation Environment) project aims to accurately calculate radiation fluxes and doses to astronauts inside the European Columbus module of the International Space Station using Geant4.

Results of Geant4 simulations of the radiation environment inside a detailed model of Columbus in the ISS configuration 14A are presented. Calculations have been made of the dose rates in an ICRU sphere due to incident radiation belt protons (isotropic and anisotropic) and incident cosmic ray protons.