

# 3rd Jagiellonian Symposium on Fundamental and Applied Subatomic Physics



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## MonteCarlo Simulations of the SiFi-CC

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In 2014 NuPECC listed online monitoring of the beam range in hadron therapy as one of the most important challenges in hadron therapy. Monitoring systems based on the detection of prompt gamma radiation are considered as one of the most promising options. Different detector setups are developed and tested around the world. A Compton camera, yielding the full three-dimensional dose distribution, is one of the favoured setups.

The SiFi-CC project, being a joint effort of colleagues from the Jagiellonian University in Kraków and RWTH Aachen University, aims at a development of a Compton camera based entirely on heavy scintillating fibers read out by SiPMs. The setup design is being optimized for its future performance on the way of Monte Carlo simulations using the GEANT4 package. Different scintillating materials, fiber properties and setup geometries are simulated and the resulting position, energy and time resolutions are determined. Results of the simulations will be presented and compared to results of laboratory measurements.

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