

Topic: Monte Carlo Simulation of a New Gamma Camera Design

Publication date: Nov-2016

In Nuclear Medicine, the distribution of an administered radioactive substance in the patient's body is routinely imaged by gamma cameras which are sensitive to gamma photons. Common devices which base on gamma cameras are Positron Emission Tomographs (PET) and Single Photon Emission Tomographs (SPECT).

When developing gamma cameras, Monte-Carlo simulations (MCS) of photon transport are used to determine key aspects, such as spatial resolution and photon sensitivity of the new device.

For this, the camera's intended design needs to be transferred into- and simulated in an appropriate MCS program.

The Clinic of Nuclear Medicine wants to determine the imaging aspects of a new design for gamma cameras. Consequently, the following points should be addressed in this work:

- Transfer the camera's design into an appropriate Monte Carlo program
- Carry out the MC simulations
- Determine relevant parameters, such as, e.g. spatial resolution and photon sensitivity

If you are interested in this or a similar topic, please address yourself to the contacts listed below.

This work can be started immediately.

Supervisors:

Dr.-Ing. P. Ritt, philipp.ritt@uk-erlangen.de

Prof. Dr. med. T. Kuwert

