

An overview of basic concepts and formulas in simulations of the Compton scattering

Wednesday 26 April 2023 14:30 (30 minutes)

We give an overview of basic concepts and formulas used in simulating the Compton scattering. Special emphasis is given to a Klein-Nishina expression for a differential scattering cross section for a single photon. In a context of entangled annihilation photons, a scattering of single (uncorrelated) photons is a reference point for gauging the quantum effects due to the entanglement itself. As such, the uncorrelated scattering of multiple photons must be perfectly characterized when analyzing the experimental data pertaining to the entangled photons. In that, an experimental evidence for the photon entanglement and its effect upon subsequent scattering is to be found in the observed deviations from the uncorrelated scattering.

Author: ŽUGEČ, Petar (Department of Physics, Faculty of Science, University of Zagreb)

Presenter: ŽUGEČ, Petar (Department of Physics, Faculty of Science, University of Zagreb)

Session Classification: Positronium in fundamental investigations

Track Classification: Positronium in fundamental research