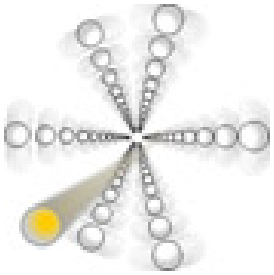

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Simulation of Positron Beam Generated by Photons from Channeled Relativistic Electrons on Different Crystallographic Planes and axes of Si, C, Ge and W Crystals with Geant4 and Mcnpx Monte-Carlo Codes

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A non conventional positron source using the intense γ radiation from different planes and axes of Si, C, Ge and W crystals which materialize into e+e- pairs in a tungsten amorphous converter is described. In this work we have calculated channeling radiation spectra from different planes and axes of Si, C, Ge and W crystals. The dependence of radiation on the incident angle of electrons are also investigated. The channeling radiation are then impinging on an amorphous tungsten target producing positrons by e+e− pair creation. The simulations are made with our developed Mathematica code which calculates the electron trajectories and the photon energy distribution for the crystal and Geant4 or Mcnpx for the amorphous target.

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