Positron scattering from biomolecules

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Streszczenie

The computation of cross sections for collisions of low-energy positrons with biological molecules will be presented.

The motivation of this research is motivated by the need for a better understanding of the fundamental interactions of positrons with biomolecules. Positrons can be produced by nuclear beta(+)-decay in isotopically labeled molecules. The radiation from the positron-electron annihilation is used in positron emission tomography (PET) to visualize cancer cells. Secondary positrons can also be generated by impact of heavy ions (e.g. 3He and 12C) during ion-beam cancer therapy. In this case the medical interest is in knowing how the secondary positrons can be utilized for destroying cancer cells and for monitoring the dose of the ion-beam.

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