

Abstract Submitted
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Simulations On Pair Creation In Collision Of γ -Beams Produced With High Intensity Lasers¹ OLIVER JANSEN, XAVIER RIBEYRE, EM-MANUEL D'HUMIERES, MATHIEU LOBET, SOPHIE JEQUIER, VLADIMIR TIKHONCHUK, CELIA, Univ. Bordeaux / CNRS / CEA — Direct production of electron-positron pairs in two photon collisions, the Breit-Wheeler process, is one of the most basic processes in the universe. However, this process has never been directly observed in the laboratory due to the lack of high intensity γ sources. For a feasibility study and for the optimisation of experimental set-ups we developed a high-performance tree-code. Different possible set-ups with MeV photon sources were discussed and compared using collision detection for huge number of particles in a quantum-electrodynamic regime.

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