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Validation of Geant4 EM physics for gamma rays against the SANDIA, EPDL97 and NIST databases

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From version 9.2 of Geant4, the LowEnergy electromagnetic processes (Livermore and Penelope) have been migrated to the design introduced for the Standard EM models. In the new approach there is only one process and multiple models that can be registered to the process. We present a validation of the migrated Geant4 electromagnetic photon models for elements and compounds with respect to several libraries based on experimental data (SANDIA, EPDL97 and NIST). The cross section of all the photon models agrees with NIST within 10%.

Are you a Memeber of the Geant4 Collaboration (yes/no)

no

Keymords

Em physics, validation, data

Summary

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