

Validation and verification of Geant4 standard electromagnetic physics

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The standard electromagnetic physics packages of Geant4 are used for simulation of particle transport and HEP detector response. The requirements to the precision and stability of computations are strong, for example, calorimeter response for ATLAS and CMS should be reproduced well within 1%. To keep and control long-stand quality of the package the software suites for validation and verification have been developed. In this work we describe main approaches for the validation, the structure of validation software and show examples of comparison between Geant4 simulation and the data.

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