

Design and performance evaluations of generic programming techniques in a R&D prototype of Geant4 physics

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A R&D project has been recently launched to investigate Geant4 architectural design in view of addressing new experimental issues in HEP and other related physics disciplines. In the context of this project the use of generic programming techniques besides the conventional object oriented is investigated. Software design features and preliminary results from a new prototype implementation of Geant4 electromagnetic physics are illustrated. Performance evaluations are presented. Issues related to quality assurance in Geant4 physics modelling are discussed.

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