

## Optimization of Geant4 deexcitation module

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Geant4 hadronic physics sub-library includes a wide variety of models for high and low-energy hadronic interactions. We report on recent progress in development of the Geant4 nuclear de-excitation module. This module is used by many Geant4 models for sampling of de-excitation of nuclear recoil produced in nuclear reactions. Hadronic shower shape and energy deposition are sensitive to these processes.

We will present de-excitation module structure, and comparisons of Geant4 predictions for the thin target experiments using different Geant4 hadronic physics models for the new Geant4 version 11.3, which will be publicly released in December 2024.

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