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The interface of BLOB with GEANT4

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Despite of its large use, the models implemented in Geant4 have shown severe limitations in reproducing the measured secondary yields in ions interaction below 100 MeV/n, in term of production rates, angular and energy distributions.

For this reason, we coupled BLOB (Boltzmann-Langevin One Body), a models dedicated to simulate such interactions, with Geant4 and its de-excitation phase.

BLOB is a semi-classical one-body approaches to solve the Boltzmann-Langevin equation. It includes a treatment of the mean-field propagation, on the basis of an effective interaction. BLOB introduces fluctuations in full phase space through a collision term where nucleon-nucleon correlations are explicitly involved. BLOB has been developed to simulate heavy ion interactions in the Fermi-energy regime.

We will present the preliminary results obtained in calculating double-differential cross sections and angular distributions of the secondary fragments produced in the 12C fragmentation at 62 MeV/n on thin carbon target obtained with this model coupled with Geant4 and its de-excitation phase.

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