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Antinucleon-nucleus interactions with the INCL code

The INCL intranuclear cascade code has been developed and used for a long time. Its aim is to simulate the interactions of light projectiles with all types of nuclei in an energy range from a few tens of MeV to 10-20 GeV. To do this, it has to be combined with a de-excitation code, and most of the time it is the ABLA code that is used. Both codes are also available in the Geant4 particle transport code. In addition, different versions of INCL are available in other codes (e.g. phits, genie).

The latest innovation in INCL is the ability to simulate antiproton-nucleus reactions, from at-rest to around 10 GeV (version available in Geant4). This is the subject that will be presented here, along with the way in which the implementations were made (hypotheses, ingredients) and the results that were obtained (comparisons with experimental data, and sometimes with other models). As the antineutron is currently being implemented, this subject could also be addressed. The next step will be to extend this to anti-deuterons, anti-tritons, etc.

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