Nuclear stopping for heavy ions induced reactions in the Fermi energy range : from 1-body to 2-body dissipation

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Properties connected to the transport of nuclear matter like the energy dissipation or the isospin diffusion/migrationin the Fermi energy domain can be probed by measuring the nuclear stopping of the 2 impinging nuclei in central collisions. In this contribution, we will present experimental data concerning nuclear stopping measured with the INDRA 4π array for a large panel of symmetric systems and incident energies covering the overall Fermi energy range. A comparison with realistic dynamical models like the hybrid model HIPSE will be done and the link to fundamental quantities such as the 1-body dissipation provided by the Mean-Field or the 2-body dissipation produced by in -medium Nucleon-Nucleon collisions (NN). In particular, in-medium NN cross sections will be extracted and discussed. We will show that it can bring important constraints to the transport models used in this energy range.