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## From cold to hot nuclear matter

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We discuss the properties of nuclear matter at different conditions: from “cold” at normal nuclear density to the very “hot” and compressed state of Quark-Gluon-Plasma. Those conditions are realized at relativistic proton-nucleus and heavy-ion collisions. As a “tool” for our study we use the Parton-Hadron-String Dynamics (PHSD) microscopic transport approach, which elaborates the partonic and hadronic dynamics, and investigate the constraints which can be obtained from experimental observables on the EoS (equation-of-state) of nuclear matter, the baryon potential and in-medium properties of the hadrons.

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