Contribution ID: **57** Type: **not specified**

Transport Model Comparisons for Intermediate-Energy Heavy-Ion Collisions

Tuesday 13 June 2023 09:00 (30 minutes)

Transport models to describe the evolution of heavy-ion collisions are indispensable to extract information on the equation-of-state of nuclear matter and on medium properties of hadrons from such experiments in the intermediate energy range from several 100 MeV to a few GeV per nucleon. Of particular interest today is the high-density behavior of the nuclear symmetry energy, which is of relevance for the understanding of astrophysical objects and processes. The highly complex and non-linear transport equations are commonly solved by simulations, which involve choices of strategies, which are not necessarily determined by the underlying equations. Thus it has occurred that studies using different transport models have deduced differing conclusions from the same data. In order to understand these differences and to reduce the systematical uncertainties of transport analyses of heavy-ion collisions, we have, within the Transport Model Evaluation Project (TMEP), undertaken an extensive study of comparing transport codes under various controlled conditions, also providing benchmark calculations and identifying sensitive simulation strategies (an intermediate review is given in H. Wolter et al., Progr. Part. Nucl. Phys. 125 (2022) 103962). Here, we will discuss the present status and future projects of this effort.

Author: WOLTER, Hermann (University of Munich)

Presenter: WOLTER, Hermann (University of Munich)

Session Classification: Heavy-ion reactions

Track Classification: Nuclear reactions: Heavy Ions