

# Constraining the nuclear equation of state with elliptic flow in heavy-ion collisions

*Monday, 24 April 2023 14:40 (25 minutes)*

The nuclear equation of state (EOS) plays a crucial role in understanding diverse phenomena in nuclear structure and reactions, as well as in astrophysics. Heavy-ion-collision measurements in combination with transport model simulations serve as important tools for extracting the nuclear EOS. In this talk, I will introduce some results on constraining the nuclear EOS with elliptic flow in heavy-ion collisions at beam energies 0.4A-1.0A GeV, especially some new results from our group by using the ultrarelativistic quantum molecular dynamics (UrQMD) model and the elliptic flow data. In addition, I will also introduce the application of machine learning method on the extraction of the nuclear EOS with heavy ion collision.

## Theory / experiment

Theory

## Group or collaboration name

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**Session Classification:** Parallel Session A

**Track Classification:** Collective dynamics