

Recent light hypernuclei measurements from STAR experiment

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Different from normal nuclei, hypernuclei are bound states of nucleons and hyperons, which contains strange quarks. The hyperon-nucleon (Y-N) interaction, an important ingredient for the nuclear equation-of-state (EoS), remains poorly constrained. Precise measurements of hypernuclei intrinsic properties, and production yields in heavy-ion collisions are crucial to the investigation of their production mechanisms and the strength of the Y-N interaction. Model calculations predict that hypernuclei are abundantly produced at low energies due to high baryon density.

Thanks to the high statistical data taken from the STAR BES II program in 2018-2021, a series of measurements on production yields and properties of light hypernuclei (^3H , ^4H , ^4He) at low energies will be presented. The results will be compared with model calculations and physics implications will be discussed.

Primary author: Prof. ZHANG, Yifei (University of Science and Technology of China)

Presenter: Prof. ZHANG, Yifei (University of Science and Technology of China)

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