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Production of baryon clusters of B=+-1 to +-4 in relativistic heavy-ion collisions

Relativistic heavy-ion collisions provide unprecedent environment for creating complex few-body nuclei, hypernuclei and their antimatter partners. In addition, baryon transport over several unit of rapidity in heavy-ion collisions provides a unique opportunity to distinguish whether the baryon number is traced by the proposed Y-shaped gluon junction (B=1) or is carried by the valence quarks. In this talk, I will present the latest study of baryon transport, the discovery of new antimatter hypernuclei (B=-4), nuclear cluster (B=2,3) as a probe dynamics of the system, and improved measurements of lifetime and binding energy of hypernuclei (B=3,4).

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