

XXVIth International Baldin Seminar on High Energy Physics Problems
"Relativistic Nuclear Physics and Quantum Chromodynamics"



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Identifying the mechanism of light nuclei production

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The formation of weakly bound clusters in the hot, dense environment at midrapidity is among the intriguing phenomena observed in heavy-ion collisions.

Three main approaches have been proposed to describe cluster formation:

- Coalescence at kinetic freeze-out.
- Continuous formation via potential interactions between nucleons.
- Deuteron production through hadronic reactions.

We identify experimental observables capable of distinguishing between these production mechanisms and outline the capabilities of the NICA/MPD experiment for advancing future studies on this topic.

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