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MExNICA: theory and experiment collaborative efforts to study nuclear matter under extreme conditions at NICA-JINR

Thursday, 2 November 2017 16:20 (35 minutes)

In this talk I will present some of the challenges and opportunities to study nuclear matter under extreme conditions using the Multi-Purpose Detector (MPD) at the Nuclotron--based Ion Collider Facility (NICA) which is located at the Joint Institute for Nuclear Research (JINR), in Dubna, Russia. I will summarize the advances made by the collaboration MExNICA within the planned program for theoretical and experimental studies in NICA in: calculation of observables, simulations (physics and detector) and preliminary prototype design. MExNICA is a multidisciplinary group of scientists which will develop observables suitable for the study of extreme nuclear matter and which will design and build a detector, to be installed in the MPD-NICA. The MExNICA proposed detector will be a beam monitor and it will contribute to the study of collision centrality in a range of pseudorapidity which will complement the MPD. The detector capabilities will allow the exploration of theoretical observables in the QCD phase diagram landscape.

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