Joint seminar of the NPI of the CAS

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Collective dynamics in heavy-ion collisions

The abstract:

Relativistic nucleus-nucleus collisions are much more than just a multitude of nucleon-nucleon collisions happening in parallel. Over the last decades, we have found some evidence of the new state of matter created in such collisions, the Quark-Gluon Plasma. However, is it a direct evidence? Is it robust? In this seminar I discuss some experimental observables which lead us to think we see the Quark-Gluon Plasma. I outline the concepts used to model nucleus-nucleus collisions at center-of-mass energies larger than 100 GeV, attained at RHIC or LHC colliders, along with the associated caveats.