

Heavy ion collisions at high energy allow to study extreme states of nuclear matter.

The results obtained with the ALICE experiment in lead-lead and proton-lead collisions at the Large Hadron Collider at CERN will be presented.

Properties of the hot and dense medium created in lead-lead collisions can be deduced from measured multiplicity distributions, spectra and yields of the emitted particles.

The observed collective phenomena are well described by hydrodynamic approaches. Hard probes available at the LHC open new possibilities for precise measurements of the properties of the QCD matter.