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## Heavy-ion collisions - hot QCD in laboratory

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High energy heavy-ion collisions provide a unique opportunity to study the hot and dense QCD medium, the quark-gluon plasma (QGP) - a state of matter that possibly existed some microseconds after the Big Bang.

Relativistic hydrodynamics calculations describing the correlations of particles produced in heavy-ion collisions tell that the QGP is a strongly coupled liquid characterized by the smallest ratio of shear viscosity to entropy density from all known materials - QGP is an almost ideal liquid. On the other hand, such a medium is opaque to high energy jets and heavy-quarks, and it is hot enough to dissolve quarkonia states.

A review of the results obtained with collisions of heavy-ions at the Large Hadron Collider and Relativistic Heavy Ion Collider will be given. In addition, the recent, intriguing findings of collective particle production found in much smaller collision systems such as proton-lead, deuteron-gold, and even proton-proton will be discussed.

### Oral or Poster Presentation

Oral

**Primary author:** PLOSKON, Mateusz (Lawrence Berkeley National Lab. (US))**Presenter:** PLOSKON, Mateusz (Lawrence Berkeley National Lab. (US))**Session Classification:** Session I-C**Track Classification:** Plenary sessions