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PHENIX results on identified hadron production in small and large collision systems

Monday 12 September 2022 14:00 (20 minutes)

Quark-gluon plasma (QGP) is a state of matter which exists at extremely high temperatures and densities. Formation of QGP in collisions of heavy relativistic nuclei was predicted by quantum chromodynamics (QCD) and proved by experimental observation of QGP signatures.
One of such signatures is enhancement of baryon production over meson production. This effect was firstly observed by PHENIX experiment in Au+Au collisions and successfully explained in the frame of recombination models of QGP hadronization.
According to QCD in small collision systems conditions are not sufficient for QGP formation. However PHENIX experiment obtained evidences of QGP formation in p/d/He+Au collisions. Therefore comparison of charged hadron production in small and large collision systems allows to study the minimal conditions of QGP formation and to investigate dependence of particle production on collision geometry and number of participants.
This talk will present recent PHENIX results on identified hadron production in p+Al, p+Au, He+Au, Cu+Au collisions at the energy of 200 and in U+U collisions at the energy of 193 GeV. Features of recombination mechanism of hadronization in small and large collision systems will be discussed.

Is this abstract from experiment?

Yes

Name of experiment and experimental site

PHENIX

Is the speaker for that presentation defined?

Yes

Details

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Internet talk

Yes

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