The 21st International Conference on QCD in Extreme Conditions



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Type: Talk

Glasma as a fluid

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At the earliest stage of ultrarelativistic heavy-ion collisions the produced matter is a highly populated system of gluons called glasma which can be approximately described in terms of classical chromodynamic fields. Although the system's dynamics is governed by Yang-Mills equations, glasma evolution is shown to strongly resemble hydrodynamic behavior. We discuss glasma collective flow and we check how well the glasma energy-momentum tensor can be represented by a hydrodynamic energy-momentum tensor. Keeping in mind the recently discovered polarization phenomena of hyperons and vector mesons, we study the global angular momentum of the glasma, which is perpendicular to the reaction plane, and the local angular momentum along the beam direction. The vorticity of the glasma fluid is discussed as well.

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