

XXXII International (ONLINE) Workshop on High Energy Physics "Hot problems of Strong Interactions"

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Rotating Relativistic Matter and Angular Momenta

четверг, 12 ноября 2020 г. 10:00 (30)

We will discuss the interplay between the magnetic field and the rotation. In the presence of the external magnetic field the angular momentum conservation in a highly nontrivial way. As a demonstration we will show the simplest example of magnetic vortices. If the whole frame is rotated, the boundary condition is crucial not to violate the causality bound, and in this sense, vortices are theoretically ideal objects that are regarded as localized vorticity. Then magnetic vortices are classified into (at least) three distinct classes according to the realization of angular momentum conservation. We also discuss a relation between spin conservation law and chiral anomaly, taking the simplest concrete example of U(1) gauge field.

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Session Classification : Session 7: Effects of rotation in QCD phase diagram (NOTE! Early starting time)

Track Classification : Effects of rotation in QCD phase diagram