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Global polarization of lambda hyperon in the MPD experiment at NICA energies

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The spin polarization of lambda hyperons exhibits an anisotropic alignment with the total orbital angular momentum of the collision system, serving as a probe for vorticity in the strongly-interacting matter. We study the lambda hyperon decay into a proton and a pion to measure global polarization in heavy-ion collisions, adopting an approach previously used by the STAR Collaboration to investigate the vortical structure of the produced medium. This method is now applied to Xe+Xe collisions at a center-of-mass energy of 2.87 GeV per nucleon pair, generated with the UrQMD model. The results provide a baseline for future experimental measurements with the MPD detector.

Author: FLUSOVA, Daria (Joint Institute for Nuclear Research (JINR))

Co-authors: PARFENOV, Peter (JINR, NRNU MEPhI); TARANENKO, Arkadiy (VBLHEP JINR); TROSHIN, Valery (JINR)

Presenter: FLUSOVA, Daria (Joint Institute for Nuclear Research (JINR))

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