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Status of Searches for Chiral Magnetic Effects in Nuclear Collisions

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The Chiral Magnetic Effect (CME) is the phenomenon of electric charge separation along the external magnetic field that is induced by the chirality imbalance. In relativistic nucleus-nucleus collisions, local chirality imbalance of left- and right-handed quarks may be generated, which is related to the topology of gluon gauge fields. With the presence of an extremely strong magnetic field, the CME has been predicted to occur, leading to final-state electric charge separations along the poles of the lenticular-shaped medium created. In this talk, I will review the latest status of experimental searches for the chiral magnetic effects in nuclear collisions at RHIC and the LHC, and discuss exciting opportunities with programs planned in the near future.

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