

Status of CME search before isobar collisions and blind analysis procedure from STAR

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Abstract

Finding a conclusive experimental signature of the Chiral Magnetic Effect (CME) has become one of the major scientific goals of the heavy-ion physics program at the Relativistic Heavy Ion Collider (RHIC). Over the past years significant effort from the STAR collaboration has been dedicated towards developing new methods and observables to isolate the possible CME-driven signal and non-CME background contributions in the measurements of charge separation across reaction plane. In this talk, I will briefly discuss a few recent analyses based on such attempts at the top RHIC energy. In addition, I will discuss how the event-plane detector (EPD) upgrade provides a new capability at STAR towards CME search at lower collision energy (and for the BES-II program). In order to make a decisive test of the CME, RHIC collided isobars (Ru+Ru and Zr+Zr) at 200 GeV in the year 2018. I will discuss the procedure for the blind analysis of the isobar data [1].

References

[1] J. Adam et al. , STAR collaboration, arXiv:1911.00596 [nucl-ex]. 2019.