

Magnetic and vorticity fields in heavy ion collisions

Summary

Strong magnetic and vorticity fields in heavy ion collisions can induce anomalous transport effects such as CME, CVE, CMW and CVW. We study the vorticity fields of the colliding system at energies $\sqrt{s} = 7.7 - 200$ GeV by AMPT model. Our results show a non-trivial spatial distribution of vorticity, and are consistent with the recent measurement of global Lambda polarization by STAR Collaboration. In this presentation, we will discuss the anomalous transport effects induced by such a non-trivial vorticity distribution. We also discuss the corresponding effects caused by magnetic field.

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