

## Estimate the magnetic field in heavy-ion collisions by virtual photon polarization and dilepton anisotropy

The measurement of the magnetic field created in high-energy heavy-ion collisions is challenging, due to the fact that the magnetic field decays so drastically that in a thermalized quark-gluon plasma the field strength becomes rather weak. By incorporating the weak magnetic effect into the medium, and especially into the production formalism of dileptons from the quark-gluon plasma, the effect of dilepton polarization is studied through the dilepton angular distribution. We find that the anisotropic coefficients in the dilepton spectrum are quite sensitive to the orientation and strength of the weak field. Accordingly, these coefficients provide ideal probes for the magnetic field in realistic experiments.

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