

Probing chiral symmetry restoration with dileptons

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Finite baryon density induces a mixing between the vector and axial-vector states, and yields multiple bumps and peaks around the vacuum masses of the ρ , ω and ϕ resonances in the spectral function. The modification become significantly pronounced when the mass difference between the parity partners decreases in dense matter.

We propose that the emergent enhancement in the dilepton production rates serves as an excellent signature of the partially-restored chiral symmetry to be verified in heavy-ion collisions.

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