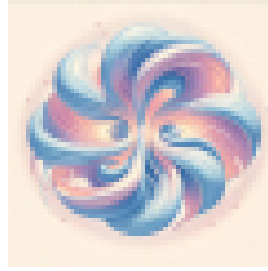


The 8th International Conference on Chirality, Vorticity and Magnetic Field in Quantum Matter



Contribution ID: 36

Type: **On-line talk**

Effect of the QCD critical point on spin polarization of Λ hyperons (online)

Friday, July 26, 2024 12:00 PM (30 minutes)

We investigate the effects of the QCD critical point on spin polarization of Λ hyperons. For this we evaluate thermal vorticity and thermal shear by solving the equations of relativistic causal hydrodynamics in (3+1) dimensions. The effects of the critical point are incorporated through the equation of state and the scaling behaviour of the transport coefficients. For the same global polarization, we find a significant suppression in the rapidity profile of the component of polarization along the angular momentum direction due to the critical point. The study suggests that the change induced by the critical point in the rapidity dependence of the spin polarization of Λ hyperons can be used as an indicator of the critical point.

Reference:

[1] Sushant K Singh & J Alam, Eur. Phys. J. C 83, 585 (2023).

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Session Classification: Polarization