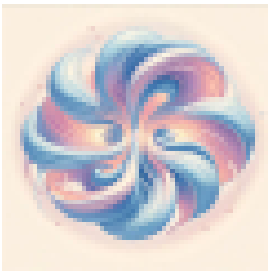

ID de Contribution: **29** Type: **Talk**

Chiral restoration driven spin polarization

vendredi 26 juillet 2024 11:00 (30 minutes)

Semiclassical expansion of the Wigner function for spin-1/2 fermions having an effective spacetime-dependent mass is used to analyze spin-polarization effects. The existing framework is reformulated to obtain a differential equation directly connecting the particle spin tensor with the effective mass. It reflects the conservation of the total angular momentum in a system. In general, we find that the gradients of mass act as a source of the spin polarization. Although this effect is absent for simple boost-invariant dynamics, an extension to non-boost-invariant systems displays a non-trivial dependence of the spin density on the mass indicating that the spin polarization effects may be intertwined with the phenomenon of chiral restoration.

Reference: *Physics Letters* **B 849** (2024) 138464 • e-Print: 2307.12436 [hep-ph]

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