Contribution ID: **30** Type: **Plenary Talk**

QCD at finite theta, magnetic field, and rotation

Thursday, January 23, 2025 9:00 AM (40 minutes)

The talk is based on two recent works: 2409.18652 about magnetovortical matter in collaboration with Koichi Hattori and Kazuya Mameda and a forthcoming paper about Chiral EFT for the system where finite θ and magnetic field B coexist, which was done in collaboration with Prabal Adhikari. In the former, we found a nontrivial interplay between the spin, the orbital angular momentum, and the magnetic field. In particular, if B is strong, the orbital angular momentum overcomes the spin, contrary to our physics intuition. In the latter, we specifically studied the phase transition at $\theta = \pi$ and again, the strong B would change the nature of the phase transition.

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