Contribution ID: **77** Type: **not specified**

sPHENIX measurement of neutral meson transverse single-spin asymmetry in high-statistics polarized p+p collisions

Tuesday 25 March 2025 11:00 (25 minutes)

The sPHENIX experiment is a next-generation collider detector at RHIC designed for rare jet and heavy-flavor probes of polarized p+p collisions. The experiment includes a large acceptance, granular electromagnetic calorimeter (EMCal) and very high-rate data acquisition plus trigger system. In RHIC Run-24, sPHENIX sampled 107/pb of transversely polarized p+p collision data at 200 GeV using an efficient high-p_T photon trigger, a dataset representing a nearly tenfold increase of the luminosity times acceptance compared to previous EMCal-based datasets for this collision energy. This talk presents measurements of the transverse single-spin asymmetry in inclusive production of neutral pions and eta mesons. Such an observable is sensitive to multi-parton correlations in the proton, which are related to transverse-momentum dependent (TMD) effects. The new sPHENIX data set allows significantly extending the kinematic range covered by previous RHIC mid-rapidity measurements.

Authors: ROSATI, Marzia; MAHAUT, Virgile (CEA Saclay)

Presenter: MAHAUT, Virgile (CEA Saclay)

Session Classification: WG5: Spin and 3D Structure

Track Classification: Spin and 3D Structure