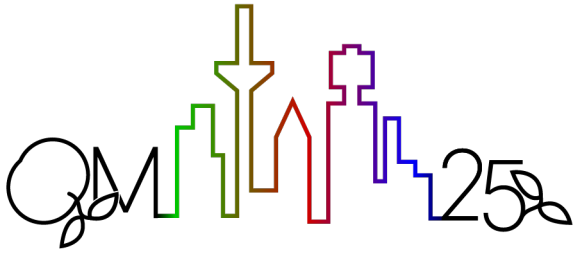

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sPHENIX measurements of isolated photon production in p+p collisions

The sPHENIX experiment is a next-generation collider detector at RHIC designed for rare jet, photon, and heavy flavor probes of the Quark-Gluon Plasma. The experiment includes large-acceptance, hermetic electromagnetic (EMCal) and hadronic (HCal) calorimeter systems, along with a very high-rate data acquisition plus trigger system. In RHIC Run-24, sPHENIX sampled 107/pb of p+p collision data at 200 GeV using an efficient high-p_T photon trigger. This dataset represents a nearly-tenfold increase of the luminosity times acceptance compared to previous EMCal-based datasets for this collision energy, along with the first HCal at mid-rapidity at RHIC. This talk presents a measurement of the isolated photon production cross-section in p+p collisions, with an isolation requirement based on the full calorimeter system for the first time at RHIC. This measurement serves as a key standard candle for the combined sPHENIX calorimeter system and provides an important pQCD baseline for future measurements of isolated photon production and photon+jet correlations in future sPHENIX Au+Au data-taking at RHIC.

Category

Experiment

Collaboration (if applicable)

sPHENIX Collaboration

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