11th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



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Typ: Talk

ATLAS measurement of the two-particle correlation sensitivity to jets in pp collisions

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Measurements of two-particle correlations in pp collisions show the presence of long-range correlations along $\Delta \eta$ that are strikingly similar to those seen in heavy-ion collisions. The similarity between the pp and heavy-ion measurements raises the possibility that a tiny droplet of the QGP is produced even in pp collisions. However, models that attribute the correlation in pp collisions to semi-hard processes, can qualitatively reproduce the measurements. Performing the pp measurements while distinguishing between the particles from semi-hard processes, such as low- $p_{\rm T}$ jets, and the particles produced from soft interactions, can differentiate between these two origins of the pp ridge. This talk presents measurements of two-particle correlations in pp collisions at $\sqrt{s} = 13$ TeV with two different particle-pair selections. In the first case, tracks associated with jets are excluded from the correlation analysis. This is shown to affect the magnitude of long-range correlations by only a few percent. New measurements of two-particle correlations, measurements can further elucidate the origin of the pp ridge.

Experiment/Theory

ATLAS

Affiliation

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Sitzung Einordnung: Parallel: High-Momentum Hadrons & Correlations

Track Klassifizierung: High momentum hadrons and correlations