Kruger 2022: Discovery Physics at the LHC

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Recent results from heavy ion collisions with ATLAS

This talk presents an overview of recent ATLAS measurements in heavy ion collision systems. These include multiple measurements of jet production and structure, which probe the dynamics of the hot, dense Quark-Gluon Plasma formed in relativistic nucleus-nucleus collisions, and measurements of quarkonia and heavy flavor production to probe the QGP medium properties. UPC results include comprehensive studies of exclusive dilepton production (electron, muon, and tau pairs), providing detailed constraints on the nuclear photon flux and its dependence on the impact parameter and photon energy. Further, measurements of the tau-lepton anomalous magnetic moment and studies of light-by-light scattering will be discussed as well.

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