

Quantum Entanglement and Proton-Proton Collisions at the LHC

Tuesday, 21 May 2019 17:00 (20 minutes)

The proposed link between quantum entanglement and the apparent thermalization in particle production at the Large Hadron Collider (Rev. D 98, 054007 (2018)) will be presented. The large amount of collected data at 13 TeV center of mass energy in proton-proton collisions has enabled this initial systematic study of the relationship between Quantum Information Science and particle production at the energy frontier, and confirms the expected behavior in all cases that were analyzed. Implications for future studies will also be discussed.

Primary authors: Prof. BAKER, Oliver K. (Yale University); Prof. KHARZEEV, Dmitri (Stony Brook University and BNL); Mr WEBER, Christian (Yale University)

Presenter: Mr WEBER, Christian (Yale University)

Session Classification: Machine Learning, Big Data and Quantum Information

Track Classification: Machine Learning, Big Data and Quantum Information