Hall B Virtual Seminar

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J/Ψ production at the LHC with the ATLAS and ALICE detectors

Abstract

Measurements of heavy quark-antiquark states are a unique proxy to study Quantum Chromo Dynamics (QCD). One particular state, the J/psi, discovered almost 50 years ago, still presents challenges to theory in describing its production mechanisms. Therefore precise measurements of J/psi production can constrain QCD models. Furthermore, this charm-anticharm state has significant sensitivity to the effects that appear in proton-nucleus and nucleus-nucleus collisions, being an excellent probe of the quark-gluon plasma. The Large Hadron Collider (LHC) at CERN provides the highest energy proton and nucleus beams ever recorded, with energies ranging from 2 to 14 TeV. Four major experiments were installed along the LHC ring. The ATLAS and ALICE experiments are complementary detectors designed to provide measurements in different kinematic ranges and cover an extensive transverse momentum and rapidity range. In this seminar, I will present measurements of J/psi production in proton-proton, proton-lead, and lead-lead collisions. In addition, I will discuss what we have learned in the last few years on the J/psi production mechanisms and the role of the J/psi as a probe of nuclear effects.

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1:30 PM – 4:00 PM

https://jlab-org.zoomgov.com/j/1616078334?pwd=R3ZIQUQwV2U4SGI0OTZSTkE1d0dPUT09&from=addon