



Contribution ID: 17

Type: not specified

Neutral pion and η meson production in pp and p-Pb collisions with ALICE at the LHC

Wednesday 1 November 2017 10:30 (25 minutes)

The ALICE experiment is dedicated to study the properties of the Quark-Gluon Plasma (QGP) which is expected to be formed in ultra-relativistic heavy ion collisions. Measurements of hadron production in pp and p-Pb collisions are of importance to understand the properties of this hot and dense medium. In pp collisions, meson spectra serve as a reference for heavy-ion collisions and add constraints to theoretical calculations such as NLO pQCD. In p-Pb, measurements of hadron spectra serve as reference to help disentangle initial and final-state effects for the hadron suppression observed at intermediate p_T in Pb-Pb collisions. Moreover, the measurement of neutral mesons (π^0 and η) is important to estimate the background in the direct photon analysis. ALICE has measured π^0 and η mesons via their two photon decay channel $\pi^0 \rightarrow \gamma\gamma$ and $\eta \rightarrow \gamma\gamma$ and in the case of π^0 in p-Pb collisions also via its Dalitz decay channel $\pi^0 \rightarrow \gamma^*\gamma \rightarrow e^+e^-\gamma$. Photons were measured by electromagnetic calorimeters, PHOS and EMCal, and by their conversions into e^+e^- in the central barrel using the TPC and ITS detectors.

In this talk, the measurement of the π^0 and η mesons in pp and p-Pb collisions will be presented and compared to theoretical model calculations. The nuclear modification factor R_{p-Pb} will also be presented.

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Session Classification: Heavy flavor and Quarkonia