



Contribution ID: 256

Type: **Experimental poster**

Energy dependence of light neutral mesons p_T spectrum produced in pp collisions at the LHC measured with ALICE

Thursday, May 28, 2020 6:45 PM (1 hour)

We present in this poster the measurement of light neutral mesons, π^0 and η , in pp collisions at different center-of-mass energies obtained with the ALICE experiment at CERN. In pp collisions, neutral mesons are used to validate the pQCD predictions and also act as a baseline for their measurement in heavy-ion collisions. Neutral mesons have been reconstructed by invariant mass analysis of two decay photons using ALICE calorimeters EMCal and PHOS, in the transverse momentum range $0.8 < p_T < 40$ GeV/c. In addition, neutral mesons via conversion photons method are measured up to very low p_T (~ 0.35 GeV/c) using the central tracking system in ALICE.

Results from different techniques are combined to provide precision measurements of π^0 and η in pp collisions over much wider p_T range than any other identified hadrons p_T spectra which are used for tuning QCD parameters.

We will show the invariant cross-sections, m_T -scaling and x_T -scaling for π^0 and η .

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Session Classification: Poster Session (I)

Track Classification: QCD physics