

Production of neutral pions and eta-mesons in pp collisions measured with ALICE

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The inclusive production of π^0 and η mesons is measured at mid-rapidity in pp collisions over a wide transverse momentum (p_T) range with the ALICE experiment at $\sqrt{s}=900\text{GeV}$, 2.76-TeV and 7-TeV. The mesons are measured via two different techniques: with the calorimeters (PHOS and EMCAL) and via photon conversions reconstructed in the Central Tracking System.

A systematic comparison to next-to-leading order pQCD (NLO) calculations for π^0 and η mesons as well as the \sqrt{s} -dependence of the π^0 production is presented. Furthermore, the η to π^0 ratio as well as the corresponding NLO calculations are discussed.

The presented data serves as a baseline both for the decay photon background for direct photon measurements as well as for the background of electrons in open heavy flavor measurements. It will then be used to calculate the nuclear modification factor, R_{AA} , in heavy-ion collisions with ALICE.

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