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Measurement of neutral meson production as a function of multiplicity in pp collisions at $\sqrt{s}$ = 13 TeV with ALICE

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The precise measurement of the neutral meson production in pp collisions can be used to constrain fragmentation functions and parton density functions needed by pQCD calculations. Additionally, those measurements serve as input for direct photon analyses. Moreover, the dependence of the neutral meson cross section on the event charged-particle multiplicity could give further insight into possible final-state effects in high-multiplicity pp collisions, in which other measurements show surprising similarities with those in heavy-ion collisions

In this poster, the invariant cross sections of the π^0 and η meson as a function of p_{T} in pp collisions at $\sqrt{s}$ = 13 TeV for different charged-particle multiplicity classes, measured with ALICE, will be presented. The measurement covers a p_{T} range from 0.2 to 200 GeV/c for the π^0 and up to 50 GeV/c for the η meson. This large p_{T} coverage is achieved by combining the results from several partially independent reconstruction techniques available in ALICE where the decay photons were detected with the electromagnetic calorimeters, or via the central tracking system using e^+e^- pairs from conversions in the detector material. Furthermore the results will be compared to pQCD calculations.

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