

Neutral meson and direct photon production in high-energy pp and PbPb collisions at the LHC with ALICE

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Transverse momentum spectra of π^0 mesons and direct photons, as well as their azimuthal anisotropies, at mid-rapidity in pp and Pb-Pb collisions have been measured at LHC energies by the ALICE detector. The mesons are reconstructed via their two-photon decays by two complementary methods, using the electromagnetic calorimeters and the central tracking system for photons converted to electron-positron pairs on the material of the inner ALICE barrel tracking detectors. The nuclear modification factor R_{AA} of the π^0 production in Pb-Pb collisions at different collision centralities shows a clear pattern of strong suppression in a hot QCD medium with respect to pp collisions. The direct photon transverse momentum spectrum has been derived from the measured inclusive photon and neutral pion spectra. For central Pb-Pb collisions, a next-to-leading-order perturbative QCD calculation describes the spectrum above 4 GeV/c, but underpredicts the data below 4 GeV/c where the spectrum is expected to have a contribution from thermal photons. Related results from the 2013 p-Pb run will be included if available at the time of the conference.