

Direct photon and neutral meson production results from ALICE experiment

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The ALICE experiment at the LHC is dedicated to the study of the hot and dense medium produced in heavy-ion collisions, the so-called quark-gluon plasma (QGP). Neutral meson spectra and direct photon spectra at high p_T impose constraints on parton distribution functions in protons and nuclei, and provide information about the transport properties of the QGP. The temperature of the hot fireball created in a heavy-ion collision can be studied via the measurement of low- p_T direct photons.

Photons are reconstructed in ALICE with two complementary methods, using the electromagnetic calorimeters or via the reconstruction of e^+e^- pairs from conversions in the ALICE detector material using the central tracking system. This approach provides reliable cross checks of results and allows to reduce the statistical and systematic uncertainties of the measurements. In addition, the fraction of direct photons to inclusive photons can be measured with virtual photons (dielectrons) at low p_T with different systematic uncertainties.

We report recent results from ALICE on the direct photon and neutral meson measurements in pp, p-Pb, and Pb-Pb collisions and compare them to model calculations.

The speaker is a student or young scientist

No

Section

1. Intermediate and high energies, heavy ion collisions

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