

# Hard Probes 2018: International Conference on Hard & Electromagnetic Probes of High-Energy Nuclear Collisions

Contribution ID: 292

Type: 2a) Jets and high-pT hadrons (TALK)

## Neutral meson production in ALICE

*Tuesday, 2 October 2018 10:45 (20 minutes)*

Neutral mesons, namely neutral pions and  $\eta$ -mesons, are abundantly produced in AA collisions and can be reconstructed and identified via two-photon decays in wide range of transverse momenta. This makes them excellent probe of the parton energy loss in heavy ion collisions.

Photons in ALICE can be reconstructed via several complementary methods, using either the central tracking system identifying photons converted to  $e^+e^-$  pairs in the material of the inner barrel detectors or the electromagnetic calorimeters. Thus we used the respective advantages of the detectors, i.e. the excellent momentum resolution of the conversion photons down to very low transverse momenta and the high reconstruction efficiency and triggering capabilities of the calorimeters. This approach provided reliable cross-check of results, allowed to reduce statistical and systematic uncertainties and to measure the neutral meson spectra in wide range of transverse momenta.

In this talk we will report a measurement of the nuclear modification factors of light neutral mesons in Pb-Pb collisions at  $\sqrt{s_{NN}} = 2.76$  TeV and 5.02 TeV and in Xe-Xe collisions at  $\sqrt{s_{NN}} = 5.44$  TeV. We compare our results to the measurements of other experiments and to model calculations.

### Summary

**Primary authors:** ALICE COLLABORATION; PERESUNKO, Dmitri (National Research Centre Kurchatov Institute (RU))

**Presenter:** PERESUNKO, Dmitri (National Research Centre Kurchatov Institute (RU))

**Session Classification:** Parallel 2