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Jet azimuthal distributions with high p_T neutral pion triggers in pp 7 TeV and Pb-Pb 2.76 TeV collisions from ALICE at the LHC

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Jet measurements play a critical role for probing the hot and high energy density matter created in heavy-ion collisions through parton energy loss, and to observe possible modifications of the hot and dense matter itself by the deposited energy.

According to the quenching model, hadron-jet correlation measurements allow us to maximize the medium path length of the parton which produces the jet, by selecting high transverse momentum hadrons as a trigger that mainly come from the surface of the medium.

In this poster, we report jet azimuthal distributions relative to neutral pion triggers in pp 7 TeV and Pb-Pb 2.76 TeV from ALICE at the LHC. For neutral pion identification, an electro-magnetic calorimeter (EMCal) is used. Jets are reconstructed from charged particles measured by a Time-Projection Chamber (TPC) and Inner-Tracking System (ITS).

The high p_T neutral pion sample is enhanced by using the EMCal gamma trigger in combination with a shower shape analysis to identify neutral pions. We report ratios of per-trigger yields (I_{AA}) and Gaussian widths of both near and away-side correlation peaks as a function of neutral pion trigger p_T and jet p_T .

On behalf of collaboration:

ALICE

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