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Correlations of heavy-flavour electrons with jets in pp collisions at $\sqrt{s} = 8$ TeV with ALICE

Heavy quarks are widely used in measurements in ultra-relativistic heavy-ion collisions to provide information on the Quark-Gluon Plasma (QGP) properties. This is the case for all particles produced in hard scattering processes, that can be reconstructed in jets, since they are mainly produced before the complete medium formation and can interact with the plasma during its early stages and its evolution.

Heavy-flavour and jet observables can be combined by reconstructing the spectra of jets that are back-to-back with respect to identified heavy-flavour electrons, produced in the fragmentation and decay of heavy quarks. Thus, this heavy-flavour based measurement is directly comparable to theory since heavy-flavour processes can be theoretically calculated and, similarly to the hadron-jet coincidence analysis, the combinatorial background jets subtraction is improved. The final aim is to compare the measurements in pp, p-Pb and Pb-Pb collisions in order to identify the effects of nuclear matter and QGP.

This poster presents the status of the analysis in pp collisions at $\sqrt{s} = 8$ TeV. The electron identification with the ALICE electromagnetic calorimeter, the procedure to subtract non-heavy-flavour decay electrons, as well as the charged-jet reconstruction and selection are discussed.

Preferred Track

Jets and High pT Hadrons

Collaboration

ALICE

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