Contribution ID: **289**   Type: **Parallel**

b-**Jet Tagging Performance with ALICE**

Thursday, 31 May 2018 17:50 (20 minutes)

The ALICE experiment is dedicated to investigate properties of the Quark-Gluon Plasma (QGP) created in high-energy Pb–Pb collisions at the LHC. Heavy quarks (charm and beauty) are a unique tool to study and characterise the QGP properties. They are produced in the early stage of the heavy-ion collisions and traverse the hot and dense medium losing energy due to collisional and radiative processes that are predicted to be dependent on the colour charge and mass of the hard-scattered parton. Measurement of the beauty-jet (b-jet) production gives a direct access to the initial parton kinematics. It can provide further constraints for heavy-quark energy loss models and allows accessing a possible modification of the b-quark fragmentation in the medium. Studies of b-jets in pp and p–Pb collisions are the necessary reference for interpreting the heavy-ion collision results.

In this talk, we will present performance studies for the b-jet tagging in pp and p–Pb collisions with the ALICE detector. The b-jet identification exploits the long lifetime and the relatively large mass of the B hadrons. We will discuss b-jet tagging algorithms based on single tracks and on the displaced secondary vertex topology, including a very promising deep learning based b-jet tagging approach.

E-mail

barbara.antonina.trzeciak@cern.ch

Collaboration name

ALICE

Primary author: Ms TRZECIAK, Barbara (Utrecht Univeristy)

Presenter: Ms TRZECIAK, Barbara (Utrecht Univeristy)

Session Classification: Quark Matter and High Energy Heavy Ion Collisions

Track Classification: QMHI