## **Initial Stages 2021**





Contribution ID: 114

Type: bullet talk (poster)

## Study of Underlying Event activity in pp and p-Pb collisions at $\sqrt{s_{NN}}=5.02$ TeV with ALICE.

Sunday, 10 January 2021 19:45 (1h 30m)

One of the most important discoveries at the LHC is the observation of collective-like behavior and strangeness enhancement in small collision systems (e.g. pp and p-Pb collisions). They effects are strikingly similar to those observed in heavy-ion collisions, where they are attributed to the production of a deconfined hot and dense medium, known as strongly interacting Quark-Gluon Plasma. In order to gain insight into the physics mechanisms behind these effects in small systems, in this work we measure Underlying Event (UE) activity in pp and p-Pb collisions at  $\sqrt{s_{NN}}=5.02$  TeV. UE collects contributions from Multi-Partonic Interactions (MPI) as well as particles from initial- and final-state radiation related to the hardest component. The average number density and the average total transverse momentum  $(p_{\rm T})$  as a function of the  $p_{\rm T}$  of the leading particle will be presented. Results for three topological regions will be shown: near and away side (sensitive to the jet-like component) and the transverse side (sensitive to UE). Three different cut-off values for track  $p_{\rm T}$  are considered, i.e. 0.15, 0.5 and 1 GeV/c. The jet-like component is also analyzed after the subtraction of the UE component. Comparisons between the UE activity for pp collisions at different center of mass energies, and among pp and p-Pb collisions will be shown. Moreover, we will compare the measurements to QCD-inspired Monte Carlo event generators for the three different topological regions.

Primary author: KHAN, Ahsan Mehmood (Central China Normal University CCNU (CN))

Presenter: KHAN, Ahsan Mehmood (Central China Normal University CCNU (CN))

Session Classification: Poster

Track Classification: Multiparton interactions