



Contribution ID: 311

Type: Poster

Production of light flavor particles as a function of the Underlying Event activity in small and large collision systems with ALICE

Tuesday, 5 September 2023 17:30 (2h 10m)

Measurements of high-multiplicity pp and pA collisions at LHC energies have revealed that these small collision systems exhibit some quark-gluon plasma-like features, such as collective behaviour and strangeness enhancement, formerly thought to be achievable only in nucleus-nucleus collisions. A proposed method to narrow down the origin of these phenomena is to study the effect of MultiParton Interactions (MPIs). Although the MPIs cannot be measured directly, the event observable RT, quantifying the magnitude of the underlying event (UE), has been suggested as an experimental proxy.

New final results of the charged particle production as a function of RT in pp, p–Pb and Pb–Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV will be presented in the toward, away and transverse regions, relative to the hard scattering. The energy dependence of RT distributions in pp collisions at $\sqrt{s} = 2.76, 5.02, 7$ and 13 TeV is reported, exploring the Koba-Nielsen-Olesen (KNO) scaling properties of the multiplicity distributions of the UE. In addition, new results on the production of identified hadrons (π, K, p) as a function of RT in pp collisions at $\sqrt{s} = 13$ TeV are presented to explore the particle species dependence. All the above results are compared with predictions from QCD-inspired Monte Carlo event generators such as PYTHIA and EPOS-LHC.

Category

Experiment

Collaboration (if applicable)

ALICE

Primary author: VAZQUEZ RUEDA, Omar (University of Houston (US))**Presenter:** VAZQUEZ RUEDA, Omar (University of Houston (US))**Session Classification:** Poster Session**Track Classification:** Collective Dynamics