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Charged-particle production as a function of R_{T} in pp, p-Pb and Pb-Pb collisions at $\sqrt{s_{\mathrm{NN}}} = 5.02$ TeV with ALICE at the LHC

Friday, 8 July 2022 20:10 (20 minutes)

It is well-established that high-multiplicity pp and p–Pb collisions exhibit a collective-like behaviour and signatures, like the strangeness enhancement and the ridge behaviors, that were commonly attributed to the formation of the Quark-Gluon Plasma. In this contribution, we investigate the possible similarities between pp, p–A and A–A collisions by studying the charged-particle production as a function of the underlying event classifier (R_{T}). We perform a comprehensive study of the R_{T} dependence of charged-particle production in the momentum range of $0.5 < p_{\mathrm{T}} < 8$ GeV/c for pp, p-Pb and Pb-Pb collisions at $\sqrt{s_{\mathrm{NN}}} = 5.02$ TeV. The p_{T} spectra, integrated yields and $\langle p_{\mathrm{T}} \rangle$ in the near, away and transverse regions will be presented as a function of R_{T}. The role of auto-correlations and the potential effects of multi-parton interactions (MPI) in p-Pb and Pb-Pb collisions will also be discussed. The results will be compared with the existing predictions from event generators such as PYTHIA and EPOS-LHC.

In-person participation

Yes

Primary author: TRIPATHY, Sushanta (INFN, Bologna (IT))

Presenter: TRIPATHY, Sushanta (INFN, Bologna (IT))

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