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Study of correlation between the relative transverse multiplicity activity in underlying event and transverse spherocity

Thursday 15 December 2022 14:00 (1 hour)

This contribution study the correlation between two global observables of an event activity i.e. the relative transverse multiplicity activity classifier (R_{T}) in Underlying Event (UE) and transverse spherocity (S_0) in proton-proton collisions. This would allow us to understand the soft particle production using the differential study of R_{T} and S_0. We have used the PYTHIA 8 Monte-Carlo (MC) with a different implementation of color reconnection and rope hadronization models to demonstrate the proton-proton collisions data at $\sqrt{s}$ = 13 TeV. The relative production of hadrons are also discussed extensively in low and high transverse activity regions. An experimental confirmation of these results is feasible using ALICE Run 3 data which will provide more insight into the soft physics in the transverse region which is useful to understand the small system dynamics.

Session

Heavy Ions and QCD

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