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Charged-particle production as a function of multiplicity from small to large collision systems with ALICE

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ALICE is the experiment at the LHC specifically designed to study the properties of the quark-gluon plasma, a deconfined state of matter created in ultrarelativistic heavy-ion collisions. During LHC Run 1 and Run 2, ALICE recorded data in several collision systems and different centre-of-mass energies. In this context, the study of charged-particle production as a function of multiplicity play a key role in understanding the properties of the matter created in small (pp, p-Pb) and large (A-A) systems giving a unique opportunity to test the evolution of the spectral shapes as a function of the system size and energy. In this contribution, final studies of charged-particle production in pp, p-Pb and A-A collisions will be presented using a new approach that allows measuring the spectral properties in continuous, high-granular multiplicity bins by minimizing detector resolution effects thanks to a two-dimensional unfolding. The results will then be tested against the main theoretical models implemented in commonly-used Monte Carlo event generators.

In-person participation

Yes

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