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Charged particle multiplicity dependence of $\Lambda(1520)$ production in pp collisions at $\sqrt{s} = 13$ TeV with ALICE at the LHC

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Resonances are useful tools to study the properties of the hadronic medium produced in high energy heavy-ion collisions, due to their short lifetime. In particular, the baryonic resonance $\Lambda(1520)$ is important because of its lifetime ($\tau \sim 12.6$ fm/c), which lies in between the lifetimes of K^* and ϕ resonances.

Its study will indicate the dominance of re-scattering or regeneration in the yields and support results obtained for other resonances having different lifetimes. The reconstruction of $\Lambda(1520)$ as a function of multiplicity in pp collisions at $\sqrt{s} = 13$ TeV has been performed via its hadronic decay channel. New measurements of the transverse momentum (p_T) spectra, p_T -integrated yield ($\langle dN/dy \rangle$), $\langle p_T \rangle$ and $\Lambda(1520)/\Lambda$ yield ratio in different multiplicity classes will be presented and discussed. The results obtained are expected to provide more information on strange resonance production and the system-size evolution of the hadronic phase in small systems. Furthermore, these results are important for studies of the multiplicity-dependent enhancement of multi-strange hadrons in small systems.

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