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Multiplicity-dependent study of $\Lambda(1520)$ resonance production in pp collisions at $\sqrt{s}$ = 5.02 and 13 TeV with ALICE

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Hadronic resonances are effective tools for studying the hadronic phase in ultra-relativistic heavy-ion collisions. In fact, their lifetime is comparable to the hadronic phase and resonances are sensitive to the hadronic phase effects such as rescattering and regeneration processes which might affect the resonance yields and shape of the transverse momentum spectra. $\Lambda(1520)$ has a lifetime of around 13 fm/c, which lies in between the lifetimes of K^* and ϕ resonances. The resonance to stable particle yield ratios can be used to study the properties of the hadronic phase. Recently, ALICE observed the suppression of the $\Lambda(1520)/\Lambda$ ratio in Pb–Pb collisions at $\sqrt{s_{\rm NN}}$ = 2.76 TeV as a function of centrality. It is therefore interesting to investigate the multiplicity-dependent study of $\Lambda(1520)/\Lambda$ ratio for pp collisions, since this can serve as a baseline for heavy-ion collisions.

In this contribution, we present new results on the measurement of the baryonic resonance $\Lambda(1520)$ as a function of the charged-particle multiplicity in pp collisions at $\sqrt{s}$ = 5.02 and 13 TeV. The transverse momentum spectrum, the integrated yield $(\mathrm{d}N/\mathrm{d}y)$, the mean transverse momentum $(\langle p_{\rm T}\rangle)$ and the $\Lambda(1520)/\Lambda$ yield ratio will be presented as a function of the charged-particle multiplicity.

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Author: PADHAN, Sonali (IIT- Indian Institute of Technology (IN))

Presenter: PADHAN, Sonali (IIT- Indian Institute of Technology (IN))

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