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First results of $\mathrm{K}^{*}(892)^{\pm}$ production in pp collisions at $\sqrt{s} = 13$ TeV with ALICE at LHC

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The study of hadronic resonances plays an important role both in elementary and in heavy-ion collisions as it can provide information about strangeness production and the hadronic phase of the system. Since the lifetimes of short-lived resonances are comparable with the lifetime of the fireball formed in heavy-ion collisions, regeneration and rescattering effects can modify the measured yield especially at low transverse momentum. The ratio of the resonances to that of longer lived particles can therefore be used to estimate the time interval between the chemical and kinetic freeze-out. Measurements in pp collisions constitute a baseline for studies in heavy-ion collisions, they can provide information for tuning QCD-inspired event generators and contribute to the understanding of particle production mechanisms. In particular, the resonance $\mathrm{K}^{*}(892)^{\pm}$ is important because of its very short lifetime ($\sim$4 fm/c).

In this contribution, we will report the first results at LHC energies for $\mathrm{K}^{*}(892)^{\pm}$ resonance in pp collisions at $\sqrt{s}$ = 13 TeV. $\mathrm{K}^{*}(892)^{\pm}$ has been measured at mid-rapidity via its hadronic decay channel $\mathrm{K}^{*}(892)^{\pm} \rightarrow \mathrm{K}^{0}_{\mathrm{S}} + \pi^{\pm}$, with the ALICE detector. In particular, the transverse momentum (p_{T}) spectrum compared with model predictions, integrated yields and $\langle p_{\mathrm{T}} \rangle$ will be presented.

List of tracks

Hadron resonances

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