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$K^{*\pm}$ production in Pb-Pb collisions with ALICE at the LHC

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Short-lived hadronic resonances are very useful to probe the late-stage evolution of ultra-relativistic heavy-ion collisions. Since their lifetimes are comparable to the hadronic phase timespan, their measured yields are modified via rescattering and regeneration processes. The suppression of the K^{*0}/K ratio in central Pb–Pb collisions compared to pp interactions already hints at the dominance of rescattering effects over regeneration effects in the hadronic phase. The mass, lifetime and quark content of $K^{*\pm}$ are comparable to those of K^{*0} . Hence, systematic measurements of K^{*0} and $K^{*\pm}$ enable us to investigate further the dynamics of the hadronic phase, to study its lifetime and to probe in-medium parton energy loss with high $p_{\rm T}$ resonances.

We report on the first measurement of $K^{*\pm}$ production in midrapidity for Pb–Pb collisions at $\sqrt{s_{\rm NN}}$ = 5.02 TeV. The results include the transverse momentum spectra, integrated yields, mean transverse momenta, particle yield ratios, and nuclear modification factor as a function of charged-particle multiplicity. These results will be compared with published K^{*0} measurements at the same energy.

Present via

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