

Suppression of $\Lambda(1520)$ resonance production in Pb-Pb collisions at the LHC

The observation of the modification of hadronic resonance production in heavy-ion collisions allows one to infer the presence of a prolonged hadronic phase after hadronisation. The decay daughters of short-lived resonances suffer re-scattering in the dense hadronic medium, which modifies their correlations and hence the experimentally measured yields. New results on the production of $\Lambda(1520)$ resonances measured in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV with the ALICE detector at the LHC are presented. The integrated production yield ratio $\Lambda(1520)/\Lambda$ in central Pb-Pb collisions is observed to be suppressed with respect to peripheral collisions and also with respect to pp and p-Pb collisions. Statistical hadronisation models over-predict the measured yield ratio. The suppression adds further support to the existence of a prolonged hadronic phase, as already evidenced in the K^*/K and ρ/π ratios. The results are also compared to predictions from the EPOS3 Monte Carlo generator, which includes the UrQMD for the hadronic transport treatment. The model reproduces the measured p_T spectral shapes, $\langle p_T \rangle$ and the trend of the suppression reasonably well when UrQMD is on, whereas the agreement with the data significantly degrades when the UrQMD is off.

Preferred Track

QCD at High Temperature

Collaboration

ALICE

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