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$K^*(892)^0$ production at high transverse momentum in pp and Pb–Pb collisions at $\sqrt{s_{NN}}$ = 2.76 TeV

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The ALICE experiment has unique particle-identification capabilities allowing one to identify pions, kaons and protons over a wide momentum range through the measurements of their specific energy loss in the Time Projection Chamber (TPC) and of their velocity in the Time-Of-Flight (TOF) detector.
Hadronic resonances can therefore be successfully reconstructed via invariant mass analysis of the daughter particles in the hadronic decay channels.

The measurement of the production of the $K^{\star}(892)^0$ resonance in Pb-Pb collisions at $\sqrt{s_{\rm NN}}$ = 2.76 TeV and pp collisions at $\sqrt{s}$ = 2.76 TeV is reported.
The yield of $K^{\star}(892)^0$ at high $p_{\rm T}$ is observed to be suppressed in Pb-Pb relative to pp collisions due to the effect of parton energy loss in the hot and dense medium created in nuclear collisions. This has been studied via the measurement of the $K^{\star}(892)^0$ nuclear modification factor (R_{AA}).
Further understanding on the particle production mechanism can be provided by the measurement of the particle ratios $K^{\star}$/K and ϕ/K over a wide transverse momentum (p_T) range.

On behalf of collaboration:

ALICE

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