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Resonance production in PbPb collisions at 5.02 TeV and duration of hadronic rescattering stage

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We compute resonance (ρ , $K^*(892)$, $\phi(1020)$, $f_2'(1252)$, $\Lambda(1520)$, $\Sigma(1775)$) yields and spectra in PbPb collisions at 5.02 TeV using hydrodynamics with hadronic afterburner. The yields and $\langle p_T \rangle$ agree with available experimental data. With the afterburner the yields are substantially suppressed and the mean transverse momenta are substantially enhanced compared to the case without afterburner. The only exception of this rule is $\phi(1020)$, which remains unaltered by the afterburner. First, we provide a simple qualitative explanation of this phenomenon. Second, the available measurements of $\Lambda(1520)$ by ALICE allow us to estimate the duration of hadronic rescattering stage after hadronization of the quark-gluon plasma.

Collaboration

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