

Strangeness in Quark Matter 2019



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Multiplicity dependence of $f_0(980)$ resonance production in pp collisions at $\sqrt{s} = 13$ TeV with ALICE at the LHC

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Short-lived resonances are powerful probes to understand the hadronic phase in ultra-relativistic heavy-ion collisions, due to their lifetimes of ~ 10 fm/c, comparable to the time span between chemical and kinetic freeze-out. The measurements of short-lived resonances in pp collisions provide the baseline for heavy-ion collisions measurement. In this respect, we present the multiplicity dependence of the production of $f_0(980)$ at mid-rapidity ($|y| < 0.5$) in pp collisions at $\sqrt{s} = 13$ TeV.

The measurement has been performed with ALICE at the LHC and the particles have been reconstructed in the $f_0(980) \rightarrow \pi^+\pi^-$ decay channel. The poster will include the description of the signal extraction of other resonances having comparable mass to $f_0(980)$, the study of the combinatorial background, the transverse momentum spectra and the mean transverse momentum. In addition, the multiplicity dependence of the $f_0(980)$ yields will be studied and compared to the dependence of other hadrons, in order to shed light on the $f_0(980)$ quark content.

Collaboration name

ALICE

Track

Strangeness and Light Flavour

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