

# 10th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



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## $f_0(980)$ resonance production in small collision systems with ALICE

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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  $\sim 10$  fm/c, comparable to the time span between chemical and kinetic freeze-out. The measurements of short-lived resonances in small collision systems provide the baseline for heavy-ion collision measurements as well as exploration of cold nuclear matter effects, which can be achieved by comparison between measurements in pp and p-Pb collisions. 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 and p-Pb collisions at  $\sqrt{s_{NN}} = 5.02$  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 details on the signal extraction, transverse momentum spectra, particle yield and mean transverse momenta of  $f_0(980)$ . In addition, the particle yield ratios and nuclear modification factor,  $R_{pPb}$  will be presented to explore the internal structure of  $f_0(980)$ .

### Collaboration (if applicable)

ALICE

### Track

Initial State

### Contribution type

Poster

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