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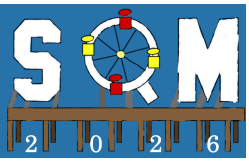

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Quarkonia production and collectivity in light-ion collisions with ALICE

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Quarkonium production has long been considered as one of the golden probes to study the quark-gluon plasma (QGP). In fact, the early production of heavy quarks ($c\bar{c}$ and $b\bar{b}$) makes quarkonia an ideal tool to investigate the evolution of the hot and dense medium produced in ultra-relativistic heavy-ion collisions. Moreover, at LHC energies the recombination of uncorrelated charm quarks pairs, namely (re)generation, was found to significantly affect charmonium observables, in contraposition to the well known suppression mechanism. On the other hand, measurements in smaller collision systems as p-Pb have highlighted the possibility to observe QGP-like effects, such as the larger relative suppression of the ψ(2S) with respect to the J/ψ. In this context, the study of charmonia production in intermediate collision systems, as light-ion collisions, becomes more and more interesting, representing an ideal test ground for the state-of-the art theoretical models.

In this contribution the new measurements of charmonia production and elliptic flow will be shown using the data collected for the first time at the LHC in 2025 in light-ion collisions (Oxygen-Oxygen, proton-Oxygen and Neon-Neon). The results will be shown exploiting the full ALICE rapidity coverage at mid ($|y| < 0.8$) and forward ($2.5 < y < 4$) rapidity. Finally, the measurements will be compared with the existing theoretical models.

Authors: COLLABORATION, ALICE; CERRI, Rebecca (Univ. of Torino)

Presenter: CERRI, Rebecca (Univ. of Torino)

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