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Low mass vector meson production in pp and Pb-Pb collisions measured with ALICE at the LHC

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Low mass vector meson (ρ , ω , ϕ) production provides key information on the hot and dense state of strongly interacting matter produced in high-energy heavy-ion collisions. Among them, strangeness production can be accessed through the measurement of ϕ meson production. The detection of vector mesons through their decay in dileptons has the advantage, with respect to hadronic decays, that the decay products are not influenced by final state interactions.

The ALICE apparatus at the LHC can access vector mesons produced at forward rapidity ($2.5 < y < 4$) through their decays in muon pairs. We present results on vector meson production in pp and Pb-Pb collisions at c.m. energy of 2.76 TeV per nucleon pair. The ϕ cross section is measured in pp collisions. In Pb-Pb collisions, a measurement of the $\phi/\rho + \omega$ ratio and of the ϕ nuclear modification factor as a function of the collision centrality is obtained. The status of the analysis in p-Pb and Pb-p at c.m. energy of 5.02 TeV per nucleon pair is also shown.

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