

Light vector meson productions at the LHC with the ALICE detector

The measurement of light vector meson production (ρ, ω, ϕ) in pp collisions provides insight into soft Quantum Chromodynamics (QCD) processes in the LHC energy range. Calculations in this regime are based on QCD inspired phenomenological models that must be tuned to the data, in particular for hadrons that contain the u, d, s quarks.

Moreover, light vector meson production provides a reference for high-energy heavy-ion collisions. In fact, key information on the hot and dense state of strongly interacting matter produced in these collisions can be extracted measuring light meson production.

The ALICE experiment has taken data in 2010 and 2011 in p-p collisions at $\sqrt{s} = 2.76$ and 7 TeV, and in Pb-Pb collisions at 2.76 TeV.

Results will be shown for the ρ and ϕ differential cross sections in p-p collisions at $\sqrt{s} = 7$ TeV measured in the rapidity interval $2.5 < y < 4$.

Low mass resonances analysis in Pb-Pb collisions is ongoing and the prospects of this analysis will be presented in this poster.

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