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Energy dependence of $\phi(1020)$ production at mid-rapidity in pp collisions with ALICE at the LHC

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Hadronic resonances are unique tools to investigate the interplay of re-scattering and regeneration effects in the hadronic phase of heavy-ion collisions. As the ϕ meson has a longer lifetime compared to other resonances, it is expected that its production will not be affected by regeneration and re-scattering processes. Measurements in small collision systems such as proton-proton (pp) collisions provide a necessary baseline for heavy-ion data and they help to tune pQCD inspired event generators. Being an ss quark pair with zero net-strangeness content, measurements of ϕ meson production contribute to the study of strangeness production in small systems.

We report on measurements with the ALICE detector at the LHC of ϕ meson production in minimum bias pp collisions at different beam energies and as a function of charged particle multiplicity. The results include the transverse momentum (p_{T}) distributions of ϕ as well as the $\langle p_{\mathrm{T}} \rangle$ values and particle yield ratios. The key question that will be addressed is whether there is a dependence of the relative ϕ production in pp collisions on the collision energy.

Content type

Experiment

Collaboration

ALICE

Centralised submission by Collaboration

Presenter name already specified

Author: Mr TRIPATHY, Sushanta (Indian Institute of Technology Indore (IN))

Presenter: Mr TRIPATHY, Sushanta (Indian Institute of Technology Indore (IN))

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