

$K^*(892)^\pm$ and $\phi(1020)$ production in pp collisions at $\sqrt{s} = 5.02$ TeV with ALICE at the LHC

Tuesday, 11 July 2017 17:40 (20 minutes)

In this work we report the first results on $K^*(892)^\pm$ and $\phi(1020)$ production in pp collisions at $\sqrt{s} = 5.02$ TeV with the ALICE detector. The hidden strangeness ϕ -meson is reconstructed at mid-rapidity via its hadronic decay channel $\phi \rightarrow K^+K^-$, by employing different techniques, without and with kaon identification using the information from the Time Projection Chamber and Time of Flight detectors. The $K^{*\pm}$ is reconstructed via a two-steps decay process where the resonance undergoes a strong decay to $K_S^0 + \pi^\pm$ and then the K_S^0 decays weakly to $\pi^+ + \pi^-$. Measurements of these resonances in pp collisions at $\sqrt{s} = 5.02$ TeV constitute a reference for the measurements in Pb-Pb collisions at the same center-of-mass energy and contribute to the study of energy and multiplicity dependence of particle production in pp collisions. Results presented here include the transverse momentum (p_T) spectra, integrated yields and $\langle p_T \rangle$ for $K^{*\pm}$ and ϕ . These are compared with results from other LHC energies and with the predictions from QCD-inspired event generators.

List of tracks

Hadron resonances

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Session Classification: Poster session

Track Classification: Hadron resonances