Beitrag ID: **370** Typ: **Talk**

Measurement of ω meson production in pp and p–Pb collisions at $\sqrt{s_{\rm NN}} = 5.02$ TeV with ALICE

Freitag, 31. März 2023 09:18 (5 Minuten)

The ALICE experiment at the LHC investigates the properties of the hot and dense nuclear matter created in heavy-ion collisions. By comparing the particle production in pp and p–Pb collisions, possible nuclear initial state effects can be isolated. Measurements of the ω meson $p_{\rm T}$-spectra in pp and p–Pb collisions not only allow for a determination of the nuclear modification factor $R_{\rm pA}$, but also provide insights into the fragmentation process and serve as vital input for direct photon cocktail simulations.

The ω mesons can be reconstructed in ALICE via their primary decay channel into three pions ($\omega \rightarrow \pi^{+}\pi^{-}\pi^{0}$). While the two charged pions are being directly identified by the tracking detectors, i.e. the Time Projection Chamber and the Inner Tracking System, the π^{0} is reconstructed from its two decay photons. These photons can either be detected in the calorimeters or via tracks in case they convert to an electron-positron pair in the detector material.

In this poster, the measurement of the ω meson production in pp and p–Pb collisions at $\sqrt{s_{\rm NN}} = 5.02$ TeV will be presented. This includes the signal extraction and various corrections of the ω meson yields, as well as comparisons to theory calculations.

Experiment/Theory

Affiliation

Hauptautor: STRANGMANN, Nicolas

Vortragende(r): STRANGMANN, Nicolas

Sitzung Einordnung: Plenary Session VIII