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## Measurement of $\omega$ meson production in pp and p-Pb collisions at $\sqrt{s_{\text{NN}}} = 5.02$ TeV with ALICE

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By comparing the particle production in pp and p-Pb collisions, nuclear initial state effects can be studied. Measurements of the  $\omega$  meson  $p_{\text{T}}$ -spectra in pp and p-Pb collisions not only allow for a determination of the nuclear modification factor  $R_{\text{pA}}$ , but also provide insight into the fragmentation process and serve as vital input for direct-photon cocktail simulations.

The  $\omega$  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 with the tracking detectors, i.e. the Time Projection Chamber and the Inner Tracking System, the  $\pi^0$  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, measurements of the  $\omega$  meson production in pp and p-Pb collisions at  $\sqrt{s_{\text{NN}}} = 5.02$  TeV will be presented. This includes the signal extraction and various corrections of the  $\omega$  meson yields, leading to their production cross sections and the first measured nuclear modification factor  $R_{\text{pA}}$  ( $2.2 \leq p_{\text{T}} < 16$  GeV/c) of the  $\omega$  meson at LHC energies.

### Category

Experiment

### Collaboration (if applicable)

ALICE

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