

# 11th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



Beitrag ID: 55

Typ: Poster

## Measurement of $\Xi_c^0$ via the semileptonic decay channel in $pp$ collisions and in $p$ -Pb collisions with ALICE

Dienstag, 28. März 2023 18:15 (2 Stunden)

Recent results of charmed baryon production in  $pp$  collisions showed a significant enhancement of the baryon-to-meson ratio compared with the expectation based on  $e^+e^-$  collisions. This indicates that the charm fragmentation into hadrons is not an universal process among different collision systems, and different mechanisms may play a role in the hadronic collisions with respect to  $e^+e^-$  collisions. Therefore, the measurements of charmed baryon production are crucial to investigate the hadronisation mechanism of charm quarks. The production yield measurement of the  $\Xi_c^0$  baryon has been measured in  $pp$  collisions at  $\sqrt{s} = 5$  and 13 TeV. Further studies of the multiplicity dependence of the baryon-to-meson yield ratios can provide more information on how the charm hadronisation processes evolve from small to large collision systems. Measurements in  $p$ -Pb collisions are important to separate the cold nuclear matter effects from the effects associated with the formation of quark-gluon plasma. In this contribution, the most recent measurements of the  $\Xi_c^0$  production via the semileptonic decay channel  $\Xi_c^0 \rightarrow \Xi^- e^+ \nu_e$  in  $pp$  collisions and the analysis status for the study of multiplicity dependence in  $pp$  and  $p$ -Pb collisions will be shown.

### Experiment/Theory

ALICE

### Affiliation

Pusan National University

**Hauptautor:** LIM, Sanghoon (Pusan National University)

**Vortragende(r):** LIM, Sanghoon (Pusan National University)

**Sitzung Einordnung:** Poster Session

**Track Klassifizierung:** Heavy flavor and quarkonia