

# 10th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



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## Measurement of $\Xi_c^0$ baryon in pp collisions with ALICE at the LHC

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The ALICE detector at the Large Hadron Collider (LHC) has been optimized for studying the strongly-interacting matter - the Quark-Gluon Plasma (QGP) at extremely high densities created in heavy-ion collisions. Charm quarks are produced in initial hard scattering processes, transport through the whole evolution of the system, and interact with the QGP constituents. Therefore, they are powerful probes of the properties of the QGP. The measurement of charmed baryon production in proton-proton collisions provides an important opportunity to test perturbative quantum chromodynamics (pQCD) and to provide insights into the hadronization processes due to the large mass of the charm quark. In addition, the measurement of charmed baryon production is an interesting reference for heavy-ion collisions where the baryon-to-meson ratio can be modified if charm quarks are hadronized by recombination with light quarks in the deconfined medium. The measurement of  $\Xi_c^0$  also provides additional information on the hadronization mechanism of strange quarks in proton-proton collisions.

In this poster, production of  $\Xi_c^0$  is studied in the semi-leptonic decay channel ( $\Xi_c^0 \rightarrow e\Xi\nu$ ) with the ALICE detector using LHC-Run2 data. The  $p_T$ -differential cross section times branching ratio of  $\Xi_c^0$  in proton-proton collisions at  $\sqrt{s}=13$  TeV will be shown.

### Collaboration (if applicable)

ALICE

### Track

Heavy Flavor and Quarkonia

### Contribution type

Poster

**Primary author:** SEO, Jin Joo (Inha University (KR))

**Presenter:** SEO, Jin Joo (Inha University (KR))

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