

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



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Type: Oral Presentation

## Study charm hadronization via $\Lambda_c$ and $D_s$ production in pp and PbPb collisions with the CMS experiment

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Because of their large mass, the interactions of heavy quarks with the quark-gluon plasma (QGP) may be different from those of light quarks and hence can provide essential inputs in understanding the QGP. With strange quark yields being enhanced in the presence of a QGP, the production of  $D_s^+$  is expected to be enhanced if recombination plays an important role in the hadronization process. Furthermore, studies of the lightest charm baryon,  $\Lambda_c^+$ , can provide further information to charm quark hadronization. Models involving quark coalescence predict a large enhancement of  $\Lambda_c^+$  production in PbPb collisions compared to pp collisions. The  $\Lambda_c^+$  and  $D_s$  production in both pp and PbPb collisions at a nucleon-nucleon center-of-mass energy of 5.02 TeV have been measured in the CMS experiment. Results of  $\Lambda_c^+$  and  $D_s$  differential cross-sections, and the ratios of these two yields over those for  $D^0$  in pp and PbPb collisions, as well as  $R_{AA}$  for  $D_s$  and  $\Lambda_c^+$ , are presented.

### Collaboration (if applicable)

CMS

### Track

Heavy Flavor and Quarkonia

### Contribution type

Contributed Talk

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