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Reconstruction techniques for $\Lambda_c \to p\overline{K}^0$ in p-Pb collisions at $\sqrt{s_{\mathrm{NN}}}$ = 5.02 TeV with ALICE at the LHC

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The study of open heavy flavour production is one of the most effective tools to investigate the properties of the strongly interacting medium created in heavy-ion collisions.
For example, the baryon to meson ratio such as Λ_c/D offers the possibility to shed light on the thermalization and hadronization processes in the medium.
An important baseline to interpret heavy-ion results is the comparison to other systems, such as pp and p-Pb. In particular, p-Pb collisions are the key to
disentangle cold and hot nuclear matter effects which are present in A-A interactions.

The focus of this poster will be on signal extraction techniques for the $\Lambda_c \to p\overline{K}^0$ decay channel in p-Pb collisions at $\sqrt{s_{\mathrm{NN}}}$ = 5.02 TeV.
The ALICE detector at the LHC, being the experiment dedicated to heavy-ion collisions, is able to resolve secondary vertices with high
precision and resolution and to perform particle identification (PID) via various techniques over a very broad momentum range. These characteristics make it
especially suitable for $\Lambda_c \to p\overline{K}^0$ analysis through the usage of reconstruction methods based on topological and PID selections. Performance
studies of the application of multivariate analysis techniques based on the TMVA package will be also shown.

On behalf of collaboration:

ALICE

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