Contribution ID: **37** Type: **Poster**

TMVA methods to reconstruct $\Lambda_c \rightarrow pK^0_S$ in p–Pb collisions with ALICE at the LHC

Tuesday 15 May 2018 19:10 (30 minutes)

Open heavy flavour (charm and beauty) production is one of the leading probes to study the strongly interacting medium that is formed in high-energy heavy-ion collisions. As the charm and beauty quarks have very large mass with respect to the temperature of the medium, they are produced early in initial hard scatterings and not through thermal processes later on.

One particularly interesting observable is the baryon-to-meson ratio, which allows us to better understand hadronisation and thermalisation processes. This can be examined in the heavy-flavour sector by measuring the production ratio of the Λ_c baryon to the D^0 meson.

ALICE's excellent tracking and particle identification capabilities allow it to reconstruct the Λ_c baryon using a variety of methods, including machine learning techniques via the Toolkit for Multivariate Data Analysis (TMVA). This poster will present the latest results for $\Lambda_c \rightarrow pK^0_S$ reconstructed by ALICE with TMVA methods from p–Pb collisions at $\sqrt{s_{NN}} = 5.02\,\mathrm{TeV}$, with a view towards future prospects in this field.

Content type

Experiment

Collaboration

ALICE

Centralised submission by Collaboration

Presenter name already specified

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Session Classification: Poster Session

Track Classification: Open heavy flavour