

## Contribution submission to the conference SMuK 2021

$\Lambda_c^+$  cross section in p–Pb collisions down to  $p_T = 0$  at  $\sqrt{s_{NN}} = 5.02$  TeV measured with ALICE — •ANNALENA SOPHIE KALTEYER — GSI Helmholtz Centre for Heavy Ion Research

In this contribution, the latest ALICE measurement of  $\Lambda_c^+$  production performed down to  $p_T = 0$  in p–Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV is presented. This allows to show the first measurement of  $\Lambda_c^+/D^0$  and  $\Lambda_c^+$  nuclear modification factor ( $R_{pPb}$ ) down to  $p_T = 0$  in this system. The baryon-to-meson ratio is significantly enhanced with respect to the one in  $e^+e^-$  collisions, suggesting that the charm fragmentation is not a universal process across different collision systems. Furthermore, the ratio as a function of the transverse momentum is shifted to higher  $p_T$  in p–Pb collisions with respect to pp collisions. The reason for this momentum shift could be due to a modification of the charm hadronisation mechanism and/or the presence of radial flow in p–Pb collisions. Typically this is observed in heavy-ion collisions where a hot deconfined medium is created. In addition, the  $R_{pPb}$  is useful to investigate possible initial state effects such as shadowing in the collisions of a proton with a heavy nucleus.  $R_{pPb}$  can help disentangling initial from final state effects, which would involve the presence of a medium. The results are compared with theoretical calculations including initial and final state effects.

**Part:** HK  
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