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In proton-proton (pp) collisions, the production of HF hadrons is typically described as a convolution of the parton distribution functions of the colliding protons, the partonic cross section, and the Fragmentation Functions (FFs). The latter describes the hadronisation of the heavy quarks in the different hadron species, and, since this process is non-perturbative, it is usually parametrised from measurements in e^+e^- collisions. However, recent studies by the ALICE Collaboration show that the ratio between the production of charm baryons with respect to mesons is significantly higher in hadronic collisions compared to e^+e^- interactions, invalidating the assumption that the FFs are independent of the collision system.

This contribution presents an extension of the studies on HF-baryon production in hadronic collisions to the beauty sector, via the measurement of the transverse-momentum-differential production cross section of Λ_c^+ -baryon originating from beauty-hadron decays in pp collisions at $\sqrt{s} = 13$ TeV. The measurement will also be compared to theoretical predictions based on fixed order plus next to the leading logarithm pQCD calculations folded with the beauty-hadron to Λ_c^+ decay kinematics from PYTHIA8 simulations.

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