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Analysis of b-jets production in p–Pb and pp collisions at $\sqrt{s_{NN}} = 5.02$ TeV with ALICE

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Production of beauty quarks takes place mostly in initial hard scattering processes and can be calculated using perturbative quantum chromodynamics (pQCD). Thanks to excellent particle tracking capabilities, the ALICE experiment at the LHC is able to reconstruct beauty-hadron decay vertices, displaced hundreds of micrometers from the primary interaction vertex. The poster will present inclusive pT spectra of b jets measured in p–Pb and pp collisions at $\sqrt{s_{NN}} = 5.02$ TeV, the corresponding nuclear modification factor, and the fraction of b jets among inclusive jets. The production cross-section of b jets was measured down to 10 GeV/c which is lower than in previous measurements of b jets done at the LHC. Low pT b-jets are expected to be more sensitive to cold nuclear matter effects in p–Pb collisions. They are an important reference for future Pb–Pb measurements, where their production provides information on color and parton mass dependence of parton energy loss.

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