Contribution ID: **160** Type: **3a) Heavy-flavours and quarkonia (TALK)**

Charm, bottom, and quarkonia cross sections for double and triple-parton scatterings in high-energy proton-nucleus and nucleus-nucleus collisions

Wednesday 3 October 2018 12:05 (20 minutes)

The framework to compute the cross sections for the production of particles with high mass and/or large transverse momentum in double- (DPS), triple- (TPS), and in general n-parton scatterings, from the corresponding single-parton (sigma_SPS) values in high-energy proton and nucleus will be reviewed. The basic parameter of the factorized n-parton scattering ansatz is an effective cross section sigma_eff encoding all unknowns about the underlying generalized n-parton distribution in the proton (nucleon). In its simplest and most economical form, the sigma_eff parameter can be derived from the transverse parton profile of the colliding protons and/or nucleus, using a Glauber approach. Numerical examples for the cross sections and yields expected for the concurrent DPS or TPS production of heavy-quarks, quarkonia, and/or gauge bosons in proton and nuclear collisions at LHC and Future Circular Collider (FCC) energies will be provided. The obtained cross sections are based on perturbative QCD predictions for sigma_SPS at next-to-leading-order (NLO) or next-to-NLO (NNLO) accuracy including, when needed, nuclear modifications of the corresponding parton densities.

Summary

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Session Classification: Parallel 3