



Contribution ID: 68

Type: **not specified**

Heavy-flavour dynamics in proton-proton and nucleus-nucleus collisions at LHC

Thursday 11 September 2014 15:00 (30 minutes)

I will present recent results on heavy-quark quenching, elliptic flow and azimuthal correlations in proton-proton and nucleus-nucleus collisions at LHC energies.

We simulate the c - \bar{c} and b - \bar{b} pair initial creation with a perturbative QCD approach (POWHEG+PYTHIA). Successively we study the propagation of the heavy quarks in the plasma with the relativistic Langevin equation, by using transport coefficients computed with perturbative-QCD and HTL approximation.

Successively, the heavy quarks hadronize in the medium.

We compute the nuclear modification ratio R_{AA} and v_2 of the final D mesons, as well as D-h correlations and compare our results to experimental data of ALICE and CMS Collaborations.

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Session Classification: Parallel IV: D6 Deconfinement

Track Classification: Section D: Deconfinement