



XXIV QUARK MATTER DARMSTADT 2014

Contribution ID: 325

Type: **Contributed Talk**

Double-parton scatterings in proton-nucleus and nucleus-nucleus collisions at the LHC

Monday, 19 May 2014 12:40 (20 minutes)

We have derived a simple generic expression to compute the cross sections for double-parton scatterings (DPS) in high-energy proton-nucleus and nucleus-nucleus collisions as a function of the corresponding single-parton hard cross sections [1,2]. Estimates of DPS contributions at LHC energies for (i) same-sign W-boson pair production in p-Pb, and (ii) double-J/ ψ production in Pb-Pb, are obtained from NLO predictions with nuclear PDF modifications for the corresponding single-parton scatterings. The first process can help determine the effective σ_{eff} parameter characterising the transverse distribution of partons in the nucleon, whereas the second one provides interesting insights on the event-by-event dynamics of J/ ψ production in Pb-Pb. The expected cross sections and event rates after typical acceptance and efficiency losses, for various others DPS processes involving quarkonia, jets, and gauge bosons (γ , W, Z) will be given for p-Pb and Pb-Pb collisions at the LHC.

[1] D. d'Enterria, A. Snigirev, Phys.Lett. B718 (2013) 1395

[2] D. d'Enterria, A. Snigirev, Phys.Lett. B727 (2013) 157

On behalf of collaboration:

None

Primary author: D'ENTERRIA, David (CERN)

Co-author: SNIGIREV, Alexandre (M.V. Lomonosov Moscow State University (RU))

Presenter: D'ENTERRIA, David (CERN)

Session Classification: Initial state physics

Track Classification: Initial State Physics