Contribution ID: **38** Type: **not specified**

The role of J/ψ meson in peripheral heavy-ion collisions

We study the J/ψ photoproduction in ultrarelativistic lead-lead collisions at the LHC energy. In the present approach, as an example, we use a simple model based on a vector dominance picture and multiple scattering of the hadronic ($c\bar{c}$) state in a cold nucleus. Equivalent photon approximation in the impact parameter space, which successfully describes data for ultraperipheral processes, is used for more central heavy-ion collision. For semi-central collisions ($b < R_{Pb} + R_{Pb}$), a modification of the photon flux seems necessary. We discuss different physics-motivated approximations. We try to estimate the cross sections for different centrality bins and J/ψ mesons emitted in the forward rapidity range ($2.5 < y < 4$) corresponding to ALICE experimental results. Reasonable results will be presented but open questions will also be discussed.

Photoproduction of J/ψ mesons in peripheral and semicentral heavy ion collisions,
Mariola Kłusek-Gawenda and Antoni Szczurek,
Published in: Phys.Rev. **C93** (2016) 4, 044912.

Primary author: KLUSEK-GAWENDA, Mariola (Institute of Nuclear Physics Polish Academy of Sciences)

Co-author: SZCZUREK, Antoni

Presenter: KLUSEK-GAWENDA, Mariola (Institute of Nuclear Physics Polish Academy of Sciences)

Track Classification: Session 5: EM and peripheral events