Contribution ID: **257** Type: **Oral report**

Photoproduction of rho-mesons on nuclei in ultraperipheral nuclear collisions at the LHC

Monday 12 October 2020 18:15 (25 minutes)

Using the Gribov–Glauber model for photon–nucleus scattering and a generalization of the vector meson dominance (VMD) model for the hadronic structure of the photon, we make predictions for the cross sections of coherent and incoherent photoproduction of rho-mesons in Pb-Pb ultraperipheral collisions (UPCs) at the LHC. We find that the effect of inelastic nuclear shadowing is significant and leads to an additional 40% (25%) suppression of the coherent (incoherent) cross section. Our approach provides a very good description of the ALICE data on coherent rho photoproduction in Pb-Pb UPCs at 2.76 and 5.02 TeV. Comparing our predictions to those of the STARlight Monte-Carlo framework, we observe very significant differences.

Primary authors: GUZEY, Vadim (NRC Kurchatov Institute PNPI (RU)); KRYSHEN, Evgeny (NRC Kurchatov Institute PNPI (RU)); Dr ZHALOV, Michael (Petersburg Nuclear Physics Institute (PNPI))

Presenter: GUZEY, Vadim (NRC Kurchatov Institute PNPI (RU))

Session Classification: Section 4. Relativistic nuclear physics, elementary particle physics and high-energy physics

Track Classification: Section 4. Relativistic nuclear physics, elementary particle physics and high-energy physics.