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## Recent results on electroweak probes in lead-lead and proton-lead collisions from the ATLAS Detector at the LHC

Photons and weak bosons do not interact strongly with the dense and hot medium formed in the nuclei collisions, thus should be sensitive to the nuclear modification of parton distribution functions (nPDFs). In particular, proton-lead collisions provide an excellent opportunity to test nPDFs in a less dense environment than lead-lead. The ATLAS detector, optimized for searching new physics in proton-proton collisions, is especially well equipped to measure photons, Z and W bosons in the high occupancy environment produced in heavy ion collisions. Using the full data samples of 2.76 TeV lead-lead and 5.02 TeV proton-lead collisions we will present recent results on the prompt photon, Z and W boson yields as a function of centrality, transverse momentum and rapidity, from the ATLAS experiment. The binary collision scaling of the yields will be discussed in detail.

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