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W,Z and photon production in CMS

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Electroweak gauge bosons, γ, W and Z, do not participate in the strong interaction, and thus constitute clean probes of the initial state of nucleus-nucleus collisions. The comparison of their production cross-sections in pp and in nuclear collisions provides an estimate of the nuclear parton distribution functions. Despite the low production cross section of weak bosons compared to other nuclear processes, the relatively clean signal of their leptonic decay channel allows their detection and reconstruction. The measurement of prompt photon production is challenging because of the presence of a large background coming from electromagnetic decays of neutral mesons, which is suppressed by photon isolation criteria. This talk will report measurements of isolated photons, as well as Z and W bosons, produced in PbPb and pp collisions at nucleon-nucleon sqrt(s) = 2.76 TeV with the CMS detector.

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