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W boson studies in pPb and PbPb collisions with CMS

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The electroweak W bosons do not participate in the strong interaction, and thus constitute clean probes of the initial state of nuclear collisions. They provide a unique constraint on the nuclear parton distributions, in particular on the antiquarks from the sea. A first analysis of PbPb data has confirmed the medium-blind characteristic of the electroweak bosons. With the new pPb data, collected at the beginning of 2013, nuclear matter without the creation of a hot medium can hence be studied. Being 10 times more prevalent than Z bosons, the yield of W bosons recorded from pPb collisions allows precise comparisons to theoretical predictions. A yield of approximately 20,000 W is observed in pPb collisions in both the muon and electron channels. In this talk the CMS measurements of W bosons in PbPb at $\sqrt{s_{NN}} = 2.76$ TeV and from the new pPb data at $\sqrt{s_{NN}} = 5.02$ TeV are reported. The charge asymmetry, forward/backward asymmetry and fully corrected yields will be shown.

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