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High Precision Measurement of the differential W and Z boson cross-sections

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Measurements of the Drell-Yan production of W and Z/gamma bosons at the LHC provide a benchmark of our understanding of perturbative QCD and probe the proton structure in a unique way. The ATLAS collaboration has performed new high precision measurements at a center-of-mass energies of 7 and 13 TeV. The measurements are performed for W^+ , W^- and Z/gamma bosons integrated and as a function of the boson or lepton rapidity and the Z/gamma* mass. Unprecedented precision is reached and strong constraints on Parton Distribution functions, in particular the strange density are found.

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