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Measurement of the differential Drell-Yan cross section with the CMS detector at the LHC ALEXEY SVYATKOVSKIY, Purdue University, CMS COLLABORATION — The precision measurement of the differential Drell-Yan cross section $d\sigma/dM$ and the first measurement of the double differential cross section $d^2\sigma/dMdY$ at $\sqrt{s} = 7$ TeV are presented. A dataset of 4.7 fb^{-1} of pp collisions collected with the CMS detector at the LHC during the year 2011 was used for these measurements. The $d\sigma/dM$ cross section was measured in the dimuon channel in the invariant mass range 15 GeV to 1.5 TeV. A substantially improved precision compared to the previous measurements has been achieved. The $d2\sigma/dMdY$ cross section measurement has been performed in the dimuon invariant mass range from 15 GeV to 1 TeV covering the dimuon rapidity range from -2.5 to 2.5. Both measurements were found to be in good agreement with theoretical predictions estimated using the NNLO MSTW2008 PDFs.

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