Measurement of $W \rightarrow \ell \nu$ charge asymmetry in proton-proton collisions at $\sqrt{s} = 7$ TeV with the ATLAS detector

VERENA MARTINEZ OUTSCHOORN\textsuperscript{1}, Havard University, ATLAS COLLABORATION — We present a measurement of the asymmetry in the production rates of positively and negatively charged $W$ bosons in $pp$ collisions at $\sqrt{s} = 7$ TeV with the ATLAS detector. The $W$ candidates are reconstructed in the $\ell \nu$ final state, where $\ell = e, \mu$. In a sample corresponding to a total integrated luminosity of 35 pb$^{-1}$, the differential charge asymmetry as a function of the pseudorapidity $\eta$ of the decay lepton is measured. The lepton charge asymmetry is compared to Standard Model predictions using different parton distribution function predictions.

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