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## Mutual relations of the W charge asymmetry in p-p, p-Pb and Pb-Pb collisions

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We consider the production of inclusive W bosons in variety of high-energy hadronic collisions: p-p, p-pbar, p-Pb, and Pb-Pb. In particular, we focus on the resulting distributions of charged leptons from W decays, which can be measured with relatively low backgrounds. By inspecting the corresponding leading-order expressions within the collinearly factorized QCD we find that the center-of-mass energy dependence at forward/backward direction should be describable by a simple power law. The physical interpretation of the scaling exponent is in the small-x behaviour of the parton densities. The most thrilling consequence, however, is the resulting extremely simple scaling law for the lepton charge asymmetry which also relates measurements in different collision systems. For example, this allows an almost-direct comparison of measurements in p-p and p-Pb or in p-Pb and Pb-Pb, pairwise, even if the center-of-mass energies would be different! The expectations are contrasted with the existing data and a very good overall agreement is indeed found. The understanding of the underlying physics allows us to make very accurate predictions for upcoming LHC measurements and we also propose a precision observable to be measured.

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