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Re-weighting at the LHC: the p-Pb data impact

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One of the goals of the proton-lead run at the LHC is to produce a benchmark for heavy-ion collisions. Preliminary analyses hint that nPDFs fail to give a proper description for certain observables. Here we present a full study of the compatibility between current sets of initial state nuclear distributions and data from the LHC p-Pb run. By means of reweighting techniques [1,2] we give a quantitative estimate of the modification of nPDFs due to the novel proton-lead data, and also determine whether or not performing a new extraction of nPDFs is mandatory at this point.

[1] H. Paukkunen and P. Zurita. JHEP 1412 (2014) 100.

[2] N. Armesto, J. Rojo, C.A. Salgado and P. Zurita. JHEP 1311 (2013) 015.

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