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Constraints for nuclear PDFs from the LHCb D-meson data

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We quantify the impact of LHCb D-meson measurements at $\sqrt{s} = 5\,\mathrm{TeV}$ on the EPPS16 and nCTEQ15 nuclear PDFs. In our study, the theoretical description of D-meson production is based on the recently developed SACOT-m_{T} variant of the general-mass variable-flavour-number formalism, and the impact on PDFs is estimated via profiling methods. We pay a special attention on the theoretical uncertainties known to us, and are led to exclude the $p_{\mathrm{T}} < 3\,\mathrm{GeV}$ region from our main analysis. The LHCb data can be accomodated well within EPPS16/nCTEQ15, and the data provide stringent constraints on the gluons at the shadowing/antishadowing regions. No evidence of non-linear effects beyond standard DGLAP evolution is found even if the full kinematic region down to zero p_{T} is considered.

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