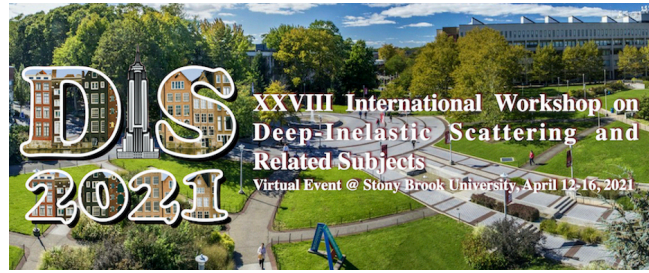


# XXVIII International Workshop on Deep-Inelastic Scattering and Related Subjects



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## Probe parton distribution functions and QCD effects in the forward region of proton-proton collisions

*Wednesday, 14 April 2021 12:55 (20 minutes)*

LHCb is a spectrometer that covers the forward region of proton-proton collisions, corresponding to the pseudo-rapidity range  $2 < \eta < 5$ . Thanks to its coverage, LHCb can probe the parton distribution functions (PDF) in a phase space region unexplored by other experiments, in particular in the low- $x$  region. Moreover LHCb data could be used to test perturbative QCD predictions. In this context the production of a Z boson in association with a c-jet can be studied to measure the intrinsic charm content. Moreover several PDFs model and QCD calculations could be tested by studying the differential cross section of charged particles production. In this talk these measurements will be presented and discussed.

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