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Precise W mass measurement at LHCb

Wednesday, January 12, 2022 11:20 AM (20 minutes)

The LHCb experiment covers the forward region of proton-proton collisions, and it can improve the current electroweak landscape by studying the production of W and Z boson in this phase space complementary to ATLAS and CMS. In this talk an overview of the wide LHCb electroweak measurement program will be presented. In particular several preliminary studies have shown the potential of the LHCb experiment to measure the W boson mass with a muon pT based technique, which could yield a statistical precision of 10 MeV if using the full Run 2 dataset. A proof-of-concept measurement of the W boson mass, using only the 2016 dataset, will be presented.

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Session Classification: Precision SM Measurements

Track Classification: Standard Model