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Type: **Parallel session talk**

Probing the weak mixing angle at high energies at the LHC and HL-LHC

Wednesday, 23 August 2023 09:30 (20 minutes)

Duration: 15'+5'

Measurements of neutral current Drell-Yan production at large invariant dilepton masses can be used to test the energy scale dependence (running) of the electroweak mixing angle.

In this work, we make use of a novel implementation of the full next-to-leading order electroweak radiative corrections to the Drell-Yan process using the $\overline{\text{MS}}$ renormalization scheme for the electroweak mixing angle. The potential of future analyses using proton-proton collisions at $\sqrt{s} = 13.6$ TeV in the Run 3 and High-Luminosity phases of the LHC is explored. In this way, the Standard Model predictions for the $\overline{\text{MS}}$ running at TeV scales can be probed.

Collaboration / Activity

hep-ph

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