

Probing the $Zb\bar{b}$ couplings at the HERA and EIC

To resolve the long-standing discrepancy between the precision measurement of bottom quark forward-backward asymmetry at LEP/SLC and the Standard Model prediction, we propose a novel method to probe the $Zb\bar{b}$ coupling by measuring the (average jet charge weighted) single-spin asymmetry of the polarized lepton cross section in neutral current DIS processes with a b-tagged jet at HERA and EIC. With enough integrated luminosity collected at the EIC, it is possible to either verify or exclude the LEP data and resolve the A_{FB}^b puzzle.

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No

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