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Measurements and combination of the weak mixing angle at Tevatron and extraction of the W mass

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We present four measurements of forward-backward charge asymmetry A_{FB} in $p\bar{p}\to Z/\gamma^*\to e^+e^-/\mu^+\mu^-+X$ events using $\sim 10~{\rm fb}^{-1}$ of $p\bar{p}$ data collected at $\sqrt{s}=1.96$ TeV by the D0 and CDF detectors at the Fermilab Tevatron collider. A_{FB} is measured as a function of the invariant mass of the dilepton system to extract the effective weak mixing angle $\sin^2\theta_{eff}^{lep}$. We discuss the combination of these measurements and present the indirect extraction of the W mass in the context of the standard model.

Experimental Collaboration

D0 and CDF

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