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Measurements of the effective weak mixing angle in dimuon events at D0

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We present the measurements of forward-backward charge asymmetry A_{FB} in $p\bar{p} \to Z/\gamma^* \to \mu^+\mu^-$ events using 9.7 fb^{-1} of $p\bar{p}$ data collected at $\sqrt{s} = 1.96$ TeV by the D0 detector at the Fermilab Tevatron collider. A_{FB} is measured as a function of the invariant mass of the dimuon system to extract the effective weak mixing angle $\sin^2\theta^{lep}_{eff}$. In the context of the standard model, using the on-shell renormalization scheme where $\sin^2\theta_W = 1 - M_W^2/M_Z^2$, measurements of $\sin^2\theta^{lep}_{eff}$ yield indirect extractions of the W mass. The result will contribute to the final Tevatron combination of the weak mixing angle and indirect m_W measurements.

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