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Measurement of the effective weak mixing angle in dimuon events at D0 and combination of the weak mixing angle measurements and W mass extraction at the Tevatron

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We present the measurement of forward-backward charge asymmetry AFB in $p\bar{p} \rightarrow Z/\gamma^* \rightarrow \mu+\mu-$ 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. AFB is measured as a function of the invariant mass of the dilepton system to extract the effective weak mixing angle sin20eff. We discuss the combination of the four measurements of AFB in $p\bar{p} \rightarrow Z/\gamma_* \rightarrow e+e-/\mu+\mu-+X$ events using the full datasets collected by the D0 and CDF detectors at the Tevatron and present the indirect extraction of the W mass in the context of the standard model.

Primary author: Dr QUINN, Breese (University of Mississippi)
Presenter: Dr QUINN, Breese (University of Mississippi)
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