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Precise measurement of the W boson mass at CDF II

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The mass of the W boson is sensitive to radiative corrections from the top quark and the Higgs boson. We present a new measurement of m_W using 2.2/fb of $\sqrt{s}=1.96$ TeV $ppbar$ collision data collected with the CDF II detector. Utilizing 470126 $W \rightarrow e\nu$ candidates and 624708 $W \rightarrow \mu\nu$ candidates, we measure $m_W = 80387 \pm 19$ MeV. This is the most precise measurement of m_W , more precise than all previous measurements of m_W combined.

Author: Prof. KOTWAL, Ashutosh (Duke University (US))

Presenter: Prof. KOTWAL, Ashutosh (Duke University (US))

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