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Z boson rapidity distribution for $p\bar{p} \to Z/\gamma^* \to e^+e^- + X$ events at a center-of-mass energy of 1.96 TeV PENGFEI DING[1], University of Manchester, DZERO COLLABORATION — We present a measurement of the shape of the Z boson rapidity distribution for $p\bar{p} \to Z/\gamma^* \to e^+e^- + X$ events at a center-of-mass energy of 1.96 TeV. Data collected with the D0 detector during the entire RunII period of the Fermilab Tevatron $p\bar{p}$ collider are used. By using these data with an integrated luminosity of up to $L = 9.86$ fb^{-1}, the uncertainties on the rapidity distribution in the forward region are significantly reduced compared with previous measurements. The measurement is made for events with electron-positron mass $66 < M_{ee} < 111$ GeV. Predictions of Next-to-Leading-Order(NLO) QCD theory with CTEQ and MSTW parton distribution functions are found to agree well with the data over the full rapidity range.

[1]Presenting on behalf of the D0 Collaboration

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