

OPERATION OF THE BEAM DIAGNOSTICS SYSTEM FOR TEVATRON ELECTRON LENS

X.Zhang, J.Fitzgerald, G.Kuznetsov, M.Olson, V.Shiltsev, N.Solyak,
FNAL, Batavia, IL 60510

The first Tevatron Electron Lens (TEL) has been installed and commissioned successfully as the part of beam-beam compensation project at Fermilab. Now it is operated routinely for DC beam cleaning during Tevatron luminosity stores. This paper reviews the electron and proton (antiproton) beam diagnostics, which allow us to measure beams intensity, waveform, losses, position, timing and beam profiles. In addition, other proton (antiproton) diagnostics, available from the Tevatron control system, which are used for tuning beam parameters in TEL (tune-shift, orbit, emittances, lifetime measurements, etc) are also described. We also present the results of measurements of the beam parameters and the discussions for future upgrades.