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**Electron Cloud Investigations in the Fermilab Main Injector**

ROBERT ZWASKA, WEIREN CHOU, IOANIS KOURBANIS, ALBERTO MARCHIONNI, VLADIMIR SHILTSEV, XIAOLONG ZHANG, Fermilab — The Fermilab Main Injector currently accelerates 300 kW of 120 GeV protons for antiproton and neutrino production. We report on searches for the formation of an electron cloud within the Main Injector, and possible associated proton beam instabilities. Current capabilities and instrumentation upgrades will be discussed. These studies are performed with the anticipation that future plans could lead to a fourfold increase of the proton charge in the Main Injector.

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