

BEAM LOSS AT THE FERMILAB BOOSTER AND MAIN INJECTOR: RECENT EXPERIENCE AND THE ROAD TO MW CLASS BEAMS

R.M. Zwaska, B.C. Brown, I. Kourbanis, A. Marchionni, E. Prebys, Fermilab, Batavia, Illinois

Abstract

The Fermilab Booster and Main Injector synchrotrons produce high-rate proton beams for neutrino and antiproton production. Operation of these machines at high beam power has required novel approaches to managing beam loss during acceleration and at extraction. Routinely, the beam loss in the Booster limits its throughput, instead of any physical limitation. With pending intensity upgrades the same may also become true of the Main Injector. Future advances in beam power require a fully complementary reduction of on-controlled losses.

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