

Workshop on Radiation Effects in Superconducting Magnet Materials 2015 (RESMM'15)

Contribution ID : 12

DPA and power density constraints for Mu2e @ PIP-II design

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Content :

The Mu2e experiment at Fermilab is being designed to study the coherent neutrino-less conversion of a negative muon into an electron in the field of a nucleus. This process has an extremely low probability in the Standard Model and its observation would provide unambiguous evidence for BSM physics. The Mu2e design aims to reach a single-event-sensitivity of about 2.5×10^{-17} and will probe effective new physics mass scales in the 10^3 - 10^4 TeV range, well beyond the reach of the LHC. This work will examine the maximum DPA and beam power that can be tolerated for beam energies in the 0.5-8 GeV range. The implications for a second generation experiment using an upgraded proton beam from the PIP-II project will be tentatively discussed.

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