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Radiation dose simulations for Jefferson Lab's permanent magnet resiliency LDRD study

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In late 2023, Thomas Jefferson National Accelerator Facility (Jefferson Lab) funded a Laboratory Directed Research and Development (LDRD) grant dedicated to investigating the impact of radiation on permanent magnet materials. This research initiative is specifically geared towards assessing materials slated for use in the CEBAF energy upgrade. The experimental approach involves strategically placing permanent magnet samples throughout the accelerator, exposing them to varying radiation doses. The simulation code BDSIM is used to first validate the data and then to simulate the effects on future higher energy passes to study the degradation effects on the permanent magnets. In this paper we present the progress of that work.

Footnotes

Funding Agency

Paper preparation format

LaTeX

Region represented

North America

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