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Status of permanent magnet radiation resiliency studies at CEBAF

Wednesday 13 August 2025 09:50 (20 minutes)

An ongoing investigation for the future of Jefferson Lab's Continuous Electron Beam Accelerator Facility (CEBAF) lies in upgrading its maximum nominal energy using Fixed-Field Alternating-gradient (FFA) technology for its recirculating arcs, using permanent magnets for the FFA arcs. A common concern among the community is the degradation of these permanent magnets during operation due to the radiation environment in which they will be present. This work, funded by a Laboratory Directed R&D grant, aims to measure the permanent magnet degradation in the CEBAF tunnel enclosure, and extrapolate to the energies expected from the upgrade. We present the latest results of this study, as well as plans moving forward.

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Yes

Would you like to submit this poster in student poster session on Sunday (August 10th)

No

Footnotes

The research described in this work was conducted under the Laboratory Directed Research and Development Program at Thomas Jefferson National Accelerator Facility for the U.S. Department of Energy.

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Yes

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