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## Commissioning results of third C75 cryomodule for CEBAF

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The program to upgrade CEBAF cryomodules has been implemented to enhance the energy gain of refurbished cryomodules up to 75 MeV. This strategy involves reusing the waveguide end-groups from original CEBAF cavities produced in the 1990s, and existing five elliptical cell cavities are replaced with a new optimized cell shape cavity constructed from large-grain, ingot Nb material. Following fabrication, each cavity undergoes electropolishing and is tested at 2.07 K. Eight cavities are then assembled into “cavity pairs” and tested at 2.07 K before integration into the cryomodule. This paper presents the outcomes of the cavity qualification for the third C75 module, providing a detailed account of the assessment in both a vertical cryostat and the commissioning results of the cryomodule. Furthermore, efforts have been made to address performance limitations arising from field emission and multipacting.

### Footnotes

### Funding Agency

### Paper preparation format

### Region represented

North America

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