

COMMISSIONING AND OPERATIONAL EXPERIENCE WITH AN INTERMEDIATE UPGRADE CRYOMODULE FOR THE CEBAF 12 GeV UPGRADE

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Abstract

Three cryomodules have been designed and built as intermediate prototypes for the CEBAF 12 GeV upgrade. This paper will discuss the commissioning and operational experience with the second of these cryomodules, which was installed and commissioned in the Jefferson Lab 10 kW Free Electron Laser Facility. Within the cryomodule are eight 7-cell, 1497 MHz cavities. It was designed to accelerate 1 mA of beam in excess of 70 MV and to have the same footprint as a standard CEBAF cryomodule. The cryomodule was installed in parallel with the FEL beam line in the spring of 2004 and characterized simultaneous with beam delivery. It was installed in the beam line in the early summer of 2004 and has since been operated as part of an energy recovered linac with 5 mA of beam current and 75 MV accelerating gradient for extended periods of time. Additionally, it was operated at 1 mA of beam current and 80 MV of accelerating gradient for several hours without a trip. In the latter operating mode the beam current was limited by the injector setup.

NO SUBMISSION RECIEVED