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Compact CW 1-15 MeV 10-100 kW Electron Accelerators

Tuesday 27 August 2024 16:00 (2 hours)

Muons, Inc is developing Compact Electron Linacs to meet the increasing demand for modern solutions to address diverse applications including Co60 replacement, isotope production, industrial uses, and sterilization of medical devices, food and water. The designs employ the Muons, Inc. –Richardson Electronics Limited 1497 MHz magnetrons that were designed, built, and being tested to replace the klystrons at the Jefferson Lab CEBAF superconducting RF recirculating Linac. The key features of the new designs are a single Linac that is powered by a high efficiency magnetron and permanent magnet systems that recirculate the beam through the Linac to enable compactness and efficiency. Future directions include integrating Nb3Sn-based superconducting cavities with cryocoolers for higher beam energies and scalability. We believe that these Compact Electron Linacs offer a cost-effective, versatile solution to revolutionize electron beam applications across industries.

Footnotes

Funding Agency

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