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Progress of High-Duty Deuteron Beam Commissioning in LIPAc

Thursday, October 23, 2025 9:00 AM (20 minutes)

The Engineering Validation and Engineering Design Activities for the International Fusion Materials Irradiation Facility (IFMIF/EVEDA) are being conducted under the Broader Approach agreement between EURATOM and the Japanese government. The Linear IFMIF Prototype Accelerator (LIPAc) aims at validating the design of the low-energy section of the 40-MeV/125-mA IFMIF deuteron accelerator, thus up to 9 MeV in continuous-wave (CW) operation. While the Superconducting RF Linac (SRF Linac) has been assembled, the LIPAc beamline was operating in the intermediate configuration, namely the Phase B+ commissioning. The main objectives of this phase were to validate the 5-MeV/125-mA deuteron beam acceleration by the RFQ at a high-duty cycle and to characterize the beam properties in preparation for the final configuration with the SRF Linac. In June 2024, the Phase B+ commissioning was completed with the acceleration and transport of a 5 MeV/119 mA deuteron beam at 8.75% duty cycle up to the beam dump. This presentation will detail the outcomes of Phase B+.

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

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