

## Maintenance and enhancement of the electrical and cooling systems for the operation of Linear IFMIF Prototype Accelerator (LIPAc)

*Tuesday, 12 November 2019 10:30 (1h 30m)*

The construction of the Linear IFMIF Prototype Accelerator (LIPAc) has been conducted at Rokkasho, Japan for the development of the International Fusion Materials Irradiation Facility (IFMIF) aiming at material characterization for fusion power plants. The aim of this prototype accelerator is to demonstrate the validity of the low energy section of an IFMIF deuteron accelerator up to 9 MeV with a beam current of 125 mA in continuous wave (CW). The high power conditioning and the beam commissioning have been conducted since July 2017 on the world longest and highest power Radio Frequency Quadrupole (RFQ) linear accelerator. This RFQ requires 1.6 MW of RF power, and we have faced several problems on the cooling and electrical system specific to such a very high power accelerator. In this presentation, we will describe lessons we have learned over the past two years of operation in particular for maintenances and how an improvement is implemented to achieve stable operation.

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