



RF conditioning of MYRRHA couplers at IJCLab

Monday 22 September 2025 14:30 (3 hours)

Multi-purpose hYbrid Research Reactor for High-tech Applications (MYRRHA) is an experimental accelerator-driven system in development at SCK-CEN. It will allow fuel developments, material developments for GEN IV systems, material developments for fusion reactors and radioisotope production for medical and industrial applications. First phase of the project called MINERVA currently in construction at Mol in Belgium will deliver a 100 MeV-4 mA protons beams dedicated for applications and detailed studies of the reliability of the installation. IJCLab is engaged with the industrial monitoring, quality control, and RF conditioning of power couplers up to 60 kW at 352 MHz. The initial phase, which involved the conditioning of three pairs of prototype couplers, was completed in 2024. This phase enabled the identification of various areas for improvement in both the couplers, procedures and test bench [1]. In this paper, we will present and discuss the results of the conditioning of the couplers in full reflection mode. The conditioning results in full transmission mode have already been presented [1]. Additionally, we will outline the various enhancements made to the conditioning processes based on the findings from the prototype phase. These modifications are expected to improve the efficiency of the test bench and facilitate better conditioning of the series.

I have read and accept the Privacy Policy Statement

Yes

Footnotes

[1] N. Elkamchi, C. Joly, C. Magueur, P. Duchesne, S. Berthelot, W. Kaabi, C. Lhomme « Proceedings of SRF2023 », Grand Rapids, USA

Funding Agency

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Session Classification: Monday Poster Session

Track Classification: MC4: SRF Technologies