NAPAC25 - North American Particle Accelerator Conference 2025



Contribution ID: 87 Contribution code: THYN02 Type: Invited Oral Presentation

Achieving 10 MV cryomodule with Nb3Sn cavities

Thursday 14 August 2025 11:30 (30 minutes)

Nb₃Sn SRF cavities have the potential to reduce operating and capital costs for SRF accelerators. A first-of-its-kind Nb₃Sn 2-cavity CEBAF-type cryomodule has been assembled and tested. The cryomodule contains two 5-cell cavities: one coated and qualified by the team at Jefferson Lab and the other by the team at Fermilab. The cryomodule, assembled and tested at Jefferson Lab, achieved 10 MV accelerating voltage. This talk highlights steps during this development, including cavity preparation and qualification, mitigations to avoid cavity performance degradation during string and cryomodule assembly, and cryomodule testing.

Please consider my poster for contributed oral presentation

No

Would you like to submit this poster in student poster session on Sunday (August 10th)

No

Footnotes

Funding Agency

This manuscript has been authored by FermiForward Discovery Group, LLC under Contract No. 89243024CSC000002 with the U.S. Department of Energy, Office of Science, Office of High Energy Physics.

I have read and accept the Privacy Policy Statement

Yes

Authors: EREMEEV, Grigory (Fermi National Accelerator Laboratory); PUDASAINI, Uttar (Thomas Jefferson National Accelerator Facility)

Co-authors: REILLY, Anthony (Thomas Jefferson National Accelerator Facility); TENNIS, Brad (Fermi National Accelerator Laboratory); CIOVATI, Gianluigi (Thomas Jefferson National Accelerator Facility); FISCHER, John (Thomas Jefferson National Accelerator Facility); MACHA, Kurt (Thomas Jefferson National Accelerator Facility); WEAKS, Matthew (Thomas Jefferson National Accelerator Facility); MCCAUGHAN, Michael (Thomas

Jefferson National Accelerator Facility); DRURY, Mike (Thomas Jefferson National Accelerator Facility); RIM-MER, Robert (Thomas Jefferson National Accelerator Facility); POSEN, Sam (Fermi National Accelerator Laboratory); CHEBAN, Sergey (Fermi National Accelerator Laboratory)

Presenter: EREMEEV, Grigory (Fermi National Accelerator Laboratory)

Session Classification: Accelerator Technology and Sustainability (Invited)

Track Classification: MC7 –Accelerator Technology and Sustainability