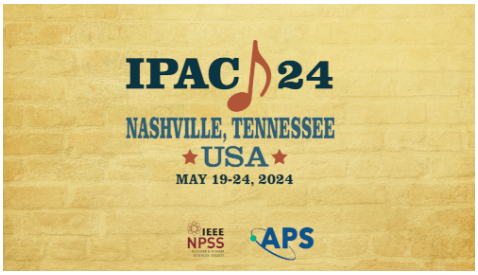

Contribution ID: **1883** Contribution code: **TUPR85** Type: **Poster Presentation**

Identifying Downtime Sources in CEBAF SRF Linac Systems for Improving Its Reliability

Tuesday, 21 May 2024 16:00 (2 hours)

In this work, we will present some recent analysis of the reliability of the CEBAF SRF Linac systems. Based on the data collected by the existing Down Time Manager (DTM), the year-to-year downtime evolution trend of linac zones over the last nine years (FY2015-FY2023) is established. An in-depth downtime tracking at resolution higher than the zone level of the SRF linac system was demonstrated by introducing a system hierarchy consisting of sub-systems and components. This new paradigm was implemented in a pilot downtime study over the two-month period of CEBAF operation from 9/13/23 to 11/13/23, enabling localization of the responsible sub-systems (SRF, HPRF, LLRF, Beamline vacuum, Cryogenics, etc.) and hardware components (cavity, tuner, RF coupler, etc.) in the CEBAF SRF linac systems. Pinpointing downtime sources over long operation periods at the sub-systems and component levels holds the key to improving the CEBAF SRF systems reliability and helps identify areas of SRF technology development for future high-power CW SRF Linacs.

Footnotes

Funding Agency

Authored by Jefferson Science Associates, LLC under U.S. DOE Contract No. DE-AC05-06OR23177.

Paper preparation format

LaTeX

Region represented

North America

Primary author: HRYHORENKO, Oleksandr (Thomas Jefferson National Accelerator Facility)

Co-authors: VALENTE-FELICIANO, Anne-Marie (Thomas Jefferson National Accelerator Facility); GENG, Rong-Li (Thomas Jefferson National Accelerator Facility)

Presenter: HRYHORENKO, Oleksandr (Thomas Jefferson National Accelerator Facility)

Session Classification: Tuesday Poster Session

Track Classification: MC7: Accelerator Technology and Sustainability: MC7.T31 Subsystems, Technology and Components, Other