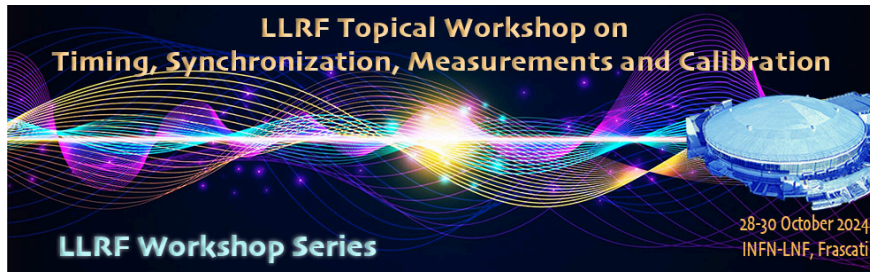


LLRF Topical Workshop - Timing, Synchronization, Measurements and Calibration



Contribution ID: 21

Type: Poster

The CEBAF Accelerator MO System Upgrade

Monday, 28 October 2024 16:55 (2 hours)

The CEBAF accelerator at Jefferson Lab relies on precise frequency references distributed throughout the site. CEBAF's infrastructure has aged from decades of successful operation, and grounding issues have made the system susceptible to electromagnetic interference. This weakness is particularly noticeable during lightning storms. To address this, the Master Oscillator (MO) system was upgraded by replacing some coaxial lines with modern RF over fiber (RFoF) systems. These fiber-optic links provide noise immunity and reliability, helping to preserve the integrity of its frequency references for the accelerator's LLRF systems. The poster will explain the specific modifications to the frequency distribution system, including the adoption of RF over fiber technology and the implementation process.

Primary author: PLAWSKI, Tomasz (Jefferson Lab)

Co-authors: CUMBIA, Brad (Jefferson Lab); SETTLE, Joshua (Jefferson Lab)

Presenter: PLAWSKI, Tomasz (Jefferson Lab)

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