Contribution ID: **507** Contribution code: **TUPM104** Type: **Poster Presentation**

High power conditioning of RF cavities at CLARA

Tuesday 3 June 2025 16:00 (2 hours)

CLARA at STFC Daresbury laboratory is undergoing an upgrade to phase-II to deliver a 250 MeV electron beam comprised of ultrashort, low emittance electron bunches for wide ranging user experiments from medical to laser plasma acceleration at designated beam areas via the FEBE arc and as a precursor to a possible phase-III FEL upgrade. Here we report on the high power RF conditioning of CLARA's normal conducting structures, including high repetition rate standing wave photoinjector gun capable of 400 Hz, a TDC, travelling wave linacs and a 4th harmonic lineariser. They were simultaneously conditioned using an in house developed automated conditioning code, NO-ARC, that safely applied a robust, research-lead algorithm. We present the overall individual conditioning processes using scaled breakdown rate plots with fitted power law curves and comment on their agreement, or otherwise, with results from other similar facilities.

Footnotes

Paper preparation format

LaTeX

Region represented

Europe

Funding Agency

Author: GILFELLON, Anthony (Cockcroft Institute)

Presenter: GILFELLON, Anthony (Cockcroft Institute)

Session Classification: Tuesday Poster Session

Track Classification: MC2: Photon Sources and Electron Accelerators: MC2.A08 Linear Accelerators