Contribution ID: **30** Type: **Poster**

Single cavity LLRF controls based on MTCA.4 for normal and superconducting accelerators

For the European XFEL project, hardware, firmware, and software have been developed for the precision RF control of large number of 1.3GHz superconducting cavities driven by a single 10MW multi-beam klystron. Within the Helmholtz Validation Fund Project two new MTCA.4 rear transision modules have been developed dedicated for low cost, high performance MTCA.4 based single (NC/SRF) cavity LLRF systems. These RTMs covers the frequency band from 5 to 500MHz (DRTM-DS8VM1) and 0.5 to 6GHz (DRTM-DWC8VM1). Furthermore firmware integration and server rework were performed to adapt the multi-cavity architecture for single-cavity LLRF systems.
First tests at the normal conducting S-band linac REGAE are performed and will be presented.

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