Low Level RF Workshop 2022

9-13 Oct 2022, Brugg-Windisch, Switzerland

Contribution ID: **111** Type: **Poster**

Development and Integration of New Low-level RF System for MedAustron

Wednesday 12 October 2022 15:20 (1 minute)

Medaustron is a cancer treatment facility with ion therapy. It is based on a synchrotron accelerator with proton and carbon beams. The treatment has been successfully running since 2016, treating about 400 patients a year. Even at this young age of the facility, though, there are problems arising regarding the sustainability of the current system as some of the components are nearing end of lifecycles. This situation called for the development of a new LLRF system, that would be based on current technology, thus ensuring long term maintainability. The system that is currently in development in cooperation between MedAustron and Instrumentation Technologies, is based on the uTCA platform and it unifies several systems in one. With its wide bandwidth signal generation capabilities it will be able to replace the current linac (216MHz) and synchrotron (0.4-10MHz) LLRF systems. At the same time it will provide readout for phase probe measurements in the linac, and pick-ups and Schottky analysis in the synchrotron. The system is controlled by the MedAustron Control System (NI-PXIe) through the fiberlink connection (SFP+) with possibility of establishing other links (EPICS, DOOCS, ...).

Authors: BARDORFER, A. (Instrumentation Technologies); BARICEVIC, B. (Instrumentation Technologies); KURFUERST, C. (EMG MedAustron GmbH); MUYAN, G. (EBG MedAustron GmbH); REPOVZ, M. (EBG MedAustron GmbH); WOLF, M. (EBG MedAustron GmbH); Mr SKABAR, Matjaz (Instrumentation Technologies); CERV, Miha (EBG MedAustron GmbH); Mr PAGLOVEC, Peter (Instrumentation Technologies); MYALSKI, S. (EBG MedAustron GmbH)

Presenter: CERV, Miha (EBG MedAustron GmbH)

Session Classification: Poster Session

Track Classification: Low Level RF Workshop 2022