

# Low Level RF Workshop 2022



9-13 Oct 2022, Brugg-Windisch, Switzerland



Contribution ID: 61

Type: **Poster**

## The ESS cavities dedicated piezo driver evaluation status

*Wednesday 12 October 2022 14:59 (1 minute)*

The LLRF system for the ESS proton linac also comprises a piezo driver subsystem responsible for the fine superconducting cavity tuning. The DMCS tailored the design of this device to the specific needs of the elliptical (M-Beta and H-Beta) resonators and the spoke structures, too. This device provides two independent channels to control piezo voltage signals. It can generate either unipolar (from 0 to 200 V) or asymmetric (from -40 V to 160 V) or bipolar (from -200V to 200V) voltage excitation. The output signal can be the DC or the AC one, with the possibility of synchronization to the LLRF RF signal, too.

The work summarizes efforts of the Piezo Driver system evaluation and testing in the different ESS facilities dedicated to cryomodules and cavities testing. This paper also discusses the verification of the device performance in the piezo parameters testing and initial LFD compensation for different cavity types.

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**Session Classification:** Poster Session

**Track Classification:** Low Level RF Workshop 2022