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# The LLRF systems for elliptical cavities - from specification till successful installation

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Abstract:

The proton beam acceleration depends on the performance of various systems. The low-level RF (LLRF) is a key component of the ESS linac infrastructure. Its fundamental role is to adjust the amplitude and phase of the RF signal to achieve the best energy transfer to the accelerated beam.
The Polish Electronic Group (PEG) was established in 2016 to support the ESS in the LLRF system design and implementation. The National Center for Nuclear Research, the Warsaw University of Technology, and the Lodz University of Technology jointly continue their efforts toward successful Medium- and High-Beta cavities LLRF systems commissioning.
The PEG involvement includes the system requirements preparation, specification, design, prototyping, production, verification, and the installation phase.
As the last installation and verification activities take place in the ESS linac gallery this work summarizes all the mentioned phases and particular responsibilities of each PEG member in successful LLRF systems delivery.

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