

eeFACT 2025 - 70th ICFA Advanced Beam Dynamics Workshop on High Luminosity Circular e+e-Colliders



Contribution ID: 68

Type: **Invited Oral Presentation**

Status and perspectives of RF systems for Hi-Lumi LHC

Thursday 6 March 2025 10:50 (30 minutes)

The HL-LHC beams are accelerated to their nominal energy of 7 TeV by the existing 400 MHz superconducting RF system of the LHC. A novel superconducting RF system for transverse deflection (aka crab cavities) will be used to compensate the geometric loss in luminosity due to the non-zero crossing angle and the extreme focusing of the bunches in the HL-LHC.

The highlights of the crab cavity prototype modules for SPS-tests with proton beam are outlined. The production status of the series crab cavity RF system at CERN and collaborations is presented with a perspective on future plans. The operational scenario for the accelerating RF system in the HL-LHC era is also described.

Footnotes

Funding Agency

This work is supported by the HL-LHC project

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Yes

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Session Classification: RF

Track Classification: WG11 : RF