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SRF Cavity Development for the FCC-ee at 400/800 MHz

Friday 26 September 2025 09:50 (20 minutes)

FCC-ee is the baseline for future lepton collider projects at CERN. To meet specific physics objectives, CERN is developing two types of accelerating cavities in collaboration with international partners. For low-energy applications, namely the Z pole, W, and H physics cases, CERN is working on 400 MHz seamless cavities with Nb-coating technology, in partnership with KEK. Prototype cavity development is ongoing at CERN using HiPIMS technology. In parallel, a novel bulky Nb-coated cavity design, known as SWELL, is undergoing testing at CERN. For higher-gradient applications required for tt-bar operation and the booster, 800 MHz bulk niobium cavities are being developed in collaboration with Fermilab, Cornell, and IJCLab. This paper will cover the SRF cavity development for FCC-ee.

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Yes

Footnotes

Funding Agency

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