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R&D on SRF at INFN LASA

Tuesday 27 August 2024 16:00 (2 hours)

Sustainability and cost reduction are key factors for the development of future large particle accelerators. This motivated INFN LASA to initiate an INFN-funded R&D program dedicated to improve the performance of SRF Nb cavities in terms of quality factor (High-Q) and accelerating gradient (High-G). The R&D program will start by exploiting state-of-the-art surface treatments on 1.3 GHz single-cell prototypes, in view of a possible industrialization process for large-scale productions.
Integrating part of this program is the upgrade of our vertical test facility to enable qualification of such high-performance cavities. Ongoing activities include the construction of a new dedicated cryostat, which minimizes Liquid Helium consumption, reduces the impact of trapped magnetic flux and provides a wide range of diagnostics for quench, field emission, and magnetic flux expulsion studies.

Footnotes

Funding Agency

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