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RaSTA 2.0 - development of a compact sample test cavity for surface resistance measurements

Thursday 25 September 2025 14:30 (3 hours)

RaSTA, the Rapid Superconductor Test Apparatus, is a sample test cavity project at HZB. It shares the sample geometry and the calorimetric measurement principle with the QPR but is targeted at quicker turnaround times and a more compact footprint at higher operating frequency. RaSTA 2.0 features a niobium coated copper cavity allowing for higher RF field levels and better thermal stability. The outer dimensions have been reduced to fit the system inside a compact cryostat; sample handling and tooling have been revised for reduced overall complexity. RaSTA can be operated without radiation shielding and the entire system is intended to be transferable to labs without extensive SRF infrastructure. We present the design and construction of RaSTA 2.0 together with operating considerations and first data obtained with the new cavity.

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Yes

Footnotes

Funding Agency

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