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Extension of the Measurement Capabilities of the Quadrupole Resonator

Tobias Junginger, Wolfgang Weingarten, Carsten Welsch

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The Quadrupole Resonator, designed to measure the surface resistance of superconducting samples at 400 MHz has been refurbished. The accuracy of its RF-DC compensation measurement technique is tested by an independent method. It is shown that the device enables also measurements at 800 and 1200 MHz and is capable to probe the critical RF magnetic field. The electric and magnetic field configuration of the Quadrupole Resonator are dependent on the excited mode. It is shown how this can be used to distinguish between electric and magnetic losses.

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