

Can the present techniques for cavity flux expulsion efficiency measurements be unified?

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Presently, three different techniques are used for deducing the trapped flux of SRF cavities quantitatively based on measurements of flux expulsion at the phase transition moment during the cavity cool-down process. It is still an open question as to whether these techniques give results that are consistent to each other. In this talk, we introduce two formulae that allow direct cross checking of trapped fluxes measured with different techniques. It is shown that the measured trapped fluxes can be quite different depending on the technique adopted. It follows then that further effort is still needed in developing a universal technique for the measurement of local trapped fluxes over the entire wall of an elliptical shape cavity.

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