

Trapped flux sensitivity studies as a function of: treatment, RF field and frequency

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The trapped flux surface resistance dependence on surface treatment, RF field and resonance frequency has been intensively studied at FNAL. The findings of this study are here presented, with a particular focus on the level of sensitivity at high fields given by the state-of-the-art high-gradient treatments such as 120C baking, N-infusion and modified 75-120C baking . Analyzing these results altogether with the variation of the BCS surface resistance component, it is possible to understand which treatment gives the highest Q-factor at a given RF field, frequency and amount of trapped flux

Presenter: MARTINELLO, Martina (Fermilab - IIT)

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