

STUDIES ON THE EFFECT OF COATING Nb WITH THIN LAYERS OF ANOTHER SUPERCONDUCTOR SUCH AS NbN AND MgB₂

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Abstract

We are currently testing the effect of coating Nb with a thin layer of another superconductor such as NbN and MgB₂. Gurevich's theory of multi-layered coating predicts an enhancement of the critical magnetic field, giving us hope to increase the achievable accelerating gradient to above 50 MV/m in elliptical cavities. CW test results of 3 GHz Nb single-cell cavities coated with ~100 nm NbN at LANL and 11.4 GHz <1 μs high-power pulsed test results of 2" Nb disk samples coated with ~100 nm MgB₂ will be presented.

**CONTRIBUTION NOT
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