

Reduction Characteristics on AC Loss in Striated YBCO Coated Conductor by a Mechanical Method

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High temperature superconductor (HTS) coated conductors has high hysteretic magnetization loss which is an obstacle for the AC applications of coated conductors. We propose a method to reduce the magnetization loss of the coated conductor. It is the mechanical striation method by load variety using office knife. The magnetization loss measured in the mechanical striated YBCO coated conductor without copper layer was compared with the loss generated by perpendicularly exposed external magnetic field. The reduction in magnetization loss due to the mechanical striation is clearly shown at higher field and was dependent on the striation number. The mechanical striation method was proven to have additional advantages of a low cost and high fabrication process.

Keywords : YBCO coated conductor, mechanical striation, magnetization loss