AC Magnetization Loss in Striated YBCO Conductors

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Abstract - Magnetization AC losses in striated YBCO conductors in a perpendicular applied AC magnetic field were investigated with special regard to the coupling current AC loss (CCAC). The AC loss of YBCO samples of different length \(L\) was measured by using rectangular-shaped pick-up coils being slightly shorter than the samples. The AC loss distribution along the length of the tapes was investigated by using short pick-up coils. It was found that CCAC loss per unit length does not depend on the position of the pick-up coil (with respect to the sample centre) and its length. The CCAC loss per unit length scales with the square of the sample length \(L^2\) up to the maximal value of longitudinal coupling current of about \(0.1 \cdot I_c\) (\(I_c\) - critical current).

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