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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