

Perpendicular ac Susceptibility of Coated Conductors

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The perpendicular ac susceptibility of rectangular samples of YBCO coated conductors is measured at 77 K as a function of the ac field amplitude up to a maximum value of 500 Oe. The critical current density is determined from the imaginary susceptibility to be on the orders of 0.1-1 MA/cm². It is found that the low-field limit of real susceptibility is significantly smaller than the shape susceptibility calculated from magnetometric demagnetizing factor. This indicates that the superconducting structure of the conductors is quite non-uniform and there is a big room for the improvement of critical current density.