AC losses in MgB_2 single crystals at low magnetic fields

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Abstract

The complex AC susceptibility of single crystals of MgB_2, undoped and doped with carbon, were investigated. The measurements were curried out in AC and DC magnetic fields directed parallel to the *c*-axis of the samples. Amplitudes of the AC magnetic field ranged up to 17 Gs and bias DC magnetic field were of the order of 750 Gs. Experimental results show that doping with carbon decreases critical current densities at low magnetic fields regions whereas some increase in pinning is observed at higher magnetic fields.