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Complex conductivity of UNiGe in applied magnetic fields

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UNiGe forms in the orthorhombic TiNiSi structure and orders antiferromagnetically below 50 K. The compound exhibits a huge magnetic anisotropy. At 4.2K, previous transport and magnetic measurements revealed two metamagnetic transitions for magnetic fields applied along the b (17 T and 25 T) and c axes (4 T and 10 T). Both metamagnetic transitions are accompanied by drastic changes in the magnetoresistance. Here, we present the results of RF penetration depth measurments of UNiGe in applied magnetic fields up to 50 T. We observed a direct correspondence between the RF penetration depth with magnetoresistance results, indicating that the metamagnetic transitions in UNiGe can be linked to changes in the Fermi surface.