



Graphene/ graphene oxide doped Magnesium diboride superconductors

By Kaludewa Sujeewa De Silva

LAP Lambert Academic Publishing Nov 2013, 2013. Taschenbuch. Book Condition: Neu. 220x150x9 mm. Neuware - Owing to the high critical temperature (T_c) of 40 K, intrinsically weak-link free grain boundaries, and low fabrication cost, MgB₂ is believed to be promising for replacing conventional low T_c superconductors in many cryogen- free applications. Nevertheless, its rapid drop in critical current under applied magnetic field and low critical field exclude it from many industrial applications where a high critical current density (J_c) under high magnetic field is required. Many studies have shown that carbon containing dopants are effective means to enhance the field dependence of J_c and the upper critical field (H_{c2}) of MgB₂. This book describes extensive research efforts towards the improvement of the superconducting properties of MgB₂ through graphene/ graphene oxide doping and explains the improvements in relation to the electromagnetic behaviour. This book further describes experimental details of graphene/graphene oxide production techniques. Therefore, this book should be of interest to a broad range of multidisciplinary researchers dealing with graphene, MgB₂ superconductor, and their performances. 156 pp. English.



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