

A Fabrication of Conduction Cooled MgB₂ Superconducting Coil

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Even if the critical temperature of MgB₂ is far below those of HTS materials, its simple composition, its upper critical field, the lack of weak links and the low anisotropy make it an interesting material for magnet applications. The low cost of magnesium diboride and the rather simple conductor manufacturing process triggered the interest of the industry and at present conductors are available in km order lengths. However an appreciate cryogen for MgB₂ material is rare only liquid hydrogen. So only economical candidate for MgB₂ cooling is conduction system. Current values up to 100 A were reached at 14 K for wind and reaction solenoid coils

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