

WB2-4-INV

Recent research developments of iron-based superconducting wires and tapes

*Yanwei Ma¹

Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing 100190, China¹

Very high upper critical field and low anisotropy of iron-based superconductors (IBS) make them being particularly attractive for high-field applications, especially for the construction of nuclear magnetic resonance spectrometers, next-generation particle accelerators and ultra-high-field magnets. Conventional powder-in-tube method has been the most effective technique for fabricating IBS wires and tapes. Recently, significant progresses on the IBS wires have been made, in terms of both J_c enhancement and practical research. In this talk, the overview of the recent progress on J_c improvement and long wire fabrication will be provided. We also gives some advances relevant to practical applications, including scalable process optimization, composite sheaths, multifilamentary fabrication, mechanical properties and superconducting joints.

Keywords: iron-based superconductors, wire and tape, J_c