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Study of hetero junction between RE123 and Bi2223 tapes with JIM method

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In this study we studied to develop a superconducting joint between RE123 and Bi2223 as hetero junction. This type of joint is called as RB joint. The fabrication method for the RB joint is JIM [1]. The joint is useful to develop a high-field RE123/Bi2223 persistent magnet, also it is useful to joint between RE123-coated conductors and between Bi2223 wires, as RBR and BRB, respectively. In the heat treatment for joint, Bi2223 phase is melted and the RE123 keeps the crystal orientations. In experiment, several samples were prepared and all samples show a superconducting behavior at 77 K. The fabrication method and properties of resistance for the RB joints will be presented in ISS2019.

[1] X. Jin, et al., Superconductor Science and Technology 32 (2019) 035011.

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