

Status of High-temperature Superconducting Wires in the World

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The history of superconductivity commenced in 1911 with the discovery of phenomenon in which the resistance of mercury becomes zero suddenly at 4.2 K. After that, the field of superconducting materials progressed to an alloy and a compound of metal system. In addition, when high-temperature superconductivity of copper oxide material was discovered in 1986, the development of the bismuth wire and rare-earth wire with the critical temperature that is higher than liquid nitrogen temperature of 77 K, advanced rapidly. Even in this century, the discovery of new high-temperature superconductors such as MgB_2 and iron-based materials continues. This paper reports the summary concerning main superconducting materials, and the domestic and foreign present state about the development of high-temperature superconducting wire, rare-earth wire particularly.