

**Study on Component of Superconducting Magnet for Maglev Using High-temperature  
Superconducting Wire Based on Rare Earth Barium Copper Oxide**

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The use of a high-temperature superconducting wire in an on-board superconducting magnet for the maglev train has several advantages. Therefore, we performed a numerical analysis to calculate the mass of the superconducting magnet and the energy consumption of the on-board cryocooler taking into consideration the characteristics of high-temperature superconducting wires based on rare earth barium copper oxide. Consequently, we obtained the conclusion that enables to constitute the superconducting magnet for maglev even with performance of the present commercial wire. Moreover, we expect to reduce both the superconducting magnet's mass and manufacturing costs by the future improvement in performance of the wire.