

## **Experimental Production and Evaluation of Racetrack Coils for On-board REBCO Magnet**

Katsutoshi MIZUNO      Motohiko SUGINO      Masafumi OGATA

We have been developing REBCO (Rare-Earth Barium Copper Oxide) magnets for Maglev. REBCO is one of high temperature superconducting materials and it has a high current density in high temperature and high magnetic field environments. The REBCO coated conductor will make it possible to raise the operating temperature of the on-board magnets without increasing the coil weight. Since liquid helium is unnecessary for the cooling of the REBCO coils, the operation of the magnet becomes easier than that of the low temperature superconducting magnet. The target of this research is the development of a full-size REBCO coil and the demonstration of the actual magnetomotive force of Maglev. This paper explains the conceptual design of the on-board REBCO magnet and the experimental production of pancake coils which constitute the full-size REBCO coil.