

**Fundamental Evaluation on Improvement of Electric Characteristics of Superconducting Materials
by Particle Irradiation**

Haruumi YAMAMOTO Masaru TOMITA

Rare-Earth Barium Copper Oxide (REBCO) is one of type-II superconductors and has higher critical current density J_c than conventional metal superconductors do and has been studied for a variety of application. However, there is room for improvement of critical current density. Flux pinning is the physical characteristic of type-II superconductors and also the way to improve the critical current density of REBCO. We propose proton irradiation defects as artificial pinning centers of REBCO tapes. In this paper, we conduct simulation and experimental investigation on the proton-irradiation-energy dependence on flux pinning of REBCO tapes.