Contribution ID: **189** Contribution code: **TUE-PO1-115-05** Type: **Poster**

Radiation-Induced Demagnetization Measurement of Permanent Magnet Materials by Systematic Neutron Irradiation

Tuesday 16 November 2021 13:15 (20 minutes)

Permanent magnets are necessary materials for particle accelerator components. As the beam intensity of the accelerator increases, demagnetization effects in permanent magnet materials is becoming one of the important issues. In order to measure the demagnetization rate of the magnet materials such as NdFeB, SmCo, and Ferrite magnets, a neutron irradiation experiment in Kyoto University Research Reactor was carried out. By comparing the magnetization before and after the irradiation, relation between the demagnetization rate and irradiated dose were studied. In this presentation, results of the experiment will be presented.

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Session Classification: TUE-PO1-115 Permanent accelerator magnets