MT29 Abstracts and Technical Program



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Sat-Mo-Or3-01: Effect of neutron irradiation on the superconducting properties of REBCO conductors

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The superconducting solenoid for the muon source to be installed in the future second target station of materials and life science experimental facility of J-PARC is required to be highly radiation resistant. Over a 10-year operation period, the superconducting solenoid is expected to reach an absorbed dose of 100 MGy and a neutron fluence of $7.8 \times 10^{22} n/m^2$. A research and development program have been performed radiation-resistant magnets based on REBCO conductors. Radiation resistance study of REBCO conductors is essential for realizing the radiation-resistant magnets. In this contribution, the post-irradiation examination of REBCO samples neutron irradiated in the Belgian research reactor (BR2) and the Japanese research reactor (JRR3) in the neutron flux range of $0.1-10 \times 10^{22} n/m^2$ will be presented.

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