

## 8th High Power Targetry Workshop (HPTW2023)



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# Target and cooling system for the high intensity neutrino beams at J-PARC

*Friday, 10 November 2023 14:00 (15 minutes)*

High intensity neutrino beams have been generated using a proton beam power of up to 540 kW at the J-PARC neutrino facility for the long-baseline neutrino experiment since 2009. A 30 GeV proton beam of about  $10^{14}$  protons per pulse is injected using fast extraction to the graphite target. The pions generated are focused by the electric magnetic horns, and neutrinos decayed from the pions are utilized for the experiment. A dominant factor that is expected to determine the target lifetime is oxidization, an effect which is related to the target temperature and oxygen concentration in the helium cooling gas. We will report on the design concept of the target and cooling system, the operation results to date, and the upgrades for the 1.3 MW beam power.

## Themes for the contribution

7 Operation of targets and beam dumps:

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