

## J-PARC MR Upgrade Commissioning Status and Future Plan

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The main ring synchrotron (MR) of Japan Proton Accelerator Research Complex (J-PARC) provides high power and high intensity beams for the neutrino and hadron experiments. We have been upgrading hardware from the summer of 2021 to shorten the repetition period aiming at 1.3 MW user operation for the neutrino experiments by 2028. The upgrades are progressing smoothly, and 760 kW equivalent beams were successfully accelerated in the fast extraction mode, which significantly exceeded the maximum beam power of 515 kW until JFY2021. In this presentation, we will report present status of the beam tunings and strategies for further beam power upgrade.

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