



Saturday 9 July, 10:55 – 11:20

Session 18: Innovation in the generation of neutrino beams

J-PARC Accelerator and Neutrino Beamline Upgrade Programme

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The 30 GeV proton beam from the J-PARC Main Ring (MR) accelerator is used to produce a world-class conventional neutrino beam – the neutrino source for the J-PARC long-baseline neutrino programme, including the current T2K experiment and proposed future experiments. Planned upgrades to increase the beam power of the MR from the current ~400 kW to the design power of 750 kW and beyond, to 1.3+ MW, are underway. These include hardware modifications, such as upgrades of the MR magnet power supplies, RF systems, and feedback systems, as well as a change of the MR beam betatron tune point. Upgrades to the neutrino beamline, such as to the proton beam monitoring, horns, and radioactive material handling, will also be required to accommodate the increased proton beam power. An overview of planned J-PARC MR and neutrino facility upgrades will be presented.