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Reliability of Japan Proton Accelerator Research

Complex

Content

The Japan Proton Accelerator Research Complex (J-PARC) is a multipurpose facility for scientific

experiments. The J-PARC facilities were constructed at the Tokai site of the Japan

Atomic Energy Agency. The accelerator complex consists of a 400-MeV Linac, a 3-GeV Rapid-

Cycling Synchrotron (RCS) and a 30-GeV Main Ring synchrotron (MR). The RCS delivers a

proton beam to the neutron target and MR, and the MR delivers the beams to the neutrino

target and the Hadron Experimental Facility. The first operation of the neutron experiments

began in December 2008. In January 2009, we achieved the slow beam extraction to the

Hadron Experimental Facility at the MR. The regular neutrino experiments to obtain physical

data began in January 2010. Following this, the user operation has been continued with

some accidental suspensions. These suspensions include the recovery work due to the radiation leak incident at the Hadron Experimental Facility.

Summary

We summarize the statistics of the reliability of J-PARC accelerator system. Especially we introduce the detail of the hadron hall accident which made large influence for facility operation, and lessons learnt from it.

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