Hadron Physics Experiments at J-PARC
- Current Status and Future Prospects -

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The J-PARC Hadron Facility is designed as a multipurpose experimental facility for a wide range of particle and nuclear physics programs, aiming to provide the world highest intensity secondary beams produced by 30GeV-9μA primary proton beam on a production target of 30% interaction length. The first primary beam has been successfully extracted and transported to the beam dump on January 2009. Currently three secondary beam lines; K1.8, K1.8BR, and KL come into operation, and the new beam line named K1.1BR will be completed in the early summer of 2010.

Various experimental programs are proposed at each beamline and some of them are preparing to start physics run. Most of the experimental researches concerns the studies of hypernuclei and searches for new hadronic states. As the first experiment at the J-PARC Hadron Facility, search for the Θ^+ pentaquark via pion-induced hadronic reaction will be performed in the autumn of 2010 [1]. The presentation will provide an overview on the hadron physics experiments as well as the recent results of the commissioning for the beamline.

[1] M. Naruki, Lect.Notes Phys., 781(2009)139-160

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