



TE SEMINAR

SPEAKER: Toru Ogitsu and Akira Yamamoto (KEK)
TITLE: **SUPERCONDUCTING COMBINED FUNCTION MAGNET SYSTEM FOR THE J-PARC NEUTRINO BEAM LINE**
DATE: Monday, 15 June 2009 14:00
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ABSTRACT

A superconducting magnet system for the J-PARC neutrino beam line has been constructed since 2004. The system consists of 14 pairs of cryostats; each contains 2 combined function magnets (SCFM). The SCFM uses two (upper and lower) single layer left/right asymmetric coils that produce a dipole field of 2.6 T and quadrupole of 19 T/m. The SCFMs had been developed at KEK by 2004, were mass-produced by industries and completed by summer 2008. The system has been installed into the beam line tunnel by the end of 2008 and the hardware commissioning was completed by March 2009. The beam commissioning has been successfully carried out since April 2009, and 30 GeV primary proton beam has been successfully transported to the production target for neutrino beam directing the T2K/KAMIOKA neutrino experiment facility . We present the system overview including cryogenics, and report the magnet development including the production, installation, hardware commissioning, and beam commissioning, with our sincere appreciation for the kindest cooperation given by CERN.