

## **THE NEUTRINO BEAM LINE CONTROL SYSTEM**

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abstractThe control system of the beam line for the long-baseline neutrino oscillation experiment at KEK is reported. The fast extracted beam from KEK 12GeV proton synchrotron (KEK PS) is transferred through the 400m long beam line which consists of 104 magnet power supplies including a 2.5MW magnet power supply and two 250kA pulse generators for magnetic horns. The control system for these magnet power supplies is PC-based, and uses LAN, GPIB, POD (programmable operation display with touch panel). The lower level device controllers are designed to reduce the load of the system controller PC. When the controller receives a message to set output current, it performs sequentially check interlock, set polarity, turn on main transformer, then set smoothly output current, and watch the condition. For the 250kA pulse generator, the controller performs not only the ordinary function of the magnet power supply but the timing control of the high-voltage capacitor charging unit and the triggering unit to synchronize with KEK PS. The condition of the magnet power supplies are available to monitor through Web browser. The run started January 1999. The initial troubles or fixing are also reported.