

High Intensity Proton Accelerator for Neutron Science Project at JAERI, N. AKAOKA, E. CHISHIRO, K. HASEGAWA, Y. HONDA, H. INO, H. KANEKO, M. KINSHO, J. KUSANO, M. MIZUMOTO, K. MUKUGI, F. NODA, H. OGURI, N. OUCHI, T. TOMISAWA, Y. TOUCHI, JAERI - The high-intensity proton accelerator with an energy of 1.5 GeV and a beam power of 8 MW has been proposed for the Neutron Science Project (NSP) at JAERI. The NSP is aiming at exploring technologies for nuclear waste transmutation based on a proton induced spallation neutrons and various basic research such as condensed matter physics in combination with a high intensity proton storage ring. The accelerator is required to operate both with pulse and CW mode. The R&D work has been carried out for the components of the front-end parts of the proton accelerator; negative ion source, RFQ, DTL and RF source. For the high energy portion above 100 MeV, superconducting (SC) accelerator linac has been designed as a major option. A single cell cavity of the SC linac has been fabricated and tested. The conceptual design study for storage ring is in progress. The paper will present the summary on the development plan to build the accelerator and the results of conceptual design study and the R&D work.