

Development of Superconducting Single Cell Cavity for a Proton Linac in the Neutron Science Project at JAERI, N. AKAOKA, K. HASEGAWA, Y. HONDA, J. KUSANO, M. MIZUMOTO, K. MUKUGI, N. OUCHI, JAERI; H. INOUE, S. NOGUCHI, K. SAITO, KEK - The Superconducting(SC) cavity development has been carried out since 1995 as a main option of high energy portion from 0.1 to 1.5 GeV for an 8 MW proton linear accelerator in the Neutron Science Project (NSP) at JAERI. The R&D work for a construction of test stand, design of cavity shape and fabrication of single cell cavities was made in collaboration with KEK. Recently, an electric peak surface field of 44 MV/m was achieved at a vertical test of $\beta = 0.5$ single cell SC cavity. The paper will describe the performance of the SC cavity test facility and the result of the present SC cavity vertical test at JAERI.