

RECENT DEVELOPMENT OF 18 GHZ SUPERCONDUCTING ECRIS AT RCNP

T. Yorita, M. Fukuda, K. Hatanaka, M. Kibayashi, S. Morinobu, H. Okamura, A. Tamii, RCNP, Osaka

Abstract

The upgrade program of the AVF cyclotron is in progress since 2004 at the cyclotron facility of the RCNP, Osaka Univ., in order to improve the quality, stability and intensity of accelerated beams. A 18 GHz superconducting ECRIS has also been installed to increase beam currents and to extend the variety of ions, especially for highly charged heavy ions which can be accelerated by RCNP cyclotrons. The mirror magnetic field is produced with four liquid-helium-free superconducting coils and the permanent magnet hexapole is of Halbach type with 24 pieces of NEOMAX-44H material. The production development of several ion beams has been performed since 2006. Operational tests for beam intensity optimization have been done for ^{12}C , ^{16}O , ^{18}O , ^{15}N , ^{40}Ar , ^{86}Kr and so on. The MIVOC method for Boron ions has been developed as well.

**PAPER NOT
RECEIVED**