

Nuclei in the Cosmos (NIC XVII)



Contribution ID: 210

Type: Poster

Capacitive pick-up monitor for the low-energy experimental system at RAON

Tuesday, 19 September 2023 17:45 (5 minutes)

The Rare Isotope Accelerator Complex for ON-line Experiments (RAON) provides both stable ion (SI) and rare isotope (RI) beams with wide energy ranges for nuclear physics research and other applications. Ion beams with energies up to a few tens of MeV/nucleon will be delivered to the low-energy experimental systems: the Korea Broad Acceptance Recoil Spectrometer and Apparatus (KoBRA) and the Nuclear Data Production System (NDPS). Due to the long beam transport line from the end of the Superconducting Linac3 (SCL3) to KoBRA, a re-bunching system was installed in the middle of the SCL3-KoBRA beam transport line for longitudinal focusing. Similarly, a Half Wave Resonator, in the middle of the SCL3-NDPS beam transport line, can be used as a re-buncher to provide a longitudinally compressed ion beam at the NDPS target room.

To verify the performance of the re-bunchers, the bunch length should be measured with and without the re-bunchers. Therefore, we optimized a capacitive pick-up monitor to measure the beam shape and arrival time at the target position without causing beam disruption. After finalizing the optimized design, we proceeded to manufacture and test the capacitive pick-up monitors. The beam test and installation are scheduled for the end of 2023.

Primary author: KWAK, Donghyun

Co-authors: HAM, Cheolmin (Institute of Basic Science); Dr KIM, Gidong (Institute of Basic Science); Dr WOO, Hyungjoo (Institute of Basic Science); TSHOO, Kyoungcho (RISP/IBS); CHUNG, Moses (UNIST); SHIN, Taeksu

Presenter: KWAK, Donghyun

Session Classification: Poster session (New facilities, instruments and tools)

Track Classification: Others (new facilities, instruments, tools, etc)