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## **The Variation of the Beam According to the RF Power Frequency, Vacuum, Gas Mixing Ratio of the 14.5 GHz ECRIS**

RAON(Rare isotope Accelerator complex for ON-line experiments) is a heavy ion accelerator that is being built in Daejeon, South Korea. RAON plans to operate a 28 GHz ECRIS(Electron Cyclotron Resonance Ion Source) with fully superconducting magnet and a 14.5 GHz ECR ion source with fully permanent magnet. The 14.5 GHz ECRIS was manufactured by PANTECHNIK and installed in our beam line in September 2020. Initial beam conditioning of the RAON accelerator will be performed using 14.5 GHz ECRIS. Conditioning using Argon, Oxygen, and Neon beams is planned to be performed for initial conditioning of the LEPT, RFQ, MEPT, SCL3, and KoBRA sections. Before conditioning each section, an experiment was performed on each beam at a 14.5 GHz ECR ion source through changes in RF power, frequency, vacuum, and gas mixing ratio. Beam current and emittance according to each parameter were measured and compared.

### **Funding Agency**

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Yes

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