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Low Field Experiments with 18 GHz RF Power of the RAON ECR Ion Source

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RAON fully superconducting ECRIS which plasma chamber volume of 10 liters is adapted and uses a 28 GHz MW power as a main power source and an 18 GHz MW power as a secondary power source. We characterized our ion source at a relatively low magnetic field just with an 18 GHz MW power. A reference O^{7+} beam was monitored with the experimental parameters such as MW power, vacuum pressure, and magnetic field profile. Under some conditions, the beam current showed unstable behavior due to a plasma instability. We verified the reason of that instability and verify the characteristics of our ECRIS.

Authors: Dr KIM, Yonghwan (Institute for Basic Science); Mr HEO, Jeongil (Institute for Basic Science); Dr HIRONOBU, Ishiyama (Institute for Basic Science)

Presenter: Dr KIM, Yonghwan (Institute for Basic Science)

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