

Production of High Current-High Charge States Ions with the Superconducting ECR Ion Source SERSE, G. CIAVOLA, S. GAMMINO, INFN - Laboratorio Nazionale del Sud, Catania, Italy; P. BRIAND, D. GUILLAUME, P. LUDWIG, G. MELIN, P. SEYFERT, CEA/DRFMC/SBT and SI2A, Grenoble, France - The superconducting ECR ion source SERSE, developed by the INFN/LNS and the CEA/DRFMC of Grenoble have reached exceptionally high currents for beams of gaseous (e.g. 80 μA of Ar^{14+} , 1 μA of Ar^{17+}) and metallic elements, equal or better to the best in the world. These performances have been obtained at 14.5 GHz for field of 1.1 to 1.4 T for the radial field and higher than 2 T for the mirror field, which is a validation at 14.5 GHz of the High B mode concept, yet demonstrated at 2.45 GHz and 6.4 GHz in the past. Further tests have been carried out at 18 GHz and with 14.5 and 18 GHz generators at the same time. The main features of the installation at Laboratorio Nazionale del Sud will be outlined, along with the coupling of the ECR source to the Superconducting Cyclotron, already operating.