

Development of the high temperature induction oven to production of the Ti, Cr, Ni, Fe metal-ions from ECR ion sources

Research in the field of obtaining metal ions with high evaporation temperatures, such as Ti, Cr, Ni, Fe, etc., expands the range of available experiments. Such experiments include research in the field of materials science, the synthesis of super heavy elements (SHE) and the study of the properties of previously discovered isotopes of SHE, the study of decay chains of SHE, etc.

The result of the work is the modeling and, subsequently, the development of a high-temperature induction oven, the operating temperature of which exceeds the values of 2000 °C. At this stage, we are conducting offline tests, in a vacuum chamber, with cooling of all systems and temperature measurement at various points of the structure in which the oven is placed. After completion of the preliminary tests, the device will be installed in the DECRIS-PM ECR ion source on the DC280 accelerator (SHE Factory) to prepare for the main experiments.

Section

Nuclear physics (Section 1)

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