

Measurement of Ra and Th ion charges using a new gas-filled separator DGFRS-2

In 2019, test experiments on the production of Ra and Th isotopes in fusion reactions at the new gas-filled separator DGFRS-2 of the superheavy elements factory were conducted with varying target thicknesses. In this work, the mean charges of ions in a rarefied hydrogen are determined for the evaporation residues and the dispersion of dipole magnets of the separator is estimated. A comparison with the results of previous experiments at DGFRS-1 is given. The energy losses of the beam and evaporation products during their passage of certain separator layers are calculated.

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