**First experiment at the Super Heavy Element Factory.**

**New data in the 243Am + 48Ca reaction.**

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We present results of the first experiments aimed at the synthesis of Mc isotopes in the 243Am+48Ca reaction performed at the new gas-filled separator DGFRS-2 on-line to the new cyclotron DC280 at the SHE Factory at JINR. One hundred-ten new decay chains of 288Mc, four new decay chains of 287Mc and ten chains assigned to 289Mc were detected. The α-decay of 268Db with an energy of 7.6-8.0 MeV, half-life of 16 h, and a branch of 55% was registered for the first time, and a new spontaneously fissioning isotope 264Lr with a half-life of 4.9 h was identified. Decay chain of the new superheavy isotope 286Mc has been registered. We firstly observed spontaneous fission of 279Rg. The cross section for the 243Am(48Ca,3n)288Mc reaction was measured to be 17.1 pb, which is the largest value for a superheavy nucleus at the Island of Stability. The cross section of 243Am(48Ca,5n)286Mc was measured for first time.

1. Deceased [↑](#footnote-ref-1)
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