

Search of rare reaction channels with proton evaporation

More than 20 years experiments to synthesis and study of super heavy elements radioactive decay property are carried out in the Laboratory of Nuclear Reactions. Basically complete fusion reactions of ^{48}Ca accelerated beam with targets heavier than Uranium are used. Isotopes of super heavy elements (SHE) are synthesized in the complete fusion reaction of heavy ions with target nuclei followed by neutron evaporation from exciting compound nucleus. Complete fusion reaction with neutron evaporation can be used for synthesis of limited SHE isotopes number. It is premised on presence of limited number of transuranium isotope elements which are used as a target. In order to obtain more neutron-rich SHE isotopes it is necessary to use exotic reaction with one proton and several neutrons evaporation. For example, in $^{48}\text{Ca}+^{248}\text{Cm}$ reaction through p3n channel we have $^{292}\text{Mc}115$, whereas in directly $^{48}\text{Ca}+^{243}\text{Am}$ reaction we have only $^{288}\text{Mc}115$, $^{289}\text{Mc}115$ isotopes.

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