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## Theoretical study of the reactions leading to production of new superheavy nuclei

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The major goals of modern superheavy element physics are the production of superheavy elements with  $Z=119$ , 120 and the synthesis of neutron-enriched isotopes, thereby advancing to the center of the "island of stability" (the neutron shell with  $N=184$ ). In this talk, a multidimensional dynamical model of nucleus-nucleus collisions based on the Langevin equations [1,2] has been used for analysis of reactions of  $^{48}\text{Ca}$  ions with actinide target nuclei. The cross sections of capture and fusion as well as the cross sections of evaporation residues for two combinations of colliding nuclei  $^{48}\text{Ca}+^{244}\text{Pu}$  and  $^{48}\text{Ca}+^{248}\text{Cm}$  have been studied. The possibilities of obtaining new neutron-enriched isotopes of superheavy elements in pxn channels have been analyzed. The analysis of the competition of quasi-fission and fusion-fission processes in the reactions leading to the formation of 119 and 120 elements has been done in the framework of the dynamical model.

### Summary

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