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### **The Heaviest Exotic Nuclei in the Laboratory Superheavy Nuclei**

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How many more new elements can be synthesized? What are the nuclear and chemical properties of these exotic nuclei? Does the Island of Stability exist and can we ever explore the isotopes inhabiting that nuclear region? Some of the most fascinating questions about the limits of nuclear stability are confronted in the heaviest nuclei. This talk will focus on the current experimental research on the synthesis and characterization of superheavy nuclei with  $Z \geq 112$  from the Dubna/Livermore collaboration. Reactions using  $^{48}\text{Ca}$  projectiles from the U400 cyclotron and actinide targets ( $^{233,238}\text{U}$ ,  $^{237}\text{Np}$ ,  $^{242,244}\text{Pu}$ ,  $^{243}\text{Am}$ ,  $^{245,248}\text{Cm}$ ,  $^{249}\text{Cf}$ ) have been investigated using the Dubna Gas Filled Recoil Separator in Dubna over the last 8 years. In addition, several experiments have been performed to investigate the chemical properties of some of the observed longer-lived isotopes produced in these reactions. A summary of the current status of the upper end of the chart of nuclides will be presented.