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OPENING LECTURE - Recent Advances in Superheavy Element Research

Tuesday 18 September 2012 08:00 (30 minutes)

With the recent synthesis of element 117, the 8th row of the Periodic Table of the Elements is complete. Also, the elements with atomic numbers 114 and 116 have now officially been named Flerovium and Livermorium by IUPAC. Significant progress has not only been achieved in synthesizing new elements, but also in their chemical characterization. In my contribution I will give an overview of the status of the experimental work on the attempted synthesis of elements beyond Z=118 and then review the gas-phase chemistry of Hassium, Copernicium, and Flerovium and compare the results with theoretical predictions. Then I will discuss latest developments concerning chemistry experiments with pre-separated heavy element beams, that hold promise to chemically investigate so far not studied elements in the Periodic Table, which leads to an outlook about the near and far future of superheavy element research.

Author: Prof. TÜRLER, Andreas (Laboratory of Radiochemistry and Environmental Chemistry, Paul Scherrer Institute & Bern University, Switzerland)

Presenter: Prof. TÜRLER, Andreas (Laboratory of Radiochemistry and Environmental Chemistry, Paul Scherrer Institute & Bern University, Switzerland)

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