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## **Chemical Studies of Heaviest Elements at the Single Atom Level**

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With the discovery of relatively long lived superheavy elements at the Flerov Laboratory in Dubna, Russia, that are stabilized by the neutron shell at  $N = 184$  and a proton shell somewhere between 114 and 122, chemistry experiments became possible in an area of the periodic table that was previously inaccessible. Of utmost interest are chemical investigations of elements with filled electron shells (e.g. element 112 with  $[\text{Rn}]5f^{14}6d^{10}7s^2$  or element 114 with  $[\text{Rn}]5f^{14}6d^{10}7s^27p_{1/2}^2$ ). Due to relativistic effects and a strong spin-orbit coupling such elements might behave like noble gases rather than typical members of their respective groups in the periodic table. Recent experiments with elements 112 and 114 will be summarized.

**Montag, 10. Dezember 2007, 17:30 Uhr**  
(ab 17:00 Uhr Kaffee)

Großer Hörsaal der Experimentalphysik der Universität Wien  
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