

Status of heaviest elements as of January 2007

Element 112 is well established, and it may soon be assigned a name.

The identification of isotopes of elements 113-116, 118 has been reported in an extensive series of papers by a collaboration of JINR (Dubna) and LLNL researchers since 1998. A sample of the papers follows:

Yu. Ts. Oganessian, et al., Phys. Rev. C **62**, 041604 (2000)

$Z = 112 : A = 284$

$Z = 114 : A = 292^*, 288$

Yu. Ts. Oganessian, et al., Phys. Rev. C **70**, 064609 (2004) (includes some published earlier)

$Z = 112 : A = 282-285$

$Z = 114 : A = 286-289$

$Z = 116 : A = 290-293$

$Z = 118 : A = 294$ (one event only)

Yu. Ts. Oganessian, et al., Phys. Rev. C **72**, 034611 (2005)

$Z = 113 : A = 283, 284$

$Z = 115 : A = 287, 288$

Yu. Ts. Oganessian, et al., Phys. Rev. C **74**, 044602 (2006)

$Z = 112 : A = 282, 283$ (here or earlier)

$Z = 116 : A = 290, 291$

$Z = 118 : A = 294$ (three atoms at end of 2006)

for a total of at least 14 claimed isotopes with $Z > 112$.

There have not yet been confirmations of any $Z > 112$ elements from Darmstadt, LBNL, Japan, or elsewhere, although partial confirmations seem to exist.