Elements 116, 118 discovered

From: **campbell@ufomind.com (Glenn Campbell, Las Vegas)**
Date: Wed, 9 Jun 1999 22:49:29 -0700

Here are two articles concerning heavy elements close to Lazar's
hypothetical "Element 115" (aka unobtainium).

---------- Forwarded message ----------
Date: Mon, 7 JUN 1999 17:50:12 PDT
Subject: Scientists Advance Search for ``Island of Stability''
[Source unknown]

BERKELEY (BCN)
An international team of scientists at the Lawrence Berkeley
National Laboratory announced today the discovery of two ``superheavy''
elements, Element 118 and Element 116.
The team believes its discovery, and the technique used to achieve
its results, has advanced the quest for a longtime goal of nuclear
science, an ``island of stability'' in the unstable nucleii of
superheavy elements.
The new superheavy elements were discovered at Berkeley Lab's 88-
inch Cyclotron, where the team of scientists bombarded targets of lead
with an intense beam of high-energy krypton ions.
Superheavy elements, those extending beyond uranium on the periodic
table and created only in nuclear reactors or particle accelerators,
disappear quickly, typically within a fraction of a second. Theories
predict the unstable nucleii will rest easier when they contain 114
protons and 184 neutrons.
Scientists could then perform chemistry experiments with the
nucleii. A spokesman for the Berkeley National Lab noted that
presently, no one knows the properties or potential applications of
the theoretical nucleii.
Robert Smolanczuk, a visiting Fulbright scholar from Poland,
predicted the reaction used to produce elements 118 and 116 could
``open up a whole world of possibilities using similar reactions: new
elements and isotopes, tests of nuclear stability and mass models, and
a new understanding of nuclear reactions for the production of heavy
elements.''
The pattern of decay from Element 118 to Element 116 to seborgium
(Element 106) agrees with the long-standing theoretical predictions of
the island of stability's existence, according to a spokesman for the
lab.
U.S. Secretary of Energy Bill Richardson said, ``This stunning
discovery opens the door to further insights into the structure of the
atomic nucleus.''
The lab is run by the U.S. Department of Energy.

----- Forwarded Message -----

From: "Steve Wingate"
Date: Tue, 8 Jun 1999 23:30:48 -0700
Subject: IUFO: New superheavy elements created

-> IUFO Mailing List

Sci/Tech

New superheavy elements created

BBC News Online Science Editor Dr David Whitehouse

Two new "superheavy" elements have been made by bombarding lead atoms with energy-packed krypton atoms at the rate of two trillion per second.

After 11 days, the scientists working at the Lawrence Berkeley National Laboratory, US, had produced just three atoms of element 118. These contained 118 protons and 175 neutrons each in their nucleii.

The new elements decayed almost instantly to element 116, which itself was short-lived. But, for that brief moment, they were the only three atoms of these elements ever to have existed on Earth.

Ken Gregorich, the nuclear chemist who led the discovery team, said: "Our unexpected success in producing these superheavy elements opens up a whole world of possibilities using similar reactions: new elements and isotopes."

US Secretary of Energy, Bill Richardson, commented: "This stunning discovery opens the door to further insights into the structure of the atomic nucleus."

Unstable combination

Atoms consist of a central nucleus surrounded by a cloud of electrons. The nucleus consists of protons and neutrons.

But not all combinations of neutrons and protons are stable. In nature, no element heavier than uranium, with 92 protons and 146 neutrons, can normally be found.

Scientists can make heavier ones by colliding two large nuclei together and hoping that they will form a new, heavier nucleus for a short time.

One of the most significant aspects of the new elements is that their decay sequence is consistent with theories that predict an "island of stability" for atoms containing approximately 114 protons and 184 neutrons.

"We jumped over a sea of instability onto an island of stability that theories have been predicting since the 1970s," said nuclear physicist Victor Ninov. He is the first author of a paper on the discovery submitted to Physical Review Letters journal.

Atomic structure

Synthetic elements are often short-lived, but provide scientists with valuable insights into the structure of atomic nuclei. They also offer opportunities to study the chemical properties of the elements heavier than uranium.

I-Yang Lee, scientific director of the atom smasher at Lawrence Berkeley National Laboratory, said "From the discovery of these two new superheavy elements, it is now clear that the island of stability can be reached.

"Additionally, similar reactions can be used to produce other elements and isotopes, providing a rich new region for the study of nuclear properties."

Fast work

Element 118 takes less than a thousandth of a second to decay by emitting an alpha particle. This leaves behind an isotope of element 116 which contains 116 protons and 173 neutrons.

This daughter is also radioactive, alpha-decaying to an isotope of element 114.

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The chain of successive alpha decays continues until at  least element
106.

---- End Forwarded Messages ----

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RELEVANCE OF THIS MESSAGE: Claims of Bob Lazar

Index: Element 115 (#2)
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Mothership -> Ufomind Mailing List -> 1999 -> Jun -> Here

Created: Jun 10, 1999