

Existence of new element confirmed

August 27 2013

Remember the periodic table from chemistry class in school? Researchers from Lund University in Sweden have presented fresh evidence that confirms the existence of a previously unknown chemical element. The new, super-heavy element has yet to be named.

An international team of researchers, led by physicists from Lund University, have confirmed the existence of what is considered a new element with atomic number 115. The experiment was conducted at the GSI research facility in Germany. The results confirm earlier measurements performed by research groups in Russia.

"This was a very successful experiment and is one of the most important in the field in recent years", said Dirk Rudolph, Professor at the Division of Atomic Physics at Lund University.

Besides the observations of the new chemical element, the researchers have also gained access to data that gives them a deeper insight into the structure and properties of super-heavy [atomic nuclei](#).

By bombarding a thin film of [americium](#) with [calcium ions](#), the research team was able to measure photons in connection with the new element's alpha decay. Certain energies of the photons agreed with the expected energies for X-ray radiation, which is a 'fingerprint' of a given element.

The new super-heavy element has yet to be named. A committee comprising members of the international unions of pure and applied physics and chemistry will review the new findings to decide whether to recommend further experiments before the discovery of the new element is acknowledged.

The new evidence for the chemical element with atomic number 115 will be presented in the scientific journal *Physical Review Letters* on August 27, 2013.

Provided by Lund University

Citation: Existence of new element confirmed (2013, August 27) retrieved 26 April 2024 from <https://phys.org/news/2013-08-element.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.