

* Name Origin:

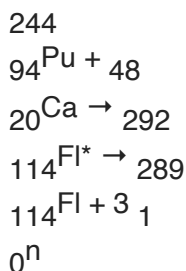
Flerovium is a [superheavy](#) artificial [chemical element](#) with symbol Fl and [atomic number](#) 114. It is an extremely [radioactive synthetic element](#). The element is named after the Flerov Laboratory of Nuclear Reactions of the [Joint Institute for Nuclear Research](#) in [Dubna](#), Russia, where the element was discovered in 1998. The name of the laboratory, in turn, honours the Russian physicist [Georgy Flyorov](#) (Флёрв in [Cyrillic](#), hence the transliteration of "yo" to "e"). The name was adopted by [IUPAC](#) on 30 May 2012.

In the [periodic table](#) of the elements, it is a [transactinide element](#) in the [p-block](#). It is a member of the [7th period](#) and is the heaviest known member of the [carbon group](#). Initial chemical studies performed in 2007–2008 indicated that flerovium was unexpectedly volatile for a group 14 element;^[10] in preliminary results it even seemed to exhibit properties similar to those of the [noble gases](#).^[11] More recent results show that flerovium's reaction with [gold](#) is similar to that of [copernicium](#), showing that it is a very [volatile](#) element that may even be [gaseous](#) at [standard temperature and pressure](#), that it would show [metallic](#) properties, consistent with it being the heavier [homologue](#) of [lead](#), and that it would be the least reactive metal in group 14.

About 90 atoms of flerovium have been observed: 58 were synthesized directly, and the rest were made from the [radioactive decay](#) of heavier elements. All of these flerovium atoms have been shown to have [mass numbers](#) from 284 to 289. The most stable known [flerovium isotope](#), flerovium-289, has a [half-life](#) of around 2.6 seconds, but it is possible that this isotope may have a [nuclear isomer](#) with a longer half-life of 66 seconds; this would be one of the longest half-lives of any isotope of a superheavy element. Flerovium is predicted to be near the centre of the theorized [island of stability](#), and it is expected that heavier flerovium isotopes, especially the possibly [doubly magic](#) flerovium-298, may have even longer half-lives.

* Discovery:

Flerovium was first synthesized in December 1998 by a team of scientists at the [Joint Institute for Nuclear Research](#) (JINR) in [Dubna](#), Russia, led by [Yuri Oganessian](#), who bombarded a target of [plutonium-244](#) with accelerated nuclei of [calcium-48](#):



A single atom of flerovium, decaying by [alpha emission](#) with a lifetime of 30.4 seconds, was detected. The [decay energy](#) measured was 9.71 [MeV](#), giving an expected half-life of 2–23 s.^[15] This observation was assigned to the isotope flerovium-289 and was published in January 1999.^[15] The experiment was later repeated, but an isotope with these decay properties was never found again and hence the exact identity of this activity is unknown. It is possible that it was due to the [metastable isomer](#) ^{289m}Fl.^{[16][17]}

[Glenn T. Seaborg](#), a scientist at the [Lawrence Berkeley National Laboratory](#) who had been involved in work to synthesize such superheavy elements, had said in December 1997 that "one

of his longest-lasting and most cherished dreams was to see one of these magic elements",^[12] he was told of the synthesis of flerovium by his colleague [Albert Ghiorso](#) soon after its publication in 1999. Ghiorso later recalled:^[18]

*** Uses:**

None

*** Additional Notes:**

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