^{233}U

^{233}U was identified by Seaborg et al. from the University of California at Berkeley in the 1947 paper "Nuclear properties of U^{233}: a new fissionable isotope of uranium" (1947Se05). A ^{232}Th sample was irradiated with neutrons to produce ^{233}Th in neutron capture reactions. ^{233}U was then populated by subsequent β-decay. Fission and α-particle decay was measured. "We have measured the radioactive and the fission properties of U^{233}. Our measurements on a sample of U^{233} weighing 3.8 micrograms show that this isotope undergoes fission with neutrons. The same result was obtained in a check experiment with another sample of U^{233} weighing 0.8 microgram." The paper had been submitted in 1942: "This paper was mailed from Berkeley, California, to the "Uranium Committee" in Washington, D.C. on April 14, 1942. The experimental work was done during 1941 and the early part of 1942. It is being published in the open literature now for historical purposes, with the original text somewhat changed, by omissions, in order to conform to present declassification standards. The information covered in this document will appear in Division IV of the MPTS, as part of a contribution of the University of California." In the later publication within the National Nuclear Energy Series a half-life of 1.2×10^5 y was quoted (1949SeZZ).

Adapted from reference (2013Fr03)

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