

²⁴⁰Np

In 1953, the observation of ²⁴⁰Np was announced in the article “The radiations of U²⁴⁰ and Np²⁴⁰” by Knight et al. from Los Alamos National Laboratory ([1953Kn23](#)). Uranium was irradiated with neutrons to form ²⁴⁰U which populated ²⁴⁰Np by β -decay. Following chemical separation, decay curves were measured with continuous-flow methane gas proportional counters and β - and γ -ray spectra were recorded with a magnetic lens spectrometer and a NaI(Tl) crystal, respectively. “These measurements yielded a U²⁴⁰ half-life of 14.1 ± 0.2 hours, and a Np²⁴⁰ half-life of 7.3 ± 0.3 minutes.” The quoted half-life corresponds to an isomeric state. Knight et al. credited Hyde and Studier with the discovery of ²⁴⁰Np quoting an unpublished report ([1948HyZZ](#)). The half-life of the ground state (63(2) min) was reported seven years later by Lessler and Michel ([1960Le03](#)).

Adapted from reference ([2013Fr02](#))

- [1948HyZZ](#) E. K. Hyde and M. H. Studier, ANL-4182 (1948).
[1953Kn23](#) J. D. Knight, M. E. Bunker, B. Warren, and J. W. Starner, Phys. Rev. **91**, 889 (1953).
[1960Le03](#) R. M. Lessler and M. C. Michel, Phys. Rev. **118**, 263 (1960).
[2013Fr02](#) C. Fry and M. Thoennessen, At. Data Nucl. Data Tables **99**, 96 (2013).

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