

²²¹Fr

Hagemann et al. from Argonne National Laboratory discovered ²²¹Fr in 1947 in “The (4n+1) radioactive series: the decay products of U²³³” (1947Ha02). The half-lives and α - and β -decay energies of the nuclides in the decay chain of ²³³U were measured. “These decay products, which constitute a substantial fraction of the entire missing, 4n+1, radioactive series are listed together with their radioactive properties, in [the table].” Hagemann et al. acknowledge the simultaneous observation of ²²¹Fr by English et al. which was submitted only a day later and published in the same issue of Physical Review on the next page (1947En03).

Adapted from reference (2013Fr09)

- 1947En03 A. C. English, T. E. Cranshaw, P. Demers, J. A. Harvey *et al.*, Phys. Rev. **72**, 253 (1947).
1947Ha02 F. Hagemann, L. I. Katzin, M. H. Studier, A. Ghiorso, and G. T. Seaborg, Phys. Rev. **72**, 252 (1947).
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