

²¹³Fr

In 1964, Griffioen and MacFarlane reported the identification of ²¹³Fr in the paper “Alpha-decay properties of some francium isotopes near the 126-neutron closed shell” (1964Gr04). ¹⁹⁷Au, ^{203,205}Tl, and ²⁰⁸Pb targets were bombarded with ¹⁶O, ¹²C, and ¹¹B beams with energies up to 10.38 MeV/amu from the Berkeley HILAC. Recoil products were collected on a catcher foil which was positioned in front of gold surface-barrier detector which measured subsequent α decay. “A. Fr²¹³: [The figure] shows an alpha-particle spectrum of the activity collected while bombarding Tl²⁰⁵ with 86-MeV C¹² ions. A strong group is seen at 6.77 ± 0.01 MeV alpha particle energy. This activity decays with a half-life of 33.7 ± 1.5 sec.”

Adapted from reference (2013Fr09)

1964Gr04 R. D. Griffioen and R. D. Macfarlane, Phys. Rev. **133**, B1373 (1964).
2013Fr09 C. Fry and M. Thoennessen, At. Data Nucl. Data Tables **99**, 497 (2013).

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