^{125}Sb

The observation of ^{125}Sb was published in 1951 by Stanley and Glendenin as part of the Plutonium Project: "Study of long-lived antimony in fission (III)" (1951StZV). Uranium was irradiated with neutrons in the Clinton Pile in Oak Ridge. Absorption and decay curves, as well as β- and γ-ray spectra were measured following chemical separation. A 2.7-year half-life was measured which was also observed in neutron irradiation of tin: "A long-lived antimony activity was observed which was identical in radiation characteristics with the antimony activity from fission. Since neutron-irradiated tin can give rise to only one β-emitting isotope of antimony, namely, the isotope with mass 125, the long-lived antimony isotope is assigned a mass of 125." Previously, a 250−300 day half life was observed without mass assignment (1951CaZY) and a 2.7 y half-life was assigned to either 121, 123 or 125 (1950Le09). It should be mentioned that in 1949 Kerr et al. (1949Ke14) measured spectra of ^{125}Sb referring to the known half-life of ^{125}Sb from the Plutonium Project work.

Adapted from reference (2013Ka01)

1949Ke14 B. D. Kern, A. C. G. Mitchell, and D. J. Zaffarano, Phys. Rev. **76**, 94 (1949).

1950Le09 G. R. Leader and W. H. Sullivan, Nat. Nucl. Ener. Ser. **9**, paper133 p. 934 (1950).

1951CaZY G. W. Campbell, N. R. Sleight, and W. H. Sullivan, Radiochemical Studies: The Fission Products, Book 2, Part V, McGraw-Hill, p. 931 (1951).

1951StZV C. W. Stanley and L. E. Glendenin, Radiochemical Studies: The Fission Products, Book 2, Part V, McGraw-Hill, p. 947 (1951).

2013Ka01 J. Kathawa, C. Fry, and M. Thoennessen, At. Data Nucl. Data Tables **99**, 22 (2013).

Please cite this abstract as: "FRIB Nuclear Data Group, *Discovery of Nuclides Project*, Isotope Database, doi:10.11578/frib/2279152"