^{90}Sr

The first identification of ^{90}Sr was reported by Nottorf in 1951 in "Identification of Sr^{90} and Y^{90} in uranium fission" (1951NoZZ). Strontium samples were separated from slow neutron irradiated uranyl nitrate for seven months: "Decay measurements of Sr^{90} over 30 months indicated a period of 23 $\pm$3 yr." The measurement was probably performed at Chicago as the paper is based on internal reports of the Manhattan project labeled CC (Chicago Chemistry). In the following paper Glendenin and Coryell reported a half-life of 25 years(1950Gl03). In 1946, Grummitt and Wilkinson had reported a half-life of $\sim$70 y (1946Gr06) which they revised two years later to $\sim$30 y (1948Gr01). Six month later Hayden identified ^{90}Sr independently with a mass spectrometer (1948Ha25). In 1943, Hahn and Strassmann quoted only a lower limit of 5 years for the half-life of ^{90}Sr (1943Ha10).

The assignment was changed from the original compilation (2012Pa21) which credited the 1948 Grummitt and Wilkinson paper (1948Gr01). The 2016 update of the discovery project stated: "Many fission fragments were identified within the Manhattan Project and the detailed results were only published in 1951 as part of the National Nuclear Energy Series (1951CoZZ). However, a survey of the properties of the fission fragments had already been published in two simultaneous publications in the Journal of the American Chemical Society and Reviews of Modern Physics (1946Pl01) quoting the still classified papers. Thus researchers at the time were aware of the results and credit for the discovery should be given to the initially classified work if it was included in the survey paper" (2016Th03).

1943Ha10 O. Hahn and F. Strassmann, Naturwissenschaften **31**, 249 (1943).

1946Gr06 W. E. Grummitt and G. Wilkinson, Nature **158**, 163 (1946).

1946Pl01 J. M. Siegel and for the Plutonium Project, Rev. Mod. Phys. **18**, 513 (1946).

1948Gr01 W. E. Grummitt and G. Wilkinson, Nature **161**, 520 (1948).

1948Ha25 R. J. Hayden, Phys. Rev. **74**, 650 (1948).

1950Gl03 L. E. Glendenin and C. D. Coryell, Nat. Nucl. Ener. Ser. **9**, paper78 p. 687 (1950).

1951CoZZ C. D. Coryell and N. Sugarman, Radiochemical Studies: The Fission Products, Book 2, Part V, McGraw-Hill (1951).

1951NoZZ R. W. Nottorf, Radiochemical Studies: The Fission Products, Book 2, Part V, McGraw-Hill, p. 682 (1951).

2012Pa21 A. M. Parker and M. Thoennessen, At. Data Nucl. Data Tables **98**, 812 (2012).

2016Th03 M. Thoennessen, Int. J. Mod. Phys. E **25**, 1630004 (2016).

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