

^{254}Es

The observation of ^{254}Es was reported in 1954 by Fields et al. from Argonne in the paper “Additional Properties of Isotopes of Elements 99 and 100” (1954Fi14). “This note describes the results obtained from a four-day irradiation of an element-99 fraction with californium impurity in the Materials Testing Reactor (MTR) at Arco, Idaho to produce the following reaction: $99^{253}(\text{n},\gamma)99^{254} \xrightarrow{\beta} 100^{254}$.” The half-life was measured to be 37(1) h and corresponds to an isomer. A few weeks earlier the Berkeley group had described the formation of 100^{254} and the “... possible reaction sequence leading to its production might be the following ...” included ^{254}Es (1954Ha73). However, no properties of ^{254}Es were reported. The Berkeley group confirmed the half-life measurement (1954Ch23) only a few weeks following the Argonne paper. The ground state (~ 320 d) was observed two years later by Jones et al. (1956Jo09).

Adapted from reference (2011Me01)

- 1954Ch23 G. R. Choppin, S. G. Thompson, A. Ghiorso, and B. G. Harvey, Phys. Rev. **94**, 1080 (1954).
- 1954Fi14 P. R. Fields, M. H. Studier, J. F. Mech, H. Diamond *et al.*, Phys. Rev. **94**, 209 (1954).
- 1954Ha73 B. G. Harvey, S. G. Thompson, A. Ghiorso, and G. R. Choppin, Phys. Rev. **93**, 1129 (1954).
- 1956Jo09 M. Jones, R. P. Schuman, J. P. Butler, G. Cowper *et al.*, Phys. Rev. **102**, 203 (1956).
- 2011Me01 D. Meierfrankenfeld, A. Bury, and M. Thoennessen, At. Data Nucl. Data Tables **97**, 134 (2011).

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