^{245}Pu

^{245}Pu was discovered in 1955 simultaneously by Browne et al. from Los Alamos National Laboratory in "The decay chain $Pu^{245}-Am^{245}-Cm^{245}$" (1955Br02) and Fields et al. from Argonne National Laboratory in "Production of Pu^{245} and Am^{245} by neutron irradiation of Pu^{244} (1955Fi37). Browne et al. produced ^{245}Pu by neutron irradiation of transthorium elements. Beta- and gamma-ray spectra were measured following chemical separation. "The half-life of Pu^{245} was measured by resolving the gross decay curve of a plutonium sample, and by measuring the activity of its 'equilibrated' daughter at successive times. The two methods lead to inconsistent values; direct decay gives a half-life of 12.8 hr, while methods based upon daughter activity lead to a value of 11.0 hr. Until further data are available, the best value to be taken is 12 ± 1 hr." Fields et al. irradiated ^{244}Pu with neutrons in the Argonne heavy water reactor. Absorption and decay curves were recorded and γ-ray spectra were measured with a sodium iodide crystal spectrometer. "The beta-decay half-lives of Pu^{245} and Am^{245} were found to be 10.1 ± 0.5 hours and 119 ± 1 minutes, respectively." Both articles were submitted on May 20, 1955 and the primary credit for the discovery is given to Browne et al. because it appeared first in the journal.

Adapted from reference (2013Fr02)

1955Br02 C. I. Browne, D. C. Hoffman, W. T. Crane, J. P. Balagna *et al.*, J. Inorg. Nucl. Chem. **1**, 254 (1955).

1955Fi37 P. R. Fields, M. H. Studier, A. M. Friedman, H. Diamond *et al.*, J. Inorg. Nucl. Chem. **1**, 262 (1955).

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