Adopted Levels:tentative

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 195,718 (2024)	12-Oct-2023

Q(β^-)=2270 *calc*; S(n)=5560 *calc*; S(p)=5910 *calc*; Q(α)=4850 *calc* 2019Mo01
S(2n)=10020, S(2p)=14170 (theory,2019Mo01).

1960Di03: ^{249}Pu produced from the decay of ^{249}U in the debris of the first large-scale thermonuclear test (Ivy Mike) of November 1, 1952 in the Pacific Ocean. Airborne and condensed samples were collected, followed by chemical extraction and purification. The heavy uranium isotopes are expected to be produced in an environment of unusually high neutron flux (time-integrated flux of $\approx 10^{24}$ n/cm^2) through successive neutron captures in ^{238}U, with neutron energies of 14-MeV from deuterium-tritium fusion, and few MeV from the fission of ^{235}U. The ^{249}Cf fraction can be formed in ^{249}U –> ^{249}Np –> ^{249}Pu –> ^{249}Am –> ^{249}Cm β^- –> ^{249}Bk β^- –> ^{249}Cf β^- decay chain. Production of ^{249}Am was inferred from the detection of ^{249}Cf ($T_{1/2}$=351 y). See also related articles: 1956Fi11, 1967Ho20, 1966Rg01 and 1969In01.

^{249}Am Levels

E(level)	Comments
0?	%β^-=? E(level): Indirectly deduced from the detection of ^{249}Cf ($T_{1/2}$=351 y) in the debris of the thermonuclear test. β^- is expected to be the dominant decay mode of ^{249}Am, since the theoretical half-life for α decay is 10^{15} s (2019Mo01). $T_{1/2}$: β decay half-life=10^{15} s (theory,2019Mo01). J^π: $1/2^+$ (theory,2019Mo01).