Adopted Levels:inferred

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	A. M. Mattera, S. Zhu, A. B. Hayes, E. A. Mccutchan	NDS 172, 543 (2021)	1-Jan-2021

Q(β^-)=2500 *SY*; S(n)=4770 *SY*; S(p)=5400 *SY*; Q(α)=5550 *SY* 2017Wa10
ΔQ(β^-)=200; ΔS(n)=200; ΔS(p)=200; ΔQ(α)=280 (2017Wa10).
S(2n)=10560 (syst) *200* (2017Wa10).

1960Di03: ^{252}Bk produced in the decay chain of ^{252}U produced through successive neutron captures on ^{238}U in the first large scale thermonuclear test explosion (Ivy Mike) on November 1, 1952 in the Pacific Ocean. Neutrons were produced through deuterium-tritium fusion (En=14 MeV) and also from the fission of uranium. Airborne debris was collected on filter paper and larger samples collected from condensed debris from an adjacent atoll. Elements 94 to 100 were chemically extracted and purified. Pu, Am, and Cm fractions were measured with 12-inch 60° mass spectrometers. The abundances of the transcurium isotopes were determined from measuring α or β activities combined with known half-lives. The production of ^{252}Bk was inferred from the detection of ^{252}Cf ($T_{1/2}$=2.647 y) assuming the following decay ^{252}U –> ^{252}Np –> ^{252}Pu –> ^{252}Am –> ^{252}Cm –> ^{252}Bk –> ^{252}Cf.

Related articles: 1956Fi11, 1967Ho20, 1966Rg01, and 1969In01.

^{252}Bk Levels

E(level)	Comments
0.0?	%β^-=100 E(level): indirectly deduced from the detection of ^{252}Cf ($T_{1/2}$=2.647 y) in the debris of a thermonuclear test. %β^-: expected to be the dominant decay mode of ^{252}Bk, considering the theoretical half-life for α decay is $10^{12.2}$ s (2019Mo01). Theoretical β decay $T_{1/2}$ > 100 s (2019Mo01).