^{234}Am α decay 1990Ha02

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. Morse	NDS 197,259 (2024).	26-Sep-2023

Parent: ^{234}Am: E=0.0; $T_{1/2}$=2.32 min *8*; Q(α)=6800 *syst*; %α decay=0.039 *12*

^{234}Am-An α branch 6460α, %α=0.039 *12* from ^{234}Am was reported by 1990Ha02 and 1974ArYU; however, not seen by 2004Sa05. An upper limit of 0.04% is given by 2004Sa05 (also reported in 2002As08, 2003Na10).

^{234}Am-$T_{1/2}$: From 1990Ha02; Other: 3.5 min *13* (2004Sa05) Pu Kα_1 x ray (t).

^{234}Am-Q(α): From 2021Wa16.

2004Sa05: ^{233}U(^{6}Li,5n), E=51.0 MeV. Measured α, x-ray; Si, Ge detectors. Earlier results reported in 2002As08, 2003Na10, 2002AsZX.

1990Ha02: ^{234}Am produced through ^{237}Np(α,7n) reaction at 75 MeV. Electron capture-delayed fission and α decay were studied by depositing reaction products on a rotating wheel system which cycled through pairs of silicon detectors. Elemental assignemnt was confirmed through radiochemical analysis and subsequent decay measurement.

^{230}Np Levels

E(level)	$T_{1/2}$
0.0	4.6 min *3*

α radiations

Eα	E(level)	Iα[†]	Comments
6460[‡]	0.0	100	This α decay is reported in 1990Ha02 with the same half-life as the observed spontaneous-fission activity assigned to ^{234}Am. It was not observed in (2004Sa04), but the upper limit placed on the α branch (%α <0.04) is consistent with the intensity observed in 1990Ha02.

[†] For absolute intensity per 100 decays, multiply by 0.00039 *12*.

[‡] Existence of this branch is questionable.