Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 146, 387 (2017)	31-Aug-2017

Q(β^-)=−4.55×10^3 *SY*; S(n)=7.58×10^3 *SY*; S(p)=4500 *5*; Q(α)=7329.0 *18* 2017Wa10
ΔQ(β^-)=180, ΔS(n)=110 (syst, 2017Wa10).

Identification.
1956Ch43: ^{244}Cf was produced from ^{244}Cm(α,4n) with α beam from the 60-inch cyclotron of the Crocker Laboratory. The product nuclei after subsequent chemical separation were measured in a α pulse height analyzer. ^{244}Cf was identified and found to decay by emission of 7.1 MeV alpha particles with a half-life of 25 minutes.

Systematic studies/Compilation/Evaluation:
2016Pr01: Compilation, evaluation for B(E2), $T_{1/2}$ and deformation parameter.

Theoretical studies:
2017Da09, 2017Zh03, 2017Ph01, 2016Su09, 2015Ba24, 2014De43, 2013Ra05, 2013Se17, 2013Is13, 2012Is08, 2011Qi06, 2011Zh36, 2009De32, 2009Ni06, 1985Po23, 1979Po23, 1997Mo25: Calculated α decay half-life.
2015Ad15: Calculate α decay half-life and branching ratios.
2015Me09: Calculate Qα and $T_{1/2}$.
2010Wa31: Calculated relative intensities of α decay to rotational states in the framework of the generalized liquid drop model (GLDM) and improved Royer′s formula.
2005Re16: Calculated spontaneous fission half-lives.
1984Eg01: Analysis of yrast states, backbending and alignment.
1983Bo15: Calculated equilibrium deformations and static electric moment.
1980Du07: Calculated moment of inertia.
1984Eg01, 1995Mo29: Calculated equilibrium deformations.
2014De43, 2012Zh01, 1995Mo29: Calculated deformation parameters.
1993Sa05: Calculated B(E2)(0^+ to 2^+).
1989St20: Partial half-life for SF decay was calculated.
1993Gr15: Calculated relative fission/alpha-decay yields.
2009Mo18, 1983Ga05, 1979Kl08, 1976Iw02: Calculated fission barriers heights.
1980Ga07: Calculated fission barrier height ≈6 MeV from delayed-fission data following electron capture decay of ^{244}Es.
1979Kl08: Calculated delayed-fission probability.
1974YaZI: Calculated lowest-state energies for the first and second saddle in fission.

^{244}Cf Levels

Cross Reference (XREF) Flags

A ^{248}Fm α decay
B ^{244}Es ε decay

E(level)	J^π	$T_{1/2}$	XREF	Comments
0.0†	0^+	19.4 min *6*	A	%α≤100 $T_{1/2}$: From 1967Si08. Other measured half-lives: 25 min *3* (1956Ch43), 20.4 min *16* (1967Fi04), 20 min *11* (1973Es02). Only α decay has been observed.
37† *22*	2^+		A	E(level): Calculated from measured Eα in ^{248}Fm α decay and Qα(^{248}Fm)=7995 *8* (2017Wa10). J^π: From band member.
0+x				%SF≤100

Continued on next page (footnotes at end of table)

Adopted Levels (continued)

^{244}Cf Levels (continued)

E(level)	J^{π}	$T_{1/2}$	XREF	Comments
				Only the SF decay has been identified. Half-life of this fission isomer has not been measured. E(level): The isomeric state was produced by ^{244}Es ε decay. Level energy has not been determined experimentally. Calculations by 1974YaZI yield E(level)=0.9 MeV.

† Band(A): K=0 g.s. band.

Adopted Levels

Band(A): K=0 g.s. band

2^+ 37

0^+ 0.0

$^{244}_{98}Cf_{146}$