Adopted Levels, Gammas

History

	Type	Author	Citation	Literature Cutoff Date
	Full Evaluation	E. Browne, J. K. Tuli	NDS 114, 1041 (2013)	1-Nov-2011

$Q(\beta^-)=-1043$ *8*; S(n)=5175 *5*; S(p)=5481 *6*; $Q(\alpha)$=7239.7 *18*   2012Wa38
Additional information 1.

Calculations, compilations:
Cluster decay (^{20}O): 1994Ci12.
Delayed neutron emission: 1989Br25.
Favored α decays: 1993Bu09, 1992Bu03.
Ground state configuration: 1995Ci09, 1995Du05.
Single-particle Nilsson levels: 2005Pa73, 1994Cw02.
$Q(\alpha)$, half-lives, and decay branching ratios: 2010Ni02, 2010Si27, 2009Sa25, 2008Do12.
Spontaneous fission half-lives: 2004Ro01, 2000Ho27.

1994Cw02 have calculated the following single-particle level sequence: g.s. 1/2[620], 0.01 MeV, 3/2[622]; 0.09 MeV, 7/2[613];
    0.14 MeV, 11/2[725]; 0.49 MeV, 9/2[615].

^{255}Fm Levels

Cross Reference (XREF) Flags

A	^{255}Es β^- decay
B	^{255}Md ε decay
C	^{259}No α decay

E(level)[†]	J^π	$T_{1/2}$	XREF	Comments
0.0[‡]	7/2$^+$	20.07 h *7*	ABC	%α=100; %SF=2.4×10^{-5} *10*
				μ=−3.46
				Q=10.6
				μ: Resonance Ionization Spectroscopy (2005Bb14).
				Q: Resonance Ionization Spectroscopy (2005Bb14).
				J^π: Favored α decay to 7/2[613] band in ^{251}Cf. See 1995Ci09, 1995Du05 for
				calculations of g.s. configuration.
				$T_{1/2}$: from 1964As01; other measurements: 21.5 h *1* (1956Jo09), 19.9 h *3* (1963Ph01).
				%SF: from SF/α=2.4×10^{-7} *+11−9* (1963Ph01,2000Ho27).
61.6[‡] *3*	(9/2$^+$)		ABC	Additional information 2.
231.1 *2*	9/2$^+$		BC	J^π: M1+E2 to 7/2$^+$, 9/2$^+$; favored α from ^{259}No (configuration=(ν 9/2[615])).

[†] From ^{255}Md ε decay, unless otherwise noted.
[‡] Band(A): 7/2[613].

$\gamma(^{255}$Fm)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	α[‡]
61.6	(9/2$^+$)	61.7	100	0.0	7/2$^+$	[M1]	42.9 *9*
231.1	9/2$^+$	169.5 *2*	11 *1*	61.6	(9/2$^+$)	M1+E2	
		231.1 *2*	100 *11*	0.0	7/2$^+$	M1+E2	

Adopted Levels, Gammas (continued)

$\gamma(^{255}$Fm$)$ (continued)
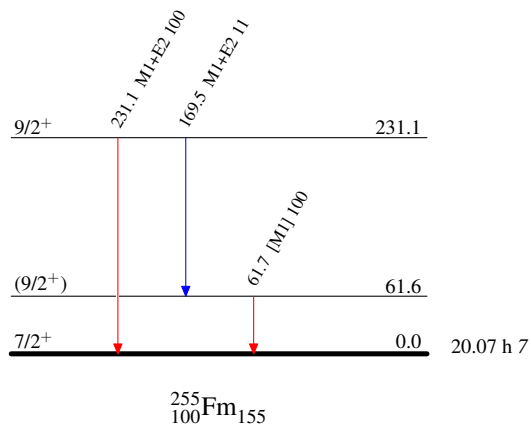
† From ^{255}Md ε decay (2000Ah02).

‡ Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified

Legend

$I_\gamma < \ 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$

231.1 M1+E2 100

169.5 M1+E2 11

61.7 [M1] 100

9/2$^+$ 231.1

(9/2$^+$)   61.6

7/2$^+$ 0.0   20.07 h 7

$^{255}_{100}$Fm$_{155}$

Adopted Levels, Gammas

Band(A): 7/2[613]

(9/2$^+$)   61.6

62

7/2$^+$ 0.0

$^{255}_{100}$Fm$_{155}$