Adopted Levels, Gammas

	Type	Author	History Citation	Literature Cutoff Date
	Full Evaluation	C. D. Nesaraja	NDS 125, 395 (2015)	31-Mar-2014

Q(β^-)=−3100 *SY*; S(n)=7400 *SY*; S(p)=2802 *20*; Q(α)=7462 *20*   2012Wa38
ΔQ(β^-=120, ΔS(n)=220 (syst, 2012Wa38).

Identification:
1989Ha27: Observed in ^{249}Cf(p,3n) and ^{238}U(^{14}N,5n).
1973Es01: Produced from ^{243}Am(^{12}C,α4n). Identified by emitted α energies, T$_{1/2}$ and excitation functions.
1967Mi06: Synthesized from ^{238}U(^{14}N,5n). Identified by emitted α energies, T$_{1/2}$ and excitation functions.

Theoretical studies:
2012Ni16: α decay T$_{1/2}$ for transitions from ground-state to favored rotational bands using Multicluster Channel Model.
2012Zh01: Comparison of the low-lying one-quasineutron band for Z=99 isotopes between the experimental values and calculated
values using the cranked shell model (CSM) with pairing correlations.
2003Re14: Calculated binding energy, QA and deformations using the deformed RMF theory.
2002Lo05: Calculated binding energies, pairing gaps and deformations using RMF+BCS theory.
2002Du16: Calculated partial half-lives for α and cluster decays.
1997Mo25: Calculated ground-state binding energy, proton and neutron pairing gaps, neutron and proton separation energies, Q
values and partial half-lives for α and β decays.
1996St28: α decay through deformed barrier and anisotropies for alphas were calculated.
1993Bu09: Calculated partial α decay half-life, α branching, and nuclear radius using the cluster model predictions.
1981Mo24: Calculated ground-state electric multipole moments Q$_2$, Q$_4$ and masses.
1980Ho32: Calculated mass excess, S(n), S(p), Q(β), Q(α), fission-barrier heights, deformation and energy at saddle-point.

Systematic Studies:
2006Ch52: Systematics studies of one-quasiparticle states in Es isotopes using Skyrme-HFB calculations.

^{247}Es Levels

Cross Reference (XREF) Flags

A	^{251}Md α decay
B	^{247}Fm ε decay (31 s)

E(level)	J$^\pi$	T$_{1/2}$	XREF	Comments
0	(3/2$^-$)		A	J$^\pi$: 3/2$^-$[521].
0+x	(7/2$^+$)	4.55 min *26*	AB	%$\alpha\approx$7; %ε+%$\beta^+\approx$93
				XREF: B(?).
				E(level): X$\approx$30 keV.
				Additional information 1.
				Proposed configuration=7/2[633](1989Ha27).
				Observation of the ground-state in ^{247}Fm ε decay is indirect.
				α branching was estimated by 1967Mi06 from observed α yield and calculated total cross section for ^{238}U(^{14}N,^{5}N) reaction.
				J$^\pi$: Analogy to ^{249}Es suggests 7/2[633] state.
				T$_{1/2}$: From 1989Ha27. Others: 5.0 min *3* (1967Mi06), 4.7 min *3* (1973Es01).
50.9+x *3*	(9/2$^+$)		A	J$^\pi$: Suggested by theoretical calculations in 2006Ch52.
293.69+x *10*	(7/2$^-$)		A	Proposed configuration=7/2[514] (based upon multipolarities proposed for depopulating γ transitions).

Adopted Levels, Gammas (continued)

$\gamma(^{247}$Es)

E_i(level)	J^π_i	E_γ	I_γ	E_f	J^π_f	Mult.	Comments
50.9+x	(9/2$^+$)	(50)		0+x	(7/2$^+$)	(M1)	E_γ: γ transition has not been observed. E_γ is from level energies. Transition considered to be highly converted (2006Ch52).
293.69+x	(7/2$^-$)	242.7 3	16 2	50.9+x	(9/2$^+$)	(E1)	Mult.: E2 is also possible but less likely.
		293.7 1	100	0+x	(7/2$^+$)	(E1)	

Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified

Legend

$I_\gamma < \ \ 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)

$^{247}_{99}$Es$_{148}$