^{9}Be(^{238}U,Xγ) 2008Lo07

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. Hashizume	NDS 112, 1647 (2011)	1-Oct-2009

Includes reaction: ^{9}Be(^{136}Xe,Xγ) E=600/A MeV.

2008Lo07: ^{9}Be(^{238}U,F) E=750/A MeV, ^{9}Be(^{136}Xe,X) E=600/A MeV; Ge array, anti-Compton suppression by BGO; on-line fission-fragment separation, TOF, Z determination by ion chamber; ion-γ coin, $\gamma\gamma$ coin.

^{127}Sn Levels

E(level)[†]	J$^{\pi}$[‡]	T$_{1/2}$[#]	Comments
0.0	11/2$^-$		
1095.0 *9*	(15/2$^-$)		
1243.0 *9*	(13/2$^-$)		
1810.1 *10*	(15/2$^+$)		
1826.6 *10*	(19/2$^+$)	4.52 μs *15*	T$_{1/2}$: weighted average of 4.4 μs *2* (2008Lo07), 4.8 μs *3* (2004Ga24) and 4.5 μs *3* (2000Pi03); other: 3.1 μs *9* (1980De35).
1930.7 *10*	(23/2$^+$)	1.19 μs *13*	T$_{1/2}$: weighted mean of 0.9 μs *3* (2008Lo07) and 1.26 μs *15* (2004Ga24).
2047.3 *9*	(19/2$^-$)		
2231.6 *12*	(21/2$^+$)		
2410.4 *9*	(23/2$^-$)		
2552.4 *10*	(27/2$^-$)	0.25 μs *3*	T$_{1/2}$: From 2008Lo07.

[†] From least-squares fit to E(γ's) (by evaluator).

[‡] From Adopted Levels.

[#] γ(t) from ^{127}Sn produced by ^{9}Be(^{238}U,F) and ^{9}Be(^{136}Xe,Xγ) (2008Lo07); γ(t) from ^{127}Sn produced by ^{233}U(n,F) and by ^{239}Pu(n,F) (2000Pi03); from $\beta\gamma$(t) delayed coincidence (2004Ga24): for the all excited states.

γ(^{127}Sn)

E$_\gamma$[†]	I$_\gamma$[†‡]	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$	Mult.	α[@]	Comments
16.52[#] *11*	100.0[#]	1826.6	(19/2$^+$)	1810.1	(15/2$^+$)	E2	2.32×10^3 *9*	α(L)=1.87×10^3 *7*; α(M)=384 *15*; α(N+..)=67.3 *25* α(N)=65.9 *25*; α(O)=1.36 *5*
104 *1*	100.0	1930.7	(23/2$^+$)	1826.6	(19/2$^+$)	(E2)	1.39 *6*	α(K)=1.02 *4*; α(L)=0.298 *14*; α(M)=0.061 *3*; α(N+..)=0.0112 *5* α(N)=0.0108 *5*; α(O)=0.000479 *19* Not measured. From the difference of 1930.4 (23/2$^+$) state and 1826.64 (19/2$^+$) state, E$_\gamma$ is deduced. (2008Lo07).
142.0 *3*	100.0	2552.4	(27/2$^-$)	2410.4	(23/2$^-$)	(E2)	0.461 *8*	α(K)=0.361 *6*; α(L)=0.0805 *14*; α(M)=0.0163 *3*; α(N+..)=0.00307 *5* α(N)=0.00291 *5*; α(O)=0.0001541 *25*
301 *1*		2231.6	(21/2$^+$)	1930.7	(23/2$^+$)			
363.1 *3*	28 *4*	2410.4	(23/2$^-$)	2047.3	(19/2$^-$)	(E2)	0.0192	α(K)=0.01631 *24*; α(L)=0.00237 *4*; α(M)=0.000469 *7*; α(N+..)=9.29×10^{-5} *14* α(N)=8.65×10^{-5} *13*; α(O)=6.41×10^{-6} *10*
405 *1*		2231.6	(21/2$^+$)	1826.6	(19/2$^+$)			
479.7 *3*	100 *11*	2410.4	(23/2$^-$)	1930.7	(23/2$^+$)	(E1)	0.00263 *4*	α=0.00263 *4*; α(K)=0.00229 *4*; α(L)=0.000274 *4*; α(M)=5.34×10^{-5} *8*; α(N+..)=1.086×10^{-5} *16*

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^{9}Be(^{238}U,Xγ) 2008Lo07 (continued)

$\gamma(^{127}Sn)$ (continued)

E_γ [†]	I_γ [†‡]	E_i(level)	J_i^π	E_f	J_f^π	Comments
						α(N)=1.002×10^{-5} *15*; α(O)=8.48×10^{-7} *12*
567 *1*	22.6 *16*	1810.1	(15/2$^+$)	1243.0	(13/2$^-$)	
715 *1*	100 *7*	1810.1	(15/2$^+$)	1095.0	(15/2$^-$)	
732[&] *1*		1826.6	(19/2$^+$)	1095.0	(15/2$^-$)	
952.3 *3*	100.0	2047.3	(19/2$^-$)	1095.0	(15/2$^-$)	
1095 *1*	100.0	1095.0	(15/2$^-$)	0.0	11/2$^-$	
1243 *1*	100.0	1243.0	(13/2$^-$)	0.0	11/2$^-$	I_γ: from the intensity balance of 567.26γ (evaluator).

[†] From 2008Lo07, unless otherwise stated. Except for the 142.0, 363.1, 479.7 and 952.3 γ's, the authors show the E_γ's in level scheme and their uncertainties are not shown. Evaluator assumed $\Delta(E\gamma)$=1 keV.

[‡] The relative intensities of γ's from 0.25 μs IT decay are 16, 57 and 16 for 363.1, 479.7 and 952.3 γ's, respectively (2008Lo07).

[#] From adopted γ's.

[@] 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.

[&] Placement of transition in the level scheme is uncertain.

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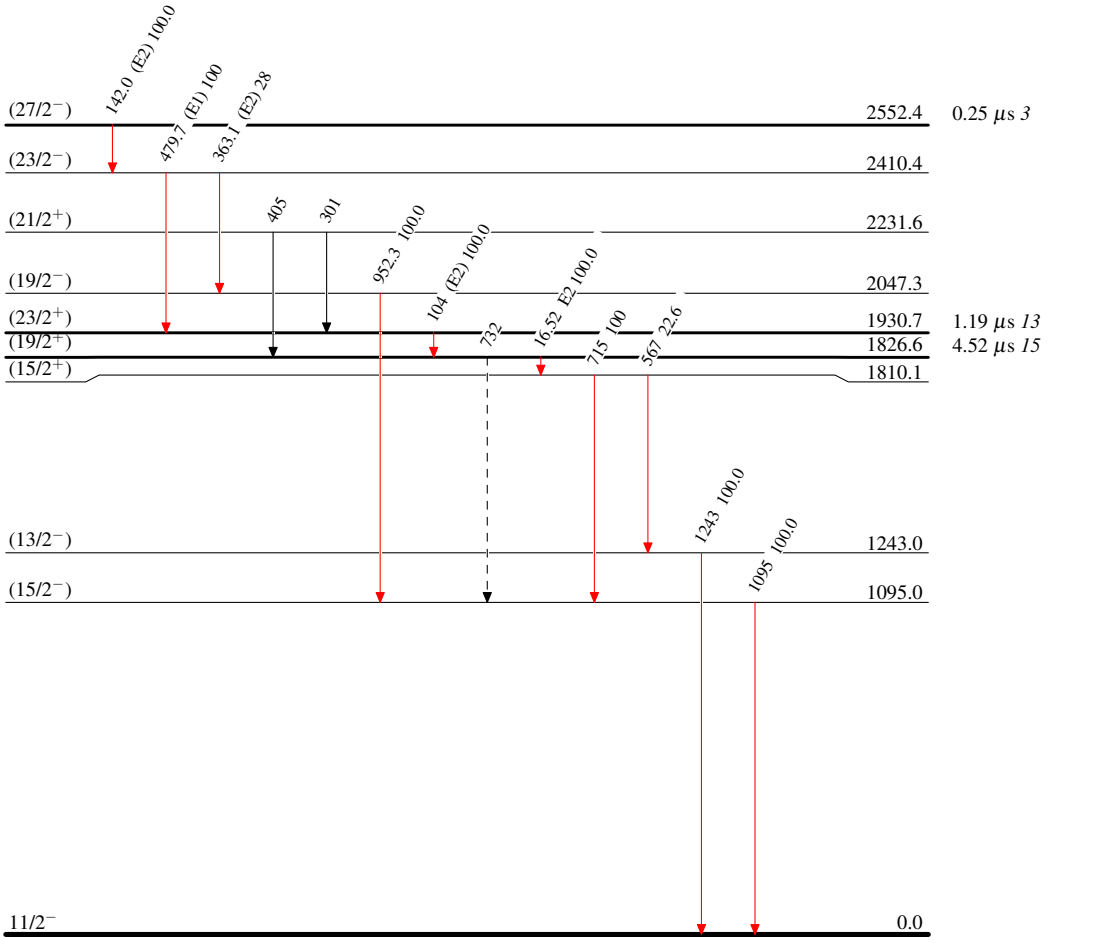
Level Scheme

Intensities: Relative I_γ

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)



$^{127}_{50}Sn_{77}$