

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Update	J. H. Kelley, J. L. Godwin, C. G. Sheu		ENSDF	31-Mar-2004

$Q(\beta^-)=16004.13$ 6; $S(n)=2032.62$ 5; $S(p)=12416$ 8; $Q(\alpha)=-6.10\times 10^3$ 10 [2012Wa38](#)

[Additional information 1.](#)

For additional states see reaction: ${}^7\text{Li}(n,n)$ [1987Kn04](#).

 ${}^8\text{Li}$ LevelsCross Reference (XREF) Flags

A	${}^8\text{He}$ β^- decay	G	${}^7\text{Li}(p,\pi^+)$	M	${}^{10}\text{Be}(p,{}^3\text{He})$
B	${}^6\text{Li}(t,p)$	H	${}^7\text{Li}(d,p)$	N	${}^{11}\text{B}(n,\alpha)$
C	${}^7\text{Li}(n,\gamma)$ E=thermal	I	${}^9\text{Be}(p,2p)$	O	${}^{11}\text{B}({}^7\text{Li},{}^{10}\text{B})$
D	${}^7\text{Li}(n,\gamma)$	J	${}^9\text{Be}(d,{}^3\text{He})$	P	${}^{12}\text{C}({}^8\text{Li},{}^8\text{Li}'), \text{Ni}({}^8\text{Li},{}^8\text{Li}')$
E	${}^7\text{Li}(n,n)$	K	${}^9\text{Be}(t,\alpha)$	Q	$\alpha\gamma({}^{14}\text{N},{}^8\text{Li}), {}^{165}\text{Ho}({}^{14}\text{N},{}^8\text{Li})$
F	${}^7\text{Li}(n,n')$	L	${}^9\text{Be}({}^7\text{Li},{}^8\text{Be})$		

E(level)	J^π	$T_{1/2}$	XREF				Comments
0.0	2^+	839.9 ms 9	ABCD	GHIJKL	NO	Q	$\% \beta^- = 100$; $\% \beta^- \alpha = 100$ $T=1$; $\mu = +1.653560$ 18; $Q = +0.0327$ 6 $T_{1/2}$: from weighted average of 838 ms 6 (1971Wi05), 836 ms 3 (Mingay et al., S. African Journal of Physics 2 (1979)107) and 840.3 ms 9 (1990Sa16). μ from (1989Ra17). Q from (1993Mi34). $\%IT=100$ $T=1$ E(level): from ${}^9\text{Be}(t,\alpha\gamma)$ (1972Co09). $T_{1/2}$: from weighted average of $T_{1/2}=7.0$ fs 3.1 ${}^7\text{Li}(d,p)$ (1971Th02) and $T_{1/2}=10.1$ fs 3.4 ${}^9\text{Be}(t,a \gamma)$ (1972Co09). $\%IT=2.1\times 10^{-4}$ 10; $\%n\approx 100$ $T=1$ E(level): from ${}^7\text{Li}(n,\gamma)$. Γ : From weighted average of $\Gamma=35$ keV 10 ${}^6\text{Li}(t,p)$ (1978Aj02) and 31 keV 7 ${}^7\text{Li}(n,\gamma)$. $\%n=100$ $T=1$ E(level): reported values are $E=3210$ keV ${}^8\text{He}$ β -decay, and 3213 keV ${}^7\text{Li}(n,n)$. Γ : From ${}^7\text{Li}(n,n)$. $\%n$: No other decay modes are reported. $\%n\approx 100$ $T=1$ E(level): reported values are $E=5400$ keV ${}^8\text{He}$ β -decay, 5400 keV ${}^7\text{Li}(n,n)$, and 5355 keV ${}^7\text{Li}(n,n')$. Γ : From ${}^7\text{Li}(n,n')$. $\%n$: No other decay modes are reported. A $J^\pi=2^+$ level is suggested in ${}^7\text{Li}(n,n')$ (1972Pr03). $\%n\approx 100$ $T=1$ E(level): from ${}^7\text{Li}(n,n)$. Γ : From ${}^7\text{Li}(n,n)$. $\%n$: No other decay modes are reported. $\%n\approx 100$
980.80 10	1^+	8.2 fs 23	ABCD	GHIJKL	NOP		
2255 3	3^+	32.3 keV 57	B	DE	G	IJKL	Q
3210	1^+	≈ 1000 keV	A	F			
5400	1^+	≈ 650 keV	A	EF			
6.1×10^3 1	(3)	≈ 1000 keV		E			
6530 20	4^+	35 keV 15	B	E	G	JK	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

⁸ Li Levels (continued)					
E(level)	J ^π	T _{1/2}	XREF	Comments	
7.1×10 ³ 1		≈400 keV	E	T=1 E(level): from weighted average of E=6540 keV 30 ⁶ Li(t,p) (1978Aj02) and 6530 keV 20 ⁹ Be(t,α). Γ: From ⁶ Li(t,p) (1978Aj02). %n: No other decay modes are reported. %n≈100 E(level): from ⁷ Li(n,n). Γ: From ⁷ Li(n,n). %n: No other decay modes are reported. %n=? %n=?; % ³ H=?	
9000?		≈6000 keV	F I	T=2 Decay mode not specified.	
≈9670	1 ⁺	≈1000 keV	A		
10822.2 55	0 ⁺	<12 keV	M		

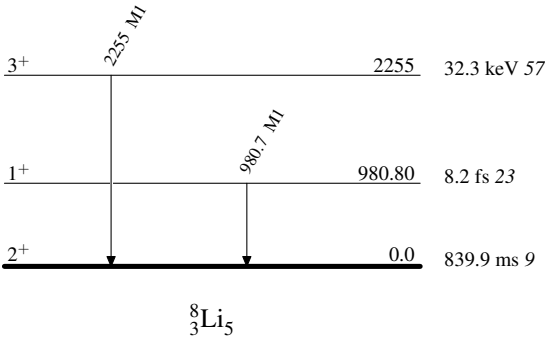
γ(⁸Li)

E _i (level)	J ^π _i	E _γ [†]	E _f	J ^π _f	Mult.	Comments
980.80	1 ⁺	980.7	0.0	2 ⁺	M1	Γ _γ =5.5×10 ⁻² eV 18; B(M1)(W.u.)=2.8 9
2255	3 ⁺	2255	0.0	2 ⁺	M1	Γ _γ =7.0×10 ⁻² eV 30; B(M1)(W.u.)=0.29 13

[†] From E(level) difference; recoil correction applied.

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Level Scheme



⁸Li₅