^{122}Sn(^{9}Be,5nγ) 2020Ch05

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	H. Iimura, J. Katakura, S. Ohya	NDS 180,1 (2022)	1-Oct-2021

E(^{9}Be)=48 MeV; array of Ge clover detectors; γ, $\gamma\gamma$, $\gamma\gamma(\theta)$(DCO), linear polarization.

^{126}Xe Levels

E(level)[†]	J$^{\pi}$[‡]	Comments
0.0[#]	0^+	
388.6[#] *4*	2^+	
880.0[@] *4*	2^+	
941.9[#] *5*	4^+	
1317.7[&] *5*	3^+	
1488.4[@] *5*	4^+	
1634.8[#] *6*	6^+	
1903.3[&] *5*	5^+	
2214.1[@] *6*	6^+	
2435.4[#] *7*	8^+	
2661.4[&] *6*	7^+	
3061.7[@] *7*	8^+	J$^{\pi}$: From band structure and γ ray DCO ratio.
3520.2[&] *8*	9^+	J$^{\pi}$: From band structure and γ ray DCO ratio.

[†] From least-squares fit to Eγ's, assuming an uncertainty of 0.5 keV for each γ ray.
[‡] From Adopted Levels, unless otherwise noted.
[#] Band(A): ground-state band.
[@] Band(B): γ band, even spins.
[&] Band(b): γ band, odd spins.

γ(^{126}Xe)

DCO=Iγ(148°)/Iγ(90°) with gates on Q transitions. For streched Q transitions DCO=1.0, whereas for streched D transitions DCO=0.5 is expected.
Linear polarization asymmetry values are expected to be positive for electric and negative for magnetic transition. For mixed multipole transitions, the value is expected to be close to zero.

E$_{\gamma}$	I$_{\gamma}$	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$	Comments
268.7	0.36 *4*	1903.3	5^+	1634.8	6^+	
376.1	1.9 *3*	1317.7	3^+	941.9	4^+	DCO=0.82 *16*.
388.6	100.0	388.6	2^+	0.0	0^+	DCO=1.10 *2*; POL=+0.14 *3*.
414.9	1.08 *7*	1903.3	5^+	1488.4	4^+	DCO=0.9 *3*.
437.7	5.9 *3*	1317.7	3^+	880.0	2^+	DCO=0.82 *9*; POL=+0.05 *7*.
447.4	≈0.10	2661.4	7^+	2214.1	6^+	
491.2	14.90 *19*	880.0	2^+	388.6	2^+	DCO=1.07 *4*; POL=+0.00 *3*.
546.3	4.22 *12*	1488.4	4^+	941.9	4^+	DCO=0.96 *9*; POL=−0.11 *10*.
553.3	92.2 *5*	941.9	4^+	388.6	2^+	DCO=1.08 *1*; POL=+0.122 *11*.
579.2	1.5 *3*	2214.1	6^+	1634.8	6^+	DCO=0.93 *19*.
585.7	6.0 *6*	1903.3	5^+	1317.7	3^+	DCO=1.37 *15*.
608.3	8.4 *4*	1488.4	4^+	880.0	2^+	DCO=1.09 *12*.
626.4	0.22 *6*	3061.7	8^+	2435.4	8^+	

Continued on next page (footnotes at end of table)

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γ(^{126}Xe) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Comments
692.9	72.6 *6*	1634.8	6^+	941.9	4^+	DCO=1.03 *2*; POL=+0.108 *13*.
725.9	5.48 *19*	2214.1	6^+	1488.4	4^+	DCO=0.99 *10*.
757.9	5.1 *3*	2661.4	7^+	1903.3	5^+	DCO=0.96 *14*.
800.7	32.9 *3*	2435.4	8^+	1634.8	6^+	DCO=1.02 *2*; POL=+0.134 *22*.
847.5	1.72 *14*	3061.7	8^+	2214.1	6^+	DCO=1.02 *20*.
858.8	1.72 *22*	3520.2	9^+	2661.4	7^+	DCO=1.1 *3*.
880.0	3.90 *5*	880.0	2^+	0.0	0^+	
929.0	5.32 *10*	1317.7	3^+	388.6	2^+	DCO=1.30 *7*; POL=−0.06 *6*.
961.1	4.39 *11*	1903.3	5^+	941.9	4^+	DCO=1.03 *7*.
1026.6†	0.16 *5*	2661.4	7^+	1634.8	6^+	
1100.0	1.11 *5*	1488.4	4^+	388.6	2^+	
1272.3	0.48 *6*	2214.1	6^+	941.9	4^+	

† Placement of transition in the level scheme is uncertain.

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Level Scheme

Intensities: Relative I_γ

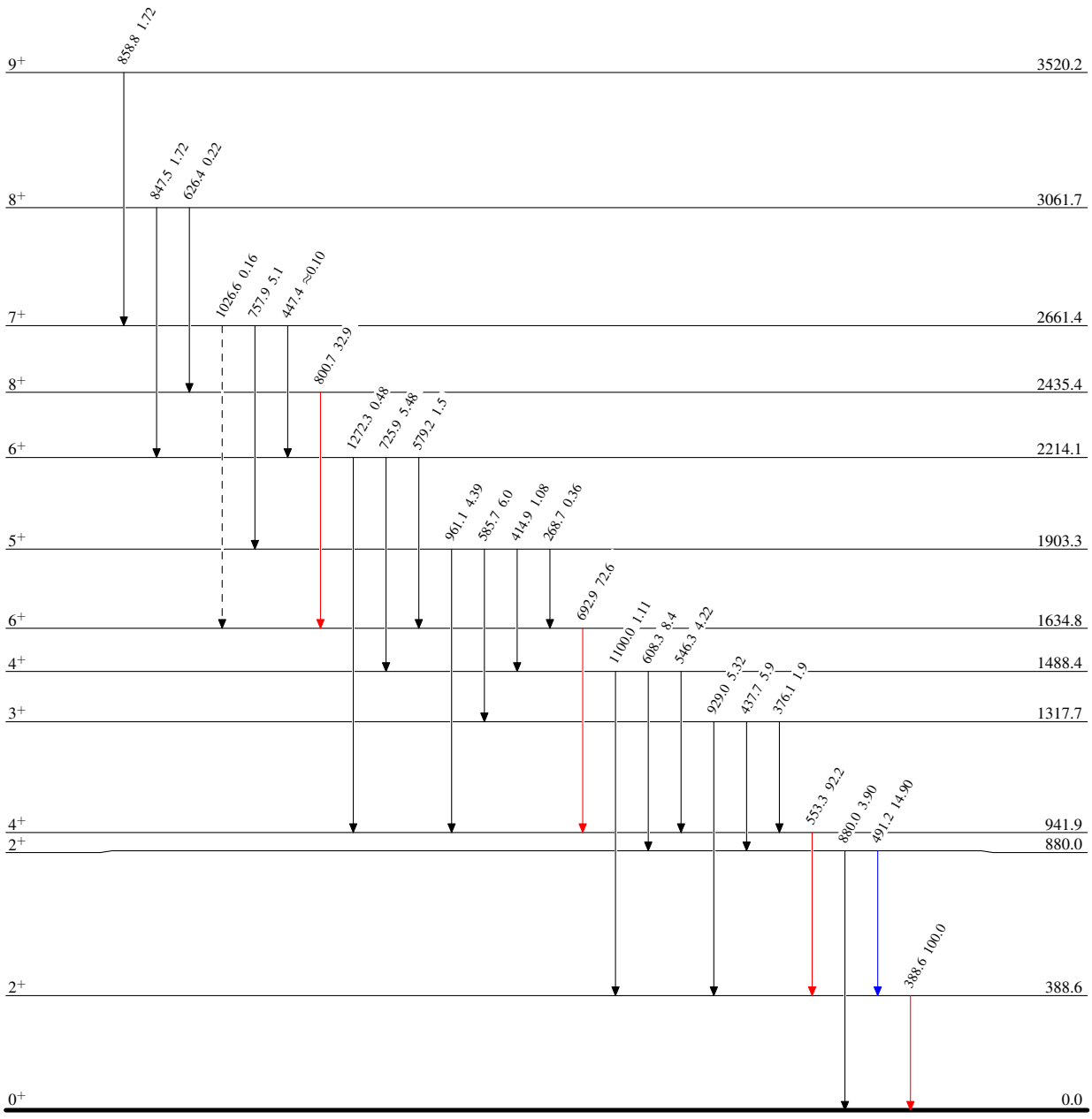
Legend

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

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

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

γ Decay (Uncertain)



$^{126}_{54}Xe_{72}$

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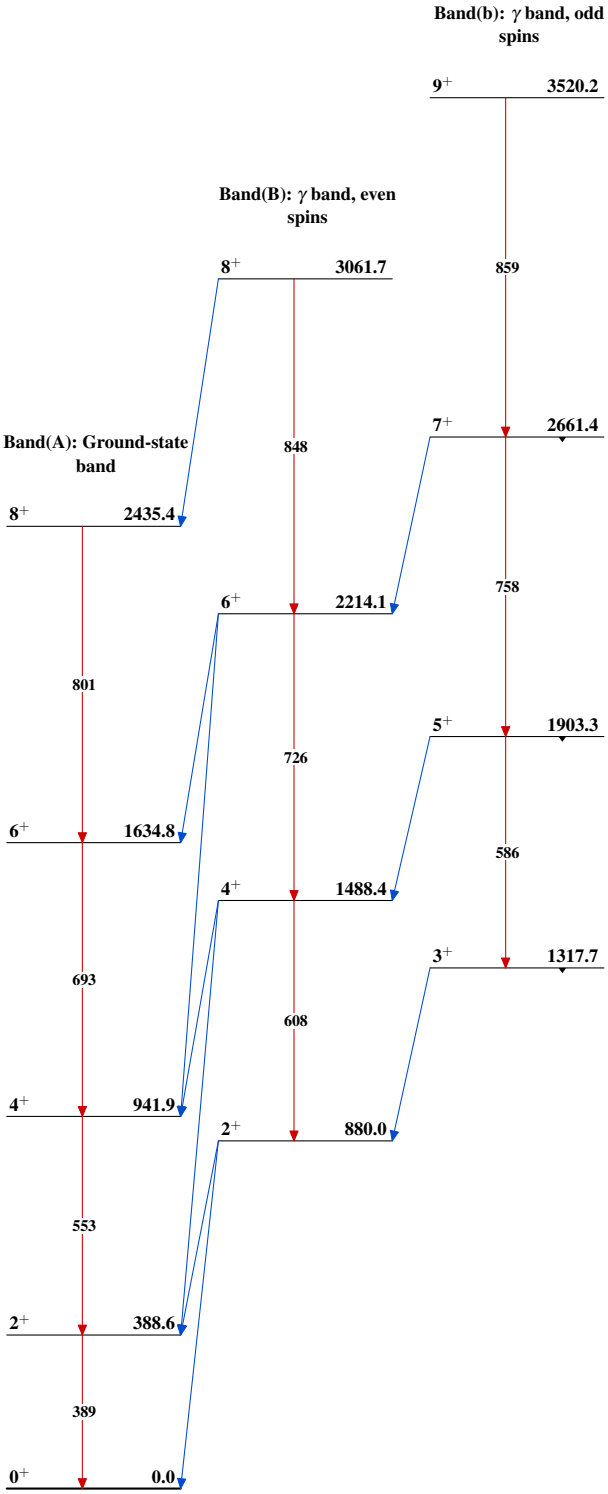

$^{126}_{54}Xe_{72}$