^{127}I(p,2nγ) 1975Ku05

History

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

E=17-21.5 MeV. Semi γ, $\gamma\gamma$, $\gamma(\theta)$.
Others: magnetic spectrograph ce: 1965Sa11, 1966Ej03.
Level scheme is those proposed by 1975Ku05.

^{126}Xe Levels

E(level)†	Jπ@	E(level)†	Jπ@	E(level)†	Jπ@	E(level)†	Jπ@
0.0‡	0^+	941.9‡	4^+	1635.1‡	6^+	2435.8‡	8^+
388.4‡	2^+	1317.4#	3^+	1903.2#	5^+	2561.8#	6^-
879.8#	2^+	1488.5#	4^+	2214.7#	6^+		

† Based on a least-squares fit by evaluators to the Eγ's.
‡ Band member based on the ground state.
# Quasi-γ band member based on 2^+ 879.8-keV state.
@ Spin and parity values are those given under the Adopted Levels.

$\gamma(^{126}Xe)$

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.†	δ‡	Comments
311.0#	0.9 *2*	2214.7	6^+	1903.2	5^+			
347.5#	0.7 *2*	2561.8	6^-	2214.7	6^+			
375.6	2.0 *2*	1317.4	3^+	941.9	4^+			A_2=−0.02 *4*, A_4=+0.04 *6*.
388.3	100	388.4	2^+	0.0	0^+	Q		A_2=+0.109 *4*, A_4=−0.016 *5*. K/L=6.2 *10* (1965Sa11).
414.7	1.6 *2*	1903.2	5^+	1488.5	4^+			
437.6	9.3 *2*	1317.4	3^+	879.8	2^+	D+Q		A_2=+0.070 *13*, A_4=+0.018 *20*. δ: +10.2 *+60−25* or +0.35 *+6−3*. K/L=4.8 *20* (1965Sa11).
491.3	23.9 *2*	879.8	2^+	388.4	2^+	D+Q	+11 *+8−3*	A_2=−0.002 *9*, A_4=−0.081 *14*. K/L=6.3 *10* (1965Sa11).
546.4	4.7 *2*	1488.5	4^+	941.9	4^+	D+Q		A_2=+0.005 *21*, A_4=−0.02 *3*. δ: −0.90 *+9−8* or +3.0 *+11−7*.
553.3	57.5 *2*	941.9	4^+	388.4	2^+	Q		A_2=+0.150 *6*, A_4=−0.049 *9*. K/L=4.0 *10* (1965Sa11).
579.4	1.7 *2*	2214.7	6^+	1635.1	6^+			
585.8	7.1 *2*	1903.2	5^+	1317.4	3^+	Q		A_2=+0.157 *18*, A_4=−0.05 *3*.
608.8	8.5 *2*	1488.5	4^+	879.8	2^+	Q		A_2=+0.116 *15*, A_4=−0.063 *22*.
658.6	3.1 *2*	2561.8	6^-	1903.2	5^+			A_2=+0.13 *3*, A_4=−0.02 *5*. Mult.: 1975Ku05 suggests Q from $\gamma(\theta)$ which is in conflict with E1 from $\gamma(\theta)$ and pol. In ^{123}Te(α,nγ).
693.0	28.2 *3*	1635.1	6^+	941.9	4^+	Q		A_2=+0.201 *10*, A_4=−0.041 *15*. K/L=3.7 *10* (1965Sa11).
726.1	5.1 *2*	2214.7	6^+	1488.5	4^+	(Q)		A_2=+0.14 *3*, A_4=−0.01 *4*.
x737.7	0.9 *2*							
x758.4	2.9 *2*							A_2=−0.01 *4*, A_4=−0.05 *5*.
800.7	7.0 *3*	2435.8	8^+	1635.1	6^+	(Q)		A_2=+0.22 *3*, A_4=−0.04 *4*.
x858.4	2.3 *2*							A_2=+0.30 *4*, A_4=−0.06 *6*.
879.7	6.5 *3*	879.8	2^+	0.0	0^+			A_2=+0.108 *25*, A_4=−0.04 *4*.
929.1	8.0 *3*	1317.4	3^+	388.4	2^+	D+Q	+1.3 *+12−5*	A_2=+0.194 *22*, A_4=+0.09 *3*.

Continued on next page (footnotes at end of table)

^{127}I(p,2nγ) 1975Ku05 (continued)

$\gamma(^{126}Xe)$ (continued)

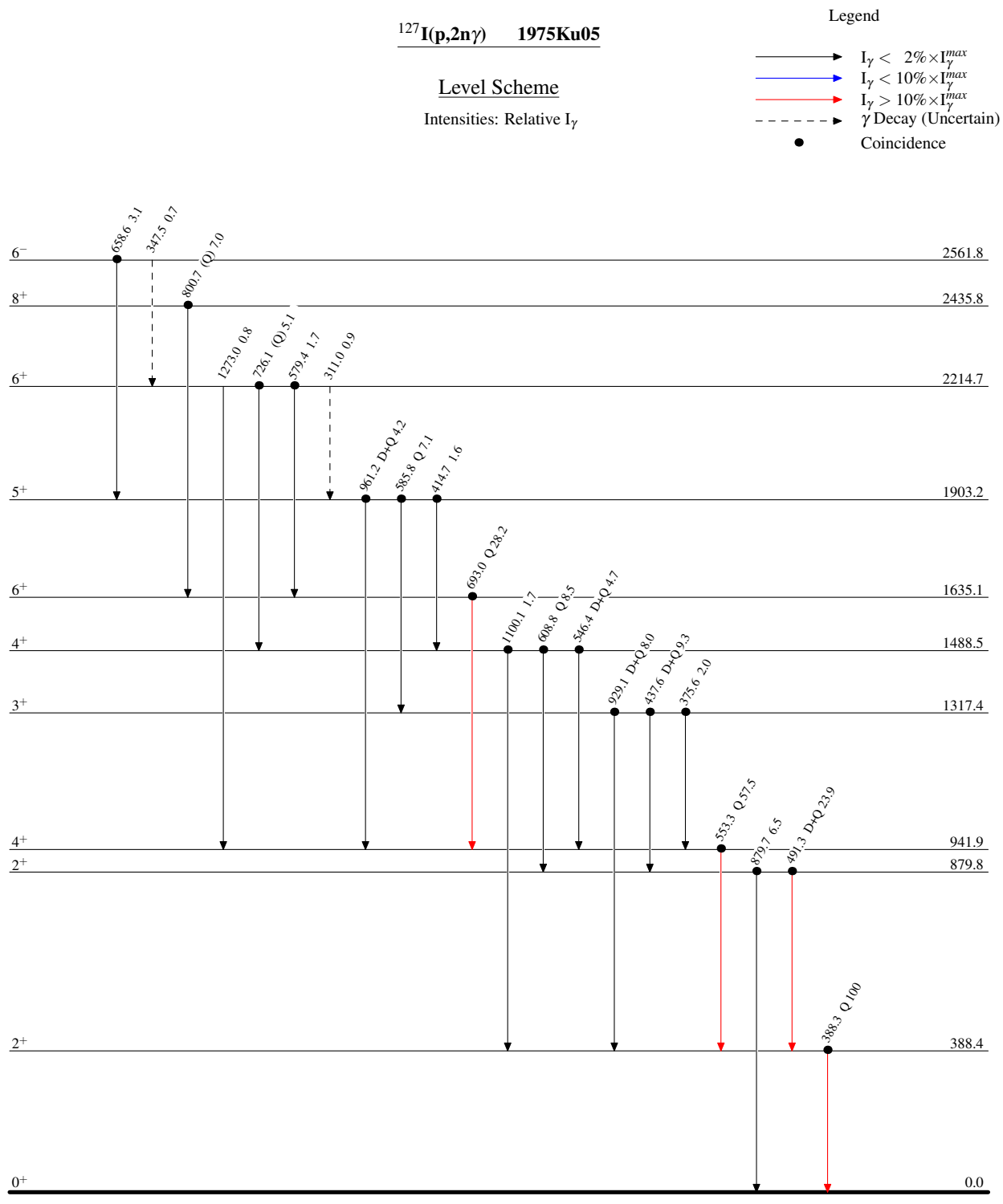
E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
[x]956.6	3.1 *4*						A_2=−0.18 *6*, A_4=+0.03 *9*.
961.2	4.2 *3*	1903.2	5^+	941.9	4^+	D+Q	A_2=+0.16 *4*, A_4=+0.08 *5*.
[x]986.7	2.0 *2*						
[x]1043.5	3.5 *3*						A_2=+0.15 *4*, A_4=+0.07 *6*.
1100.1	1.7 *3*	1488.5	4^+	388.4	2^+		
1273.0	0.8 *3*	2214.7	6^+	941.9	4^+		

[†] From $\gamma(\theta)$.
[‡] From A_2, A_4 values and attenuation coefficients.
[#] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

^{127}I(p,2nγ) 1975Ku05

Level Scheme

Intensities: Relative I_γ



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