^{129}Xe(n,γ) E=th 1971Gr28,1988Ha28

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 93, 33 (2001)	11-May-2001

1971Gr28: measured Eγ, Iγ. The authors mainly report primary Eγ′s, with only five secondary Eγ′s.

1988Ha28: natural Xe target. Measured Eγ, Iγ, γγ, γγ(θ). A large number of measured primary Eγ′s are given by 1988Ha28 but these are not assigned to specific nuclides. A total of about 20 secondary Eγ′s are assigned to ^{130}Xe. A large number of other secondary Eγ′s are unassigned.

1974Da07: (pol n,γ). Measured circular polarization.

^{130}Xe Levels

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
0.0	0+	2149.9 *6*		2950 *3*		3868 *3*	
536.03 *10*	2+	2171.4 *7*		2979 *3*	1,2	3887 *3*	
1122.17 *10*	2+	2238? *3*		3070.1 *13*		3994 *3*	
1204.2 *4*	4+	2385.2 *4*		3148 *3*		4008 *3*	
1590.4 *7*		2501.6 *12*		3188 *3*		4042 *3*	
1632.53 *16*		2543.4 *14*		3300 *3*		4209 *3*	
1792.9 *3*		2635 *3*		3385 *3*		4217 *3*	
1808.5 *5*		2662 *3*		3437 *3*		4263 *3*	
1840? *3*		2726 *3*		3539 *3*		4287 *3*	
2017.24 *23*		2763.7 *18*		3599 *3*		(9255.8# *9*)	1+@
2059.2 *4*		2883 *3*	1,2	3836 *3*			

† From least-squares fit to Eγ′s.
‡ From Adopted Levels.
# S(n)=9255.8 *9* (1995Au04).
@ From γ(circ pol) (1974Da07).

γ(^{130}Xe)

Eγ†	Iγ‡	Ei(level)	Jiπ	Ef	Jfπ	Mult.	δ	Comments
469.2 *10*	0.31[a] *10*	1590.4		1122.17	2+			
536.19 *11*	107.5[a] *8*	536.03	2+	0.0	0+			Additional information 1.
x574.2 *5*								
586.17 *7*	25.3[a] *4*	1122.17	2+	536.03	2+	M1+E2	+3.75 *12*	Additional information 2. (586γ)(536γ)(θ): A_2=−0.24 *3*, A_4=+0.23 *6* (1988Ha28).
x634.4 *8*								
668.2@ *3*	10.2[a] *9*	1204.2	4+	536.03	2+			Additional information 3.
686.3 *4*	0.5[a] *3*	1808.5		1122.17	2+			
x750.3# *5*								
854.98 *23*	0.6[a] *4*	2059.2		1204.2	4+			
894.75 *24*	2.2[a] *4*	2017.24		1122.17	2+			
967.2 *6*	0.5[a] *3*	2171.4		1204.2	4+			
1053.6 *9*	0.24[a] *31*	1590.4		536.03	2+			
x1072.99 *14*								
1096.49 *12*	8.3[a] *13*	1632.53		536.03	2+			
1121.83 *16*	5.7[a&]	1122.17	2+	0.0	0+			
x1159.2 *8*								
1256.82 *22*	3.5[a] *9*	1792.9		536.03	2+			

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^{129}Xe(n,γ) E=th 1971Gr28,1988Ha28 (continued)

γ(^{130}Xe) (continued)

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π	Comments
1263.0 *3*	7.5[a] *4*	2385.2		1122.17	2^+	Additional information 4.
1482.1 *4*	4.7[a] *5*	2017.24		536.03	2^+	
1613.9 *6*	9.4[a] *9*	2149.9		536.03	2^+	
1947.9 *13*	2.5[a] *10*	3070.1		1122.17	2^+	
1965.5 *12*	1.9[a] *9*	2501.6		536.03	2^+	
2007.3 *14*	1.5[a] *7*	2543.4		536.03	2^+	
2763.7 *18*	2.3[a] *7*	2763.7		0.0	0^+	
4968 *2*	0.45[b]	(9255.8)	1^+	4287		
4992 *2*	0.12[b]	(9255.8)	1^+	4263		
5038 *2*	0.22[b]	(9255.8)	1^+	4217		
5046 *2*	0.22[b]	(9255.8)	1^+	4209		
5213 *2*	0.47[b]	(9255.8)	1^+	4042		
5247 *2*	0.15[b]	(9255.8)	1^+	4008		
5261 *2*	0.44[b]	(9255.8)	1^+	3994		
5368 *2*	0.21[b]	(9255.8)	1^+	3887		
5387 *2*	0.31[b]	(9255.8)	1^+	3868		
5419 *2*	0.33[b]	(9255.8)	1^+	3836		
5656 *2*	0.26[b]	(9255.8)	1^+	3599		
5716 *2*	0.65[b]	(9255.8)	1^+	3539		
5818 *2*	0.08[b]	(9255.8)	1^+	3437		
5870 *2*	0.11[b]	(9255.8)	1^+	3385		
5955 *2*	0.23[b]	(9255.8)	1^+	3300		
6067 *2*	0.40[b]	(9255.8)	1^+	3188		
6107 *2*	0.91[b]	(9255.8)	1^+	3148		
6183 *2*	0.85[b]	(9255.8)	1^+	3070.1		
6276 *2*	0.65[b]	(9255.8)	1^+	2979	1,2	
6305 *2*	0.10[b]	(9255.8)	1^+	2950		
6372 *2*	0.42[b]	(9255.8)	1^+	2883	1,2	
6529 *2*	0.25[b]	(9255.8)	1^+	2726		
6593 *2*	0.21[b]	(9255.8)	1^+	2662		
6620 *2*	0.26[b]	(9255.8)	1^+	2635		
6709 *2*	0.15[b]	(9255.8)	1^+	2543.4		
6869 *2*	0.18[b]	(9255.8)	1^+	2385.2		
7017 *2*	0.11[b]	(9255.8)	1^+	2238?		
7415 *2*	0.05[b]	(9255.8)	1^+	1840?		
7464 *2*	0.18[b]	(9255.8)	1^+	1792.9		
8133 *2*	0.20[b]	(9255.8)	1^+	1122.17	2^+	
8719 *2*	0.07[b]	(9255.8)	1^+	536.03	2^+	
9255 *2*	0.03[b]	(9255.8)	1^+	0.0	0^+	

[†] Primary transition energies are from 1971Gr28. The secondary Eγ′s are from 1988Ha28, unless otherwise stated. Many primary Eγ′s are listed by 1988Ha28, but no specific isotopic assignments are made for gammas observed from a natural Xe target.
[‡] Primary Iγ′s (from 1971Gr28) are per 100 n captures, whereas secondary Iγ′s are relative intensities.
[#] From 1971Gr28, Iγ=1.8.

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^{129}Xe(n,γ) E=th 1971Gr28,1988Ha28 (continued)

$\gamma(^{130}Xe)$ (continued)

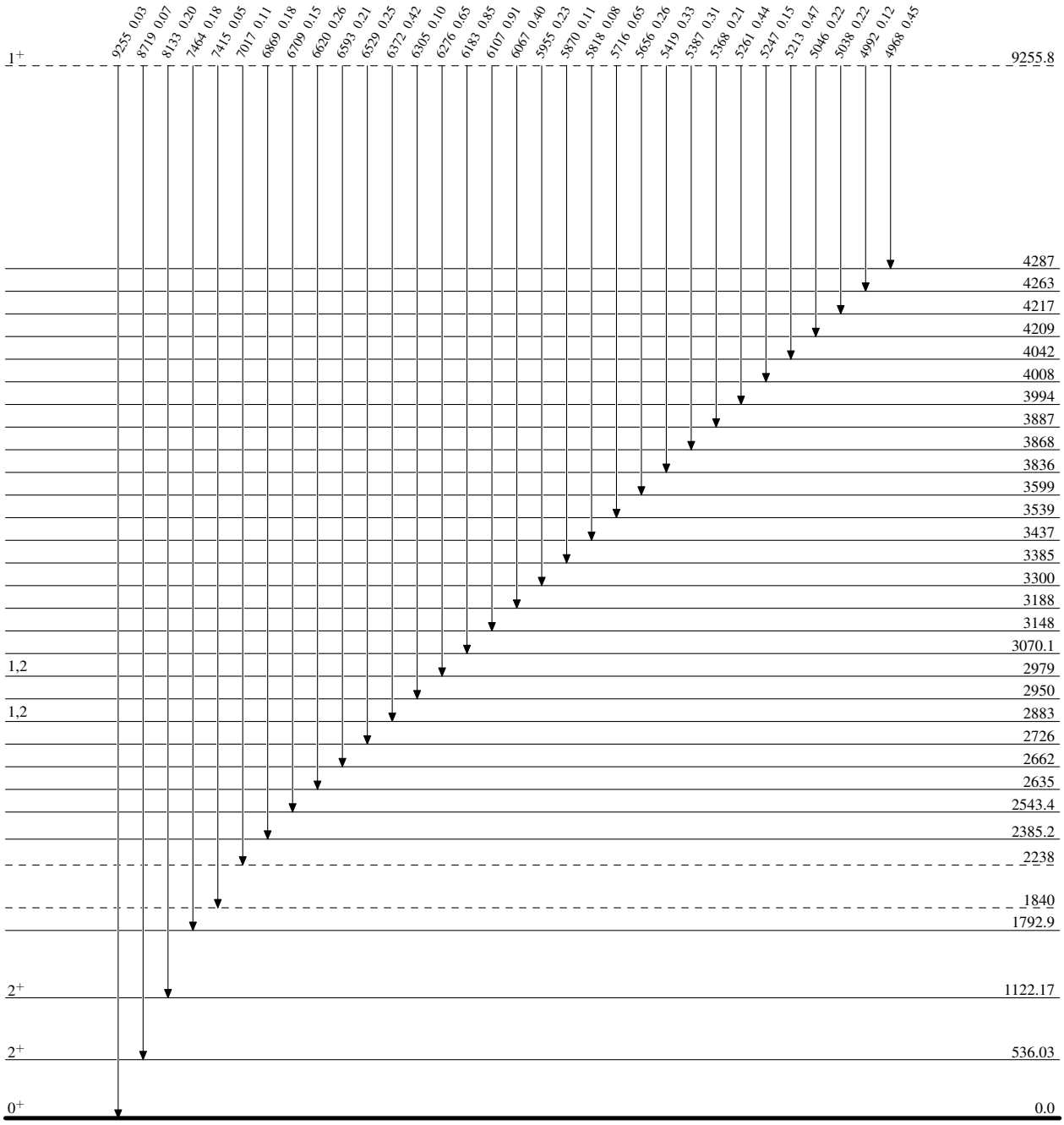
@ (668γ)(536γ)(θ): A_2=+0.08 *4*, A_4=+0.05 *4*; A_2=+0.097 *5*, A_4=−0.011 *6* (1988Ha28).
& From 1971Gr28. Iγ=10.8 *8* (1988Ha28) is too high as compared to branching ratio in several other datasets.
[a] Relative intensity from 1988Ha28.
[b] Per 100 n-captures (1971Gr28).
[x] γ ray not placed in level scheme.

^{129}Xe(n,γ) E=th 1971Gr28,1988Ha28

Level Scheme

Intensities: Per 100 N captures for primary γ's and relative intensity for secondary transitionsIntensity for secondary transitions

Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$

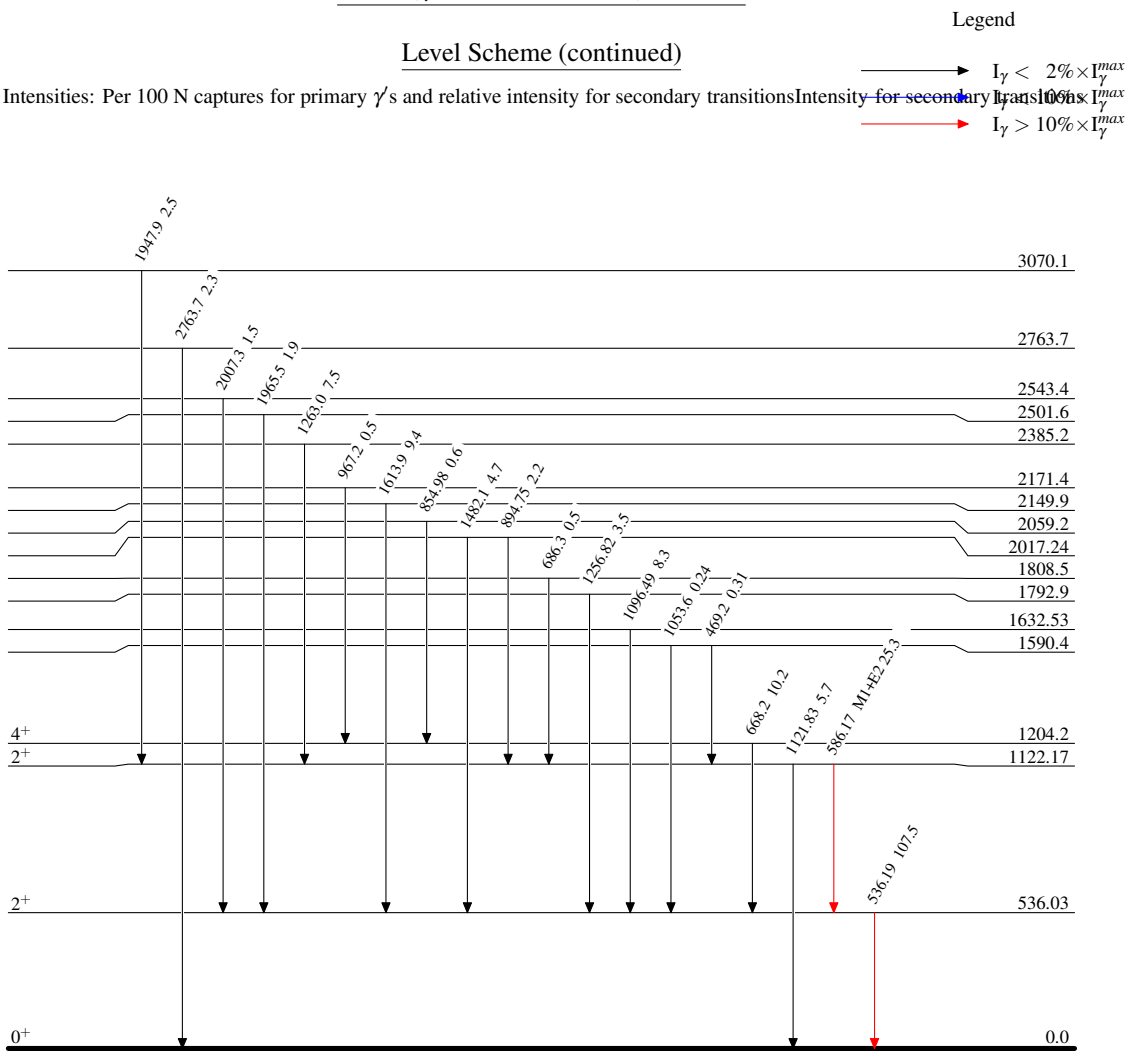


$^{130}_{54}Xe_{76}$

^{129}Xe(n,γ) E=th 1971Gr28,1988Ha28

Level Scheme (continued)

Intensities: Per 100 N captures for primary γ's and relative intensity for secondary transitionsIntensity for secondary transitions



$^{130}_{54}Xe_{76}$