

$^{136}\text{Xe}(\text{n},\gamma)$ E=thermal 1977Pr07

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 108,2173 (2007)		1-Oct-2006

Measured: G.

Level scheme is from 1977Pr07.

Other: 1977Fo02.

1991Be35: measured capture cross section.

 ^{137}Xe Levels

E(level)	$J^{\pi\dagger}$	E(level)	$J^{\pi\dagger}$	E(level)	$J^{\pi\dagger}$	E(level)	$J^{\pi\dagger}$
0.0	$7/2^-$	1461.28? 18	$(1/2,3/2)$	1936.45 11	$(3/2^-)$	2608.8? 5	
601.01 11	$3/2^-$	1668.15 14	$(1/2,3/2)$	2195.8 2	$(1/2^-,3/2)$	(4025.4 ‡ 3)	$1/2^+$
986.17 15	$(1/2)^-$	1715.48 19		2452.4 2	$1/2,3/2$		
1302.61 15	$5/2^-$	1841.51 11	$(3/2^-)$	2490.38 10	$(3/2^-)$		

 † Adopted values. ‡ n-capture state. $\gamma(^{137}\text{Xe})$

E_{γ}	$I_{\gamma}^{\dagger}$	$E_i(\text{level})$	J_i^{π}	E_f	J_f^{π}
268.35 15	2.1 2	1936.45	$(3/2^-)$	1668.15	$(1/2,3/2)$
385.16 10	30 3	986.17	$(1/2)^-$	601.01	$3/2^-$
538.93 10	9.9 10	1841.51	$(3/2^-)$	1302.61	$5/2^-$
601.01 11	100 10	601.01	$3/2^-$	0.0	$7/2^-$
681.97 15	0.97 11	1668.15	$(1/2,3/2)$	986.17	$(1/2)^-$
701.23 25	2.3 2	1302.61	$5/2^-$	601.01	$3/2^-$
860.27 14	1.3 5	1461.28?	$(1/2,3/2)$	601.01	$3/2^-$
x 884.17 ‡ 18	0.87 12				
893.23 $^{\#}$ 15	2.3 $^{\#}$ 2	2195.8	$(1/2^-,3/2)$	1302.61	$5/2^-$
893.23 $^{\#}$ 15	2.3 $^{\#}$ 2	2608.8?		1715.48	
950.18 13	3.5 4	1936.45	$(3/2^-)$	986.17	$(1/2)^-$
x 1050.51 20	1.4 3				
1067.14 14	1.9 2	1668.15	$(1/2,3/2)$	601.01	$3/2^-$
x 1108.06 38	0.59 18				
1114.35 27	0.27 6	1715.48		601.01	$3/2^-$
1187.55 19	1.1 2	2490.38	$(3/2^-)$	1302.61	$5/2^-$
1302.67 11	12 1	1302.61	$5/2^-$	0.0	$7/2^-$
1335.49 14	2.5 3	1936.45	$(3/2^-)$	601.01	$3/2^-$
1416.91 $^{\circ}$ 17	1.0 1	(4025.4)	$1/2^+$	2608.8?	
1466.23 20	0.90 13	2452.4	$1/2,3/2$	986.17	$(1/2)^-$
1504.30 15	1.9 2	2490.38	$(3/2^-)$	986.17	$(1/2)^-$
1535.09 12	6.7 7	(4025.4)	$1/2^+$	2490.38	$(3/2^-)$
1573.12 $^{\circ}$ 27	0.43 10	(4025.4)	$1/2^+$	2452.4	$1/2,3/2$
x 1673.00 17	≈ 0.8				
1715.57 26	0.59 12	1715.48		0.0	$7/2^-$
x 1720.54 20	0.92 15				
1829.44 $^{\circ}$ 15	1.5 2	(4025.4)	$1/2^+$	2195.8	$(1/2^-,3/2)$
1841.49 13	3.0 3	1841.51	$(3/2^-)$	0.0	$7/2^-$
1889.21 25	0.48 8	2490.38	$(3/2^-)$	601.01	$3/2^-$
x 1915.42 31	0.40 9				

Continued on next page (footnotes at end of table)

$^{136}\text{Xe}(\text{n},\gamma)$ E=thermal 1977Pr07 (continued) $\gamma(^{137}\text{Xe})$ (continued)

E_γ	$I_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π
2007.80 44	0.24 6	2608.8?		601.01	3/2 ⁻
2088.93 12	5.3 5	(4025.4)	1/2 ⁺	1936.45	(3/2 ⁻)
2183.88 10	12 1	(4025.4)	1/2 ⁺	1841.51	(3/2 ⁻)
2490.48 16	1.6 2	2490.38	(3/2 ⁻)	0.0	7/2 ⁻
^x 2522.88 32	0.56 9				
2564.64 @ 34	0.44 9	(4025.4)	1/2 ⁺	1461.28?	(1/2,3/2)
3039.37 11	15 2	(4025.4)	1/2 ⁺	986.17	(1/2 ⁻)
3424.55 11	46 5	(4025.4)	1/2 ⁺	601.01	3/2 ⁻

[†] Normalized to $I_\gamma(601\gamma)=100$.

[‡] May belong to ^{134}Xe .

Multiply placed with undivided intensity.

@ Placement of transition in the level scheme is uncertain.

^x γ ray not placed in level scheme.

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Level Scheme

Intensities: Type not specified
& Multiply placed: undivided intensity given

Legend

- $\longrightarrow$ $I_\gamma < 2\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma < 10\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma > 10\% \times I_\gamma^{\max}$
 $-\cdots-\cdots$ γ Decay (Uncertain)

