

$^{127}\text{I}(\alpha, n\gamma)$ 1991Sa25

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

E=14-20 MeV. Measured $E\gamma$, $I\gamma$, $\gamma\gamma$, excitation functions $\gamma(t)$ using four coaxial Ge detectors, pulsed-beam.

 ^{130}Cs Levels

E(level)	J^π [†]	Comments
0.0	1 ⁺	
80.34 7	2 ⁺	
131.44 8	2 ⁺	
148.20 10	(2 ⁻)	
163.2	5 ⁻	Additional information 1.
170.52 8		
253.91 10		
270.25 9		
278.80 10	6 ⁻	
314.57 10		
318.12 13		
375.60 15	7 ⁻	
432.18 13		
530.3 4		
535.0 4		
565.50 18	8 ⁻	
618.1 3	8 ⁻	
638.2 3		
688.40 20		
878.1 3	9 ⁻	
954.4 4		
962.2 4		
974.8 4		Additional information 2.
997.3 3	9 ⁻	
1050.4 4		
1126.5 4	(10) ⁺	
1172.1 4	10 ⁻	
1243.0 4		

[†] As proposed by 1991Sa25, based on $\gamma(\theta)$ and $\alpha(K)\text{exp}$ data in $^{124}\text{Sn}(^{10}\text{B}, 4n\gamma)$, $^{128}\text{Te}(^6\text{Li}, 4n\gamma)$.

 $\gamma(^{130}\text{Cs})$

E_γ	I_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ	I_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π
44.3 1	<5	314.57		270.25		148.2 1	31 3	148.20	(2 ⁻)	0.0	1 ⁺
51.1 1	21 2	131.44	2 ⁺	80.34	2 ⁺	151.7 1	6 1	1126.5	(10) ⁺	974.8	
60.6 1	<5	314.57		253.91		170.5 1	6 1	170.52		0.0	1 ⁺
80.3 1	100 10	80.34	2 ⁺	0.0	1 ⁺	173.5 1	18 3	253.91		80.34	2 ⁺
83.4 1		253.91		170.52		183.2 1	14 3	314.57		131.44	2 ⁺
90.2 1	<5	170.52		80.34	2 ⁺	189.9 [#] 1	31 [#] 3	270.25		80.34	2 ⁺
96.8 1	33 4	375.60	7 ⁻	278.80	6 ⁻	189.9 [#] 1	31 [#] 3	565.50	8 ⁻	375.60	7 ⁻
115.6 1	56 6	278.80	6 ⁻	163.2	5 ⁻	216.9 3	<5	535.0		318.12	
117.6 1	7 2	432.18		314.57		242.5 3	10 2	618.1	8 ⁻	375.60	7 ⁻
131.5 1	<5	131.44	2 ⁺	0.0	1 ⁺	256.3 3	<5	688.40		432.18	
138.8 1	9 2	270.25		131.44	2 ⁺	260.0 [#] 3	6 [#] 2	530.3		270.25	
147.6 1	<5	318.12		170.52		260.0 [#] 3	6 [#] 1	878.1	9 ⁻	618.1	8 ⁻

Continued on next page (footnotes at end of table)

$^{127}\text{I}(\alpha, n\gamma)$ **1991Sa25** (continued) $\gamma(^{130}\text{Cs})$ (continued)

E_γ	$I_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ	$I_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π
300.9 3	8 2	432.18		131.44	2 ⁺	522.2 3	<5	954.4		432.18	
312.6 3	<5	878.1	9 ⁻	565.50	8 ⁻	530.0 3	<5	962.2		432.18	
368.1 [‡] 3		638.2		270.25		554.6 3	<5	1243.0		688.40	
373.8 3	<5	688.40		314.57		606.6 3	<5	1172.1	10 ⁻	565.50	8 ⁻
379.2 3	<5	997.3	9 ⁻	618.1	8 ⁻	618.2 3	<5	1050.4		432.18	
409.3 3	8 2	974.8		565.50	8 ⁻	621.7 3	<5	997.3	9 ⁻	375.60	7 ⁻
418.1 3	4 1	688.40		270.25							

[†] At 17 MeV.[‡] From level-scheme figure of **1991Sa25**.

Multiply placed with undivided intensity.

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Level Scheme

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

Legend

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

