

$^{127}\text{I}(\mu^{-}, \nu n \gamma)$ 2007Me09

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

1971Ba10: μ^{-} from CERN synchrocyclotron, Ge(Li).

2007Me09: μ^{-} from TRIUMF cyclotron, HPGe.

 ^{126}Te Levels

E(level) [†]	J ^π [†]	Percent direct yield per muon capture (2007Me09)
0	0 ⁺	10 10
666.338	2 ⁺	4 3
1361.363	4 ⁺	7.1 25
1420.186	2 ⁺	4.3 7
1776.251	6 ⁺	2.7 11
1873.391	0 ⁺	1.0 3
2013.124	4 ⁺	3.0 6
2045.154	2 ⁺	1.6 8
2113.558	0 ⁺	<0.4
2128.392	3 ⁺	2.0 5
2181.492	1 ⁺	1.9 4
2184.308	2 ⁺	1.0 3
2218.085	5 ⁻	2.5 7
2309.132	4 ⁺	0.6 6
2385.810	3 ⁻	1.7 4
2396.43	6 ⁺	1.3 10
2421.132	2 ⁺	1.5 7
2479.79	3 ⁺ , 4 ⁺	0.7 4
2496.89	7 ⁻	0.4 2
2503.568	2 ⁺	1.0 5
2515.422	5 ⁻	0.7 4
2533.80	4 ⁺	0.8 4
2585.487	2 ⁺ , 3 ⁺	1.6 5
2661.39	3 ⁺ , 4 ⁺ , 5 ⁺	0.7 5
2766.11	8 ⁺	1.0 3
2803.02	3 ⁺ , 4 ⁺	1.1 3

[†] From Adopted Levels, gammas.

 $\gamma(^{126}\text{Te})$

E _γ [†]	I _γ [‡]	E _i (level)	J _i ^π	E _f	J _f ^π	Comments
297.25	0.6 3	2515.422	5 ⁻	2218.085	5 ⁻	
414.82	4.8 9	1776.251	6 ⁺	1361.363	4 ⁺	
620.16	0.5 5	2396.43	6 ⁺	1776.251	6 ⁺	
651.77	1.9 4	2013.124	4 ⁺	1361.363	4 ⁺	
666.337	42 3	666.338	2 ⁺	0	0 ⁺	I _γ : other: 53 5 (1971Ba10).
695.03	21 2	1361.363	4 ⁺	666.338	2 ⁺	I _γ : other: 20 3 (1971Ba10).
708.18	1.2 3	2128.392	3 ⁺	1420.186	2 ⁺	
720.64	0.4 2	2496.89	7 ⁻	1776.251	6 ⁺	
753.822	6.4 5	1420.186	2 ⁺	666.338	2 ⁺	I _γ : other: 7.4 15 (1971Ba10).
766.98	0.3 2	2128.392	3 ⁺	1361.363	4 ⁺	
856.80	3.1 6	2218.085	5 ⁻	1361.363	4 ⁺	
889.01	1.0 5	2309.132	4 ⁺	1420.186	2 ⁺	I _γ : probably contaminated.
947.78	0.5 5	2309.132	4 ⁺	1361.363	4 ⁺	

Continued on next page (footnotes at end of table)

$^{127}\text{I}(\mu^-, \nu n \gamma)$ **2007Me09** (continued) $\gamma(^{126}\text{Te})$ (continued)

$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π
989.81	1.0 3	2766.11	8 ⁺	1776.251	6 ⁺	1447.20	<0.4	2113.558	0 ⁺	666.338	2 ⁺
999.66 [#]	0.3 3	2421.132	2 ⁺	1420.186	2 ⁺	1462.03	0.3 3	2128.392	3 ⁺	666.338	2 ⁺
1035.06	0.8 5	2396.43	6 ⁺	1361.363	4 ⁺	1515.14	1.5 3	2181.492	1 ⁺	666.338	2 ⁺
1118.33	0.3 1	2479.79	3 ⁺ , 4 ⁺	1361.363	4 ⁺	1517.99	1.0 3	2184.308	2 ⁺	666.338	2 ⁺
1172.51	0.8 4	2533.80	4 ⁺	1361.363	4 ⁺	1719.50	1.6 4	2385.810	3 ⁻	666.338	2 ⁺
1207.03	1.0 3	1873.391	0 ⁺	666.338	2 ⁺	1754.83	1.1 5	2421.132	2 ⁺	666.338	2 ⁺
1299.98	0.6 4	2661.39	3 ⁺ , 4 ⁺ , 5 ⁺	1361.363	4 ⁺	1813.35	0.5 3	2479.79	3 ⁺ , 4 ⁺	666.338	2 ⁺
1346.79	1.2 4	2013.124	4 ⁺	666.338	2 ⁺	1837.14	0.8 4	2503.568	2 ⁺	666.338	2 ⁺
1378.76	0.5 5	2045.154	2 ⁺	666.338	2 ⁺	1919.09	1.4 4	2585.487	2 ⁺ , 3 ⁺	666.338	2 ⁺
1382.82	0.5 2	2803.02	3 ⁺ , 4 ⁺	1420.186	2 ⁺	2045.16	1.0 5	2045.154	2 ⁺	0	0 ⁺
1441.70	0.6 2	2803.02	3 ⁺ , 4 ⁺	1361.363	4 ⁺						

[†] From Adopted Levels, gammas.

[‡] From **2007Me09**. γ -ray yield per 100 μ^- captures.

[#] poor fit, level-energy difference=1000.95. No other data support the placement. The placement is uncertain (evaluators).

$^{127}\text{I}(\mu^-, \nu n\gamma)$ 2007Me09

Level Scheme

Intensities: Relative I_γ

Legend

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

