

Adopted Levels, Gammas

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

$Q(\beta^-)=8206$ 11; $S(n)=5468$ 5; $S(p)=11750$ 5; $Q(\alpha)=-9130$ 40 [2021Wa16](#)

 ^{126}In LevelsCross Reference (XREF) Flags

- A ^{126}Cd β^- decay
 B ^{126}In IT decay:26 μs
 C $^9\text{Be}(^{238}\text{U},\text{F}\gamma)$

E(level) [†]	J^π	$T_{1/2}$	XREF	Comments
0.0	$3^{(+)}$	1.53 s 1	AB	$\% \beta^- = 100$ $\mu = +4.028$ 11; $Q = +0.47$ 5 Configuration = $(\pi g_{9/2})(\nu d_{3/2})$ μ, Q : from collinear fast beam laser spectroscopy (1987Eb02 , 2019StZV , 2021StZZ). configuration: from comparison of μ and Q with proton and neutron orbits by coupling of moments (1987Eb02). $T_{1/2}$: from 1974Gr29 . Others: 1.60 s 10 (1986Go10), 1970OsZZ , 1979Fo10 . J^π : from laser spectroscopy and comparison of measured moments with configuration of proton and neutron orbits (1987Eb02).
90.7	(8^-)	1.64 s 5		$\% \beta^- = 100$ $\mu = +4.055$ 4; $Q = 0.651$ 11 μ, Q : from collinear fast beam laser spectroscopy (1987Eb02 , 2019StZV , 2021StZZ). E(level): from measured mass excesses of -77719.6 keV 50 for high spin state and -77809.5 keV 41 for low spin state (2018Ba08). Other: 102 keV 64 from difference in $Q(\beta^-)$ for high spin state and low spin state (1987Sp09). J^π : from systematics. $T_{1/2}$: from γ counting (1986Go10). Others: 1979Fo10 , 1970OsZZ . $T_{1/2}$: from ^{126}In IT Decay:26 μs . J^π : from systematics.
243.3 2	(1^-)	26 μs 4	B	$T_{1/2}$: from γ counting (1986Go10). Others: 1979Fo10 , 1970OsZZ . $T_{1/2}$: from ^{126}In IT Decay:26 μs . J^π : from systematics.
260.09 7			A	
308.1? 6			A	May be a beta decaying level.
555.40 9			A	
585.45 23			A	
625.61 16			A	
688.23 8	1^+		A	J^π : $\log ft = 4.0$ 1 from 0^+ .
0+x [‡]	(9^-) [#]		C	
202+x [‡]	(10^-) [#]		C	
1067+x [‡]	(11^-) [#]		C	B(M1)/B(E2)=0.0004 1 (2016Re03).
1325+x [‡]	(12^-) [#]		C	B(M1)/B(E2)=0.008 2 (2016Re03).

[†] Least-squares fit to γ -ray energies unless otherwise noted.

[‡] From $^9\text{Be}(^{238}\text{U},\text{F}\gamma)$ ([2016Re03](#)).

[#] From $^9\text{Be}(^{238}\text{U},\text{F}\gamma)$ ([2016Re03](#)) based on decay patterns, comparison to shell model calculations and systematics.

Adopted Levels, Gammas (continued)

$\gamma(^{126}\text{In})$								Comments
$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult.	$\alpha^{\text{@}}$	
243.3	(1 ⁻)	243.3 2	100	0.0	3 ⁽⁺⁾	[M2]	0.228	B(M2)(W.u.)=0.045 +8-6 E _γ : from ¹²⁶ In IT Decay:26 μs.
260.09		260.09 9	100	0.0	3 ⁽⁺⁾			
555.40		555.40 9	100	0.0	3 ⁽⁺⁾			
585.45		277.4 5	66 22	308.1?				
		325.3 4	66 33	260.09				
		585.6 5	100 33	0.0	3 ⁽⁺⁾			
625.61		365.82 20	100	260.09				
688.23	1 ⁺	62.93 20	1.9 4	625.61				
		102.8 3	1.4 5	585.45				
		428.11 6	100 3	260.09				
		688.23 10	7.0 5	0.0	3 ⁽⁺⁾			
202+x	(10 ⁻)	202 [‡]		0+x	(9 ⁻)	M1 [#]		
1067+x	(11 ⁻)	865 [‡]	100	202+x	(10 ⁻)	M1 [#]		
		1067 [‡]	37 10	0+x	(9 ⁻)	E2 [#]		I _γ : From B(M1)/B(E2).
1325+x	(12 ⁻)	258 [‡]	100	1067+x	(11 ⁻)	M1 [#]		
		1123 [‡]	90 30	202+x	(10 ⁻)	E2 [#]		I _γ : From B(M1)/B(E2).

[†] From ¹²⁶Cd β⁻ decay (1978Ga18) unless otherwise noted.

[‡] Deduced by the evaluators from level energies.

[#] From ⁹Be(²³⁸U,Fγ) (2016Re03).

[@] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

Adopted Levels, GammasLevel Scheme

Intensities: Relative photon branching from each level

