

¹²⁶Ag β⁻ decay (92 ms) 2014Ba18,2005Ka45

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

Parent: ¹²⁶Ag: E=0+y; J^π=(≥8); T_{1/2}=92 ms 9; Q(β⁻)=11540 SY; %β⁻ decay=100.0

¹²⁶Ag-Q(β⁻): 11540 200 (systematics,2021Wa16).

2014Ba18, 2012Ba62: ¹²⁶Ag produced in ²³⁸U(p,F) at beam energy of E(p)=50 MeV at hribf-ORNL. Measured E_γ, I_γ, γγ, e_γ, γ(t).

2005Ka45: ²³⁸U(p,F), ISOLDE-CERN, laser ion source, measured E_γ, I_γ, γγ.

2000Ka48,1998KaZM,1998KrZW: ²³⁸U(p,F), ISOLDE-CERN, laser ion source, measured γγ, βγ.

Decay scheme is that proposed by 2014Ba18.

¹²⁶Cd Levels

E(level) [‡]	J ^π [†]	T _{1/2}	Comments
0.0	0 ⁺	0.514 s 8	T _{1/2} : from Adopted Levels, gammas.
651.90 10	(2 ⁺)		
1466.80 23	(4 ⁺)		
1868.5 3	(5 ⁻)		
1951.0 4			J ^π : 2014Ba18 proposed spin-parity of (7 ⁻).
2120.5 4			J ^π : 2014Ba18 proposed spin-parity of (7 ⁻), while 2005Ka45 proposed 6 ⁻ ,7 ⁻ .
2244.5 4			J ^π : 2014Ba18 proposed spin-parity of (6 ⁺).
2584.1 5			
2605.5 5			
2611.0 5			
2628.8 6			
2666.4 5			
2695.3 5			
2730.2 6			
2757.5 5			
2777.8 5			
2844.4 6			
2930.3 6			
2976.5 6			
3181.5 7			
3232.7 5			
3361.0 6			
3755.2 6			

In table viii in 2014Ba18 the 3755 keV level belongs to the low spin decay, but in figure 12 and in table vii it belongs to the high spin decay. The designation in table viii seems to be misplaced.

[†] From Adopted Levels.

[‡] From a least-squares fit to E(γ's).

β⁻ radiations

E(decay)	E(level)	Iβ ⁻ ^{†‡}	E(decay)	E(level)	Iβ ⁻ ^{†‡}	E(decay)	E(level)	Iβ ⁻ ^{†‡}
(7784 SY)	3755.2	1.6 7	(8695 SY)	2844.4	4.1 16	(8911 SY)	2628.8	2.7 16
(8179 SY)	3361.0	2.7 13	(8762 SY)	2777.8	6 3	(8929 SY)	2611.0	3 4
(8307 SY)	3232.7	4.1 16	(8782 SY)	2757.5	6.8 23	(8934 SY)	2605.5	4.1 16
(8358 SY)	3181.5	2.7 16	(8809 SY)	2730.2	2.3 8	(8955 SY)	2584.1	5.0 18
(8563 SY)	2976.5	7 3	(8844 SY)	2695.3	5.4 19	(9295 SY)	2244.5	4.1 16
(8609 SY)	2930.3	4.5 20	(8873 SY)	2666.4	9 4	(9589 SY)	1951.0	27 9

Continued on next page (footnotes at end of table)

^{126}Ag β^- decay (92 ms) [2014Ba18,2005Ka45](#) (continued) β^- radiations (continued)

† From intensity balance at each level.

‡ Absolute intensity per 100 decays.

 $\gamma(^{126}\text{Cd})$ I γ normalization: Assuming no β feeding to g.s.

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
82.5 2	10.2 2	1951.0		1868.5	(5 ⁻)	737.0 3	0.9 2	2605.5		1868.5	(5 ⁻)
119.2 3	0.52 7	2730.2		2611.0		777.7 3	0.9 2	2244.5		1466.80	(4 ⁺)
169.5 3	4.0 5	2120.5		1951.0		814.9 2	22.1 6	1466.80	(4 ⁺)	651.90	(2 ⁺)
233.4 3	0.9 2	2844.4		2611.0		826.8 3	1.2 2	2695.3		1868.5	(5 ⁻)
251.9 3	2.8 2	2120.5		1868.5	(5 ⁻)	826.9 3	0.14 2	2777.8		1951.0	
401.7 2	20.5 6	1868.5	(5 ⁻)	1466.80	(4 ⁺)	856.0 4	1.6 4	2976.5		2120.5	
490.5 3	2.6 6	2611.0		2120.5		889.0 3	1.5 2	2757.5		1868.5	(5 ⁻)
545.9 3	2.0 4	2666.4		2120.5		1061.8 5	1.0 3	2930.3		1868.5	(5 ⁻)
570.5 5	0.6 3	3181.5		2611.0		1162.0 5	0.6 3	2628.8		1466.80	(4 ⁺)
651.9 1	22.1 7	651.90	(2 ⁺)	0.0	0 ⁺	1364.2 4	0.9 2	3232.7		1868.5	(5 ⁻)
657.1 4	1.2 4	2777.8		2120.5		1492.5 5	0.6 2	3361.0		1868.5	(5 ⁻)
715.6 3	1.1 2	2584.1		1868.5	(5 ⁻)	1886.7 5	0.35 10	3755.2		1868.5	(5 ⁻)

† From [2014Ba18](#).

‡ For absolute intensity per 100 decays, multiply by 4.52 12.

$^{126}\text{Ag} \beta^-$ decay (92 ms) 2014Ba18,2005Ka45

Decay Scheme

Intensities: I_γ per 100 parent decays

Legend

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

