

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. K. Tuli, E. Browne	NDS 157, 260 (2019)		1-Mar-2019

$Q(\beta^-)=7489$ 4; $S(n)=5643$ 5; $S(p)=11103$ 4; $Q(\alpha)=-8824$ 4 [2017Wa10](#)

 ^{82}As LevelsCross Reference (XREF) Flags

A ^{82}Ge β^- decay
B $^{82}\text{Se}(t, ^3\text{He})$

E(level)	J^π [†]	$T_{1/2}$	XREF	Comments
0	(2 ⁻)	19.1 s 5	A	$\% \beta^- = 100$ J^π : 2004Ga44 suggest 2 ⁻ , 5 ⁻ sequence for the two isomers. Previously adopted 1 ⁺ for g.s. is not supported by decay data (2014Mi16). 1092 γ from 1 ⁺ supports 2 ⁻ for g.s. 2014Mi16 . summarize shell-model calculations suggesting states with $J^\pi=2^-, 5^-, 4^-$. $T_{1/2}$: from 1975Kr08 . Others: 22.6 s <i>14</i> (1972De43), 19.0 s <i>15</i> (1970Va31). $\% \beta^- = 100$ J^π : from 2004Ga44 ; $\log ft=6.2$ to (4 ⁺); 5 ⁻ isomers in ^{82}Br , ^{80}Br , and ^{82}Rb . $T_{1/2}$: weighted average of 14.0 s 5 (1975Kr08), 13.7 s 8 (1970Ka04), and 13.0 s 6 (1970Va31).
131.6 5	(5 ⁻)	13.6 s 4	AB	
224.2 6	(4 ⁻)		A	
256 15			B	
346 15			B	
472 15			B	
516.63 16	(0 ⁻ , 1 ⁻ , 2 ⁻)		A	
553.46 24	(3 ⁻ , 4 ⁻)		A	
667 20			B	
671.6 6	(2 ⁻)		A	
691 20			B	
732 20			B	
832 25			B	
843.15 17	(1 ⁺)		A	E(level): probably unresolved multiplet.
950 20			B	
980.14 24	(2 ⁺)		A	
1044 25			B	
1092.05 15	1 ⁺		A	J^π : Allowed G-T from 0 ⁺ (2014Mi16).
1369.5 4	(0 ⁻ , 1)		A	
2044.12 20	(1 ⁺)		A	
2291.4 4	(1 ⁺)		A	
2420.8 6			A	
2443.0 4	(1 ⁺)		A	

[†] From [2015Et01](#) based on $\log ft$ and decay, unless otherwise stated.

Adopted Levels, Gammas (continued) $\gamma(^{82}\text{As})$

γ 's with questionable placement are not included here, see ^{82}Ge β^- decay.

$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	I_γ	E_f	J_f^π	Mult.	$\alpha^\ddagger$
224.2	(4 ⁻)	92.6 4	100	131.6	(5 ⁻)	[M1]	0.1110 2/
516.63	(0 ⁻ ,1 ⁻ ,2 ⁻)	516.5 2	100	0	(2 ⁻)		
553.46	(3 ⁻ ,4 ⁻)	329.3 3	100 20	224.2	(4 ⁻)		
		553.1 4	40 8	0	(2 ⁻)		
671.6	(2 ⁻)	447.4 3	100	224.2	(4 ⁻)		
843.15	(1 ⁺)	843.4 2	100	0	(2 ⁻)		
980.14	(2 ⁺)	426.6 2	100	553.46	(3 ⁻ ,4 ⁻)		
1092.05	1 ⁺	249.1 5	3.6 4	843.15	(1 ⁺)		
		420.4 5	0.27 9	671.6	(2 ⁻)		
		575.3 2	1.10 10	516.63	(0 ⁻ ,1 ⁻ ,2 ⁻)		
		1092.0 2	100 6	0	(2 ⁻)		
1369.5	(0 ⁻ ,1)	526.3 3	100	843.15	(1 ⁺)		
2044.12	(1 ⁺)	951.8 3	1.0×10 ² 3	1092.05	1 ⁺		
		1063.9 3	11 3	980.14	(2 ⁺)		
		1201.1 2	43 15	843.15	(1 ⁺)		
2291.4	(1 ⁺)	1199.1 6	1.0×10 ² 4	1092.05	1 ⁺		
		1311.3 3	68 14	980.14	(2 ⁺)		
2420.8		2196.6 2	100	224.2	(4 ⁻)		
2443.0	(1 ⁺)	1462.4 5	100 22	980.14	(2 ⁺)		
		1600.1 4	29 2	843.15	(1 ⁺)		

[†] From ^{82}Ge β^- decay.

[‡] 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

