

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli		NDS 111,1093 (2010)	3-Mar-2009

$Q(\beta^-) = -1.07 \times 10^4$ syst; $S(n) = 1.316 \times 10^4$ 9; $S(p) = 2836$ 6; $Q(\alpha) = -2464$ 6 [2012Wa38](#)
 Note: Current evaluation has used the following Q record -9781 SY12593 SY2.4E+3 7 -1927 syst [2003Au03,2009AuZZ](#).
 $\Delta Q(\beta^-)$: 742 syst, $\Delta S(n) = 744$ syst, $\Delta Q(\alpha) = 681$ syst from [2009AuZZ](#).
[2005Ha30,2002Sa38,2002Va21,2001Ju06](#): Calculated level energies.
[2006Ya17](#): production cross section in ⁸⁰Kr on a beryllium target, E=1.05 GeV/A.
[1988Bu12](#): ⁶⁶As produced from ⁵⁸Ni(¹⁰B,2n) at E(¹⁰B)=29.5 and 30.5 MeV; T_{1/2} from rapid-transport target system and β-ray range telescope.
[1978Al23](#): ⁶⁶As produced by ⁵⁸Ni(¹⁰B,2n) at E=30 MeV; T_{1/2} from chopped beam β⁺ counting.
[1976JaZP](#): also by ⁴⁰Ca(³²S,npα) and ⁵⁰Cr(¹⁹F,3n) reactions.
 Theory, calculations: [2008To03](#), [2007Ha48](#).

⁶⁶As Levels

Cross Reference (XREF) Flags

- A (HL,xnγ)
- B ⁴⁰Ca(²⁸Si,pnγ)

E(level)	J ^π †	T _{1/2}	XREF	Comments
0.0	[0 ⁺]	95.77 ms 23	A	%ε+%β ⁺ =100 T _{1/2} : weighted average of 95.77 ms 28 (1988Bu12) and 95.78 ms 39 (1978Al23). Others: 93 ms 5 (1976JaZP), 100 ms +70-50 (1993Wi18,1993Wi03), 100 ms +60-40 (1993Wi18 using the method of analysis of 1984Sc13), 97 ms 2 (2002B117,2002Lo13). J ^π : Expected from shell-model (2005Ha30).
837.07? 10	(1 ⁺)		A	
963.62? 23	(2 ⁺)		A	
1231.24 14	(3 ⁺)		A	
1356.63 17	(5 ⁺)	1.1 μs 1	A	T _{1/2} : from 2001Gr07 . T _{1/2} =1.9 μs 5 (1998Gr12) has been superseded.
1901.6? 3	(5 ⁺)		A	
2908.63 24	(7 ⁺)		A	
3023.8 3	(9 ⁺)	8.2 μs 5	AB	T _{1/2} : from 2001Gr07 . T _{1/2} =17.5 μs 15 (1998Gr12) has been superseded.
3863.8 11	(11 ⁺)		B	
5324.9 15	(13 ⁺)		B	
5810.9 15	(12)		B	
6532.9 18	(14)		B	
7794.9 21	(16)		B	
9792.9 23	(18)		B	

† From [2001Gr07](#) are tentative. J^π assignments are compared with those calculated using the shell-model and shape isomerism ([2005Ha30](#)).

Adopted Levels, Gammas (continued)

$\gamma({}^{66}\text{As})$						
$E_i(\text{level})$	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.
837.07?	(1 ⁺)	837.1 1	100	0.0	[0 ⁺]	
963.62?	(2 ⁺)	963.3 3	100	0.0	[0 ⁺]	
1231.24	(3 ⁺)	267.3 3	10 3	963.62?	(2 ⁺)	
		394.2 1	100 7	837.07?	(1 ⁺)	
1356.63	(5 ⁺)	125.4 1	100	1231.24	(3 ⁺)	(E2)
1901.6?	(5 ⁺)	670.3 3	100	1231.24	(3 ⁺)	
2908.63	(7 ⁺)	1007.0 3	40 8	1901.6?	(5 ⁺)	
		1552.0 2	100 9	1356.63	(5 ⁺)	
3023.8	(9 ⁺)	115.2 1	100	2908.63	(7 ⁺)	(E2)
3863.8	(11 ⁺)	840 1		3023.8	(9 ⁺)	
5324.9	(13 ⁺)	1461 1		3863.8	(11 ⁺)	
5810.9	(12)	1947 1		3863.8	(11 ⁺)	
6532.9	(14)	722 1		5810.9	(12)	
7794.9	(16)	1262 1		6532.9	(14)	
9792.9	(18)	1998 1		7794.9	(16)	

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Level Scheme

Intensities: Relative photon branching from each level

