^{82}Se(^{7}Li,p2nγ) 1993Wi10

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Alexandru Negret, Balraj Singh	NDS 124, 1 (2015)	30-Nov-2014

1993Wi10 (also 1992Wi12): E=32 MeV, $\gamma(\theta)$, proton-γ coin, $\gamma\gamma$ coin, and proton-$\gamma\gamma$ coin.
1989Wi01: E=30 MeV, σ(Eγ,θ), $\gamma\gamma$ coin, pγ coin. $T_{1/2}$ from γ(t).

^{86}Kr Levels

Possible configurations proposed based on comparison between experimental and calculated levels (1992Wi12).

E(level)	J^{π}[†]	$T_{1/2}$[‡]	Comments
0.0	0^+		
1564.81 *10*	2^+		
2250.12 *15*	4^+	3.1 ns *6*	Configuration=$(\pi f_{5/2})^{-1}\otimes(\pi p_{3/2})^{-1}$.
3816.4 *3*	(5^+)		Adopted $J^{\pi}=(5^+,6^+)$.
3935.3 *3*	(5^-)		
4064.23 *23*	(6^+)		Configuration=$[\pi(f^{-3}_{5/2}p^{-1}_{3/2}p^{+2}_{1/2})]_{0+}\otimes\ \nu(g^{-1}_{9/2}d^{1}_{5/2})$.
4430.6 *3*	(6^-)		Configuration=$\pi(g^{+1}_{9/2}f^{-1}_{5/2})+\ \pi(g^{+1}_{9/2}p^{-1}_{3/2})$.
4693.4 *3*	(7^-)		
4755.9 *3*	(7^+)		Configuration=$\nu(g^{-1}_{9/2}d^{+1}_{5/2})$.
5660.4 *4*	(8^+)		Configuration=$\pi(g_{9/2})^{+2}_{8+}$.
5669.2 *5*			
5814.6 *4*	(9^+)		
6085.3 *5*			
6248.1 *4*	(10)		
7128.2 *5*	(10)		
7459.6 *5*	(11)		
7876.5 *6*	(12)		

[†] As proposed by 1993Wi10, based on $\gamma(\theta)$ data.
[‡] From γ(t) (1989Wi01).

$\gamma(^{86}Kr)$

E_γ[†]	I_γ	E_i(level)	J^{π}_i	E_f	J^{π}_f	Mult.[‡]	α[#]	Comments
154.2 *3*	16.0	5814.6	(9^+)	5660.4	(8^+)	D		A_2=−0.19 *3*, A_4=−0.05 *5*.
247.8 *3*	13.0	4064.23	(6^+)	3816.4	(5^+)			A_2=+0.06 *11*, A_4=−0.03 *16*.
262.8 *3*	12.5	4693.4	(7^-)	4430.6	(6^-)	D		A_2=−0.36 *9*, A_4=−0.07 *13*.
325.3 *4*	4.0	4755.9	(7^+)	4430.6	(6^-)	D+Q		A_2=−0.50 *10*, A_4=+0.4 *2*.
331.4 *3*	16.0	7459.6	(11)	7128.2	(10)	D		A_2=−0.35 *3*, A_4=+0.01 *7*.
416.9 *3*	11.0	7876.5	(12)	7459.6	(11)			A_2=−0.61 *5*, A_4=−0.14 *8*. Negative A_4 is inconsistent with ΔJ=1 transition.
433.5 *2*	20.0	6248.1	(10)	5814.6	(9^+)	D		A_2=−0.11 *9*, A_4=+0.05 *13*.
495.3 *4*	7.5	4430.6	(6^-)	3935.3	(5^-)	D+Q		A_2=−0.14 *10*, A_4=+0.22 *15*.
614.2 *3*	18.0	4430.6	(6^-)	3816.4	(5^+)			A_2=−0.40 *6*, A_4=−0.12 *8*. Negative A_4 is inconsistent with ΔJ=1 transition.
629.3 *4*	9.5	4693.4	(7^-)	4064.23	(6^+)	D		A_2=−0.25 *10*, A_4=+0.01 *19*.
685.3 *1*	100	2250.12	4^+	1564.81	2^+	(E2)	0.001286 *18*	α=0.001286 *18*; α(K)=0.001140 *16*; α(L)=0.0001238 *18*; α(M)=2.00×10^{-5} *3*; α(N+..)=2.01×10^{-6} α(N)=2.01×10^{-6} *3* A_2=+0.30 *5*, A_4=−0.10 *8*.
691.6 *2*	20.0	4755.9	(7^+)	4064.23	(6^+)	D+Q		A_2=−0.33 *6*, A_4=+0.13 *8*.

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^{82}Se(^{7}Li,p2nγ) 1993Wi10 (continued)

$\gamma(^{86}Kr)$ (continued)

E_γ [†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	Comments
758.2 *4*	≈4.0	4693.4	(7$^-$)	3935.3	(5$^-$)		
880.0 *4*	≈5.0	7128.2	(10)	6248.1	(10)		
904.4 *4*	5.0	5660.4	(8$^+$)	4755.9	(7$^+$)	D+Q	A_2=−0.23 *13*, A_4=+0.27 *19*.
967.0 *4*	8.0	5660.4	(8$^+$)	4693.4	(7$^-$)	D	A_2=−0.5 *2*, A_4=0.0 *3*.
1058.7 *3*	10.0	5814.6	(9$^+$)	4755.9	(7$^+$)	Q	A_2=+0.29 *7*, A_4=−0.34 *11*.
1211.5 *4*	≈4.0	7459.6	(11)	6248.1	(10)		
1238.6 *4*	5.0	5669.2		4430.6	(6$^-$)		A_2=+0.5 *2*, A_4=−0.6 *2*.
1313.7 *4*	3.5	7128.2	(10)	5814.6	(9$^+$)	D	A_2=−0.19 *28*.
1391.8 *4*	4.0	6085.3		4693.4	(7$^-$)		A_2=+0.2 *2*, A_4=−0.2 *2*.
1564.8 *1*	110	1564.81	2$^+$	0.0	0$^+$	Q	A_2=+0.46 *9*, A_4=−0.07 *12* for 1564.8+1566.3.
1566.3 *4*	≈35	3816.4	(5$^+$)	2250.12	4$^+$		
1596.2 *4*	7.0	5660.4	(8$^+$)	4064.23	(6$^+$)	(Q)	A_2=+0.55 *15*, A_4=−0.24 *23*.
1685.1 *3*	12.5	3935.3	(5$^-$)	2250.12	4$^+$		A_2=−0.40 *10*, A_4=−0.21 *13*. Negative A_4 is inconsistent with a ΔJ=1 transition.
1814.1 *2*	34.0	4064.23	(6$^+$)	2250.12	4$^+$	(Q)	A_2=+0.23 *7*, A_4=−0.14 *9*. (contains some contribution from 1813γ in ^{85}Kr).

[†] Δ(Eγ) assigned (evaluator) based on a general statement by 1993Wi10 that these are between 0.1 and 0.4 keV.
[‡] From $\gamma(\theta)$ and RUL. Mult=Q is most likely E2.
[#] 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.

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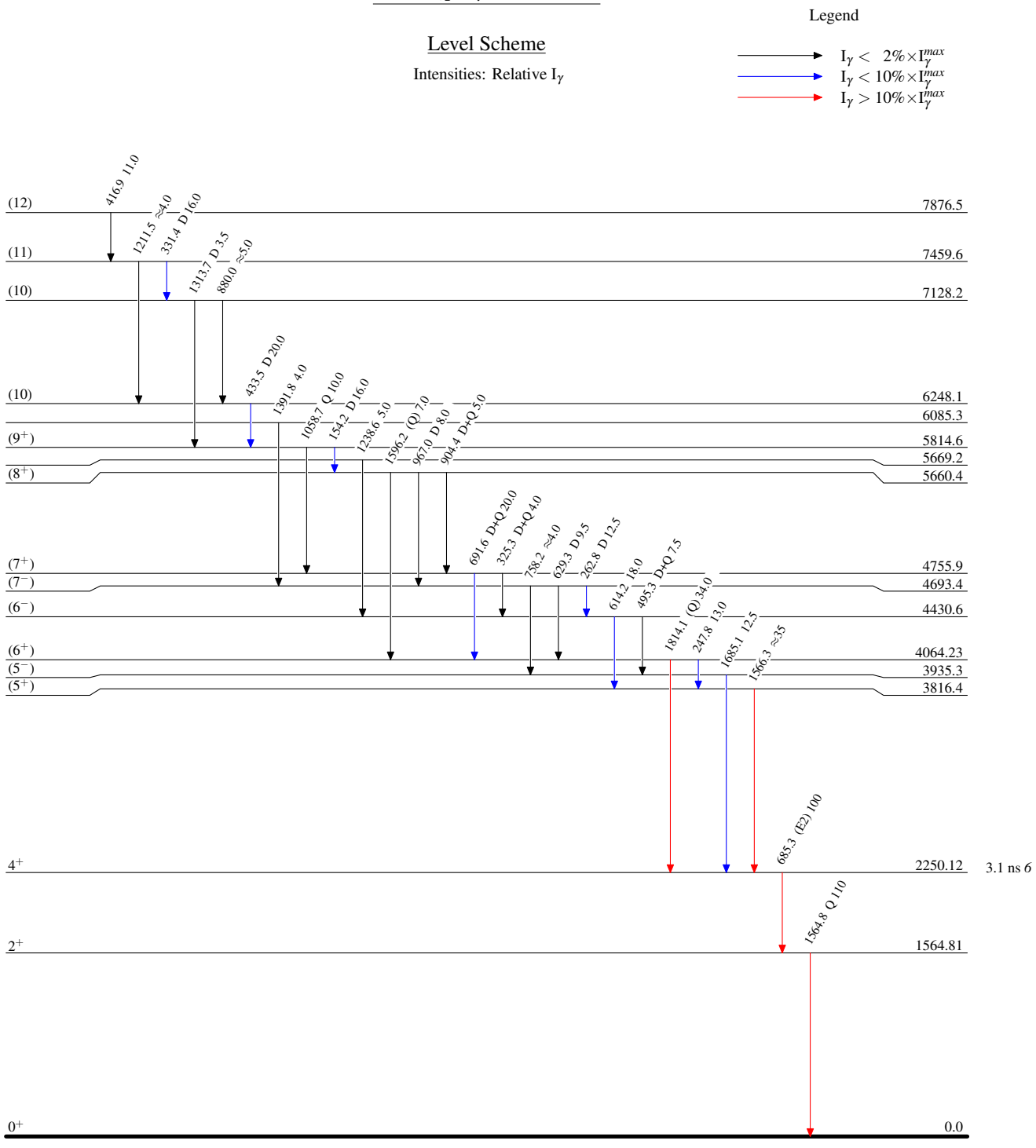
Level Scheme

Intensities: Relative I_γ



$^{86}_{36}Kr_{50}$