^{82}Se(^{7}Li,p3nγ)   1993Wi10

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 116, 1 (2014)	31-Dec-2013

Includes (α,nγ) reported in 1992Wi16 and 1989Wi01.

1993Wi10, 1992Wi16, 1989Wi01: E(^{82}Se)=32 MeV, E(α)=13-21 MeV. Measured Eγ, Iγ, p$\gamma(\theta)$, p$\gamma\gamma$ coin. Delayed coincidences measured for the microsecond isomer by 1989Wi01. Excitation functions from (α,nγ) at E=13-21 MeV are reported in 1992Wi16. Comparisons with shell-model calculations.

Some low-spin states (as reported in (α,nγ) dataset may have been seen by 1993Wi10 but are omitted by the authors.

^{85}Kr Levels

E(level)[†]	J$^{\pi}$[‡]	T$_{1/2}$	Comments
0.0	9/2^{+}		Configuration=νg$_{9/2}^{-1}$.
1611.6 1	11/2^{+}		
1931.6 1	13/2^{+}		
1991.8 2	17/2^{+}	1.2 μs $+10-4$	T$_{1/2}$: from pγ(t) (1989Wi01). From systematics and shell-model predictions, proposed configuration=νg$_{9/2}^{-1}\otimes\pi$(f$_{5/2}^{-1}$,p$_{3/2}^{-1}$) (1989Wi01).
3193.0 4	(15/2)		
3535.4[#] 2	(17/2^{-})		
3804.4[#] 3	(19/2^{-})		
4111.4[#] 3	(21/2^{-})		
4790.6[#] 4	(23/2^{-})		

[†] From least-squares fit to Eγ data.

[‡] As proposed by 1993Wi10 based on $\gamma(\theta)$ data for selected transitions and excitation functions (for 269γ, 307γ, 1544γ) from (α,nγ) in 1992Wi16.

[#] Band(A): γ sequence based on (17/2^{-}).

γ(^{85}Kr)

E$_{\gamma}$[†]	I$_{\gamma}$	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$	Mult.	α[#]	Comments
60.2 2	12	1991.8	17/2^{+}	1931.6	13/2^{+}	E2	5.94 11	α(K)=4.79 9; α(L)=0.98 2; α(M)=0.159 4; α(N)=0.0135 3 Additional information 1. Mult.: from α(exp)=7 $+3-2$ (1989Wi01,from an intensity balance in a delayed spectrum). I$_{\gamma}$: other: Iγ(60)/Iγ(1932)=12 2/97 5 (1989Wi01).
269.0 1	24	3804.4	(19/2^{-})	3535.4	(17/2^{-})	D+Q[‡]		A$_2$=−0.35 2; A$_4$=−0.18 4
307.0 1	27	4111.4	(21/2^{-})	3804.4	(19/2^{-})	D		A$_2$=−0.32 4; A$_4$=−0.05 7
319.9 4	2	1931.6	13/2^{+}	1611.6	11/2^{+}			
342.4 4	$\approx$1	3535.4	(17/2^{-})	3193.0	(15/2)			
679.2 2	8	4790.6	(23/2^{-})	4111.4	(21/2^{-})	D+Q[‡]		A$_2$=−0.16 8; A$_4$=−0.32 15
^{x}1075.8 4	2							
1261.3 4	$\approx$2	3193.0	(15/2)	1931.6	13/2^{+}			
1543.6 1	26	3535.4	(17/2^{-})	1991.8	17/2^{+}	D		A$_2$=+0.40 11; A$_4$=−0.05 21 Mult.: ΔJ=0 transition.
1611.6 1	23	1611.6	11/2^{+}	0.0	9/2^{+}	D		A$_2$=−0.28 7; A$_4$=−0.03 12
1812.6 2	13	3804.4	(19/2^{-})	1991.8	17/2^{+}			
1931.6 1	100	1931.6	13/2^{+}	0.0	9/2^{+}	(Q)		A$_2$=+0.25 7; A$_4$=−0.01 12 This transition is seen in the prompt γ spectrum thus it does not de-excite the isomer.

^{82}Se(^{7}Li,p3nγ)   **1993Wi10 (continued)**

γ(^{85}Kr) (continued)

† Uncertainties are quoted as 0.1 to 0.4 keV by 1993Wi10. The evaluators have assigned as follows: 0.1 keV for Iγ>20, 0.2 keV for Iγ=8-20 and 0.4 keV for Iγ<8.
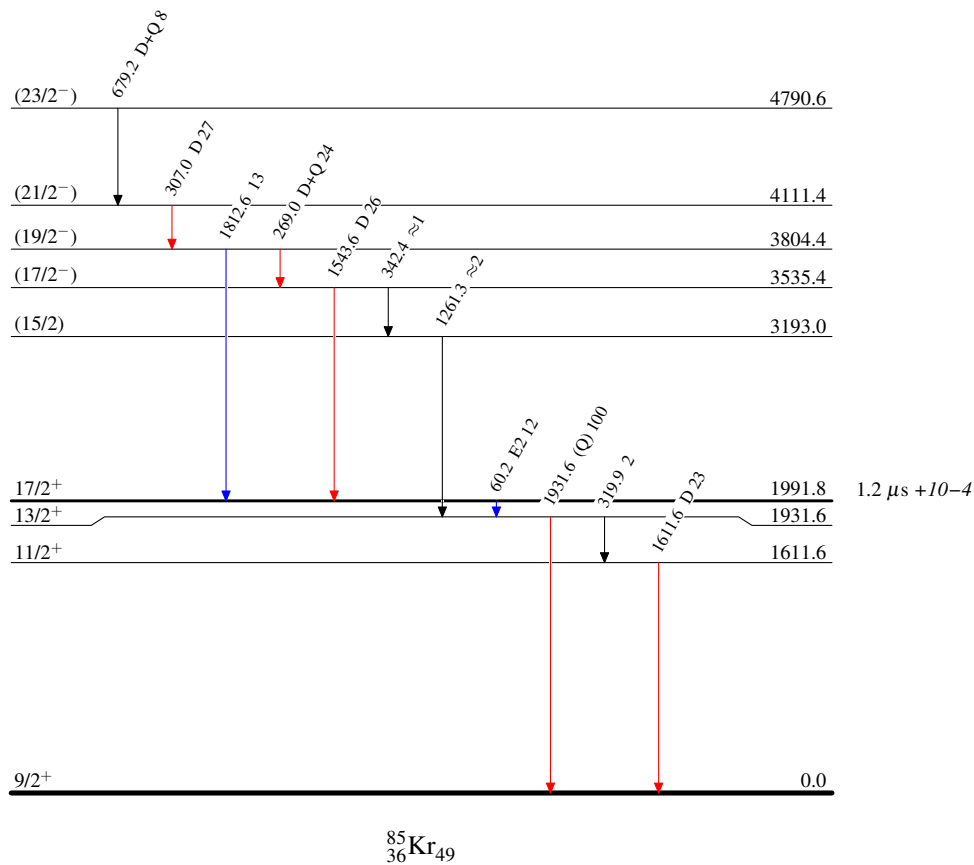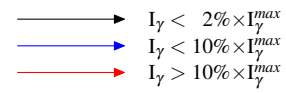
‡ Evaluators note that negative A$_4$ is inconsistent with ΔJ=1, D+Q transition.

\# 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.
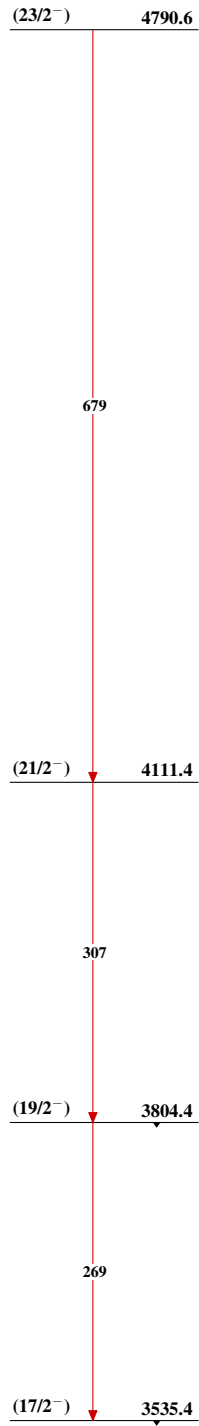
^{x} γ ray not placed in level scheme.

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Level Scheme

Intensities: Relative Iγ

$^{85}_{36}$Kr$_{49}$

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**Band(A): γ sequence
based on (17/2$^-$)**

(23/2$^-$)   4790.6

679

(21/2$^-$)   4111.4

307

(19/2$^-$)   3804.4

269

(17/2$^-$)   3535.4

$^{85}_{36}$Kr$_{49}$