Coulomb excitation 1973Bo24

History

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

1973Bo24: (^{35}Cl,^{35}Cl′γ), E=52-64 MeV, Ge(Li) detectors, measured γ spectra, excitation functions, and angular distribution, lifetimes.
1968An12: (^{12}C,^{12}C′γ),E=33.6 MeV.
1959Al04: (^{14}N,^{14}N′γ),E=16-26 MeV and (^{20}Ne,^{20}Ne′γ),E=23 MeV.
1956Fa29: (α,$\alpha'\gamma$), E=4-5 MeV.
1982Fa09: (α,$\alpha'\gamma$), E=3 MeV, measured lifetimes by DSA.
1988Ko08: (α,$\alpha'\gamma$), E=47 MeV, generalized centroid-shift method, measured lifetimes.

^{85}Rb Levels

E(level)	J$^\pi$[†]	T$_{1/2}$	Comments
0.0	5/2$^-$		
151.2	3/2$^-$	0.67 ns *7*	B(E2)↑=0.0035 *4* B(E2)↑: weighted average of 0.0037 *4* (1973Bo24), 0.0033 *4* (1959Al04), and 0.0034 *6* (1956Fa29). 1956Fa29 quote B(E2)/(1+α). T$_{1/2}$: weighted average of 0.70 ns *7* from 1969Sh12 (delayed coincidences) and 0.6 ns *1* from 1988Ko08 (generalized centroid-shift method).
281.0	1/2$^-$	40 ps *4*	B(E2)↑=0.0017 *2* (1982Fa09) J$^\pi$: from 450.8$\gamma(\theta)$. T$_{1/2}$: from 1982Fa09: (α,$\alpha'\gamma$), E=3 MeV, DSA.
731.8	3/2$^-$	4.4 ps *5*	B(E2)↑=0.0101 *10* (1973Bo24) J$^\pi$: from 450.8$\gamma(\theta)$. T$_{1/2}$: from DSA.
868.2	7/2$^-$	2.6 ps *4*	B(E2)↑=0.035 *4* J$^\pi$: $\gamma(\theta)$ rules out 1/2 and 9/2. B(E2) and T$_{1/2}$ allow 5/2 and 7/2. T$_{1/2}$: weighted average of 2.9 ps *4* (1973Bo24) and 2.1 ps *5* (1974Le34). Other: 1.6 ps *2* (1973ErZS). B(E2)↑: weighted average of 0.036 *4* (1973Bo24) and 0.033 *7* (1968An12).

[†] From Adopted Levels.

γ(^{85}Rb)

E$_\gamma$[†]	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.	δ	α[‡]	Comments
129.820 *12*	99.41 *9*	281.0	1/2$^-$	151.2	3/2$^-$				
151.186 *9*	100	151.2	3/2$^-$	0.0	5/2$^-$	M1+E2	0.072 *4*	0.0481 *7*	α(K)=0.0424 *6*; α(L)=0.00477 *7*; α(M)=0.000788 *12*; α(N)=8.89×10^{-5} *13*; α(O)=3.77×10^{-6} *6* Mult.,δ: from T$_{1/2}$ and B(E2).
281.01 *2*	0.59 *9*	281.0	1/2$^-$	0.0	5/2$^-$				I$_\gamma$: from B(E2)↑(281) and T$_{1/2}$ follows Iγ=0.59 *9*. This value is in accordance with that in Adopted Gammas but disagrees with 4.5 quoted by 1973Bo24.
450.85 *2*	39	731.8	3/2$^-$	281.0	1/2$^-$	M1+E2	−0.6 *3*	0.0035 *4*	α(K)= 0.0031 *3*; α(L)=0.00034 *4*; α(M)=5.6×10^{-5} *6*; α(N)=6.3×10^{-6} *6* δ: from measured γ angular distribution (1973Bo24).
731.812 *13*	61	731.8	3/2$^-$	0.0	5/2$^-$	M1+E2	0.64 *6*		δ: deduced from B(E2), T$_{1/2}$ and g.s. branching.
868.5 *4*	100	868.2	7/2$^-$	0.0	5/2$^-$	M1+E2	1.2 *+3−2*		Mult.: from B(E2) and T$_{1/2}$.

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Coulomb excitation 1973Bo24 (continued)

$\gamma(^{85}Rb)$ (continued)

† From Adopted Gammas.

‡ 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.