^{64}Zn(γ,γ') 1972Me14,1981Ca10

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 178, 41 (2021).	12-Nov-2021

1972Me14: E<4.9 MeV. Measured γ, $\gamma(\theta)$.
1981Ca10 (also 1977Ca14): E=0.5-1.65 MeV. Measured $\gamma(\theta)$, $T_{1/2}$(level).
Others:
2000Bo36: E=low, measured luminescence spectra, deduced isotope separation.
1971ImZY: E<2 MeV. Measured $T_{1/2}$(level).
1969Be71: E=primary γ rays from (n,γ).
1965Ta13: measured $T_{1/2}$(level).

^{64}Zn Levels

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$[&]	g(Γ_0^2/Γ) eV[@]	Comments
0	0^+			
991.54 *7*	2^+	2.06 ps *17*		E(level): from 1981Ca10 (probably taken from 1979 Nuclear Data Sheets (1979Ha35)). $T_{1/2}$: from 1981Ca10, 1977Ca14. Others: 2.16 ps *15* (1971ImZY), 2.8 ps *4* (1965Ta13).
3366 *2*	1^+	0.028 ps *5*	0.0133 *21*	
3425 *2*	1^+	0.044 ps *11*	0.0149 *35*	
3704 *2*	1[#]	0.025 ps *4*	0.054 *9*	
4159 *2*	1[#]	7.7 fs *22*	0.052 *15*	$T_{1/2}$: using γ-ray branching quoted by 1972Me14.
4455 *2*	1^+	3.2 fs *6*	0.153 *27*	
4664? *2*	(1)	41 fs *12*	0.033 *12*	$T_{1/2}$: assuming 100% branching for 4664γ.
7380				E(level): level reported by 1969Be71 only. Γ(g.s.)=0.58 eV *12* (1969Be71).

[†] From 1972Me14, unless otherwise noted.
[‡] From the Adopted Levels, unless otherwise stated.
[#] From $\gamma(\theta)$ (1972Me14).
[@] Deduced from data given in 1972Me14. g=(2J(excited)+1)/(2J(g.s.)+1).
[&] For levels above 992, deduced from Γ(g.s.)$^2/\Gamma$(total) (1972Me14) and γ-ray branching ratios from the Adopted Gammas.

$\gamma(^{64}Zn)$

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π
3366	1^+	3366		0	0^+
3425	1^+	3425		0	0^+
3704	1	3704		0	0^+
4159	1	3168	46	991.54	2^+
		4159	54	0	0^+
4455	1^+	4455		0	0^+
4664?	(1)	4664		0	0^+

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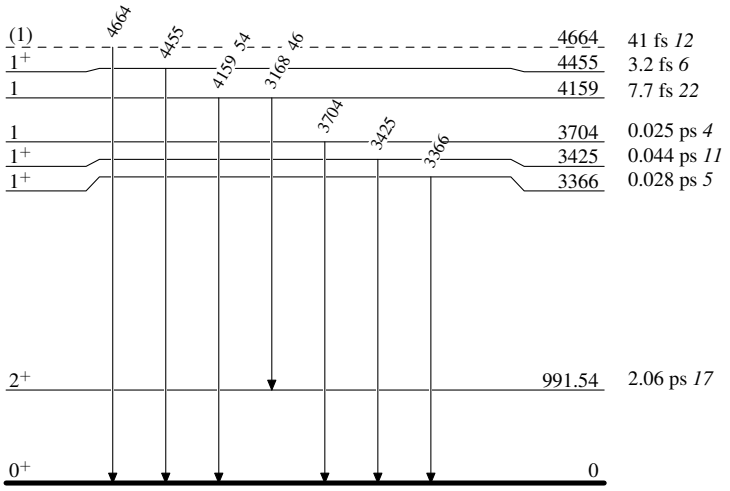
Level Scheme

Intensities: % photon branching from each level



$^{64}_{30}Zn_{34}$