^{68}Zn(γ,γ')

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan	NDS 113, 1735 (2012)	1-Mar-2012

1983Mo06: Eγ=7.362 MeV from (n,γ) in Cr. Measured Eγ, Iγ, $\gamma(\theta)$, polarization with a Compton polarimeter.
1981Ca10: bremsstrahlung x ray photons. Measured $\gamma(\theta)$ and yields, deduced $T_{1/2}$.
1977Ca14: electron bremsstrahlung. Measured $T_{1/2}$ with nuclear resonance fluorescence.
1972ArZD: nuclear resonance scattering of bremsstrahlung. Measured transition strengths and yields.
1972Me14: electron bremsstrahlung. Measured $\gamma(\theta)$ and yields.

^{68}Zn Levels

E(level)†	J$^\pi$‡	$T_{1/2}$	Comments
0	0^+		
1077	2^+	1.88 ps *16*	E(level): from Adopted Levels. $T_{1/2}$: from Γ in 1981Ca10. Value apparently supersedes the authors' earlier value in 1977Ca14. Others: 1.41 ps *+18−16* from Γ (1972ArZD), 1.9 ps *1* (1977Ca14).
1656	0^+		
2822	2^+		
3346 *2*	1^+	6.1 fs *16*	J$^\pi$: 1 from $\gamma(\theta)$ (1972Me14). $T_{1/2}$: calculated by evaluator using adopted value of Γ_o/Γ=0.62 *6*.
3717 *2*	$1,2^+$		J$^\pi$: (1) from $\gamma(\theta)$ (1972Me14). $T_{1/2}$: adopted value of Γ_o/Γ=0.63 *4* gives $T_{1/2}$=22 fs *+8−5* for J=1 and 35 fs *+11−6* for J=2.
4339 *2*	(1)	12.0 fs *+43−25*	J$^\pi$: (1) from $\gamma(\theta)$ (1972Me14). $T_{1/2}$: calculated by evaluator assuming Γ_o/Γ=1.0.
4466 *2*	1^-	7.0 fs *+29−16*	J$^\pi$: 1 from $\gamma(\theta)$ (1972Me14). $T_{1/2}$: calculated by evaluator assuming Γ_o/Γ=1.0.
4503 *2*	(1)		J$^\pi$: (1) from $\gamma(\theta)$ (1972Me14). $T_{1/2}$: adopted value of Γ_o/Γ>0.29 gives 1 fs <$T_{1/2}$<12 fs.
7362	1^-	0.24 fs *1*	J$^\pi$: 1^- from $\gamma(\theta)$ and polarization data (1983Mo06). $T_{1/2}$: from Γ measurement of 1983Mo06.

† Levels above 3 MeV tentatively assigned to ^{68}Zn by comparison of (γ,γ') yields from natural and enriched targets (1972Me14) are confirmed by ^{68}Zn(n,n'γ) data.
‡ From the Adopted Levels. Supporting arguments from this data set are indicated.

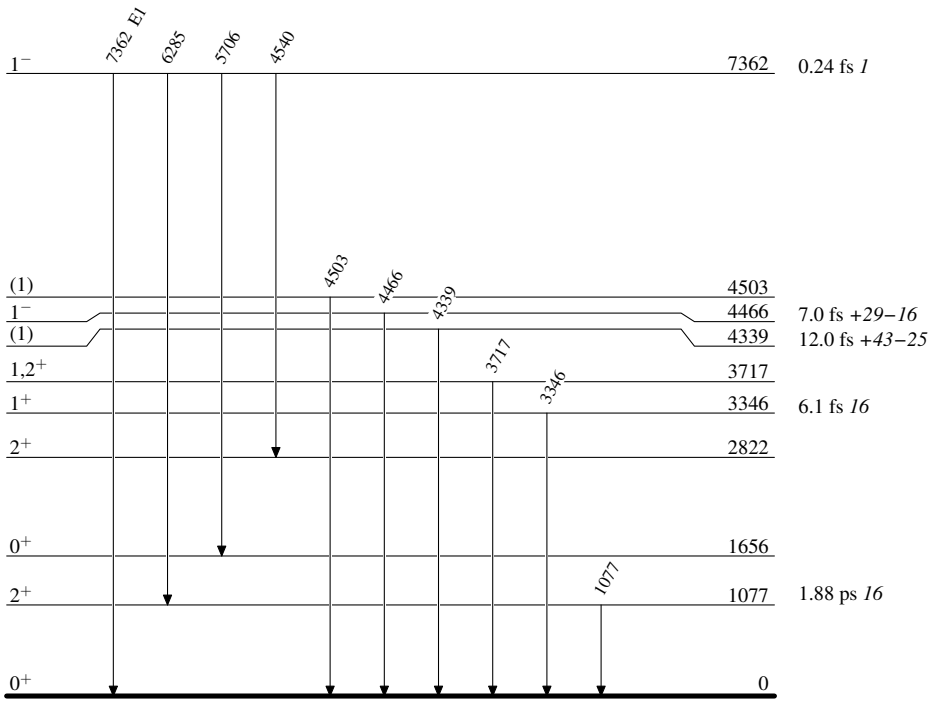
$\gamma(^{68}$Zn)

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.	Comments
1077†	1077	2^+	0	0^+		Γ_o^2/Γ=0.32×10^{-3} eV *4* (1972ArZD).
3346† *2*	3346	1^+	0	0^+		Γ_o^2/Γ=0.029 eV *5* (1972Me14).
3717† *2*	3717	$1,2^+$	0	0^+		(2J+1)Γ_o^2/Γ=0.026 eV *7* (1972Me14).
4339† *2*	4339	(1)	0	0^+		Γ_o^2/Γ=0.038 eV *10* (1972Me14).
4466† *2*	4466	1^-	0	0^+		Γ_o^2/Γ=0.065 eV *19* (1972Me14).
4503† *2*	4503	(1)	0	0^+		Γ_o^2/Γ=0.038 eV *13* (1972Me14).
4540	7362	1^-	2822	2^+		
5706	7362	1^-	1656	0^+		
6285	7362	1^-	1077	2^+		
7362	7362	1^-	0	0^+	E1	Γ_o/Γ = 0.85; Γ=1.90 eV *10* (1983Mo06). Mult.: from $\gamma(\theta)$ (lin pol) (1983Mo06).

† Assignment based on previously observed level energies.

^{68}Zn(γ,γ′)

Level Scheme



$^{68}_{30}Zn_{38}$