^{160}Gd(^{9}Be,7nγ) 2012Sw01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 195,1 (2024)	19-Sep-2023

2012Sw01 compiled for XUNDL database by M. Birch, E. Thiagalingam and B. Singh (McMaster).
2012Sw01: ^{9}Be beam at 57 MeV, >95%−enriched ^{160}Gd target, 4.36 mg/cm^2. Gamma rays detected by CAESAR array consisting of six HPGe detectors, and three larger HPGe detectors, all Compton suppressed. Measured Eγ, Iγ, $\gamma\gamma$-coin, lifetime of isomer by γ(t). Deduced levels, J, π, configurations, reduced transition probabilities.
All data are from 2012Sw01.

^{162}Er Levels

E(level)[†#]	J$^\pi$	T$_{1/2}$	Comments
0.0[‡]	0$^+$		
102.1[‡] *3*	2$^+$		
329.7[‡] *5*	4$^+$		
667.0[‡] *6*	6$^+$		
1096.9[‡] *6*	8$^+$		
2026.7 *6*	7$^{(-)}$	88 ns *16*	T$_{1/2}$: from 1359.6γ(t) (2012Sw01). configuration=π7/2[523]⊗π7/2[404] (BCS calculations).

[†] From Eγ data, assuming 0.3 keV uncertainty when not stated.
[‡] Band(A): Ground State Band.
[#] If ΔEγ not given, ±0.30 keV assumed for least-squares fitting.

γ(^{162}Er)

E$_i$(level)	J$_i^\pi$	E$_\gamma$	I$_\gamma$	E$_f$	J$_f^\pi$	Mult.	α[†]	Comments
102.1	2$^+$	102.1	100	0.0	0$^+$			
329.7	4$^+$	227.6	100	102.1	2$^+$			
667.0	6$^+$	337.3	100	329.7	4$^+$			
1096.9	8$^+$	430.1	100	667.0	6$^+$			
2026.7	7$^{(-)}$	930.1 *4*	31 *4*	1096.9	8$^+$	[E1]	0.00157	B(E1)(W.u.)=7.7×10^{-10} *18* Γ_γ=1.2×10^{-6} eV *3*. Hindrance factor f$_\nu$=33.1 *13*, ν=6.
		1359.6 *2*	100 *7*	667.0	6$^+$	[E1]	0.00089	B(E1)(W.u.)=7.7×10^{-10} *18* Γ_γ=4.0×10^{-6} eV *8*. Hindrance factor f$_\nu$=32.9 *12*, ν=6.

[†] 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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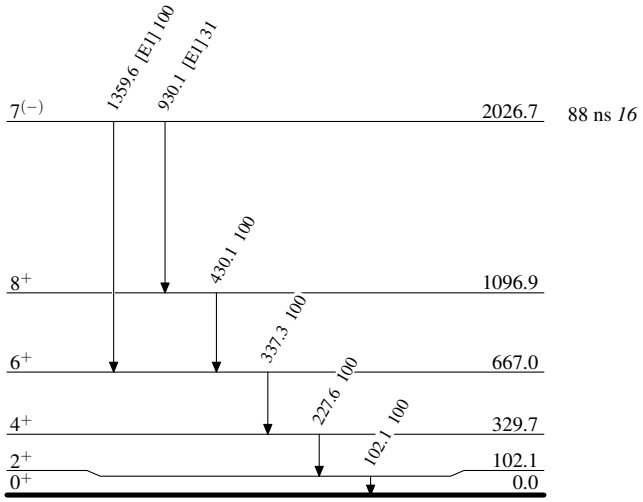
Level Scheme

Intensities: Relative photon branching from each level



$^{162}_{68}Er_{94}$

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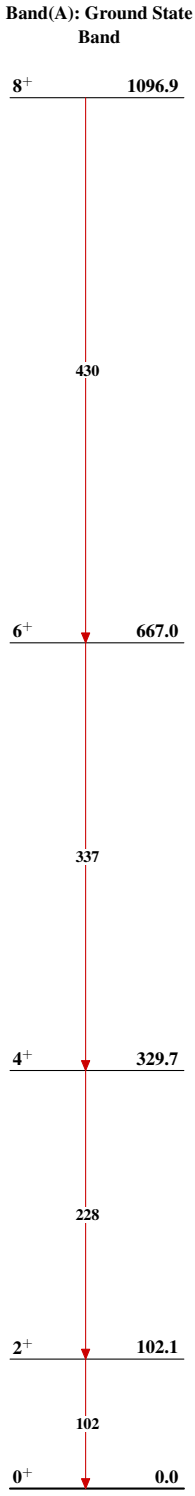

$^{162}_{68}Er_{94}$