

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 108,2035 (2007)	30-Mar-2007

$Q(\beta^-)=6095$ 10; $S(n)=5980$ 14; $S(p)=14561$ 15; $Q(\alpha)=-8325$ 14 [2012Wa38](#)
 Note: Current evaluation has used the following Q record 5880 SY6040 SY14690 syst-8550 syst [2003Au03](#).

 ^{104}Zr LevelsCross Reference (XREF) Flags

A ^{248}Cm SF decay
B ^{252}Cf SF decay
C $^{238}\text{U}(\alpha, F\gamma)$

E(level)	J^π [†]	$T_{1/2}$	XREF	Comments
0.0 [‡]	0 ⁺	1.2 s 3	ABC	$\% \beta^- = 100$ $T_{1/2}$: from β -decay (1980ScZZ).
139.3 [‡] 3	(2 ⁺)	2.0 ns 3	ABC	$T_{1/2}$: From 2006Hu06 , $B(E2)=0.40$ 6, $\beta_2=0.47$ 7.
452.1 [‡] 4	(4 ⁺)		ABC	
925.8 [‡] 5	(6 ⁺)		ABC	
1550.2 [‡] 6	(8 ⁺)		A C	
2315.3 [‡] 6	(10 ⁺)		C	
3209.7 [‡] 7	(12 ⁺)		C	
4223.9 [‡] 8	(14 ⁺)		C	

[†] From syst and band consideration.

[‡] Band(A): g.s. band.

 $\gamma(^{104}\text{Zr})$

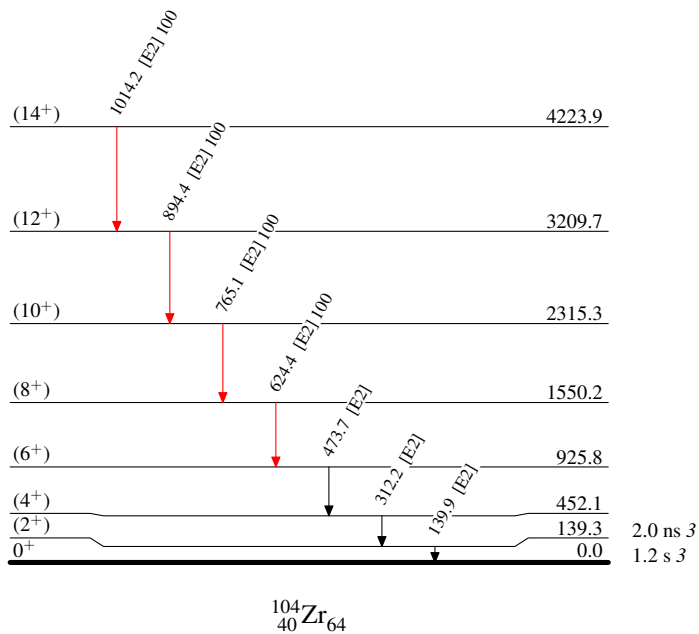
$E_i(\text{level})$	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	Comments
139.3	(2 ⁺)	139.9 3		0.0	0 ⁺	[E2]	$B(E2)(\text{W.u.})=1.8 \times 10^2$ 3
452.1	(4 ⁺)	312.2 3		139.3	(2 ⁺)	[E2]	
925.8	(6 ⁺)	473.7 3		452.1	(4 ⁺)	[E2]	
1550.2	(8 ⁺)	624.4 3	100	925.8	(6 ⁺)	[E2]	
2315.3	(10 ⁺)	765.1 3	100	1550.2	(8 ⁺)	[E2]	
3209.7	(12 ⁺)	894.4 3	100	2315.3	(10 ⁺)	[E2]	
4223.9	(14 ⁺)	1014.2 3	100	3209.7	(12 ⁺)	[E2]	

Adopted Levels, Gammas**Level Scheme**

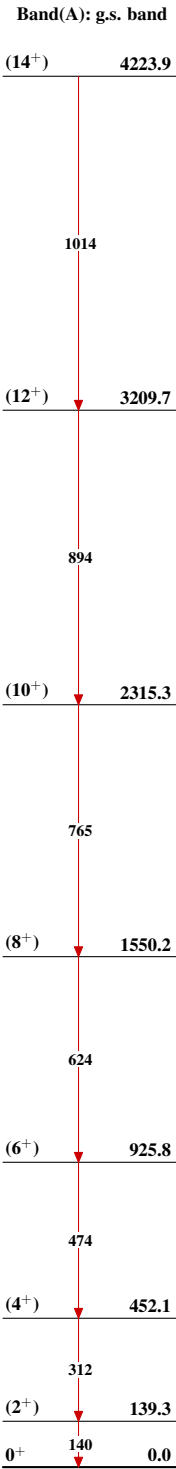
Intensities: Type not specified

Legend

- $I_\gamma < 2\% \times I_\gamma^{\max}$
- $I_\gamma < 10\% \times I_\gamma^{\max}$
- $I_\gamma > 10\% \times I_\gamma^{\max}$



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$^{104}_{40}\text{Zr}_{64}$