^{164}Er(γ,γ') 1996Ma18

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen[#]	NDS 147, 1 (2018)	30-Nov-2017

E(γ)=3.55 to 4.1 MeV bremsstrahlung radiation. Measured Eγ, Iγ, scattering cross sections.

^{164}Er Levels

E(level)	J$^\pi$[†]	Γ_0	S[‡]	Comments
0	0$^+$			
91	2$^+$			E(level): rounded value from Adopted Levels. J$^\pi$: from Adopted Levels.
1387	1$^{(-)}$	0.0217 eV *35*	47.1 *46*	B(E1)↑=23.3×10^{-5} *38*
1875	1$^{(-)}$	0.0195 eV *41*	19.4 *29*	B(E1)↑=8.5×10^{-5} *18*
2035	1	0.0056 eV *14*	15.5 *18*	B(M1)↑=0.172 *43*; B(E1)↑=1.90×10^{-5} *48*
2404	1$^{(-)}$	0.0079 eV *32*	6.5 *16*	B(E1)↑=1.63×10^{-5} *66*
2416	1$^{(+)}$	0.0087 eV *25*	10.3 *14*	B(M1)↑=0.160 *46*
2577	1	0.0135 eV *32*	10.7 *13*	B(E1)↑=2.26×10^{-5} *54*
2640	1$^{(+)}$	0.0323 eV *36*	33.8 *21*	B(M1)↑=0.455 *51*
2747	1$^{(+)}$	0.0076 eV *35*	8.4 *11*	B(M1)↑=0.095 *44*
2762	1$^{(+)}$	0.0135 eV *34*	11.6 *13*	B(M1)↑=0.166 *42*
2933	1	0.0154 eV *40*	9.9 *14*	B(E1)↑=1.75×10^{-5} *45*
2966	1$^{(-)}$	0.0168 eV *46*	8.4 *19*	B(E1)↑=1.85×10^{-5} *51*
3018	1	0.0050 eV *15*	6.3 *13*	B(M1)↑=0.047 *14*; B(E1)↑=0.52×10^{-5} *16*
3133	1$^{(+)}$	0.0133 eV *47*	11.2 *14*	B(M1)↑=0.112 *40*
3179	1$^{(+)}$	0.0323 eV *95*	27.5 *22*	B(M1)↑=0.261 *77*
3220	1$^{(-)}$	0.0267 eV *59*	13.0 *14*	B(E1)↑=2.29×10^{-5} *51*
3458	1$^{(-)}$	0.0166 eV *88*	4.6 *14*	B(E1)↑=1.15×10^{-5} *61*
3541	1,2	0.0239 eV *68*	22.0 *40*	B(M1)↑=0.140 *40*; B(E1)↑=1.54×10^{-5} *44* Γ_0: the inelastic line could not be evaluated; $T_{1/2}$ calculated assuming J=1.
3551	1$^{(+)}$	0.0137 eV *63*	8.4 *14*	B(M1)↑=0.079 *36*
3602	1$^{(+)}$	0.0216 eV *81*	13.7 *20*	B(M1)↑=0.120 *45*
3752	1	0.0088 eV *28*	7.2 *16*	B(M1)↑=0.043 *14*; B(E1)↑=0.48×10^{-5} *15*
3944	1	0.0209 eV *75*	15.5 *43*	B(M1)↑=0.088 *32*; B(E1)↑=0.98×10^{-5} *35*

[†] From predominantly dipole excitation from ^{164}Er g.s. Parities are as proposed by 1996Ma18.
[‡] Integrated cross section in eVb.

$\gamma(^{164}Er)$

Reduced branching ratio= (Iγ/Eγ^3 for γ to first 2$^+$ state)/(Iγ/Eγ^3 for γ to g.s.).

E$_i$(level)	J$_i^\pi$	E$_\gamma$	I$_\gamma$[†]	E$_f$	J$_f^\pi$	Comments
91	2$^+$	91[‡]		0	0$^+$	
1387	1$^{(-)}$	1296	266 *32*	91	2$^+$	
		1387	100	0	0$^+$	Additional information 1.
1875	1$^{(-)}$	1784	309 *42*	91	2$^+$	
		1875	100	0	0$^+$	Additional information 2.
2035	1	2035		0	0$^+$	
2404	1$^{(-)}$	2313	183 *53*	91	2$^+$	
		2404	100	0	0$^+$	Additional information 3.

Continued on next page (footnotes at end of table)

^{164}Er(γ,γ') 1996Ma18 (continued)

$\gamma(^{164}Er)$ (continued)

E_i(level)	J_i^π	E_γ	I_γ [†]	E_f	J_f^π	Comments
2416	$1^{(+)}$	2325	83 *20*	91	2^+	
		2416	100	0	0^+	Additional information 4.
2577	1	2486	148 *28*	91	2^+	
		2577	100	0	0^+	Additional information 5.
2640	$1^{(+)}$	2549	71 *7*	91	2^+	
		2640	100	0	0^+	Additional information 6.
2747	$1^{(+)}$	2656	46 *20*	91	2^+	
		2747	100	0	0^+	Additional information 7.
2762	$1^{(+)}$	2671	93 *20*	91	2^+	
		2762	100	0	0^+	Additional information 8.
2933	1	2842	132 *26*	91	2^+	
		2933	100	0	0^+	Additional information 9.
2966	$1^{(-)}$	2875	194 *35*	91	2^+	
		2966	100	0	0^+	Additional information 10.
3018	1	3018		0	0^+	
3133	$1^{(+)}$	3042	47 *14*	91	2^+	
		3133	100	0	0^+	Additional information 11.
3179	$1^{(+)}$	3088	40 *11*	91	2^+	
		3179	100	0	0^+	Additional information 12.
3220	$1^{(-)}$	3129	154 *27*	91	2^+	
		3220	100	0	0^+	Additional information 13.
3458	$1^{(-)}$	3367	2.9×10^2 *12*	91	2^+	
		3458	100	0	0^+	Additional information 14.
3541	1,2	3541		0	0^+	
3551	$1^{(+)}$	3460	58 *24*	91	2^+	
		3551	100	0	0^+	Additional information 15.
3602	$1^{(+)}$	3511	46 *15*	91	2^+	
		3602	100	0	0^+	Additional information 16.
3752	1	3752		0	0^+	
3944	1	3944		0	0^+	

[†] Deduced from reduced branching ratios, assuming that the transition intensity to excited states is mainly contributed by transition to first excited state at 91 keV, 2^+.
[‡] Rounded value from Adopted Gammas.

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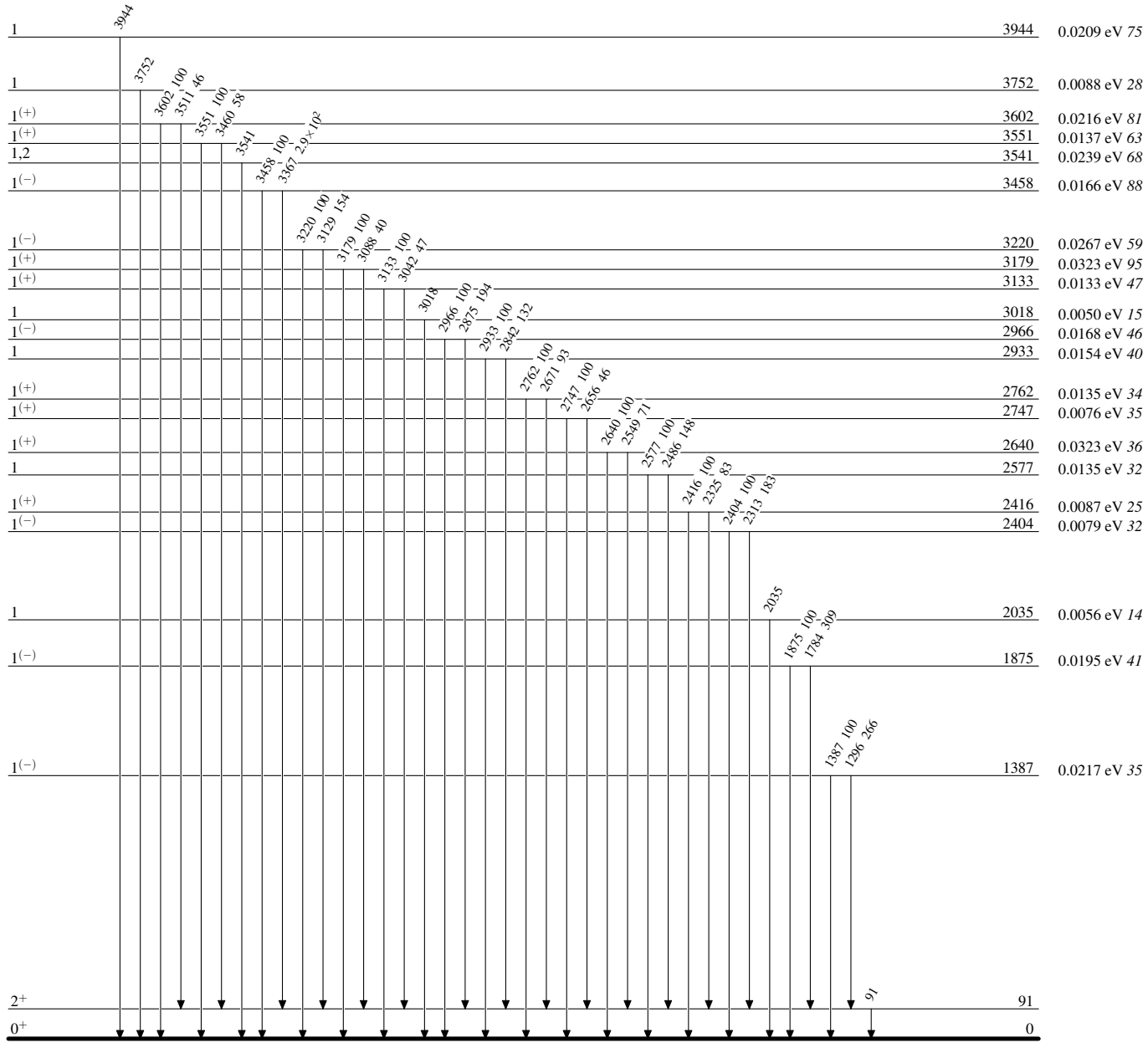
Level Scheme

Intensities: Relative photon branching from each level



$^{164}_{68}Er_{96}$