Coulomb excitation **1975Go18,2006Mu04,2011Co07**

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	H. Iimura, J. Katakura, S. Ohya	NDS 180,1 (2022)	1-Oct-2021

1975Go18: (^{16}O,^{16}O′γ) E=36-42 MeV, (^{16}O)(γ)-coin, IMPAC.
2006Mu04: ^{58}Ni(^{126}Xe,^{126}Xe′γ) E=556 MeV, (^{126}Xe)(γ)-coin.
2011Co07: ^{12}C(^{126}Xe,^{126}Xe′γ) E=399 MeV.

^{126}Xe Levels

E(level)	J$^\pi$[†]	T$_{1/2}$[‡]	Comments
0.0	0$^+$		
388	2$^+$		B(E2)=0.826 *60* (2016Pr01). Others: 1.02 *+13−6* (2006Mu04), 0.770 *25* (2001Ra27), 0.79 *6* (1975Go18). μ=0.54 *8* from IMPAC (1975Go18).
879	2$^+$	8.7 ps *15*	
941	4$^+$	3.8 ps *6*	
1314	0$^+$	2.8 ps *5*	
1317	3$^+$	7.6 ps *12*	
1488	4$^+$	2.7 ps *3*	
1635	6$^+$	1.06 ps *19*	
1678	2$^+$	5.9 ps *8*	
1760	0$^+$	0.23 ps *7*	
2005	3$^{(-)}$		B(E3)=0.089 *11* : Weighted av. of 0.097 *20* (2011Co07) and 0.085 *13* (2006Mu04), where the value of 2011Co07 are normalized to B(E2)(0^+_1 to 2^+_1)=0.826 *60* (2016Pr01) by evaluators.
2086	2$^+$	≤1.8 ps	
2301	5$^{(-)}$		
2315	(3$^-$)		
2414	5$^{(-)}$		
2455	2$^+$	0.13 ps *3*	

[†] Spin and parity values are those given under the Adopted Levels.
[‡] From 2011Co07. 2011Co07 deduced lifetime from B(E2) normalized to B(E2)(0^+_1 to 2^+_1)=0.770 *25* (2001Ra27). The evaluators adjusted the values so that they are normalized to B(E2)(0^+_1 to 2^+_1)=0.826 *60* (2016Pr01).

γ(^{126}Xe)

E$_\gamma$	I$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.[‡]	δ[‡]	Comments
361	0.00051 *20*	1678	2$^+$	1317	3$^+$			B(E2)(W.u)≤21 *5* (2011Co07).
364	0.00098 *21*	1678	2$^+$	1314	0$^+$	E2		B(E2)(W.u)=38 *9* (2011Co07).
376	0.00014 *3*	1317	3$^+$	941	4$^+$	M1+E2		B(E2)(W.u)≤ 22.1 *13* (2011Co07).
388	100	388	2$^+$	0.0	0$^+$	E2		
434	0.00111 *18*	1314	0$^+$	879	2$^+$	E2		B(E2)(W.u)=64 *9* (2011Co07).
438	0.00077 *15*	1317	3$^+$	879	2$^+$	M1+E2	+8 *+3−2*	B(E2)(W.u)=56 *7* (2011Co07).
491	0.784 *6*	879	2$^+$	388	2$^+$	M1+E2	+9.1 *+43−23*	B(E2)(W.u)=43.2 *26* (2011Co07).
546	0.00356 *6*	1488	4$^+$	941	4$^+$	M1+E2	+3.0 *+10−9*	B(E2)(W.u)=28 *4* (2011Co07).
553	0.766 *6*	941	4$^+$	388	2$^+$	E2		B(E2)(W.u)=71 *7* (2011Co07).
609	0.00707 *9*	1488	4$^+$	879	2$^+$	E2		B(E2)(W.u)=36 *4* (2011Co07).
693	0.00547 *18*	1635	6$^+$	941	4$^+$	E2		B(E2)(W.u)=84 *11* (2011Co07).
736	0.00085 *5*	1678	2$^+$	941	4$^+$	E2		B(E2)(W.u)=0.96 *4* (2011Co07).
799	0.00241 *14*	1678	2$^+$	879	2$^+$	M1(+E2)		B(E2)(W.u)≤1.9 *4* (2011Co07).
879	0.2134 *17*	879	2$^+$	0.0	0$^+$	E2		B(E2)(W.u)=0.63 *7* (2011Co07).
881	0.00078 *16*	1760	0$^+$	879	2$^+$			B(E2)(W.u)=13 *4* (2011Co07).
925	0.00454 *21*	1314	0$^+$	388	2$^+$	E2		B(E2)(W.u)=5.9 *9* (2011Co07).
929	0.00073 *15*	1317	3$^+$	388	2$^+$	M1+E2	+1.6 *+3−7*	B(E2)(W.u)=0.90 *23* (2011Co07).

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Coulomb excitation 1975Go18,2006Mu04,2011Co07 (continued)

$\gamma(^{126}Xe)$ (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]	Comments
1063	0.0166 *4*	2005	$3^{(-)}$	941	4^+	(E1)		
1100	0.00149 *3*	1488	4^+	388	2^+	E2		B(E2)(W.u)=0.40 *8* (2011Co07).
1126	0.00291 *18*	2005	$3^{(-)}$	879	2^+			
1138	0.000081 *10*	2455	2^+	1317	3^+			B(E2)(W.u)≤2.0 *6* (2011Co07).
1144	0.00104 *11*	2086	2^+	941	4^+			B(E2)(W.u)=1.63 *16* (2011Co07).
1207	0.00182 *15*	2086	2^+	879	2^+	D+Q	+0.9 *+5−3*	B(E2)(W.u)=1.0 *6* (2011Co07).
1290	0.00147 *9*	1678	2^+	388	2^+	M1,E2		B(E2)(W.u)≤0.10 *2* (2011Co07).
1359	0.00156 *12*	2301	$5^{(-)}$	941	4^+	(E1)		
1372	0.00586 *22*	1760	0^+	388	2^+			B(E2)(W.u)=10.9 *25* (2011Co07).
1373	0.00142 *11*	2315	(3^-)	941	4^+			
1435	0.00311 *18*	2315	(3^-)	879	2^+			
1472	0.00137 *11*	2414	$5^{(-)}$	941	4^+	D(+Q)		
1514	0.000136 *15*	2455	2^+	941	4^+			B(E2)(W.u)=0.79 *25* (2011Co07).
1576	0.00037 *4*	2455	2^+	879	2^+			B(E2)(W.u)≤1.8 *5* (2011Co07).
1617	0.0885 *11*	2005	$3^{(-)}$	388	2^+	(E1)		
1678	0.00338 *21*	1678	2^+	0.0	0^+			B(E2)(W.u)=0.063 *14* (2011Co07).
2005		2005	$3^{(-)}$	0.0	0^+			
2067	0.00148 *15*	2455	2^+	388	2^+			B(E2)(W.u)≤1.8 *6* (2011Co07). B(M1)≤0.020 *6* (2011Co07).
2086	0.00050 *6*	2086	2^+	0.0	0^+			B(E2)(W.u)=0.04 *1* (2011Co07).
2455	0.00027 *3*	2455	2^+	0.0	0^+			B(E2)(W.u)=0.14 *4* (2011Co07).

[†] From 2011Co07.
[‡] From the adopted gammas.

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Level Scheme

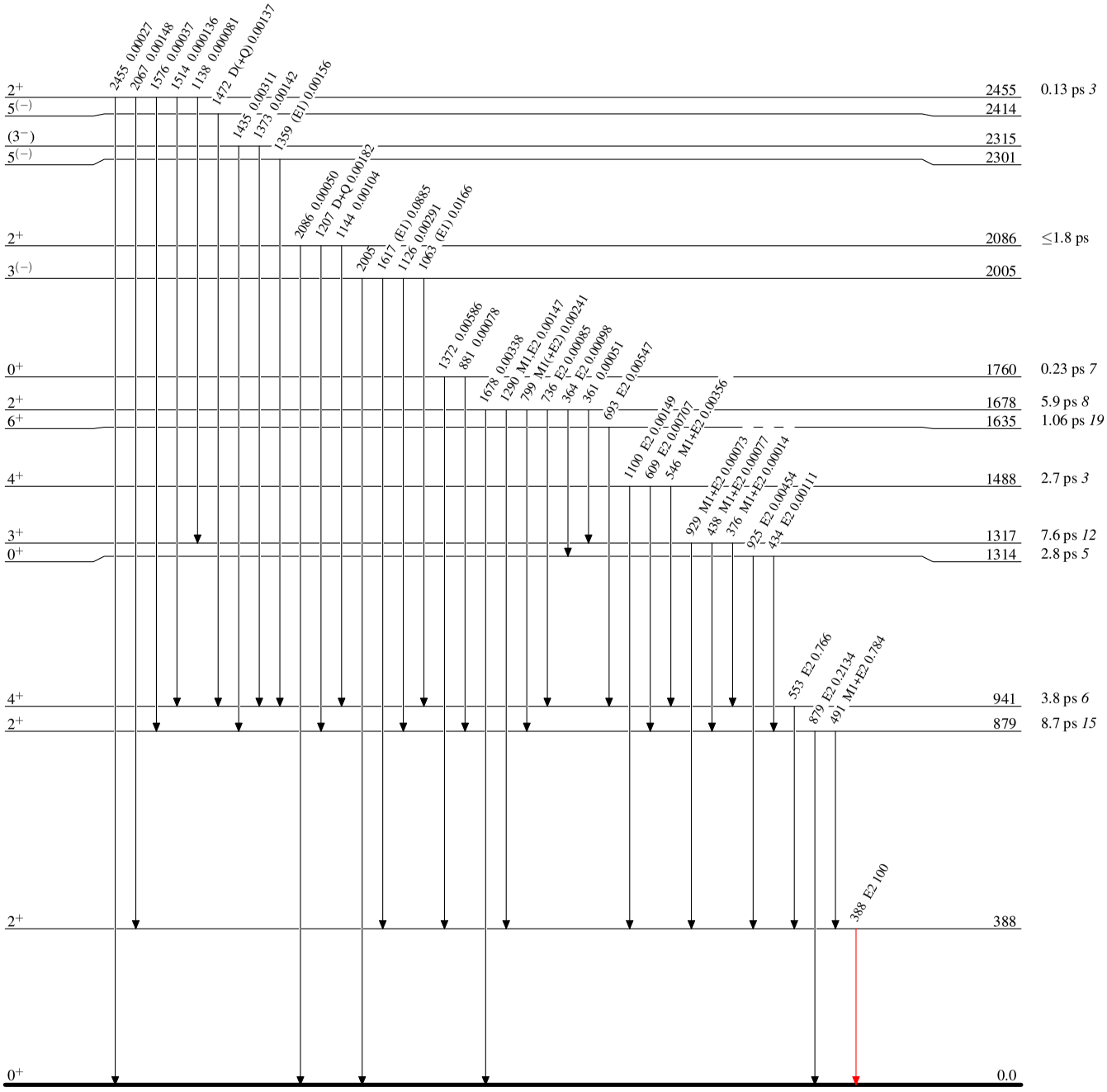
Intensities: Relative I_γ

Legend

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

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

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



$^{126}_{54}Xe_{72}$