Coulomb excitation 1998Ha38,1990Ko30,1995Os05

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 111, 1807 (2010)	15-Jun-2010

Others: 1955He64, 1956Hu49, 1958Ch36, 1960Na13, 1962Af01, 1964De07.
1960El07: E(p)=4.5 MeV, E(d)=4.5 MeV.
1961Go09: E(p)=2-3 MeV.
1965Yo04: E(^{16}O)=43.5 MeV.
1972Do01: E(^{16}O)=45, 59, 60 MeV.
1972Er04: E(α)=11-13 MeV.
1972GrYQ: E(α) not specified.
1974Ba81: E(α)=11.5-13.5 MeV.
1974Ke04, 1977Ke06: E(^{56}Fe)=232 MeV, E(^{84}Kr)=348 MeV.
1974Le16, 1975Le22: E(α)=13-19 MeV.
1974Sh12: E(α)=8-17 MeV.
1978Mc02: E(α)=14 MeV.
1983Hu01: E(α)=12.5 MeV.
1983Hu01: E(^{16}O)=48 MeV.
1989Do12: E(^{58}Ni)=150, 220 MeV.
1989OsZU: E(^{58}Ni)=240 MeV.
1990Ko30: E(^{40}Ca)=150 MeV, E(^{58}Ni)=220 MeV, E(^{208}Pb)=950 MeV.
1992Br07: E(^{58}Ni)=210 MeV.
1995Os05,1993Os05: E(^{74}Ge)=295 MeV.
1996Br09: E(^{58}Ni)=225 MeV.
1996OsZZ: E(^{90}Zr)=390 MeV.
1998Ha38: E(^{58}Ni)=225 MeV.
Charge deformation parameters for α's from analysis of interference effects between Coulomb excitation and direct reactions:

β_2(Coulomb)	β_4(Coulomb)
0.336 (1974Le16,1975Le22)	-0.0019 (1974Le16,1975Le22)
0.342 16 (1974Sh12)	-0.03 6 (1974Sh12)

^{168}Er Levels

See ^{168}Er Adopted Levels for magnetic moments from g-factors determined in Coulomb excitation.

E(level)†	J$^\pi$‡	$T_{1/2}$#	Comments
0.0&	0+		
79.8&	2+	1.853 ns *25*	B(E2)↑=5.90 *5* <2+$_g$ M(E2) 2+$_g$> =−3.25 *+10−25* (1990Ko30). directly populated In Coulomb excitation (1978Mc02). $T_{1/2}$: adopted value. $T_{1/2}$=1.84 ns *6* from B(E2) and adopted properties for 79.8γ; $T_{1/2}$=1.85 ns *3* (pulsed-beam (1967Ku07)). Other: 1959Bi10. B(E2)↑: weighted average of 5.72 *20* (1960El07), 6.04 *12* (1972GrYQ), 5.76 *10* (1972Er04), 6.00 *11* (1974Sh12), 5.90 *10* (1974Le16,1975Le22), 5.9 *3* (1990Ko30 from <2+$_g$ M(E2) 0+$_g$> =+2.43 *7*). Other: 1961Go09.
264.0&	4+	117 ps *7*	B(E2)↑=3.07 *19* B(E2)↑: from <4+$_g$ M(E2) 2+$_g$> =+3.92 *12* (1990Ko30, 184γ). <4+$_g$ M(E2) 4+$_g$> =−3.13 *+42−9* (1990Ko30). Reduced E4 matrix elements: 0.12 *20* (1972GrYQ), 0.20 *+12−18* (1972Er04), 0.11 *+12−18* (1974Le16,1975Le22), 0.19 *16* (1974Sh12). g-factor=0.293 *30* (1996Br09; transient field). $T_{1/2}$: from B(E2) and adopted properties for 184γ.

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Coulomb excitation 1998Ha38,1990Ko30,1995Os05 (continued)

^{168}Er Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	Comments
548.6[&]	6^+	12.0 ps *5*	B(E2)↑=3.30 *20* B(E2)↑: from <$6+_g$ M(E2) $4+_g$> =+5.45 *16* (1990Ko30, 285γ). g-factor=0.301 *20* (1996Br09; transient field), 0.35 *2* (1992Br07; transient field); 0.33 *5* (1989Do12; transient field) from g-factor(264 level)/g-factor(549 level)=0.92 *7*. <$6+_g$ M(E2) $6+_g$> =−5.25 +*16*−*17* (1990Ko30). $T_{1/2}$: weighted average of 11.6 ps *7* (recoil distance, 1990Ko30) and 12.3 ps *7* (from B(E2) and adopted 285γ properties).
821.1[a]	2^+	2.80 ps *9*	B(E2)↑=0.129 *4* B(E2)↑: unweighted average of 0.137 *9* (1972Do01), 0.130 *5* (1974Ba81), 0.131 *8* (1978Mc02), 0.116 *7* (1990Ko30; from <$2+_\gamma$ M(E2) $0+_g$> =+0.34 *1* for 821γ), 0.132 *5* (1995Os05). Weighted average is 0.129 *3*. Other: 0.17 *3* (1965Yo04). directly populated In Coulomb excitation (1978Mc02). <$2+_\gamma$ M(E2) $2+_g$> =+0.47 +*2*−*1* (1990Ko30), so B(E2)↓(741γ)=0.0442 +*38*−*18*. <$2+_\gamma$ M(E2) $4+_g$> =+0.110 +*4*−*5* (1990Ko30), so B(E2)↓(557γ)=0.00242 +*18*−*22*. <$2+_\gamma$ M(E2) $2+_\gamma$> =+2.85 *9* (1990Ko30). $T_{1/2}$: from B(E2)↑=0.129 *4* and adopted properties for 821.1γ. Other values: 3.5 ps *7* (recoil distance, 1990Ko30); values deduced from B(E2) and adopted properties for 75γ and 557γ are less precise than adopted value (2.91 ps +*12*−*25* and 3.9 ps +*4*−*5*, respectively). g-factor: 0.39 *3* (1996Br09; transient field); 0.36 *7* (1989Do12; transient field) from g-factor/g-factor(549 level)=1.10 *14*.
895.8[a]	3^+	3.2 ps +*9*−*2*	<$3+_\gamma$ M(E2) $4+_g$> =−0.44 +*11*−*9* (1990Ko30), so B(E2)↓(632γ)=0.028 *12*. <$3+_\gamma$ M(E2) $2+_g$> =−0.54 +*8*−*2* (1990Ko30), so B(E2)↓(815γ)=0.042 +*3*−*11*. <$3+_\gamma$ M(E2) $2+_\gamma$> =+3.4 +*1*−*4* (1990Ko30), so B(E2)↓(75γ)=1.65 +*10*−*37*. $T_{1/2}$: from <$3+_\gamma$ M(E2) $2+_g$> and adopted 816γ properties. Values deduced from B(E2) and adopted properties for 75γ and 632γ (3.3 ps +*11*−*8* and 2.9 ps *13*) are less precise but consistent.
928.2[&]	8^+	3.56 ps *13*	B(E2)↑=2.57 *15* B(E2)↑: from <$8+_g$ M(E2) $6+_g$> =+5.78 *17* (1990Ko30; 380γ). <$8+_g$ M(E2) $8+_g$> =−6.63 +*20*−*27* (1990Ko30). $T_{1/2}$: weighted average of 3.42 ps *26* (Doppler broadening (1974Ke04,1977Ke06)), 3.67 ps *21* (recoil distance (1990Ko30)) and 3.53 ps *21* (B(E2) and adopted 380γ properties). g-factor=0.305 *26* (1996Br09; transient field), 0.301 *18* from g-factor)/g-factor(6^+ 549)=0.86 *8*, (1992Br07; transient field), 0.33 *6* (1989Do12; transient field) from g-factor/g-factor(549 level)=1.01 *13*.
995.0[a]	4^+	3.5 ps *7*	B(E2)↑=1.66 *10* B(E2)↑: from <$4+_\gamma$ M(E2) $2+_\gamma$> =+2.88 *9* (1990Ko30; 174γ). <$4+_\gamma$ M(E2) $2+_g$> =+0.32 *1* (1990Ko30), so B(E2)↓(915γ)=0.0114 *7*. <$4+_\gamma$ M(E2) $4+_g$> =+0.72 *2* (1990Ko30), so B(E2)↓(731γ)=0.0576 *32*. <$4+_\gamma$ M(E2) $6+_g$> =+0.21 +*5*−*2* (1990Ko30), so B(E2)↓(446γ)=0.0049 +*26*−*9*. <$4+_\gamma$ M(E2) $3+_\gamma$> =+5.0 +*6*−*2* (1990Ko30), so B(E2)↓(99γ)=2.78 +*71*−*22*. <$4+_\gamma$ M(E2) $4+_\gamma$> =−1.86 +*10*−*16* (1990Ko30). $T_{1/2}$: from recoil distance (1990Ko30). 1990Ko30 report 3.05 ps based on matrix elements from their GOSIA analysis, and the evaluator obtains 2.82 ps *18* and 2.89 ps *16*, respectively, from B(E2) for 915γ and 731γ and adopted γ properties assuming negligible 99γ branching; however a mutually inconsistent value of 1.92 ps *15* is obtained by this means from 174γ properties.
1094[b]	4^-		
1117.6[a]	5^+	2.4 ps +*8*−*2*	<$5+_\gamma$ M(E2) $6+_g$> =−0.8 +*7*−*12* (1990Ko30), so B(E2)↓(569γ)=0.06 +*31*−*6*. <$5+_\gamma$ M(E2) $4+_g$> =−0.66 +*11*−*2* (1990Ko30), so B(E2)↓(853γ)=0.0396 +*24*−*121*. <$5+_\gamma$ M(E2) $3+_\gamma$> =+4.2 +*6*−*3* (1990Ko30), so B(E2)↓(222γ)=1.60 +*49*−*22*. <$5+_\gamma$ M(E2) $4+_\gamma$> =+4.7 *5* (1990Ko30). So B(E2)↓(123γ)=2.0 +*5*−*4*. E(level): rounded value from Adopted Levels. $T_{1/2}$: from B(E2)($4+_g$−$5+_\gamma$). values deduced from measured B(E2) and adopted properties for 222γ and 123γ are less precise (2.0 ps +*3*−*7* and 2.2 ps *6*) but consistent.
1193[b]	5^-		

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Coulomb excitation 1998Ha38,1990Ko30,1995Os05 (continued)

^{168}Er Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	Comments
1217.2[@c]	0^+		B(E2)(821 ($2+_\gamma$) to 1217 ($0+_\beta$))=0.0030 *5* (1998Ha38), B(E2)(80 ($2+_g$) to 1217 ($0+_\beta$))=0.00044 *6* (1998Ha38).
1263.9[a]	6^+	3.63 ps *26*	B(E2)↑=2.20 *13* B(E2)↑: from <$6+_\gamma$ M(E2) $4+_\gamma$> =+4.45 *13* (1990Ko30; 269γ). <$6+_\gamma$ M(E2) $4+_g$> =+0.250 *7* (1990Ko30), so B(E2)↓(1000γ)=0.00481 *27*. <$6+_\gamma$ M(E2) $6+_g$> =+0.74 *+4−2* (1990Ko30), so B(E2)↓(715γ)=0.0421 *+45−22*. <$6+_\gamma$ M(E2) $8+_g$> =+0.38 *+12−5* (1990Ko30), so B(E2)↓(336γ)=0.011 *+8−3*. <$6+_\gamma$ M(E2) $5+_\gamma$> =+2.9 *4* (1990Ko30), so B(E2)↓(146γ)=0.65 *+19−17*. <$6+_\gamma$ M(E2) $6+_\gamma$> =−2.04 *+13−25* (1990Ko30). E(level): rounded value from Adopted Levels. $T_{1/2}$: from B(E2) and adopted 1000γ properties. 1990Ko30 report 3.67 ps based on matrix elements from their GOSIA analysis, consistent with this and with evaluator′s less-precise values deduced from adopted properties for 715γ, 336γ, 146γ and the respective measured B(E2) values (3.7 ps *4*, 5.2 ps *+14−39*, 4.5 ps *+15−10*, respectively), but this is not the case for the 269γ (2.65 ps *21*). $T_{1//2}$=4.4 ps *9* from recoil distance (1990Ko30).
1276.3[@c]	2^+		
1311[b]	6^-		
1396.2[&]	10^+	1.45 ps *6*	B(E2)↑=2.16 *13* B(E2)↑: from <$10+_g$ M(E2) $8+_g$> =+6.06 *18* (1990Ko30; 469γ). <$10+_g$ M(E2) $10+_g$> =−5.6 *2* (1990Ko30). $T_{1/2}$: weighted average of 1.42 ps *8* (Doppler broadening (1974Ke04,1977Ke06)), 1.66 ps *14* (recoil distance (1990Ko30)), 1.41 ps *8* (from B(E2) and adopted 469γ properties. g-factor=0.31 *4* (1996Br09; transient field); 0.30 *4* from g-factor)/g-factor(6^+ 549)=0.86 *12* (1992Br07; transient field); 0.32 *8* (1989Do12; transient field) from g-factor/g-factor(549 level)=0.98 *20*.
1411.1[@c]	4^+		
1430.9	3^-		B(E3)↑=0.043 *6* (1978Mc02) directly populated In Coulomb excitation (1978Mc02). assignment to $K^\pi=0^-$ band was changed to $K^\pi=1^-$ band in a subsequent private communication from one author of 1978Mc02 to authors of 1987Me04.
1432.9[a]	7^+		$T_{1/2}$: measured B(E2) and adopted properties for 169γ, 315γ, 884γ imply $T_{1/2}$ values of 1.7 ps *+13−9*, 2.1 ps *+9−2* and 0.6 ps *4*, respectively. <$7+_\gamma$ M(E2) $8+_g$> =−1.2 *+9−4* (1990Ko30), so B(E2)↓(505γ)=0.10 *+7−9*. <$7+_\gamma$ M(E2) $6+_g$> =−1.0 *+2−3* (1990Ko30), so B(E2)↓(884γ)=0.067 *+14−24*. <$7+_\gamma$ M(E2) $5+_\gamma$> =+5.6 *+2−13* (1990Ko30), so B(E2)↓(315γ)=2.09 *+15−86*. <$7+_\gamma$ M(E2) $6+_\gamma$> =+4.1 *+9−19* (1990Ko30), so B(E2)↓(169γ)=1.1 *+5−7*. E(level): rounded value from Adopted Levels. $T_{1/2}$: values calculated using adopted γ properties for 884γ, 169γ and measured B(E2) are inconsistent.
1624.5[a]	8^+	3.4 ps *7*	B(E2)↑=1.95 *12* B(E2)↑: from <$8+_\gamma$ M(E2) $6+_\gamma$> =+5.04 *15* (1990Ko30; 361γ). E(level): rounded value from Adopted Levels. <$8+_\gamma$ M(E2) $6+_g$> =+0.200 *+9−7* (1990Ko30), so B(E2)↓(1076γ)=0.00235 *+22−16*. <$8+_\gamma$ M(E2) $8+_g$> =+0.81 *+3−5* (1990Ko30), so B(E2)↓(696γ)=0.039 *+3−5*. <$8+_\gamma$ M(E2) $10+_g$> =+0.40 *+8−61* (1990Ko30), so B(E2)↓(228γ)=0.009 *+4−9*. <$8+_\gamma$ M(E2) $7+_\gamma$> =+1.6 *+4−33* (1990Ko30), so B(E2)↓(192γ)=0.15 *+8−15*. <$8+_\gamma$ M(E2) $8+_\gamma$> =−2.42 *+80−14* (1990Ko30). $T_{1/2}$: from recoil distance (1990Ko30). 1990Ko30 report 2.77 ps based on matrix elements from their GOSIA analysis, but evaluator′s deduced values from adopted properties for 1076γ and 361γ and the respective measured B(E2) values are inconsistent; the authors note that branching from the GOSIA analysis differs significantly from that In (n,γ) E=thermal for this level.
1634.0	3^-		B(E3)↑=0.050 *10* (1978Mc02)
1947.3[&] *5*	12^+	0.60 ps *3*	B(E2)↑=2.27 *+14−15*

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Coulomb excitation 1998Ha38,1990Ko30,1995Os05 (continued)

^{168}Er Levels (continued)

E(level)[†]	Jπ[‡]	T1/2[#]	Comments
			B(E2)↑: from <12+g M(E2) 10+g> =+6.90 *+21−23* (1990Ko30; 547γ). <12+g M(E2) 12+g> =−6.3 *+2−13* (1990Ko30). E(level): from 1990Ko30. other: 1943.3 (1974Ke04, 1977Ke06). T1/2: weighted average of 0.62 ps *4* from Doppler broadening (1974Ke04,1977Ke06), 0.62 ps *14* (recoil distance (1990Ko30)) and 0.58 ps *4* from B(E2) and adopted 551γ properties.
2056[d]	(4)+		
2070.0[a]	10+		B(E2)↑=1.54 *+32−9* B(E2)↑: from <10+γ M(E2) 8+γ> =+5.11 *+50−15* (1990Ko30; 447γ). <10+γ M(E2) 10+γ> =−1.2 *+35−14* (1990Ko30). E(level): from 1990Ko30.
2169.5[d]	(5)+		E(level): from 1995Os05.
2272 *4*	(2+,3,4+)		E(level): from 1989OsZU; the authors′ suggestion that this level is possibly the bandhead for the Kπ=4+ double-γ vibration band is superseded by the assignment of the 2056 level As that bandhead by 1995Os05 and 1993Os05 (two authors In common with 1989OsZU) and 1998Ha38. Eγ=1276 *4* and 1376 *6*, placed from this level by 1989OsZU but not confirmed In later studies, are omitted here.
2307[d]	(6+)		
2571.9[&] *5*	14+	0.248 ps *+24−14*	B(E2)↑=2.76 *+16−27* B(E2)↑: from <14+g M(E2) 12+g> =+8.30 *+25−43* (1990Ko30; 625γ). E(level): from 1990Ko30.
2572.0?[a] *CA*	(12+)		B(E2)↑=2.2 *+15−4* B(E2)↑: from <12+γ M(E2) 10+γ> =+6.8 *+20−7* (1990Ko30). E(level): estimate from 1990Ko30 for use in their analysis.
3259.5[&] *10*	16+	0.195 ps *+59−16*	B(E2)↑=2.15 *+17−65* B(E2)↑: from <16+g M(E2) 14+g> =+7.9 *+3−13* (1990Ko30; 688γ). E(level): from 1990Ko30. also observed by 1995Os05, but evaluator suspects that E=3239 (given In fig. 1) includes a typographical error.

[†] From least-squares fit to Eγ, except As noted.
[‡] From Adopted Levels.
[#] From recoil distance (1990Ko30), except as noted.
[@] Rounded value from Adopted Levels.
[&] Band(A): $K^\pi=0^+$ g.s. band.
[a] Band(B): $K^\pi=2^+$ γ-vibration band.
[b] Band(C): $K^\pi=4^-$ band.
[c] Band(D): $K^\pi=0^+$ band.
[d] Band(E): $K^\pi=4^+$ γγ-vibration band.

γ(^{168}Er)

Ei(level)	Jπi	Eγ[†]	Iγ[‡]	Ef	Jπf	Mult.	Comments
79.8	2+	79.80 *2*		0.0	0+		Eγ: from 1958Ch36.
264.0	4+	184.3		79.8	2+		
548.6	6+	284.6[#]		264.0	4+		
821.1	2+	557.0	0.77	264.0	4+		Iγ: I(557γ):I(821γ)=9:575 (1978Mc02).
		741.3	50.8 *24*	79.8	2+	D+Q	Iγ: from I(741γ):I(821γ)=1.05 *4*:1.0 (1972Do01). Other: 633:575

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Coulomb excitation 1998Ha38,1990Ko30,1995Os05 (continued)

$\gamma(^{168}Er)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.	δ	α[e]	Comments
									(1978Mc02). Mult.: from $\gamma(\theta)$. A_2=−0.18 *5*, A_4=−0.42 *7* (1972Do01); W(0°)/W(90°)=0.906 *13* (1978Mc02). δ: $\delta\leq$−25 ($\gamma(\theta)$, 1978Mc02); 1972Do01 report $\delta\geq$29. Large δ favors $\Delta\pi$=No.
821.1	2^+	821.1	48.4	0.0	0^+	E2		0.0051	I_γ: see comments with 557γ and 741γ. Mult.: Q from W(0°)/W(90°)=1.418 *18* (1978Mc02); direct Coulomb excitation of 821 level observed.
895.8	3^+	74[c]		821.1	2^+				
		632[c]		264.0	4^+				
		816[b]		79.8	2^+				unresolved from 813γ (1978Mc02).
928.2	8^+	379.6[a] *5*		548.6	6^+				
995.0	4^+	(99.2)		895.8	3^+				E_γ: from level energy difference.
		174[c]		821.1	2^+				
		446[c]		548.6	6^+				
		730.7[#]	64 *5*	264.0	4^+	D+Q	−6 *+4−6*		I(731γ):I(915γ): 1.80 *13*:1.0 (1972Do01). Other: 8.7:4.8 (1978Mc02). Mult.,δ: from $\gamma(\theta)$. A_2=−0.41 *6*, A_4=−0.56 *10* (1972Do01); W(0°)/W(90°)=0.63 *13* (1978Mc02). Large δ favors $\Delta\pi$=No.
		915.0[#]	36	79.8	2^+	Q			I_γ: see comment with 731γ. Mult.: A_2=+0.45 *14*, A_4=−0.31 *22* (1972Do01).
1094	4^-	198[b]	83	895.8	3^+				
1117.6	5^+	123[c]		995.0	4^+				
		222[c]		895.8	3^+				
		569[c]		548.6	6^+				
		853		264.0	4^+				
1217.2	0^+	1137[b]		79.8	2^+				
1263.9	6^+	146[c]		1117.6	5^+				
		336[c]		928.2	8^+				
		715[c]		548.6	6^+				
		1000[c]		264.0	4^+				
1276.3	2^+	380[bf]	1	895.8	3^+				
		455[bf]	2	821.1	2^+				
		1197[b]	25	79.8	2^+				
		1276[b]	25	0.0	0^+				
1396.2	10^+	468.5[a] *5*		928.2	8^+				
1411.1	4^+	515[bf]	6	895.8	3^+				
		1331[b]	37	79.8	2^+				
1430.9	3^-	1167	56	264.0	4^+				Iγ(1167γ)/Iγ(1351γ)=1.29 (1978Mc02).
		1351	44	79.8	2^+				I_γ: see comment with 1167γ.
		(1430.9)		0.0	0^+				E_γ: from level energy difference.
1432.9	7^+	169[c]		1263.9	6^+				
		315[c]		1117.6	5^+				
		505[c]		928.2	8^+				
		884.2[d]		548.6	6^+				E_γ: very close to Ge contaminant γ In 1995OS05..
1624.5	8^+	192[c]		1432.9	7^+				
		228[c]		1396.2	10^+				
		361[c]		1263.9	6^+				

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Coulomb excitation 1998Ha38,1990Ko30,1995Os05 (continued)

$\gamma(^{168}Er)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.	α[e]	Comments
1624.5	8^+	696[c]		928.2	8^+			
		1075.8[d]		548.6	6^+			
1634.0	3^-	639		995.0	4^+			
		813		821.1	2^+			unresolved from 813γ; I(813γ+816γ):I(639γ)=3.5:3.7 (1978Mc02).
		(1634)		0.0	0^+			E_γ: from level energy difference.
1947.3	12^+	551.1 *7*		1396.2	10^+			E_γ: from level energy difference. Eγ=547.1 *5* (974Ke04,1977Ke06) is inconsistent with E(level) from 1990Ko30.
2056	$(4)^+$	863[b]	8	1193	5^-			
		962[b]	36	1094	4^-			E_γ: also reported by 1995Os05.
		1160[b]	14	895.8	3^+			
		1235[b]	31	821.1	2^+			E_γ: also reported by 1995Os05. B(E2)(2056 ($4+_{\gamma\gamma}$) to 821 ($2+_\gamma$))=0.060 *13* (1998Ha38; systematic uncertainties included), 0.039 *9* (1993Os05); weighted average is 0.050 *10*.
2070.0	10^+	445.5[@]		1624.5	8^+			
2169.5	$(5)^+$	1273.7[d f]		895.8	3^+			
2272	$(2^+,3,4^+)$	1452[&] *3*		821.1	2^+			
2307	(6^+)	996[b]	45	1311	6^-			
		1114[b]	43	1193	5^-			
2571.9	14^+	624.6[d] *7*		1947.3	12^+			
2572.0?	(12^+)	(502)		2070.0	10^+	[E2]	0.01628	E_γ: from level energy difference.
3259.5	16^+	687.6[d] *11*		2571.9	14^+			

[†] From Ge(Li) data (1978Mc02), except where noted.
[‡] % branching from 1998Ha38 (fig. 1), except As noted.
[#] From 1972Do01 (Ge(Li)).
[@] From 1990Ko30 (Ge detector).
[&] From 1989OsZU (Ge detector).
[a] From 1974Ke04,1977Ke06 (Ge(Li) detector).
[b] From 1998Ha38; Ge detector, energy uncertainty unstated by authors.
[c] Rounded value from Adopted Gammas.
[d] From level energy difference; γ identified In γ spectrum (fig. 1 from 1995Os05) but authors do not state Eγ.
[e] 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.
[f] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

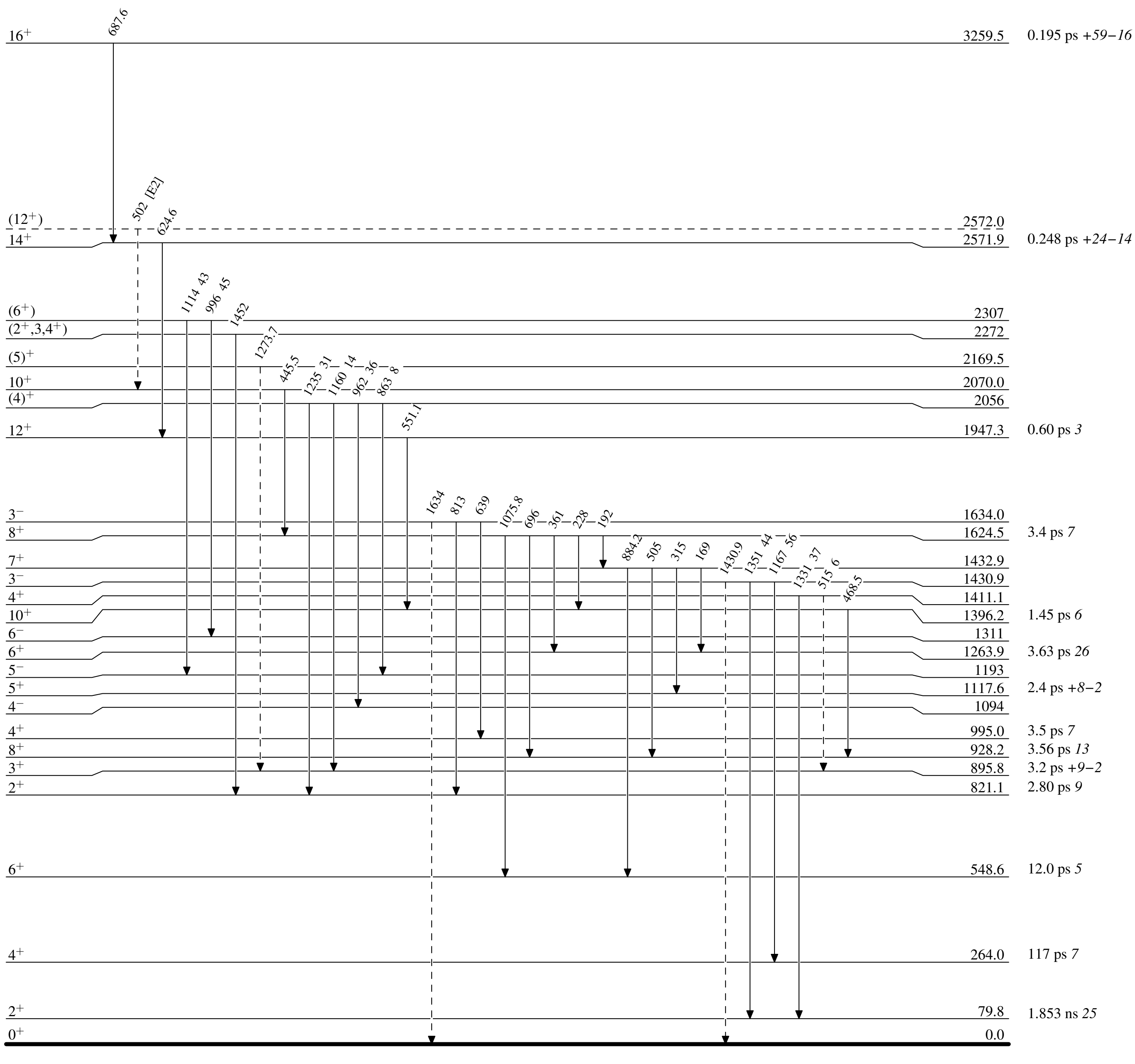
Coulomb excitation 1998Ha38,1990Ko30,1995Os05

Legend

Level Scheme

Intensities: % photon branching from each level

γ Decay (Uncertain)

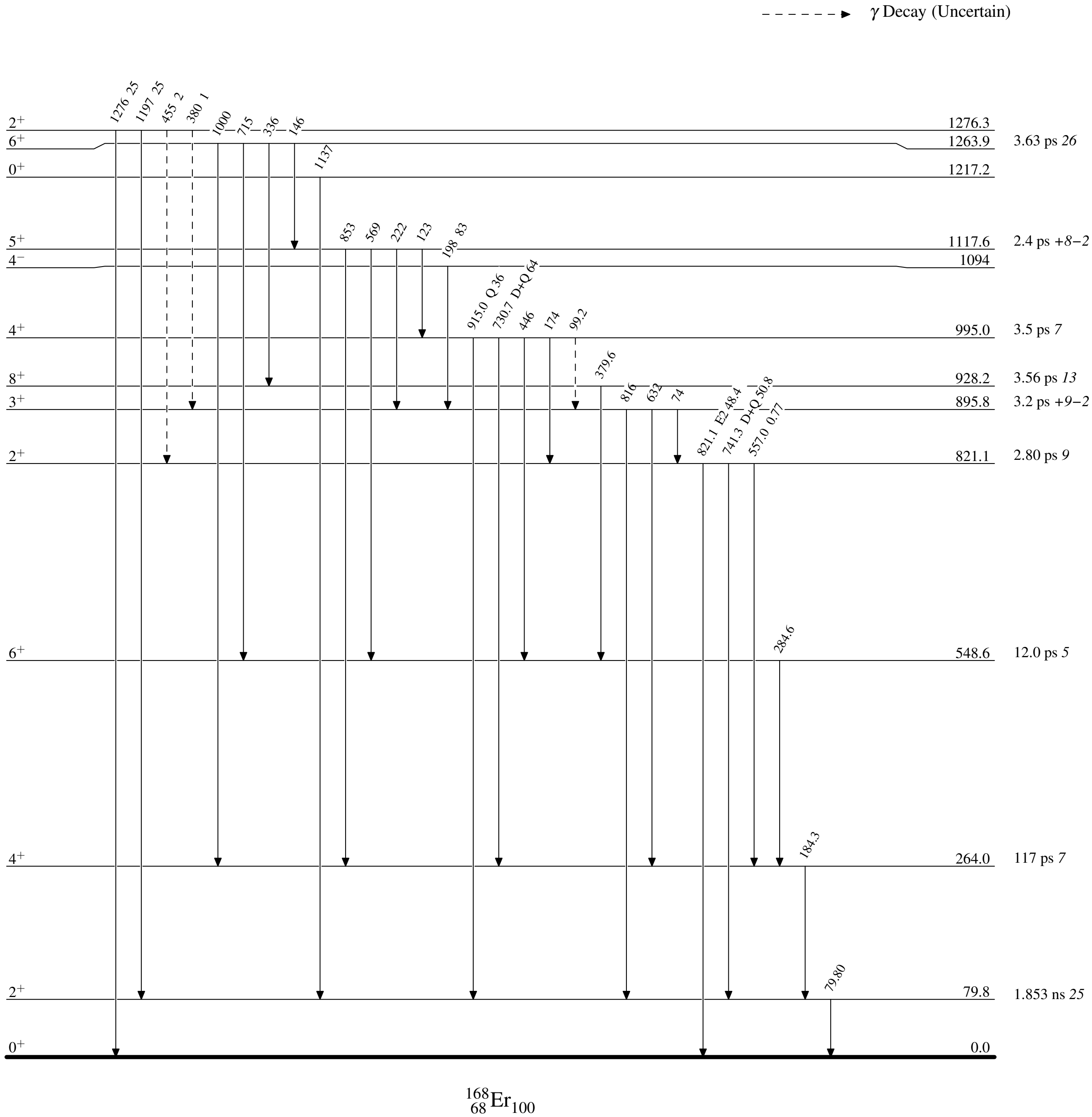


$^{168}_{68}Er_{100}$

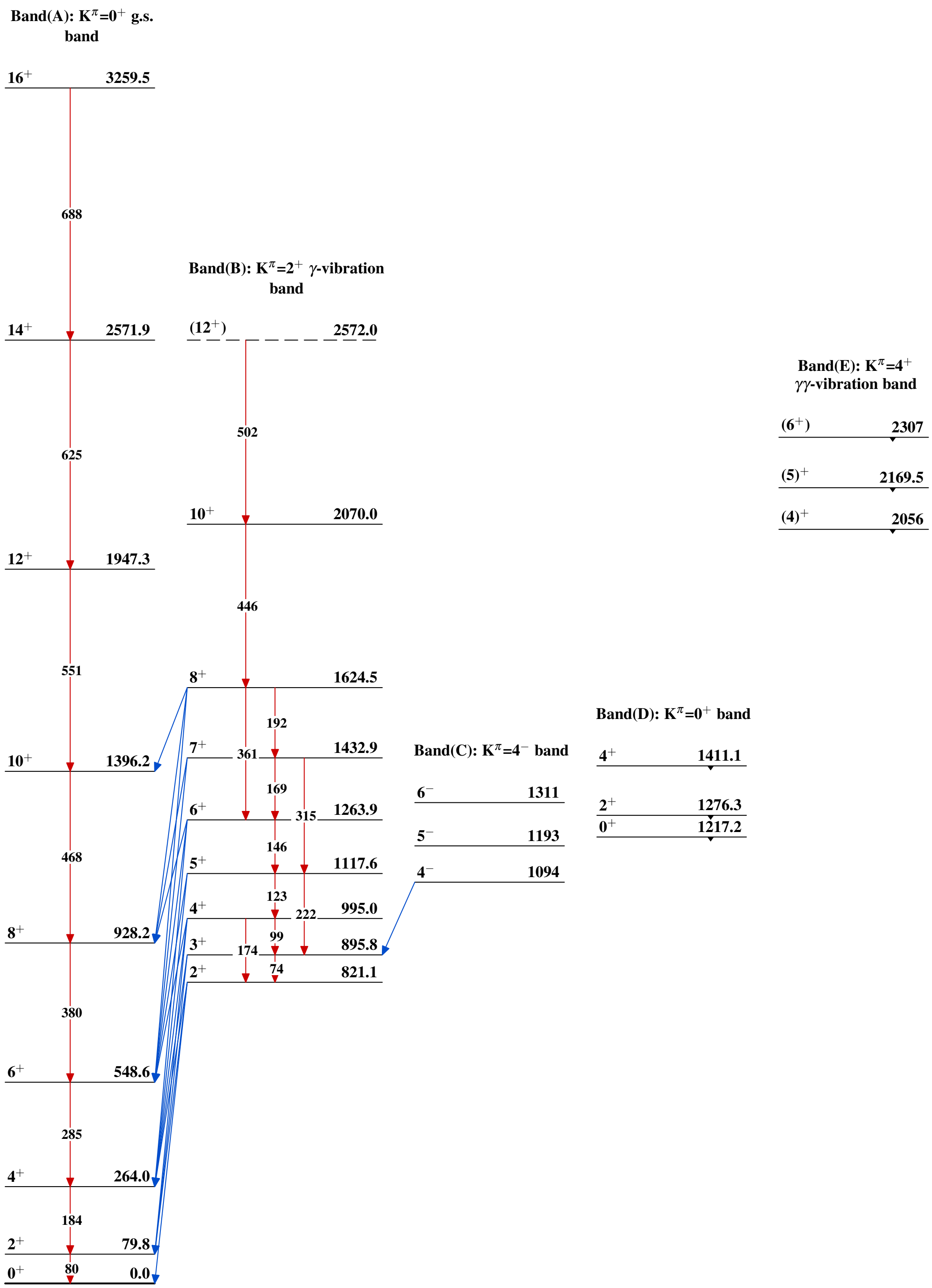
Coulomb excitation 1998Ha38,1990Ko30,1995Os05

Level Scheme (continued)

Intensities: % photon branching from each level



Coulomb excitation 1998Ha38,1990Ko30,1995Os05



$^{168}_{68}Er_{100}$