Adopted Levels, Gammas

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 109,1103 (2008)	1-Mar-2008

Q(β^-)=−1.208×10^4 *syst*; S(n)=1.171×10^4 *syst*; S(p)=2.08×10^3 *3*; Q(α)=6139 *5* 2012Wa38
Note: Current evaluation has used the following Q record −12.23E+3 SY11.86E+3syst 2070 30 *6139* 4 2003Au03.
Uncertainty in Q(β^-) and S(n) is 200 and 200, respectively (2003Au03).
Assignment: ^{106}Cd(^{63}Cu,p2n), ^{107}Ag(^{63}Cu,4n) E=400 MeV, excit (1978Ca11,1977Ca23).

^{166}Os Levels

Cross Reference (XREF) Flags

A	^{170}Pt α decay	D	^{167}Ir p decay (30.0 ms)
B	^{106}Cd(^{63}Cu,p2nγ),	E	^{106}Cd(^{64}Zn,2p2nγ)
C	^{167}Ir p decay (35.2 ms)		

E(level)†	Jπ‡	$T_{1/2}$	XREF	Comments
0@	0$^+$#	213 ms *5*	ABCDE	%α=72 *13* (1981Ho10); %ε+%β^+=28 *13* Jπ: even-even nucleus ground state. $T_{1/2}$: weighted average of 210 ms *6* (2015Li24), 220 ms *7* (1996Pa01; 6000α(t)), 194 ms *17* (1991Se01) and 181 ms *38* (1981Ho10). Other: 0.3 s *1* (1978Ca11).
432.0@ *3*	2$^+$#		B E	Jπ: stretched E2 γ to 0$^+$.
1021.0@ *5*	4$^+$#		B E	Jπ: stretched intraband Q γ to 2$^+$; continuation of g.s. band.
1562.3& *7*	(3$^-$)		E	
1725.0@ *7*	6$^+$#		B E	Jπ: stretched intraband Q γ to 4$^+$; continuation of g.s. band.
1931.3& *7*	(5$^-$)		E	
2351.3@ *9*	8$^+$#		B E	Jπ: stretched intraband Q γ to 6$^+$; continuation of g.s. band.
2426.0?a *11*	(6$^-$)		E	
2452.4& *9*	(7$^-$)		E	
3009.4@ *12*	10$^+$#		E	
3025.5?a *11*	(8$^-$)		E	
3520.7@ *13*	(12$^+$)#		E	
3910.8?@ *16*	(14$^+$)#		E	

† From least-squares fit to adopted Eγ.
‡ Values given without comment are based on band structure deduced in ^{106}Cd(^{64}Zn,2p2nγ), similarities of band structure to that in ^{168}Os and on measured γ asymmetry.
# Definite J^π assigned for J≤10 g.s. band members based on J^π=0$^+$ for even-even nucleus g.s., mult=E2 for the J=2 to 0 432γ and stretched Q character for several other intraband transitions.
@ Band(A): Yrast band (2002Ap03). g.s. band crossed at $\hbar\omega$=0.30 MeV (with 11 $\hbar$ gain in alignment) by ν $i^2_{13/2}$ band (2002Ap03).
& Band(B): K$^\pi$=(3$^-$), α=1 band (2002Ap03). Bandhead deexcites to J=2 and 4 members of g.s. band; structure of band appears to Be similar to that of a 3$^-$ band in ^{168}Os. Possible configuration: ν ($i_{13/2}$)($h_{9/2}$,$f_{7/2}$).
a Band(C): π=(−), α=0 band (2002Ap03). Very weak band decaying through the (3$^-$) band, analogous to a side band known in ^{168}Os; on this basis, authors tentatively assign π=− and even spin. Possible configuration: ν ($i_{13/2}$)($h_{9/2}$,$f_{7/2}$).

Adopted Levels, Gammas (continued)

$\gamma(^{166}Os)$

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[#]	Comments
432.0	2^+	432.0 *3*	100	0	0^+	E2	0.0330	Mult.: Q from γ asymmetry, not M2 from intensity balance in (^{64}Zn,2p2nγ).
1021.0	4^+	589.2 *4*	100	432.0	2^+	(E2)	0.01539	
1562.3	(3^-)	541.6 *7*	68 *24*	1021.0	4^+	D		
		1129.2 *9*	100 *24*	432.0	2^+			
1725.0	6^+	704.0 *5*	100	1021.0	4^+	(E2)	0.01031	
1931.3	(5^-)	368.8 *5*	100 *29*	1562.3	(3^-)	(E2)	0.0505	
		910.9 *9*	71 *43*	1021.0	4^+	D		
2351.3	8^+	626.3 *5*	100	1725.0	6^+	(E2)	0.01337	
2426.0?	(6^-)	494.8[@] *9*	100	1931.3	(5^-)			
2452.4	(7^-)	521.1 *6*	100	1931.3	(5^-)			
3009.4	10^+	658.1 *8*	100	2351.3	8^+			
3025.5?	(8^-)	573.0[@] *9*	33 *83*	2452.4	(7^-)			
		599.6[@] *9*	100 *83*	2426.0?	(6^-)			
3520.7	(12^+)	511.3 *5*	100	3009.4	10^+			
3910.8?	(14^+)	390.1[@] *9*	100	3520.7	(12^+)			

[†] From ^{106}Cd(^{64}Zn,2p2nγ). Note that Eγ data from ^{106}Cd(^{63}Cu,p2nγ) (uncertainty 0.2 or 0.3 keV) are consistently lower than these data by 1.2 to 2.2 keV.

[‡] From angular correlation data in ^{106}Cd(^{64}Zn,2p2nγ), assigning $\Delta\pi$=(no) for intraband stretched Q transitions.

[#] 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.

[@] Placement of transition in the level scheme is uncertain.

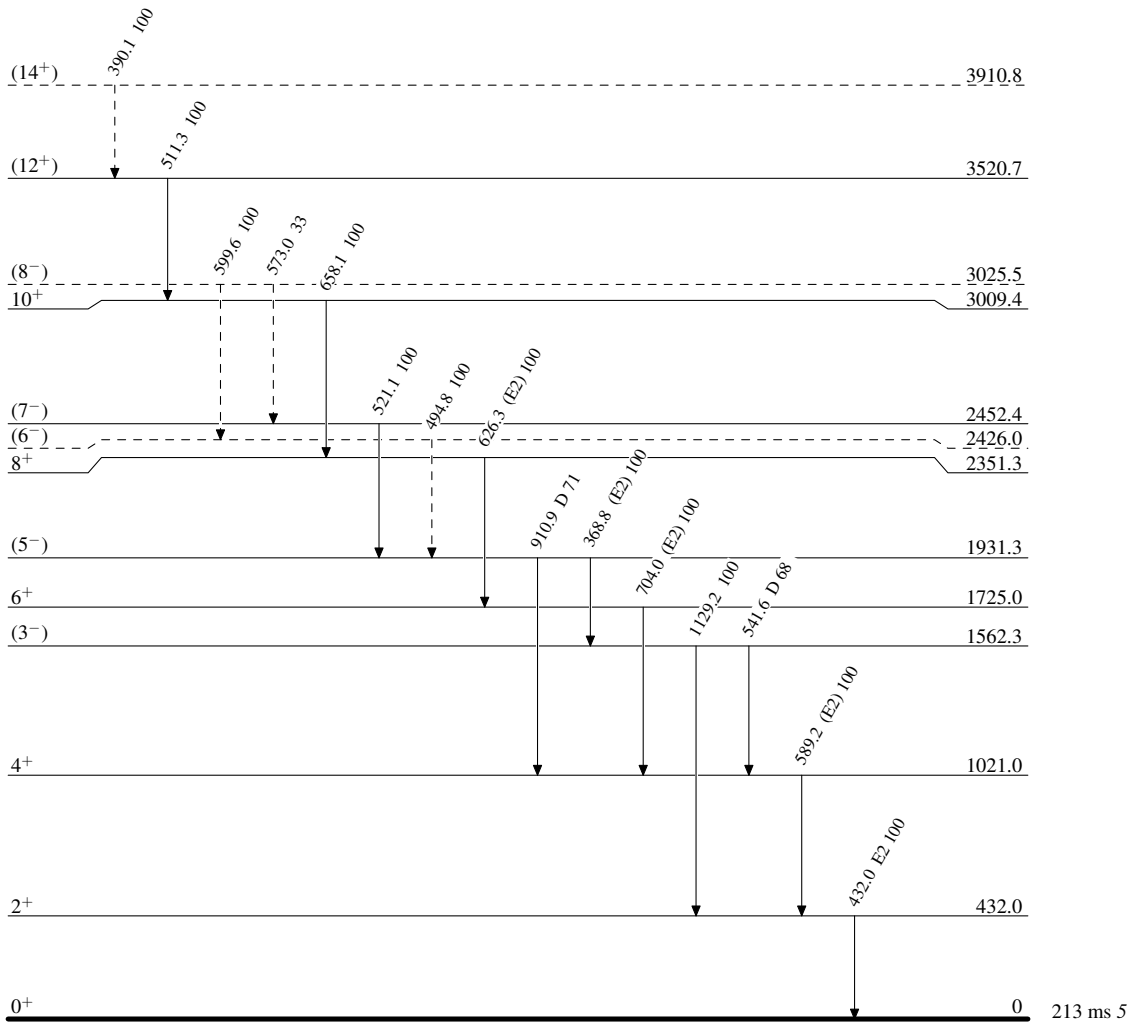
Adopted Levels, Gammas

Legend

Level Scheme

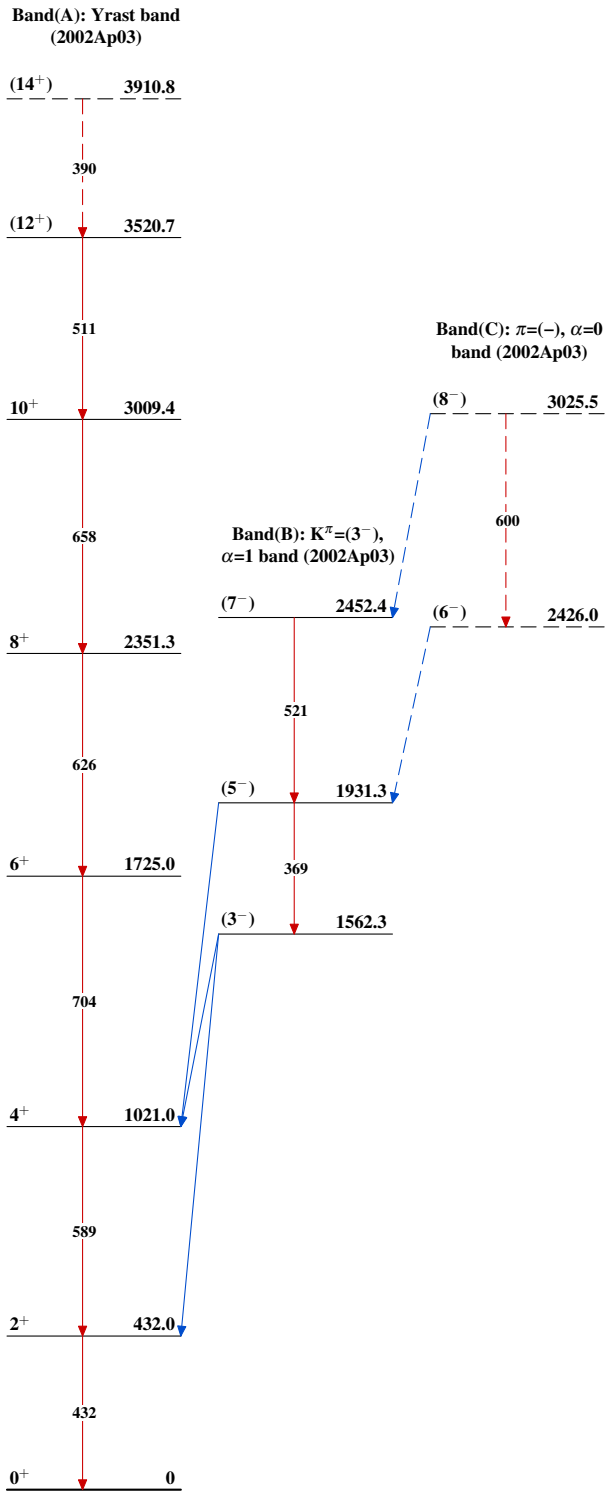
Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{166}_{76}Os_{90}$

Adopted Levels, Gammas



$^{166}_{76}Os_{90}$