Adopted Levels, Gammas

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 109,2033 (2008)	15-Jun-2008

Q(β^-)=−8.65×10^3 *4*; S(n)=8.81×10^3 *3*; S(p)=2.22×10^3 *4*; Q(α)=5713 *3* 2012Wa38

Note: Current evaluation has used the following Q record −8640 40 *8802* 28 *2220* 40 *5716* 3 2003Au03.

Identification: excitation functions for ^{20}Ne and ^{19}F bombardments of Dy (1972To19); excitation functions for krypton bombardments of niobium and yttrium (1978Sc26).

^{169}Os Levels

Cross Reference (XREF) Flags

A ^{173}Pt α decay
B ^{112}Sn(^{60}Ni,2pnγ)

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$	XREF	Comments
0.0	(5/2$^-$)	3.43 s *14*	A	%ε+%β^+=86.3 *8*; %α=13.7 *8* %α: Weighted average of 15 *4* (2004GoZZ; 12% *3* for 5581α), 13.8 *13* (1996Pa01; 11% *1* for 5576α), 13 *2* (1995Hi02), 13.8 *13* (1982En03; 11% *1* for 5572α) assuming 5580α constitutes 80% of ^{169}Os α decay (1984Sc06). J$^\pi$: unhindered α decay to (5/2$^-$) ^{165}W g.s.. Configuration proposed by 1995Hi02 is 5/2[523]. $T_{1/2}$: unweighted average of 3.0 s *5* (1972To19, 5560α), 3.2 s *2* (1978Sc26, 5570α), 3.4 s *2* (1982En03, 5572α), 3.5 s *2* (1984Sc06, 5564α), 3.2 s *3* (1995Hi02, 5578α), 3.6 s *2* (1996Pa01, 5576α), 4.1 s *4* (2004GoZZ, 5581α). The weighted average of these data is 3.43 s *9*. Others: 1978ReZZ, 3.5 s *2* (1984Sc06, 5470α-5540α), 3.4 s *8* (1995Hi02, 5536α), 6 s *3* (1995Hi02, 5508α).
0.0+x[#]	(13/2$^+$)		B	
101 *7*			A	E(level): from Eα=6133 *5* to this level and Eα=6232 *5* to g.s. in ^{173}Pt α decay.
136.2 *5*			A	
171.2 *5*			A	
280+x[#] *1*	(17/2$^+$)		B	
759+x[#] *1*	(21/2$^+$)		B	
1024+x[&] *1*	(19/2$^+$)		B	
1370+x[#] *1*	(25/2$^+$)		B	
1620+x[&] *1*	(23/2$^+$)		B	
1833+x[@] *1*	(23/2$^-$)		B	
1978+x *1*	(25/2$^-$)		B	J$^\pi$: possible EAB configuration state.
2073+x[#] *1*	(29/2$^+$)		B	
2183+x[@] *1*	(27/2$^-$)		B	
2530+x[@] *1*	(31/2$^-$)		B	
2842+x[#] *1*	(33/2$^+$)		B	
2976+x[@] *1*	(35/2$^-$)		B	
3556+x[@] *1*	(39/2$^-$)		B	
3625+x[#] *1*	(37/2$^+$)		B	

[†] From (^{60}Ni,2pnγ), except as noted; this assumes that the 13/2$^+$ state is not the g.s.; the first 13/2$^+$ state lies at E=186 in ^{171}Os

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{169}Os Levels (continued)

and at E=146 to ≈200 in ^{173}Os.

‡ From (^{60}Ni,2pnγ; based on likely quasiparticle configurations and comparison with similar structures in neighboring odd-A nuclei, except as noted.

Band(A): (ν $i_{13/2}$), α=+1/2 A band (2002Jo20).

@ Band(B): π=−, α=−1/2 band (2002Jo20). Large alignment (14.4 $\hbar$ at $\hbar\omega$=0.25 MeV) suggests three-quasiparticle structure, possibly EAB or FAB, analogous to ^{171}Os band; drop in alignment at $\hbar\omega$≈0.17 MeV may indicate presence of mixing with octupole vibrational bands. The E and F orbitals are expected to originate from the $f_{7/2}$ or $h_{9/2}$ subshell, A and B orbitals from ν $i_{13/2}$.

& Band(C): π=+, α=−1/2 band (2002Jo20). Possibly the (ν $i_{13/2}$), α=−1/2 b band or the A band coupled to a collective phonon excitation.

γ(^{169}Os)

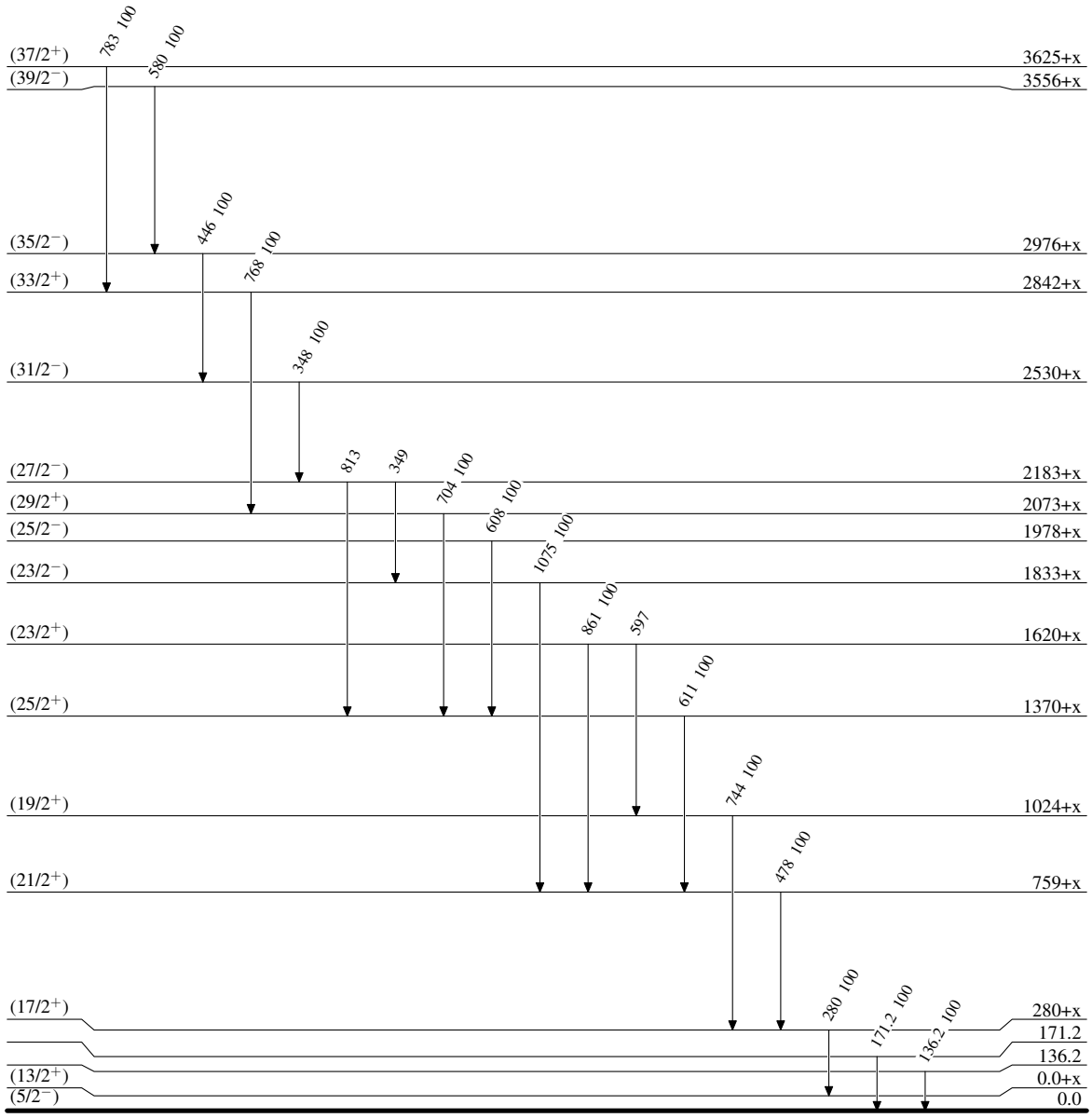
E_i(level)	J_i^π	E_γ †	I_γ	E_f	J_f^π	Comments
136.2		136.2 *5*	100	0.0	(5/2$^-$)	
171.2		171.2 *5*	100	0.0	(5/2$^-$)	
280+x	(17/2$^+$)	280 *1*	100	0.0+x	(13/2$^+$)	
759+x	(21/2$^+$)	478 *1*	100	280+x	(17/2$^+$)	
1024+x	(19/2$^+$)	744 *1*	100	280+x	(17/2$^+$)	
1370+x	(25/2$^+$)	611 *1*	100	759+x	(21/2$^+$)	
1620+x	(23/2$^+$)	597 *1*		1024+x	(19/2$^+$)	
		861 *1*	100	759+x	(21/2$^+$)	I_γ: from (^{60}Ni,2pnγ), I(861γ)>I(597γ).
1833+x	(23/2$^-$)	1075 *1*	100	759+x	(21/2$^+$)	
1978+x	(25/2$^-$)	608 *1*	100	1370+x	(25/2$^+$)	
2073+x	(29/2$^+$)	704 *1*	100	1370+x	(25/2$^+$)	
2183+x	(27/2$^-$)	349 *1*		1833+x	(23/2$^-$)	
		813 *1*		1370+x	(25/2$^+$)	I_γ: from (^{60}Ni,2pnγ), I(813γ) and I(349γ) are comparable.
2530+x	(31/2$^-$)	348 *1*	100	2183+x	(27/2$^-$)	
2842+x	(33/2$^+$)	768 *1*	100	2073+x	(29/2$^+$)	
2976+x	(35/2$^-$)	446 *1*	100	2530+x	(31/2$^-$)	
3556+x	(39/2$^-$)	580 *1*	100	2976+x	(35/2$^-$)	
3625+x	(37/2$^+$)	783 *1*	100	2842+x	(33/2$^+$)	

† From (^{60}Ni,2pnγ).

Adopted Levels, Gammas

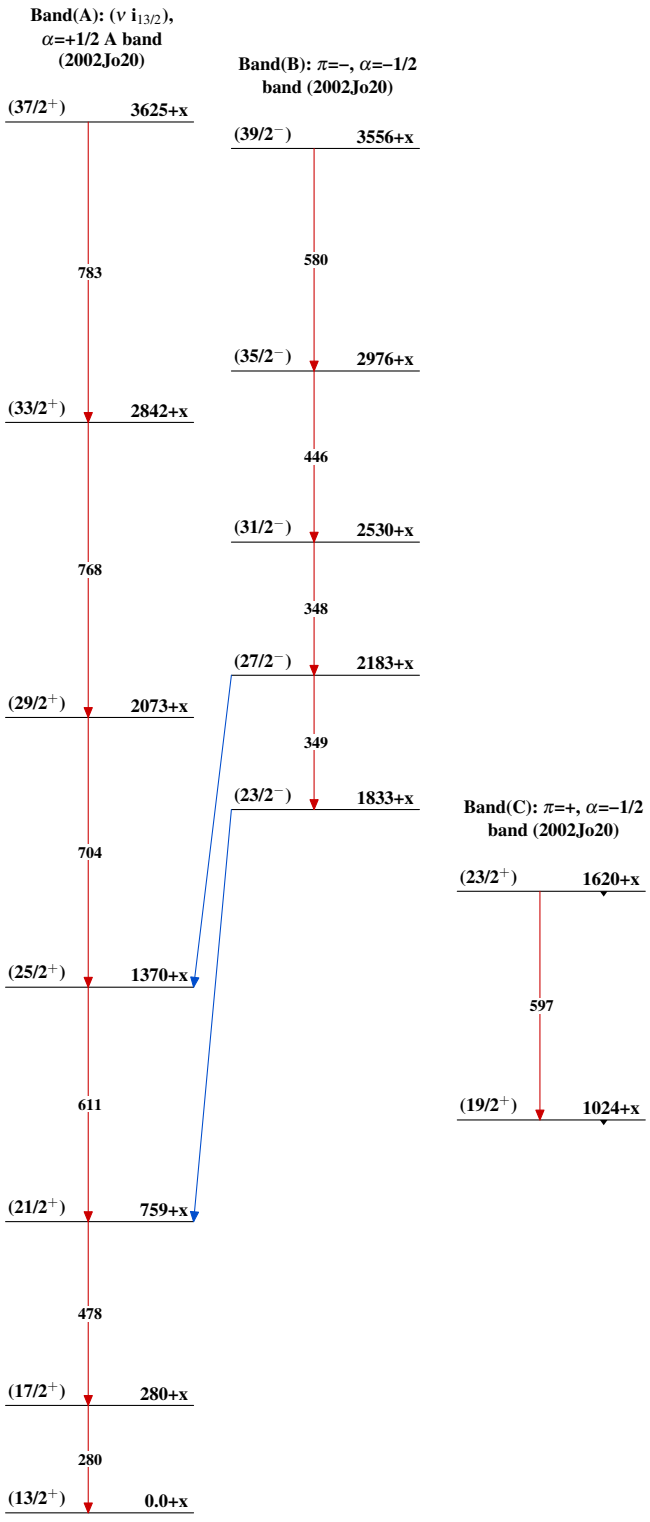
Level Scheme

Intensities: Relative photon branching from each level



$^{169}_{76}Os_{93}$

Adopted Levels, Gammas



$^{169}_{76}Os_{93}$