

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Huang Xiaolong and Kang Mengxiao		NDS 133, 221 (2016)	1-Dec-2015

$Q(\beta^-)=19.8\times 10^2$ 28; $S(n)=6.6\times 10^3$ 3; $S(p)=10.6\times 10^3$ 4 [2012Wa38](#)

$Q(\alpha)=-1780$ from [1997Mo25](#) (theory).

Nuclear structure calculations: [2008Sa21](#), [2009Ro20](#).

¹⁹⁸Os Levels

Cross Reference (XREF) Flags

A ⁹Be(²⁰⁸Pb,X γ)

E(level)	J π [‡]	T _{1/2} [#]	XREF	Comments
0.0	0 ⁺		A	% β^- =100 Only β^- decay mode is possible. T _{1/2} : There is no measurement of half-life of g.s. It is expected to several seconds as suggested by the calculated value of >100 s (1997Mo25). In the neighboring Os isotopes the half-lives are: 39 min for ¹⁹⁶ Os, \approx 5-6 s for ¹⁹⁹ Os and ²⁰⁰ Os.
465.4 5	(2 ⁺)		A	
877.6 7	(2 ⁺)		A	
1073.6 7	(4 ⁺)		A	
1350.9 7	(4 ⁺)		A	
1680.8 7	(5 ⁻)		A	
1680.8+x	(7 ⁻)	16 ns 1	A	%IT=100 E(level): x<90 keV.
2224.8+x? [†]	(9 ⁻)		A	
2751.7+x? [†]			A	
3198.5+x? [†]			A	
3198.5+y?	(12 ⁺)	18 ns 3	A	%IT=100 E(level): Y=X+Z, Y<180 keV.

[†] 447-527-544 cascade placed above the 1681+x level from [2008StZY](#) based on the statement that all three γ -rays are in coincidence with each other and all the γ -rays in ¹⁹⁸Os shown in the level scheme in Fig. 2 of [2009Po02](#).

[‡] As assigned by [2009Po02](#) based on comparison with apparently similar level structure in ²⁰⁰Pt. For levels above the 16-ns isomer at 1680.8+x, the assignments are from [2008StZY](#).

[#] From (particle) γ (t) ([2009Po02](#),[2008StZY](#)). Note that the half-lives of the two isomers are nearly the same within uncertainties.

γ (¹⁹⁸Os)

E _i (level)	J π _i	E γ	I γ	E _f	J π _f	Comments
465.4	(2 ⁺)	465.4 5	100	0.0	0 ⁺	
877.6	(2 ⁺)	412.1 5	100	465.4	(2 ⁺)	
1073.6	(4 ⁺)	608.2 5	100	465.4	(2 ⁺)	
1350.9	(4 ⁺)	473.1 5	68 11	877.6	(2 ⁺)	
		885.6 5	100 16	465.4	(2 ⁺)	
1680.8	(5 ⁻)	329.9 5	34 4	1350.9	(4 ⁺)	
		607.3 5	100 5	1073.6	(4 ⁺)	
1680.8+x	(7 ⁻)	x		1680.8	(5 ⁻)	E γ : x<90 keV (2008StZY).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued) $\gamma(^{198}\text{Os})$ (continued)

<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_γ</u>	<u>I_γ</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Comments</u>
2224.8+x?	(9 ⁻)	544.0 [†]	5	1680.8+x	(7 ⁻)	
2751.7+x?		526.9 [†]	5	2224.8+x?	(9 ⁻)	
3198.5+x?		446.8	5	2751.7+x?		
3198.5+y?	(12 ⁺)	z		3198.5+x?		E_γ : Z<90 keV (2008SiZY).

[†] 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)