

¹⁹²Os(¹³⁶Xe,Xγ),¹⁸⁶W(¹³⁶Xe,Xγ) 2010La16

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, ¹ and Jun Chen ²		NDS 169, 1 (2020)	15-Oct-2020

2010La16: ¹⁹⁰W ions were produced by E=840 MeV ¹³⁶Xe beam from the ATLAS accelerator at ANL, bombarding a 20 mg/cm² ¹⁹²Os or a 6 mg/cm² ¹⁸⁶W target. Measured Eγ, Iγ, γγ, delayed γ spectra using Gammasphere array at ATLAS-ANL facility. In reference 24, authors mentioned that full details of this study are to be published elsewhere. But in evaluators' search of literature, no further publication from this group seems to have appeared.

¹⁹⁰W Levels

E(level) [†]	J ^π [‡]	T _{1/2}	Comments
0 [#]	0 ⁺		
206 [#] 1	2 ⁺		
564 [#] 2	4 ⁺		
1048 [#] 2	6 ⁺		
1640 [#] 2	8 ⁺		
1742 [@] 2	8 ⁺	111 ns 17	%IT=100 T _{1/2} : from γ(t) (2010La16). Configuration=ν9/2[505]⊗ν7/2[503].
1839 2	10 ⁻	166 μs 6	%IT=100 T _{1/2} : from γ(t) (2010La16). Interpreted as yrast-trap isomer not a K isomer. Configuration=ν9/2[505]⊗ν11/2[615], K ^π =10 ⁻ .
2066 [@] 2	(9 ⁺)		
2316 [#] 2	10 ⁺		
2422 [@] 3	(10 ⁺)		
2653 3	(12 ⁺)		

[†] From Eγ data, assuming ΔEγ=1 keV for each γ ray.

[‡] From 2010La16, based on systematics of even-even nuclei up to 8⁺, and band assignment for higher positive-parity levels. For 10⁻ level, the assignment is from (M2) transition to 1742, 8⁺ level.

Band(A): g.s. band.

@ Band(B): K^π=8⁺, ν9/2[505]⊗ν7/2[503].

γ(¹⁹⁰W)

E _i (level)	J _i ^π	E _γ	I _γ	E _f	J _f ^π	Mult.	α [†]	Comments
206	2 ⁺	206		0	0 ⁺			
564	4 ⁺	358		206	2 ⁺			
1048	6 ⁺	484		564	4 ⁺			
1640	8 ⁺	592		1048	6 ⁺			
1742	8 ⁺	102	4.8 11	1640	8 ⁺	(M1)	4.49 15	B(M1)(W.u.)=7×10 ⁻⁶ 2 (2010La16) Reduced hindrance factor f _v =5.4 2 (2010La16), ν=7, from B(M1)(W.u.).
		694	100 2	1048	6 ⁺	[E2]	0.00972 14	B(E2)(W.u.)=3.9×10 ⁻⁴ 6 (2010La16) Reduced hindrance factor f _v =3.7 1 (2010La16), ν=6, from B(E2)(W.u.).
1839	10 ⁻	97	100	1742	8 ⁺	M2	48.1 21	B(M2)(W.u.)=0.0134 5 (2010La16)
2066	(9 ⁺)	324		1742	8 ⁺			
2316	10 ⁺	676		1640	8 ⁺			

Continued on next page (footnotes at end of table)

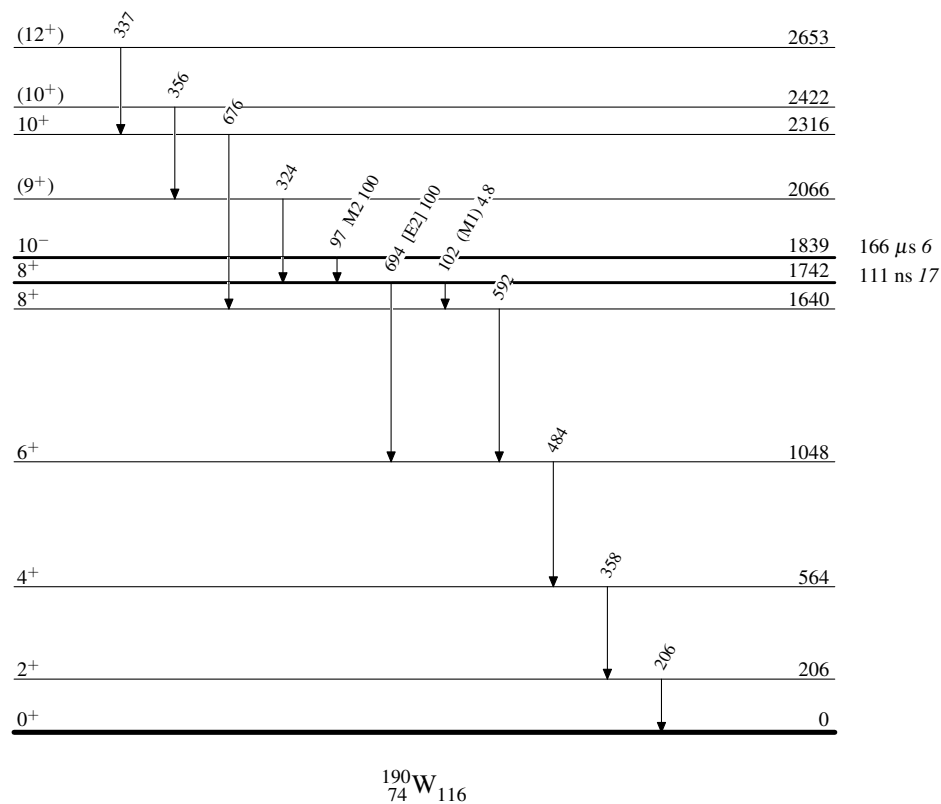
${}^{192}\text{Os}({}^{136}\text{Xe}, \text{X}\gamma), {}^{186}\text{W}({}^{136}\text{Xe}, \text{X}\gamma)$ 2010La16 (continued) $\gamma({}^{190}\text{W})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ	E_f	J_f^π
2422	(10 ⁺)	356	2066	(9 ⁺)
2653	(12 ⁺)	337	2316	10 ⁺

† Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

 ${}^{192}\text{Os}({}^{136}\text{Xe}, \text{X}\gamma), {}^{186}\text{W}({}^{136}\text{Xe}, \text{X}\gamma)$ 2010La16Level Scheme

Intensities: Relative photon branching from each level



${}^{192}\text{Os}({}^{136}\text{Xe}, X\gamma), {}^{186}\text{W}({}^{136}\text{Xe}, X\gamma)$ 2010La16