

¹⁸⁶W(¹³⁶Xe,Xγ) 2010La16

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev, S. Juutinen, D. J. Hartley		NDS 150, 1 (2018)	1-Feb-2018

2010La16: E=840 MeV. Measured E_γ, I_γ, γγ, delayed γ spectra using Gammasphere array at ANL with 99 HPGe detectors. Discovery of an isomer and new band structures. Includes data from the ¹⁹²Os(¹³⁶Xe,Xγ) reaction.

¹⁸⁸W Levels

E(level) [†]	J ^π [‡]	T _{1/2}	Comments
0.0 [#]	0 ⁺		
144.0 [#] 10	2 ⁺		
441.2 [#] 13	4 ⁺		
873.3 [#] 14	6 ⁺		
981.5 ^{&} 13	2 ⁻		
1072.3 ^{&} 13	3 ⁻		
1196.4 ^{&} 14	4 ⁻		
1344.3 ^{&} 13	5 ⁻		
1428.3 [#] 15	8 ⁺		
1536.3 ^{&} 15	6 ⁻		
1731.2 ^{&} 14	7 ⁻		
1745.3 ^a 14	7 ⁻		
1928.8 [@] 14	8 ⁻	109.5 ns 35	T _{1/2} : from γ(t) (double gating of γ-ray transitions within the ground-state band) in 2010La16 .
2276.6 [@] 16	9 ⁻		
2668.1 [@] 16	10 ⁻		
3088.8 [@] 17	11 ⁻		

[†] From least-squares fit to E_γ's.

[‡] From [2010La16](#).

[#] Band(A): K^π=0⁺, g.s. band.

[@] Band(B): K^π=8⁻, π9/2[514]⊗π7/2[404]. g_K-g_R=0.76 4, assuming Q₀=6.5 eb, is in good agreement with the expected value of 0.70 from the Nilsson model and g_R=0.3.

[&] Band(C): K^π=2⁻, octupole band.

^a Band(D): K^π=7⁻, ν3/2[512]⊗ν11/2[615].

γ(¹⁸⁸W)

E _i (level)	J _i ^π	E _γ [†]	E _f	J _f ^π	E _i (level)	J _i ^π	E _γ [†]	E _f	J _f ^π
144.0	2 ⁺	144 I	0.0	0 ⁺	1344.3	5 ⁻	903 I	441.2	4 ⁺
441.2	4 ⁺	297 I	144.0	2 ⁺	1428.3	8 ⁺	555 I	873.3	6 ⁺
873.3	6 ⁺	432 I	441.2	4 ⁺	1536.3	6 ⁻	340 I	1196.4	4 ⁻
981.5	2 ⁻	838 I	144.0	2 ⁺	1731.2	7 ⁻	195 I	1536.3	6 ⁻
1072.3	3 ⁻	91 I	981.5	2 ⁻			303 I	1428.3	8 ⁺
		631 I	441.2	4 ⁺			387 I	1344.3	5 ⁻
		928 I	144.0	2 ⁺			858 I	873.3	6 ⁺
1196.4	4 ⁻	215 I	981.5	2 ⁻	1745.3	7 ⁻	(14 I)	1731.2	7 ⁻
1344.3	5 ⁻	148 I	1196.4	4 ⁻			209 I	1536.3	6 ⁻
		272 I	1072.3	3 ⁻			317 I	1428.3	8 ⁺
		471 I	873.3	6 ⁺			401 I	1344.3	5 ⁻

Continued on next page (footnotes at end of table)

$^{186}\text{W}(^{136}\text{Xe}, \text{X}\gamma)$ 2010La16 (continued) $\gamma(^{188}\text{W})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult. [†]	Comments
1745.3	7 ⁻	872 <i>I</i>		873.3	6 ⁺		
1928.8	8 ⁻	184 <i>I</i>	100 2	1745.3	7 ⁻	M1	Mult.: from the measured total conversion coefficient of 0.77 6 in 2010La16, which is closest to the calculated value of 0.85 for M1.
		198 <i>I</i>	1.9 7	1731.2	7 ⁻	[M1]	
2276.6	9 ⁻	348 <i>I</i>		1928.8	8 ⁻		
2668.1	10 ⁻	392 <i>I</i>		2276.6	9 ⁻		
		739 <i>I</i>		1928.8	8 ⁻		
3088.8	11 ⁻	421 <i>I</i>		2668.1	10 ⁻		
		812 <i>I</i>		2276.6	9 ⁻		

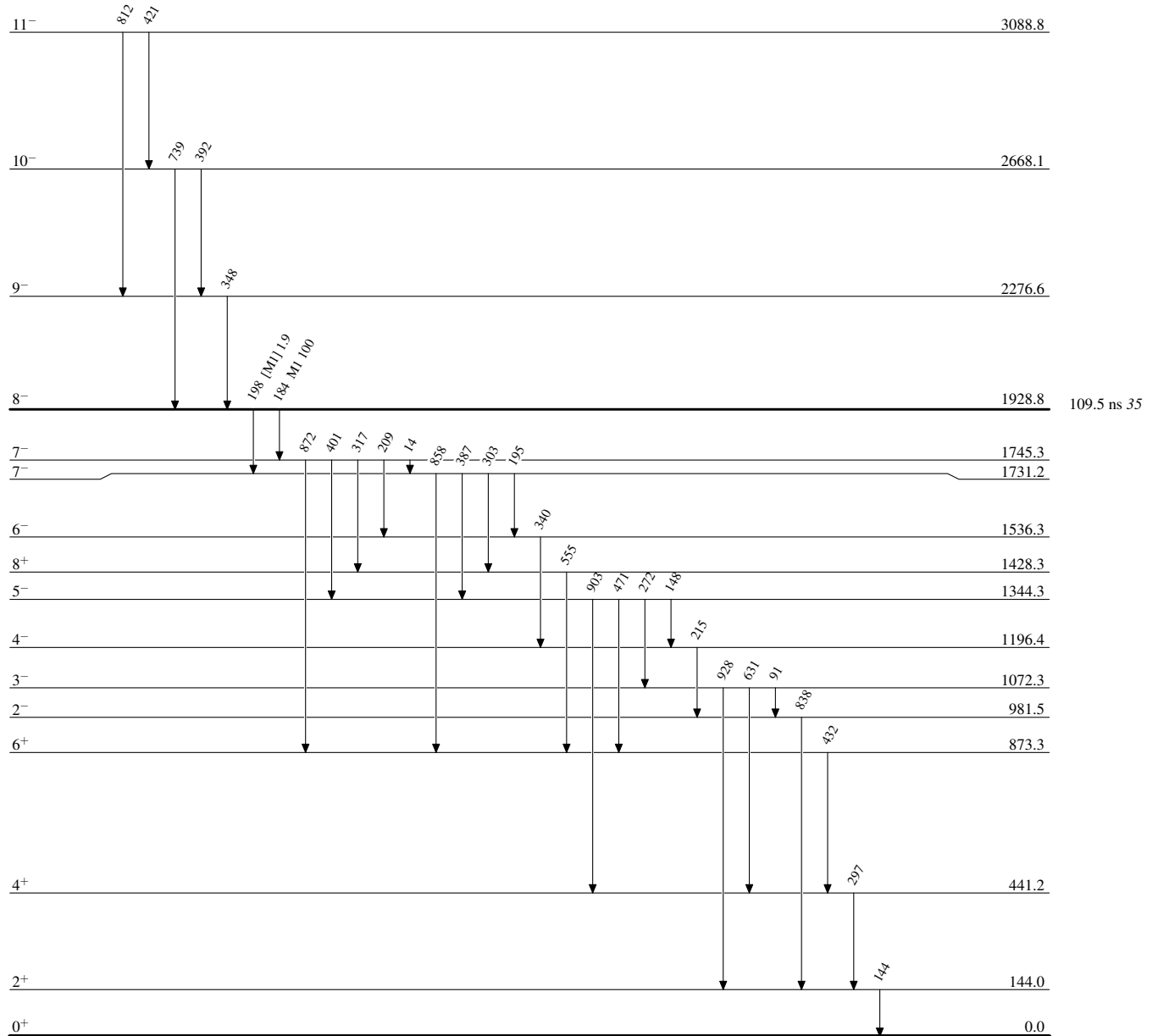
[†] From 2010La16.

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

Legend

Level Scheme

Intensities: Relative photon branching from each level

-----> γ Decay (Uncertain) $^{188}_{74}\text{W}_{114}$

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