^{186}W(^{18}O,^{16}Oγ)   2006Sh23

History

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

2006Sh23: E=180 MeV. Measured Eγ, Iγ, $\gamma\gamma$, (particle)γ coin using four surface barrier Si ΔE-E detectors and seven HPGe detectors.

^{188}W Levels

E(level)†	J$^{\pi\ddagger}$	E(level)†	J$^{\pi\ddagger}$	E(level)†	J$^{\pi\ddagger}$	E(level)†	J$^{\pi\ddagger}$
0.0$^{\#}$	0$^+$	854.13 21	(0$^+$,2$^+$,4$^+$)	1070.7$^{\&}$ 4	3$^{(-)}$	1425.1$^{\#}$ 3	8$^+$
143.16$^{\#}$ 9	2$^+$	871.10$^{\#}$ 16	6$^+$	1193.76$^{\&}$ 16	4$^{(-)}$	1533.76$^{\&}$ 19	(6$^-$)
439.49$^{\#}$ 13	4$^+$	939.23$^{@}$ 21	4$^+$	1228.9 5	(2$^+$,4$^+$)	1538.2^{a} 4	(5)
628.14$^{@}$ 9	2$^+$	979.35$^{\&}$ 13	2$^{(-)}$	1341.8$^{\&}$ 6	5$^{(-)}$		

† From a least-squares fit to Eγ's.

‡ From 2006Sh23 based on angular asymmetry ratios and band assignments.

$^{\#}$ Band(A): K$^{\pi}$=0$^+$, g.s. band.

$^{@}$ Band(B): K$^{\pi}$=2$^+$, γ-vibration band.

$^{\&}$ Band(C): K$^{\pi}$=2$^{(-)}$, octupole band.

^{a} Band(D): Possible K$^{\pi}$=5$^+$, configuration=ν1/2[510]$\otimes\nu$9/2[505].

γ(^{188}W)

E$_{\gamma}^{\dagger}$	I$_{\gamma}^{\dagger}$	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$	Mult.†	Comments
91	<1	1070.7	3$^{(-)}$	979.35	2$^{(-)}$		
142.9 1	53 3	143.16	2$^+$	0.0	0$^+$	E2	Mult.: R(asym)=1.13 3.
214.4 1	5 1	1193.76	4$^{(-)}$	979.35	2$^{(-)}$	E2	Mult.: R(asym)=1.27 18.
271.6 10	2 1	1341.8	5$^{(-)}$	1070.7	3$^{(-)}$		
296.3 1	100 5	439.49	4$^+$	143.16	2$^+$	E2	Mult.: R(asym)=1.67 3.
311.3 5	3 1	939.23	4$^+$	628.14	2$^+$		
340.0 1	4 1	1533.76	(6$^-$)	1193.76	4$^{(-)}$	(E2)	Mult.: R(asym)=1.03 11.
344.3 4	2 1	1538.2	(5)	1193.76	4$^{(-)}$		
351.2 1	16 2	979.35	2$^{(-)}$	628.14	2$^+$	(E1)	Mult.: R(asym)=1.21 8; ΔJ=0 transition.
375.0 5	5 1	1228.9	(2$^+$,4$^+$)	854.13	(0$^+$,2$^+$,4$^+$)		
431.6 1	29 2	871.10	6$^+$	439.49	4$^+$	E2	Mult.: R(asym)=1.91 8.
442.5 10	3 1	1070.7	3$^{(-)}$	628.14	2$^+$		
469.4 10	2 1	1341.8	5$^{(-)}$	871.10	6$^+$		
484.7 1	21 3	628.14	2$^+$	143.16	2$^+$	M1+E2	Mult.: R(asym)=0.70 3; ΔJ=0 transition, but the assignment is not unambiguous.
499.7 2	7 1	939.23	4$^+$	439.49	4$^+$		
554.0 2	3 1	1425.1	8$^+$	871.10	6$^+$	E2	Mult.: R(asym)=2.05 20.
599.3 10	2 1	1538.2	(5)	939.23	4$^+$		
600.6 10	2 1	1228.9	(2$^+$,4$^+$)	628.14	2$^+$		
628.4 1	25 7	628.14	2$^+$	0.0	0$^+$	(E2)	Mult.: R(asym)=1.00 5.
630.2 10	2 1	1070.7	3$^{(-)}$	439.49	4$^+$		
662.5 10	≈1	1533.76	(6$^-$)	871.10	6$^+$		
667.5 10	≈1	1538.2	(5)	871.10	6$^+$		
711.0 2	14 3	854.13	(0$^+$,2$^+$,4$^+$)	143.16	2$^+$		R(asym)=1.00 4.
788.8 10	≈1	1228.9	(2$^+$,4$^+$)	439.49	4$^+$		
796.5 10	4 2	939.23	4$^+$	143.16	2$^+$	E2	Mult.: R(asym)=1.73 12.
903.0 10	3 1	1341.8	5$^{(-)}$	439.49	4$^+$	(E1)	Mult.: R(asym)=0.81 5.

^{186}W(^{18}O,^{16}Oγ)   **2006Sh23** (continued)

γ(^{188}W) (continued)

E_γ[†]	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
928.0 5	7 2	1070.7	3$^{(-)}$	143.16	2$^+$	(E1)	Mult.: R(asym)=0.64 3.
1099.0 10	3 1	1538.2	(5)	439.49	4$^+$		

[†] From 2006Sh23. Multipolarities based on R(asym)=Iγ(in reaction plane)/Iγ(out of reaction plane), measured in 2006Sh23. R(asym)>1 is expected for ΔJ=2, quadrupole or ΔJ=0, dipole and R(asym)<1 for ΔJ=1, dipole. For in-band transitions D,Q=M1,E2 was assumed.
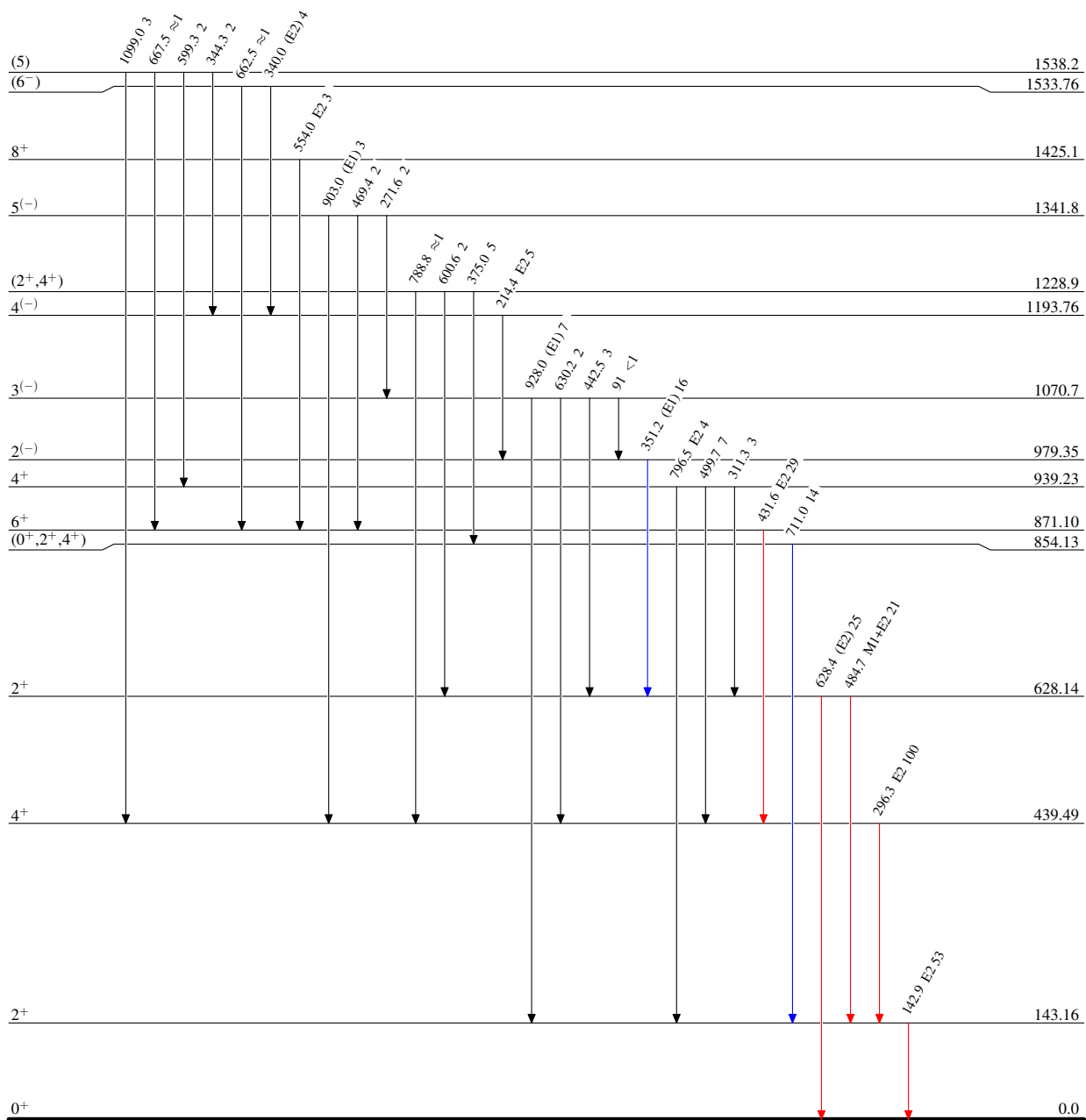
^{186}W(^{18}O,^{16}Oγ)   **2006Sh23** (continued)

${}^{186}W({}^{18}O,{}^{16}O\gamma)$ 2006Sh23

Level Scheme

Intensities: Relative I_γ

Legend

→ $I_\gamma < 2\% \times I_\gamma^{max}$
→ $I_\gamma < 10\% \times I_\gamma^{max}$
→ $I_\gamma > 10\% \times I_\gamma^{max}$

${}^{188}_{74}W_{114}$

$^{186}\text{W}(^{18}\text{O},^{16}\text{O}\gamma)$ 2006Sh23

Band(D): Possible $K^\pi=5^+$,
configuration=ν1/2[510]
$\otimes\nu$9/2[505]

Band(C): $K^\pi=2^{(-)}$, octupole band

(6⁻)   1533.76   (5)   1538.2

Band(A): $K^\pi=0^+$, g.s.
band

8⁺   1425.1

5⁽⁻⁾   340   1341.8

554

4⁽⁻⁾   272   1193.76

3⁽⁻⁾   214   1070.7

Band(B): $K^\pi=2^+$,
γ-vibration band   91

2⁽⁻⁾   979.35

4⁺   939.23

6⁺   871.10

311

432

2⁺   628.14

4⁺   439.49

296

2⁺   143.16

143

0⁺   0.0

$^{188}_{74}\text{W}_{114}$