

¹⁷⁶Yb(³¹P,Xγ) 2003La23

Type	History		
	Author	Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2008

E=152 MeV. Measured Eγ, Iγ, γγ using Euroball4 array with 30 HPGe detectors, 26 Clover detectors and 15 Cluster detectors in anti-Compton shields.

¹⁰⁸Pd Levels

E(level) [†]	J ^π	E(level) [†]	J ^π	E(level) [†]	J ^π	E(level) [†]	J ^π
0.0 [‡]	0 ⁺	2259.3 [@] 7	(6 ⁺)	2953.3 [@] 9	(8 ⁺)	3798.1 [‡] 6	12 ⁺
434.00 [‡] 18	2 ⁺	2282.7 4	(4,5)	3089.0 7	(8 ⁻)	3963.5 ^{&} 6	(11 ⁻)
931.20 [@] 22	2 ⁺	2324.3 ^{&} 4	5 ⁻	3100.0 ^a 5	(8 ⁻)	4158.6 [#] 6	(12 ⁺)
1048.41 [‡] 24	4 ⁺	2548.6 [‡] 4	8 ⁺	3257.0 [‡] 5	10 ⁺	4491.7 ^a 7	(12 ⁻)
1335.30 [@] 25	(3 ⁺)	2709.5 ^a 5	(6 ⁻)	3280.0 ^{&} 6	(9 ⁻)	4641.4 [‡] 7	14 ⁺
1624.5 [@] 4	(4 ⁺)	2761.3 4	7 ⁻	3350.8 [#] 5	10 ⁺	4776.9 ^{&} 8	(13 ⁻)
1771.4 [‡] 3	6 ⁺	2842.4 ^{&} 5	(7 ⁻)	3726.7 ^a 6	(10 ⁻)	4976.6 [#] 8	(14 ⁺)
2083.3 [@] 4	(5 ⁺)	2863.9 4	(5,6)	3792.5 9	(10 ⁻)	5689.4 [‡] 8	(16 ⁺)

[†] From least-squares fit to Eγ's.

[‡] Band(A): g.s. band. Bankbend due to pair of h_{11/2} neutrons.

[#] Band(B): band based on 10⁺.

[@] Band(C): γ band.

[&] Band(D): 5⁻ band. Interpreted as 2qp+rotor states. The quasiparticle configurations are: νh_{11/2}νg_{7/2} and νh_{11/2}νd_{5/2}.

^a Band(d): 6⁻ band. Interpreted as 2qp+rotor states. The quasiparticle configurations are: νh_{11/2}νg_{7/2} and νh_{11/2}νd_{5/2}.

γ(¹⁰⁸Pd)

E _γ	I _γ	E _i (level)	J _i ^π	E _f	J _f ^π	Comments
257.5 5	2 1	3100.0	(8 ⁻)	2842.4	(7 ⁻)	
286.9 4	4 1	1335.30	(3 ⁺)	1048.41	4 ⁺	
327.7 5	3 1	3089.0	(8 ⁻)	2761.3	7 ⁻	
338.7 5	3 1	3100.0	(8 ⁻)	2761.3	7 ⁻	
385.2 5	<1	2709.5	(6 ⁻)	2324.3	5 ⁻	
390.5 3	4 1	3100.0	(8 ⁻)	2709.5	(6 ⁻)	
404.1 3	18 2	1335.30	(3 ⁺)	931.20	2 ⁺	
434.0 2		434.00	2 ⁺	0.0	0 ⁺	E _γ : 0.2 keV uncertainty assumed (evaluator).
437.0 5	3 1	2761.3	7 ⁻	2324.3	5 ⁻	
497.2 3	23 1	931.20	2 ⁺	434.00	2 ⁺	
518.7 4	9 1	3280.0	(9 ⁻)	2761.3	7 ⁻	
541.1 3	15 1	3798.1	12 ⁺	3257.0	10 ⁺	
576.1 5	7 1	1624.5	(4 ⁺)	1048.41	4 ⁺	
581.2 3	26 2	2863.9	(5,6)	2282.7	(4,5)	
614.4 2	135 5	1048.41	4 ⁺	434.00	2 ⁺	
626.7 4	3 1	3726.7	(10 ⁻)	3100.0	(8 ⁻)	
634.8 5	2 1	2259.3	(6 ⁺)	1624.5	(4 ⁺)	
683.5 2	4.5 10	3963.5	(11 ⁻)	3280.0	(9 ⁻)	
693.3 5	20 2	1624.5	(4 ⁺)	931.20	2 ⁺	
694.0 6	≈1	2953.3	(8 ⁺)	2259.3	(6 ⁺)	E _γ : 2003La23 quote uncertainty of 6 keV, which seems a misprint.
703.5 5	2 1	3792.5	(10 ⁻)	3089.0	(8 ⁻)	
708.4 3	21 1	3257.0	10 ⁺	2548.6	8 ⁺	
723.0 2	100	1771.4	6 ⁺	1048.41	4 ⁺	

Continued on next page (footnotes at end of table)

$^{176}\text{Yb}(^{31}\text{P},\text{X}\gamma)$ 2003La23 (continued) $\gamma(^{108}\text{Pd})$ (continued)

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
748.0	3	2083.3	(5 ⁺)	1335.30	(3 ⁺)	
765.0	3	4491.7	(12 ⁻)	3726.7	(10 ⁻)	
777.2	2	2548.6	8 ⁺	1771.4	6 ⁺	
802.2	3	3350.8	10 ⁺	2548.6	8 ⁺	
807.8	3	4158.6	(12 ⁺)	3350.8	10 ⁺	
813.4	4	4776.9	(13 ⁻)	3963.5	(11 ⁻)	
818.0	6	4976.6	(14 ⁺)	4158.6	(12 ⁺)	E_γ : 2003La23 quote uncertainty of 6 keV, which seems a misprint.
843.3	3	4641.4	14 ⁺	3798.1	12 ⁺	
901.3	3	1335.30	(3 ⁺)	434.00	2 ⁺	
931.2	3	931.20	2 ⁺	0.0	0 ⁺	E_γ : 0.3 keV uncertainty assumed.
938.0	5	2709.5	(6 ⁻)	1771.4	6 ⁺	
947.4	3	2282.7	(4,5)	1335.30	(3 ⁺)	
989.8	4	2761.3	7 ⁻	1771.4	6 ⁺	
1048.0	5	5689.4	(16 ⁺)	4641.4	14 ⁺	
1071.0	4	2842.4	(7 ⁻)	1771.4	6 ⁺	
1092.4	5	2863.9	(5,6)	1771.4	6 ⁺	
1234.3	4	2282.7	(4,5)	1048.41	4 ⁺	
1275.9	3	2324.3	5 ⁻	1048.41	4 ⁺	

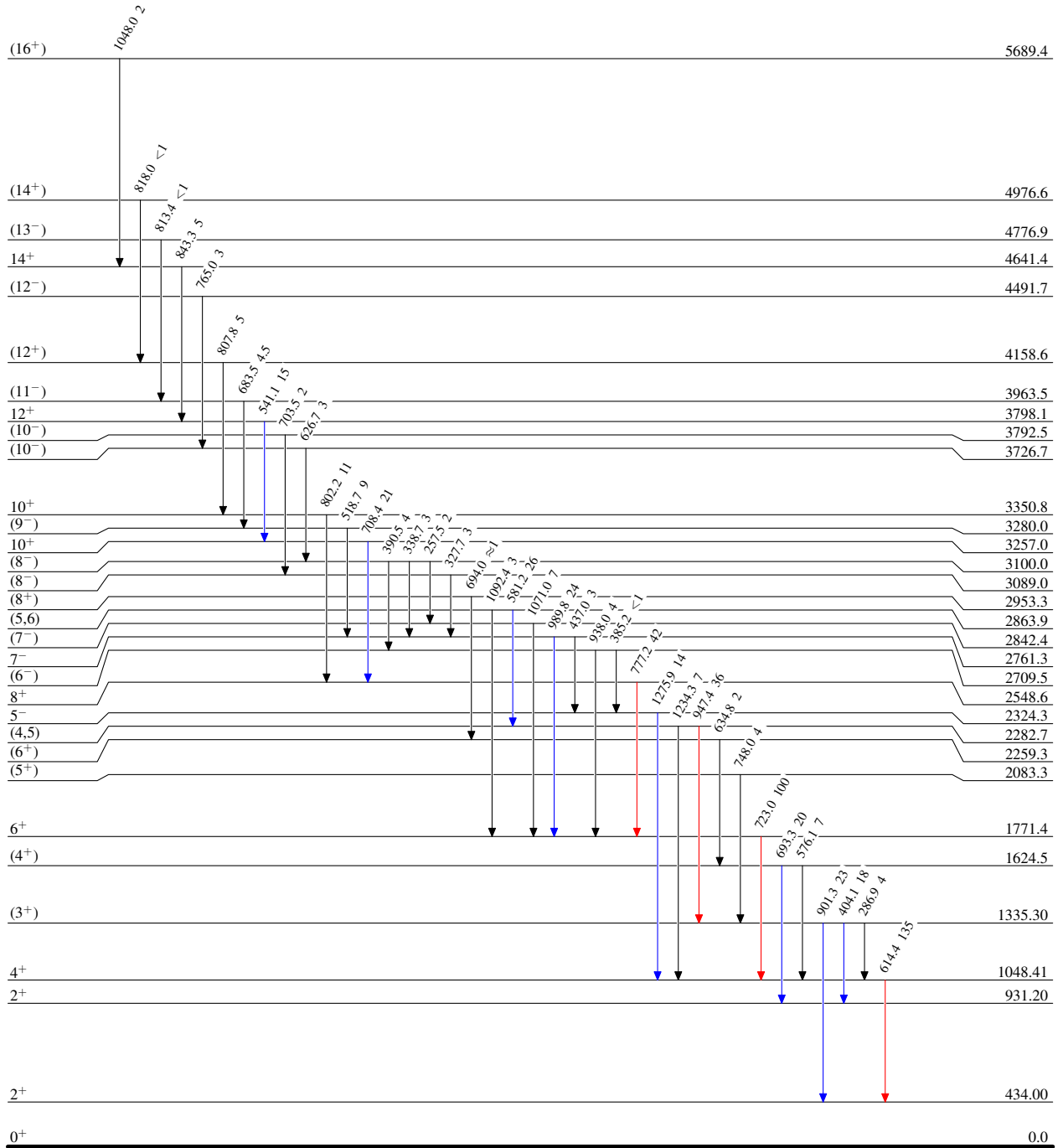
$^{176}\text{Yb}(^{31}\text{P},\text{X}\gamma)$ 2003La23

Level Scheme

Intensities: Relative I_γ

Legend

- \longrightarrow $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
- \longrightarrow $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
- \longrightarrow $I_\gamma > 10\% \times I_\gamma^{\text{max}}$



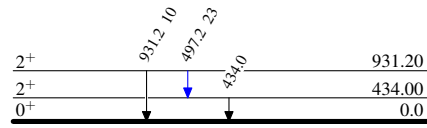
$^{176}\text{Yb}(^{31}\text{P},\text{X}\gamma)$ 2003La23

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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

 $^{108}_{46}\text{Pd}_{62}$

$^{176}\text{Yb}(^{31}\text{P},\text{X}\gamma)$ 2003La23