

(HL,xn γ) 2005Po03

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. Hashizume	NDS 112, 1647 (2011)	1-Oct-2009

$^{238}\text{U}(^{12}\text{C,FX}\gamma)$ E=90 MeV, EUROBALL III Ge array $^{208}\text{Pb}(^{18}\text{O,FX}\gamma)$ E=85 MeV, $^{176}\text{Yb}(^{31}\text{P,FX}\gamma)$ E=145 MeV, EUROBALL IV Ge array, Measured E γ , I γ , $\gamma\gamma$, fission fragments- γ (t).

The level scheme is that given by authors.

 ^{127}Sb Levels

E(C),J(C) Band built on the 2486-keV level, but spin (J_0) and parity of the base level have not been established. The absolute value of ΔJ is 1 or 2.

E(level) [†]	J π [‡]	T _{1/2}	Comments
0 [#] 5	7/2 ⁺		
1095.6 [#] 3	11/2 ⁺		
1947.6 [#] 4	(15/2 ⁺)		
2051.2 4	(13/2)		
2194.5 4	(15/2 ⁻)		
2324.9 [@] 5	(19/2 ⁻)	0.165 μs 20	T _{1/2} : From the delayed coincidences between fission fragments and γ 's: fission fragment detectors was used to trigger EUROBALL III.
2378.2 6			
2378.7 [#] 7	(19/2 ⁺)		
2379.2 5			
2485.7 6			
2678.3 7			
2863.8 [@] 6	(21/2 ⁻)		
3194.5 9			
3255.7 [@] 6	(23/2 ⁻)		
3670.8 10			
3868.3 [@] 7	(25/2 ⁻)		
4007.2 11			
4255.0 [@] 7	(27/2 ⁻)		
4736.3 [@] 8	(29/2)		
5101.7 [@] 9	(31/2)		
5354.5 [@] 10	(33/2)		

[†] From a least-squares fit to E(γ 's), unless otherwise noted.

[‡] Authors' values. The multipolarities of the γ 's are not given. The arguments for J^π assignments of authors consist of i)the assumptions that between yrast level transitions, spin values increase with the excitation energies, ii)systematics, iii)possible existence of crossover transitions.

[#] Positive-parity band.

[@] Negative-parity band.

(HI,xn γ) 2005Po03 (continued) $\gamma(^{127}\text{Sb})$

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π
130.4 2	31 7	2324.9	(19/2 ⁻)	2194.5	(15/2 ⁻)
143.2 2	20 5	2194.5	(15/2 ⁻)	2051.2	(13/2)
160.8 3	8 2	2485.7		2324.9	(19/2 ⁻)
183.7 4	8 2	2378.2		2194.5	(15/2 ⁻)
192.6 4	3.8 11	2678.3		2485.7	
246.9 2	61 9	2194.5	(15/2 ⁻)	1947.6	(15/2 ⁺)
252.8 4	3.1 12	5354.5	(33/2)	5101.7	(31/2)
328.0 3	9 2	2379.2		2051.2	(13/2)
336.4 5	1.3 5	4007.2		3670.8	
365.4 4	4.6 12	5101.7	(31/2)	4736.3	(29/2)
386.6 4	5.4 15	4255.0	(27/2 ⁻)	3868.3	(25/2 ⁻)
391.8 4	11 3	3255.7	(23/2 ⁻)	2863.8	(21/2 ⁻)
431.1 5	1.5 5	2378.7	(19/2 ⁺)	1947.6	(15/2 ⁺)
476.3 5	1.5 5	3670.8		3194.5	
481.3 4	4.6 13	4736.3	(29/2)	4255.0	(27/2 ⁻)
516.2 5	3.1 9	3194.5		2678.3	
538.9 3	15 4	2863.8	(21/2 ⁻)	2324.9	(19/2 ⁻)
612.6 4	8 2	3868.3	(25/2 ⁻)	3255.7	(23/2 ⁻)
852.0 2	100 10	1947.6	(15/2 ⁺)	1095.6	11/2 ⁺
931.0 5	4.6 12	3255.7	(23/2 ⁻)	2324.9	(19/2 ⁻)
955.5 4	54 6	2051.2	(13/2)	1095.6	11/2 ⁺
999.3 5	6.2 16	4255.0	(27/2 ⁻)	3255.7	(23/2 ⁻)
1095.6 3		1095.6	11/2 ⁺	0	7/2 ⁺

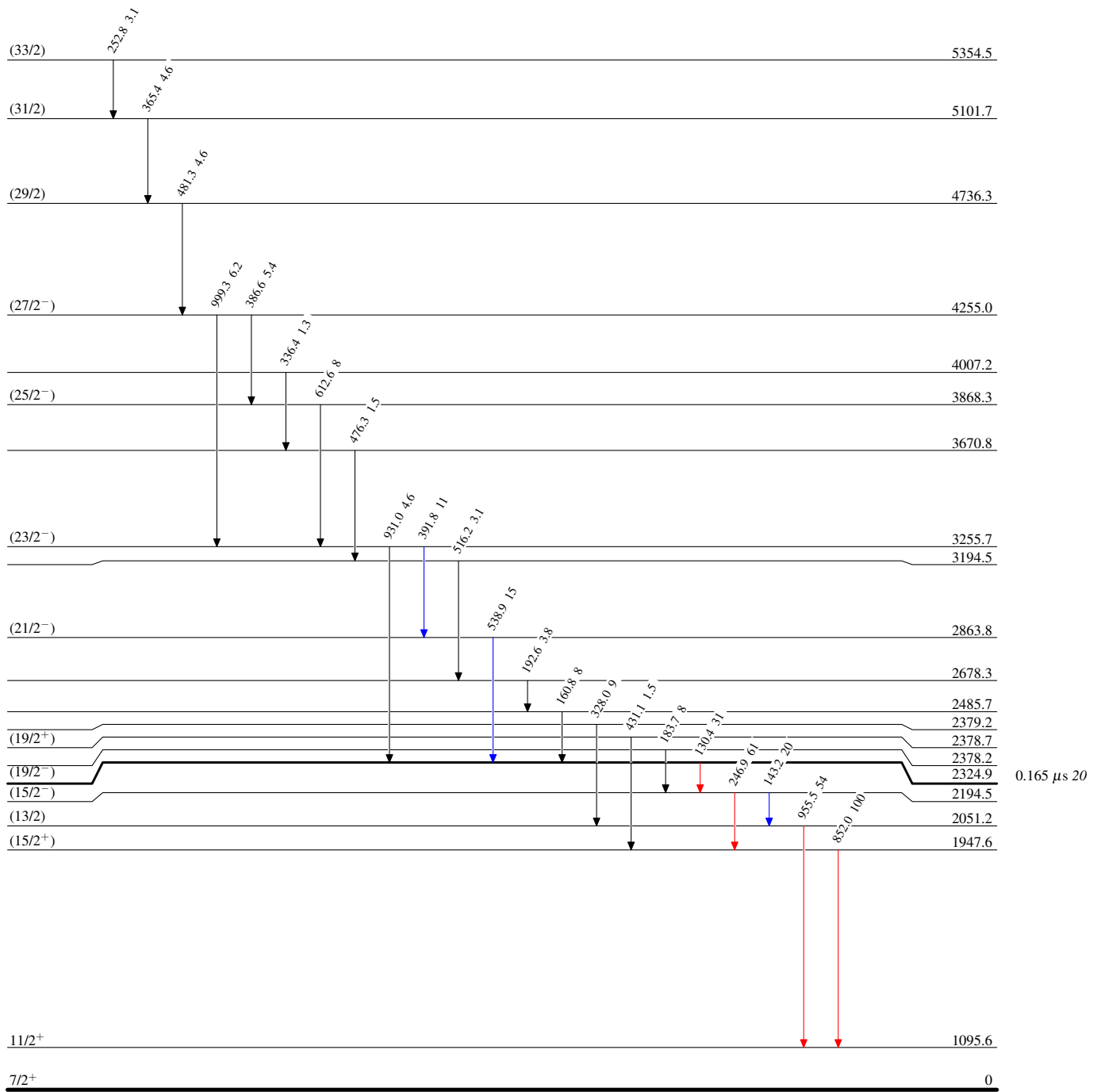
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Level Scheme

Intensities: Relative I_γ

Legend

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



$^{127}_{51}\text{Sb}_{76}$