

$^{238}\text{U}(^{12}\text{C},\text{x}\gamma)$ 2002Lu15

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 113, 2391 (2012)	1-Sep-2012

Includes $^{208}\text{Pb}(^{18}\text{O},\text{X}\gamma)$ and $^{176}\text{Yb}(^{31}\text{P},\text{X}\gamma)$ reactions.

$^{238}\text{U}(^{12}\text{C},\text{X}\gamma)$ E= 90 MeV; $^{208}\text{Pb}(^{18}\text{O},\text{X}\gamma)$ E= 85 MeV; $^{176}\text{Yb}(^{31}\text{P},\text{X}\gamma)$ E=152 MeV. Measured $E\gamma$, $I\gamma$, $\gamma\gamma$ using Euroball iii array of 15 cluster Ge detectors, 26 clover Ge detectors, and 30 tapered single-crystal Ge detectors.

 ^{115}In Levels

E(level) [†]	J π [‡]	Comments
0.0&	9/2 ⁺	E(level): not populated in this study. See ENSDF for ^{115}In for details about this level.
934.0& 10	7/2 ⁺	
1132.7 9	11/2 ⁺	
1290.3# 9	13/2 ⁺	
1418.0& 15	(11/2 ⁺)	
2119.0& 18	(15/2 ⁺)	
2137.4@ 13	(15/2 ⁻)	
2254.2 12	(17/2 ⁺)	
2283.4@ 14	(17/2 ⁻)	
2309.5# 12	(17/2 ⁺)	
2539.4@ 14	(19/2 ⁻)	
2646.0 13		
2831.4@ 18	(21/2 ⁻)	
2868.3# 13	(19/2 ⁺)	
2878.4# 13	(21/2 ⁺)	
2947.0& 20	(19/2 ⁺)	
2960.4# 17	(23/2 ⁺)	
3037.4@ 20	(23/2 ⁻)	
3096.4# 19	(25/2 ⁺)	
3183.4@ 23	(25/2 ⁻)	
3472.4# 22	(27/2 ⁺)	
3847.7@ 24	(27/2 ⁻)	
4041.4# 24	(29/2 ⁺)	
4583.1@ 24	(29/2 ⁻)	

[†] From least-squares fit to $E\gamma$'s, assuming $\Delta(E\gamma)=1$ keV for each γ ray.

[‡] From bands assignments.

Band(A): $\pi g_{9/2}^{-1} \nu h_{11/2}^2$.

@ Band(B): $\pi g_{9/2}^{-1} \nu h_{11/2}^1 (\nu(d_{5/2} \text{ and/or } g_{7/2})^1)$.

& Band(C): $\pi 1/2[431]$ from $\pi(g_{7/2} \text{ and/or } d_{5/2})$.

$^{238}\text{U}(^{12}\text{C},\text{x}\gamma)$ **2002Lu15 (continued)** $\gamma(^{115}\text{In})$

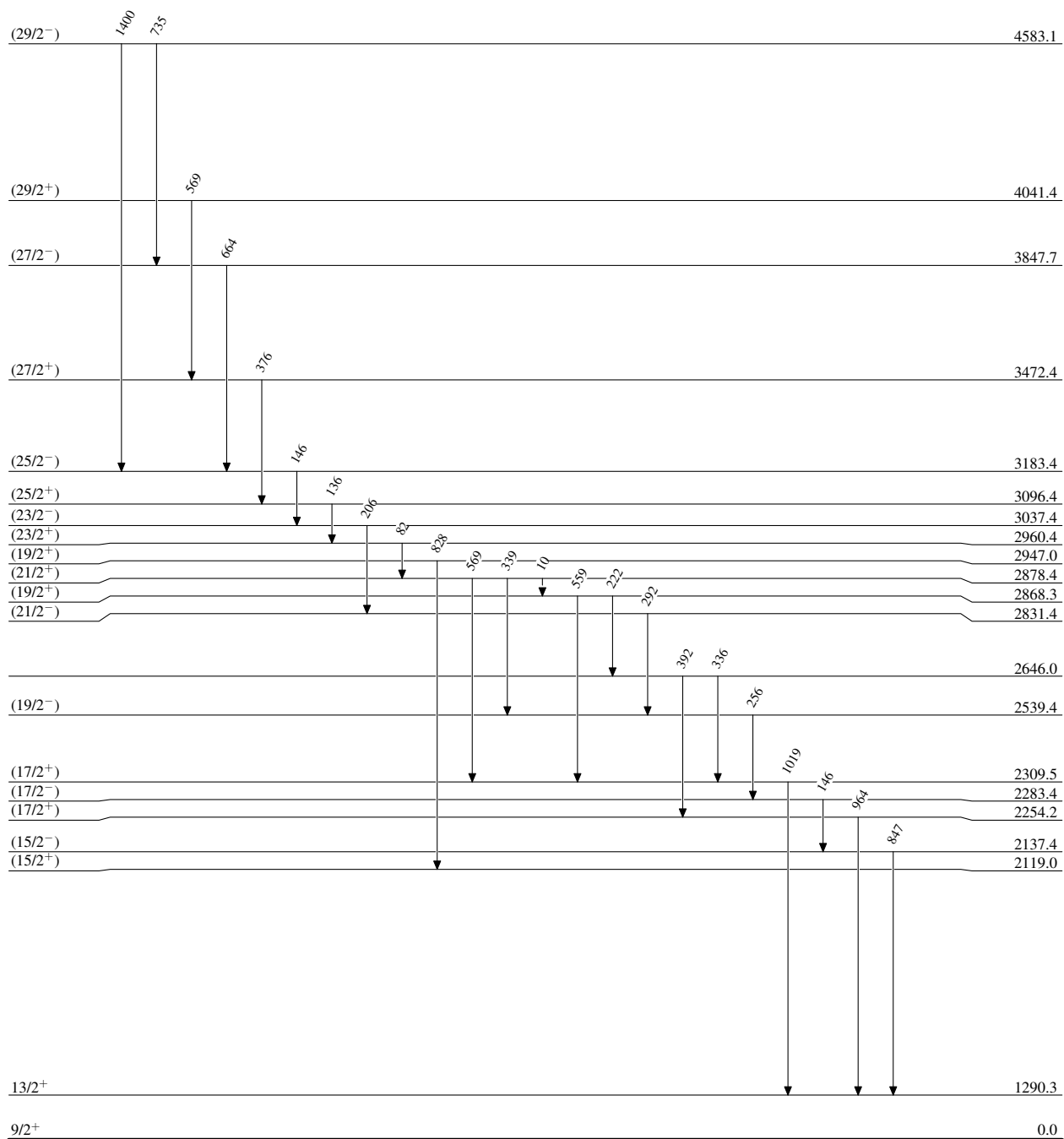
E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
(10)	2878.4	(21/2 ⁺)	2868.3	(19/2 ⁺)	E_γ : required by $\gamma\gamma$ coin data.
82 [†]	2960.4	(23/2 ⁺)	2878.4	(21/2 ⁺)	
136 [†]	3096.4	(25/2 ⁺)	2960.4	(23/2 ⁺)	
146 [†]	2283.4	(17/2 ⁻)	2137.4	(15/2 ⁻)	
146 [‡]	3183.4	(25/2 ⁻)	3037.4	(23/2 ⁻)	
158	1290.3	13/2 ⁺	1132.7	11/2 ⁺	
206 [‡]	3037.4	(23/2 ⁻)	2831.4	(21/2 ⁻)	
222	2868.3	(19/2 ⁺)	2646.0		
256 [†]	2539.4	(19/2 ⁻)	2283.4	(17/2 ⁻)	
292 [†]	2831.4	(21/2 ⁻)	2539.4	(19/2 ⁻)	
336	2646.0		2309.5	(17/2 ⁺)	
339	2878.4	(21/2 ⁺)	2539.4	(19/2 ⁻)	
376 [†]	3472.4	(27/2 ⁺)	3096.4	(25/2 ⁺)	
392	2646.0		2254.2	(17/2 ⁺)	
484 [‡]	1418.0	(11/2 ⁺)	934.0	7/2 ⁺	
559 [†]	2868.3	(19/2 ⁺)	2309.5	(17/2 ⁺)	
569 [†]	2878.4	(21/2 ⁺)	2309.5	(17/2 ⁺)	
569 [‡]	4041.4	(29/2 ⁺)	3472.4	(27/2 ⁺)	
664	3847.7	(27/2 ⁻)	3183.4	(25/2 ⁻)	
701	2119.0	(15/2 ⁺)	1418.0	(11/2 ⁺)	
735	4583.1	(29/2 ⁻)	3847.7	(27/2 ⁻)	
828	2947.0	(19/2 ⁺)	2119.0	(15/2 ⁺)	
847 [†]	2137.4	(15/2 ⁻)	1290.3	13/2 ⁺	
934 [‡]	934.0	7/2 ⁺	0.0	9/2 ⁺	
964	2254.2	(17/2 ⁺)	1290.3	13/2 ⁺	
1019	2309.5	(17/2 ⁺)	1290.3	13/2 ⁺	
1133	1132.7	11/2 ⁺	0.0	9/2 ⁺	
1290 [†]	1290.3	13/2 ⁺	0.0	9/2 ⁺	
1400	4583.1	(29/2 ⁻)	3183.4	(25/2 ⁻)	

[†] Strong transition.[‡] Medium-intensity transition.

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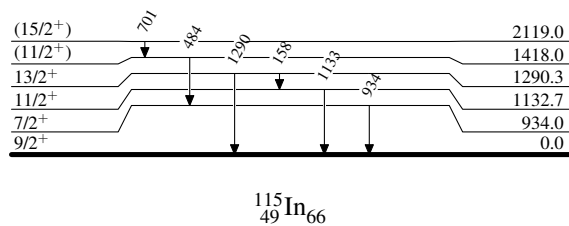
Legend

Level Scheme

-----► γ Decay (Uncertain) $^{115}_{49}\text{In}_{66}$

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Level Scheme (continued)



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