^{207}Pb(μ^-,3nγ) 1983Bu02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. J. Chiara and F. G. Kondev	NDS 111,141 (2010)	1-Oct-2009

1983Bu02: μ^- capture on Pb target enriched to 92.77% ^{207}Pb; planar Ge detector and coaxialGe(Li) detector for prompt and delayed Eγ, Iγ measurements, FWHM of 1.34 keV and 2.6 ns at 898 keV for Ge, 4.07 keV and 19 ns at 1.77 MeV forGe(Li) (1980Bu17).

^{204}Tl Levels

E(level)[†]	J$^\pi$[‡]
0	2$^-$
139.90 *7*	(1)$^-$
319.00 *8*	1$^-$,2$^-$
347.84 *21*	(3,4)$^-$
414.03 *18*	(4$^-$)
424.81 *15*	(1,2)$^-$
≈1118?[#]	
≈2213?[#]	

[†] From a least-squares fit to Eγ.
[‡] From Adopted Levels.
[#] A level near this energy has been identified in other reactions (see Adopted Levels), but identification of the level in this reaction is dubious–see comment for 1094.66γ.

γ(^{204}Tl)

E$_\gamma$[†]	I$_\gamma$[‡]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
139.90 *7*	1.19 *24*	139.90	(1)$^-$	0	2$^-$	
319.00 *8*	0.41 *8*	319.00	1$^-$,2$^-$	0	2$^-$	
347.84 *21*	0.9 *3*	347.84	(3,4)$^-$	0	2$^-$	
414.03 *18*	1.3 *4*	414.03	(4$^-$)	0	2$^-$	
424.81 *15*	1.0 *2*	424.81	(1,2)$^-$	0	2$^-$	
1094.66[#] *24*	1.0 *2*	≈2213?		≈1118?		E$_\gamma$: The level claimed to be fed by the 1094.66γ in 1983Bu02 (E≈1118) is not seen to γ decay in that work; the authors suggest this may be due to a long halflife (T$_{1/2}$>500 ns) which exceeds their sensitive range. However, this γ and corresponding levels are considered to be uncertain in 1983Bu02.
[x]1164.16 *25*	1.0 *2*					

[†] From 1983Bu02.
[‡] Per 100 captured muons in Pb enriched to 92.77% in ^{207}Pb. 1983Bu02 quote the total intensities including internal conversion coefficients based on assumed multipolarities; the evaluators have used the α values quoted by 1983Bu02 to calculate the Iγ's.
[#] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

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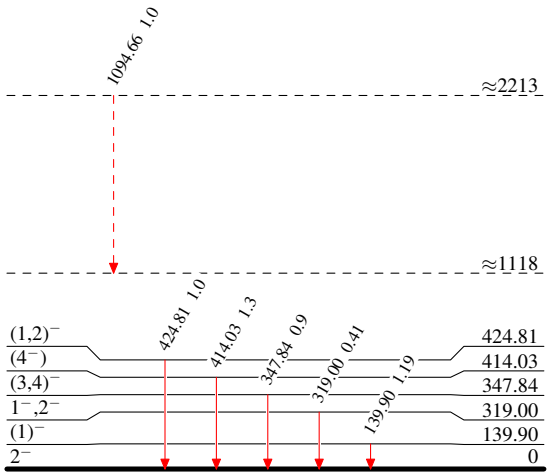
Level Scheme

Intensities: Type not specified

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)



$^{204}_{81}Tl_{123}$