^{96}Ru(^{78}Kr,2pnγ) 2003Ba32

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin, E. A. Mccutchan	NDS 151, 334 (2018)	30-Jun-2018

2003Ba32: E(^{78}Kr)≈363 MeV (mid-target); 96.52% enriched ^{96}Ru target; JUROSPHERE Ge detector array at target (15 EUROGAM-type detectors, 5 NORDBALL-type detectors and 5 TESSA-type detectors); RITU gas-filled recoil-separator with 16 position-sensitive Si strip detectors In focal plane, preceded by a multiwire proportional avalanche counter and followed by a Ge detector; α-decay tagging technique allowing ≤ 130 ms between recoil implant and α decay; measured Eγ, Iγ, $\gamma\gamma$ coin, $\gamma(\theta)$, recoil-α-γ and parent-daughter α correlations.

Other: 2010Sc02 (E=348 MeV); observed 445γ, 605γ, 670γ prompt gammas, with 90γ and 323γ from decay of 0.9 μs isomer In delayed coincidence.

^{171}Pt Levels

E(level)[†]	J$^\pi$[‡]
0.0+x[#]	(13/2)$^+$
445.0+x[#] *2*	(17/2)$^+$
1049.7+x[#] *3*	(21/2)$^+$
1060.9+x *3*	
1719.1+x[#] *4*	(25/2)$^+$
2404.0+x[#] *4*	

[†] From Eγ. values are relative to E(13/2$^+$ level)=x; from Adopted Levels, x=412.6 *10*, not 0 as assumed by the authors.

[‡] From 2003Ba32, based on deduced $i_{13/2}$ band structure.

[#] Band(A): Band based on (13/2$^+$) level. Either ν $i_{13/2}$ weakly coupled to vibrational core or decoupled ν $i_{13/2}$ rotational band with $i^2_{13/2}$ alignment.

$\gamma(^{171}Pt)$

E$_\gamma$[†]	I$_\gamma$[‡]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.[#]
[x]156.4 *4*	1.9 *3*					
[x]236.5 *3*	2.5 *3*					
[x]252.4 *3*	2.2 *3*					
[x]285.8 *3*	4.9 *4*					
[x]340.0 *3*	6.6 *7*					
[x]350.5 *3*	1.9 *3*					
[x]374.5 *3*	4.3 *4*					
[x]382.7 *3*	1.8 *3*					
445.0 *2*	100 *4*	445.0+x	(17/2)$^+$	0.0+x	(13/2)$^+$	Q
[x]462.2 *3*	4.5 *4*					
[x]515.6 *3*	8.6 *13*					
[x]520.5 *3*	23.4 *19*					
[x]528.8 *4*	12.3 *11*					
[x]554.0 *2*	8.2 *6*					
[x]586.5 *3*	5.2 *5*					
604.7 *2*	72.7 *24*	1049.7+x	(21/2)$^+$	445.0+x	(17/2)$^+$	Q
615.9 *2*	14.5 *8*	1060.9+x		445.0+x	(17/2)$^+$	
[x]633.0 *4*	5.8 *7*					
[x]651.7 *3*	4.8 *5*					
669.4 *2*	37.1 *13*	1719.1+x	(25/2)$^+$	1049.7+x	(21/2)$^+$	Q
684.9 *2*	20.1 *11*	2404.0+x		1719.1+x	(25/2)$^+$	
[x]747.8 *3*	4.9 *5*					
[x]758.2 *3*	6.3 *6*					

Continued on next page (footnotes at end of table)

^{96}Ru(^{78}Kr,2pnγ) 2003Ba32 (continued)

γ(^{171}Pt) (continued)

E_γ[†]	I_γ[‡]	E_i(level)
[x]772.7 *3*	14.0 *9*	
[x]1208.0 *5*	10.7 *9*	

[†] From 2003Ba32.
[‡] Intensity relative to I(445γ)=100; from 2003Ba32.
[#] From γ(θ) plots shown in figure 2 of 2003Ba32.
[x] γ ray not placed in level scheme.

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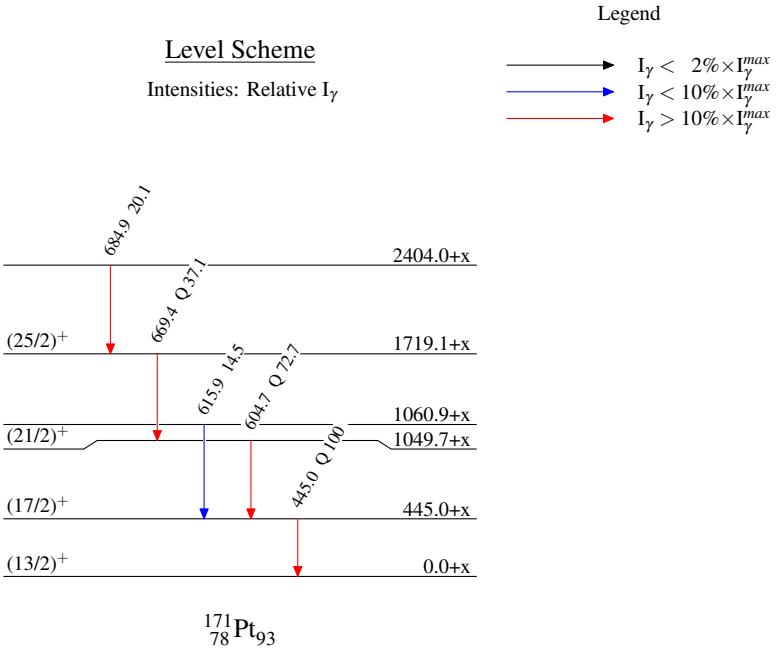

$^{171}_{78}Pt_{93}$

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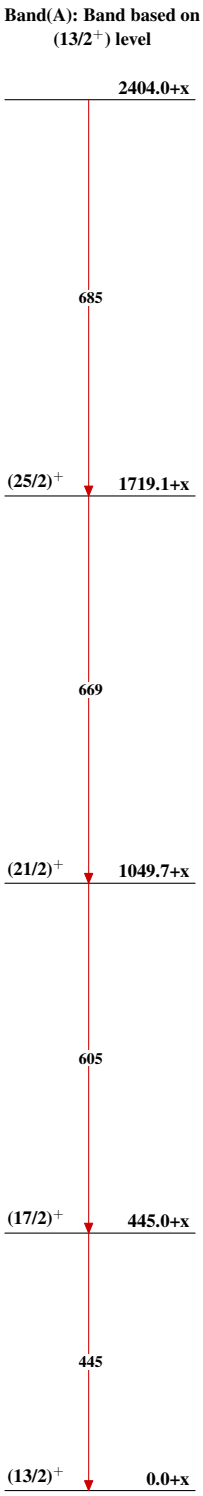

$^{171}_{78}Pt_{93}$