

²⁴⁴Pu(²⁰⁸Pb,²⁰⁹Pb γ) 2003WiZY

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja, E. A. Mccutchan		NDS 121, 695 (2014)	30-Sep-2013

2003WiZY: The decay scheme given as constructed by **2003WiZY** from the work of **1999Wi11**. Two bands, built on the 7/2⁺ band head and the 9/2⁺ member of the 7/2[624] Nilsson state, were constructed by adding on the previously known lower members of the 7/2[624] band. Deduced aligned angular momentum for the band indicated the alignment of a pair of i13/2 protons due to the Coriolis force.

1999Wi11: 1300 MeV beam of ²⁰⁸Pb ions from ATLAS accelerator bombarded \approx 0.3 mg ²⁴⁴Pu. Gammas detected with Gammasphere array consisting of 101 Compton-suppressed Ge Spectrometers.

See **1999Wi11**, **1999CI07** and **2000WiZX** for discussions.

²⁴³Pu Levels

E(level) [†]	J ^π [‡]	E(level) [†]	J ^π [‡]	E(level) [†]	J ^π [‡]	E(level) [†]	J ^π [‡]
0.0 [#]	7/2 ⁺	646.8 [@]	21/2 ⁺	1824 [#]	35/2 ⁺	3413 [@]	49/2 ⁺
58.1 [@]	9/2 ⁺	784.0 [#]	23/2 ⁺	2030 [@]	37/2 ⁺	3656 [#]	51/2 ⁺
125.0 [#]	11/2 ⁺	933.0 [@]	25/2 ⁺	2243 [#]	39/2 ⁺	3901 [@]	53/2 ⁺
207.1 [@]	13/2 ⁺	1091.5 [#]	27/2 ⁺	2465 [@]	41/2 ⁺	4142 [#]	55/2 ⁺
299.0 [#]	15/2 ⁺	1261.1 [@]	29/2 ⁺	2692 [#]	43/2 ⁺	4384 [@]	57/2 ⁺
404.0 [@]	17/2 ⁺	1439.0 [#]	31/2 ⁺	2929 [@]	45/2 ⁺	4625 ^{?#}	(59/2 ⁺)
519.1 [#]	19/2 ⁺	1628 [@]	33/2 ⁺	3167 [#]	47/2 ⁺		

[†] From least squares fit to E_γ data.

[‡] From band assignments.

[#] Band(A): J=K, J+2, J+4.... members of the 7/2[624] band.

[@] Band(B): J+1, J+3, J+5.... members of the 7/2[624] band.

γ (²⁴³Pu)

E _γ [†]	E _i (level)	J _i ^π	E _f	J _f ^π	E _γ [†]	E _i (level)	J _i ^π	E _f	J _f ^π
(58.1 [‡])	58.1	9/2 ⁺	0.0	7/2 ⁺	384.9	1824	35/2 ⁺	1439.0	31/2 ⁺
125	125.0	11/2 ⁺	0.0	7/2 ⁺	402.4	2030	37/2 ⁺	1628	33/2 ⁺
149.0	207.1	13/2 ⁺	58.1	9/2 ⁺	419.1	2243	39/2 ⁺	1824	35/2 ⁺
174	299.0	15/2 ⁺	125.0	11/2 ⁺	434.9	2465	41/2 ⁺	2030	37/2 ⁺
196.9	404.0	17/2 ⁺	207.1	13/2 ⁺	449.2	2692	43/2 ⁺	2243	39/2 ⁺
220.1	519.1	19/2 ⁺	299.0	15/2 ⁺	463.6	2929	45/2 ⁺	2465	41/2 ⁺
242.8	646.8	21/2 ⁺	404.0	17/2 ⁺	475.0	3167	47/2 ⁺	2692	43/2 ⁺
264.9	784.0	23/2 ⁺	519.1	19/2 ⁺	482.5	4384	57/2 ⁺	3901	53/2 ⁺
286.2	933.0	25/2 ⁺	646.8	21/2 ⁺	482.9	4625?	(59/2 ⁺)	4142	55/2 ⁺
307.5	1091.5	27/2 ⁺	784.0	23/2 ⁺	484.5	3413	49/2 ⁺	2929	45/2 ⁺
328.1	1261.1	29/2 ⁺	933.0	25/2 ⁺	486.5	4142	55/2 ⁺	3656	51/2 ⁺
347.5	1439.0	31/2 ⁺	1091.5	27/2 ⁺	488.2	3901	53/2 ⁺	3413	49/2 ⁺
366.5	1628	33/2 ⁺	1261.1	29/2 ⁺	488.6	3656	51/2 ⁺	3167	47/2 ⁺

[†] From **2003WiZY**. Gamma intensities have not been quantitatively analyzed (**2003WiZY**).

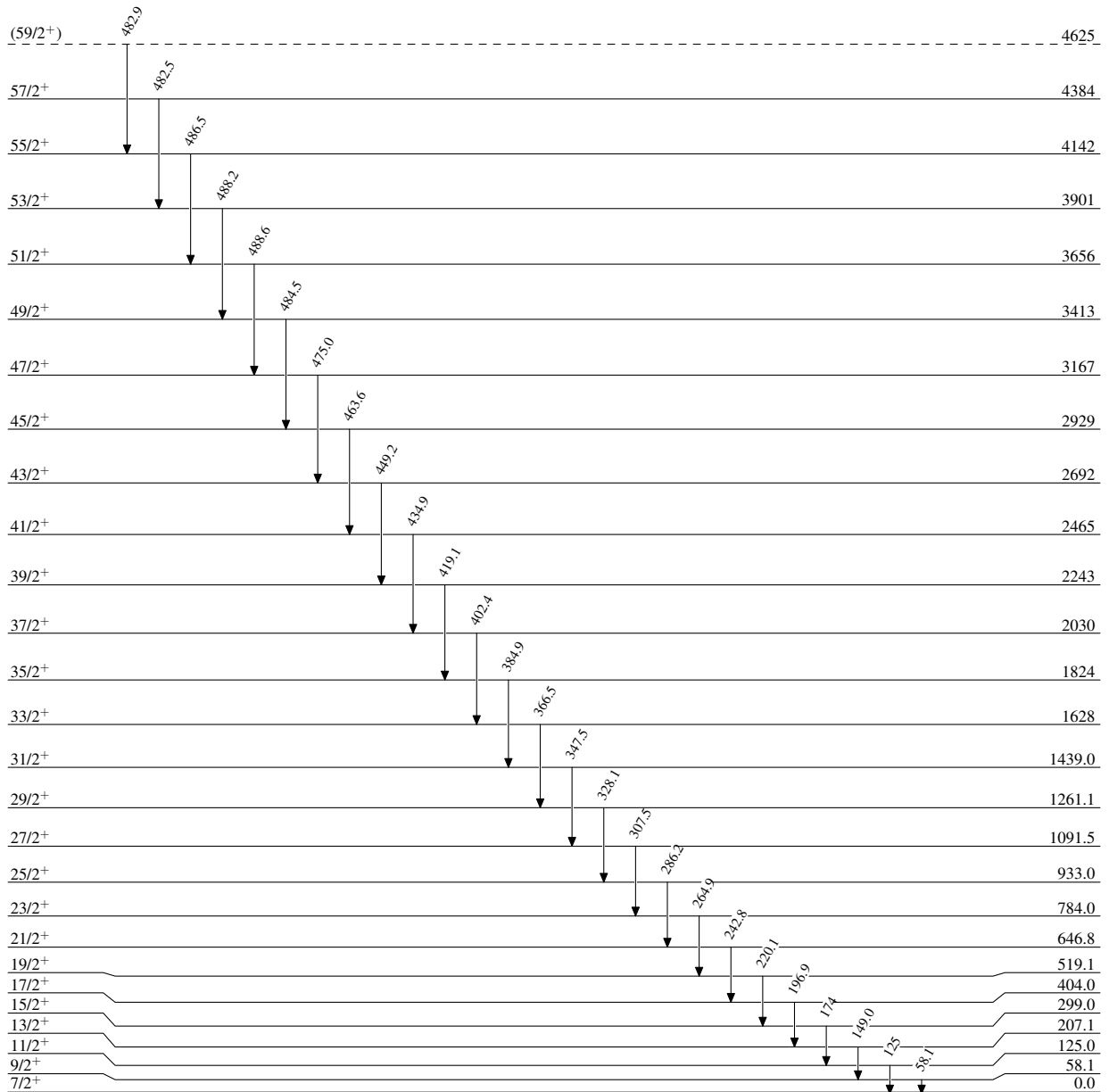
[‡] Gamma was not observed. E_γ is from level scheme.

$^{244}\text{Pu}(^{208}\text{Pb}, ^{209}\text{Pb}\gamma)$ 2003WiZY

Legend

Level Scheme

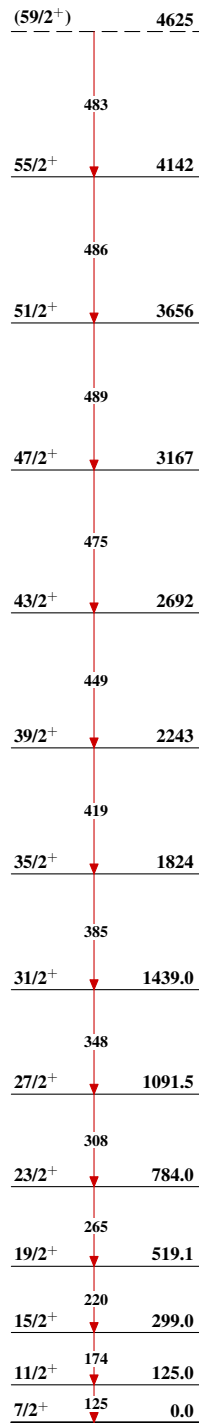
-----► γ Decay (Uncertain)



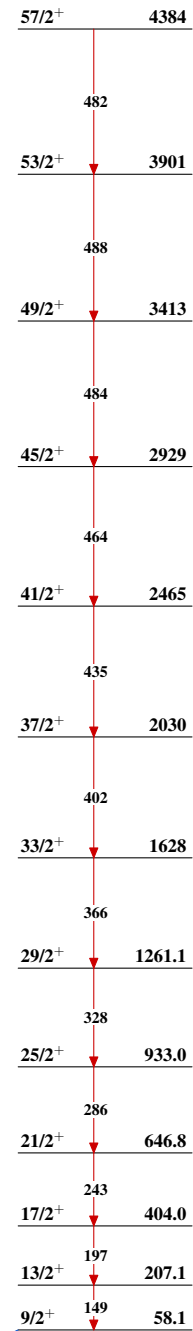
$^{243}_{94}\text{Pu}_{149}$

$^{244}\text{Pu}(^{208}\text{Pb}, ^{209}\text{Pb}\gamma)$ 2003WiZY

Band(A): J=K, J+2, J+4



Band(B): J+1, J+3, J+5

 $^{243}_{94}\text{Pu}_{149}$