^{240}Pu(n,γ) E=th:primary γ's 1998Wh01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 130, 183 (2015)	30-Sep-2015

1998Wh01: Primary gammas measured with a three-crystal pair spectrometer located at GAMSI spectrometer at Institur-Laue Langevin, Grenoble. The pair spectrometer consist of Ge(Li) and two Na(Tl) detectors for coincidence detection of the 511 keV annihilation radiations.

1972Br46: ^{240}Pu source from α decay of ^{240}Cm irradiated with thermal neutrons from Argonne CP-5 reactor. Measured γ rays with a Ge(Li) detector.

^{241}Pu Levels

E(level)[†]	J$^{\pi}$[‡]	Comments
161.72 *2*	1/2$^+$	E(level): Observed also by 1972Br46 with E=162 *2*.
169.7 *10*	3/2$^+$	
755.34 *19*	1/2$^+$	E(level): Observed also by 1972Br46 with E=755 *2*.
769.24 *4*	1/2$^-$	E(level): Observed also by 1972Br46 with E=770 *2*.
784.11 *3*	3/2$^+$	
800.41 *9*	3/2$^+$	
834 *3*	3/2$^+$,5/2$^+$,7/2$^+$	E(level): Observed only by 1972Br46.
841.99 *10*	1/2$^-$	E(level): Observed also by 1972Br46 with E=845 *3*.
850.56 *3*	3/2$^-$	
940.28 *5*	3/2$^+$	
942.58 *6*	3/2$^+$	
964.92 *2*	1/2$^-$	E(level): Observed also by 1972Br46 with E=970 *3*.
995.69 *4*	3/2$^-$	
1009.49 *5*	3/2$^-$	
1090.00 *2*	3/2$^-$	E(level): Observed also by 1972Br46 with E=1094 *3*.
1223.74 *6*	1/2,3/2	
1253.80 *2*	1/2$^-$,3/2$^-$	
1268.86 *5*	1/2,3/2	E(level): The authors' uncertainty of 0.03 keV appears to be a misprint since the uncertainty in the primary transition is 0.05 keV.
1296.73 *4*	3/2$^-$	E(level): The authors' uncertainty of 0.02 keV appears to be a misprint since the uncertainty in the primary transition is 0.04 keV.
1316.24 *10*	1/2,3/2	
1351.60 *20*	1/2,3/2	
1357.65 *4*	1/2,3/2	E(level): The authors' uncertainty of 0.02 keV appears to be a misprint since the uncertainty in the primary transition is 0.04 keV.
1362.83 *8*		
1472.08 *12*		
1478.18 *13*		
1501.32 *21*		
1505.21 *19*		
1513.97 *10*		
1523.73 *5*		E(level): The authors' uncertainty of 0.04 keV appears to be a misprint since the uncertainty in the primary transition is 0.05 keV.
1530.91 *20*		
1611.02 *3*		
(5241.52 *3*)	1/2$^+$	E(level): Neutron capture state. E=S(n)=5241.52 *3* in 2012Wa38. J$^{\pi}$: From s-wave n capture by the g.s of ^{240}Pu with $J^{\pi}=0^+$.

[†] Except as noted, the energies are from population of the primary transitions from the capture state in 1998Wh01, along with the level energies deduced from the secondary gammas from the same work yield S(n)=5241.57 *3*, as given by the authors. The level energies listed here have been deduced by the authors using this value of S(n). The uncertainties do not include the uncertainty in S(n).

[‡] From Adopted Levels except as noted.

^{240}Pu(n,γ) E=th:primary γ's 1998Wh01 (continued)

γ(^{241}Pu)

E_γ	I_γ [†]	E_i(level)	J_i^π	E_f	J_f^π
3630.52 *3*	2.4 *6*	(5241.52)	$1/2^+$	1611.02	
3710.63 *20*	1.9 *5*	(5241.52)	$1/2^+$	1530.91	
3717.81 *5*	4.67 *27*	(5241.52)	$1/2^+$	1523.73	
3727.57 *10*	1.49 *11*	(5241.52)	$1/2^+$	1513.97	
3736.33 *19*	0.74 *8*	(5241.52)	$1/2^+$	1505.21	
3740.22 *21*	0.64 *8*	(5241.52)	$1/2^+$	1501.32	
3763.36 *13*	0.58 *5*	(5241.52)	$1/2^+$	1478.18	
3769.46 *12*	0.58 *12*	(5241.52)	$1/2^+$	1472.08	
3878.71 *8*	2.12 *14*	(5241.52)	$1/2^+$	1362.83	
3883.89 *4*	13.0 *7*	(5241.52)	$1/2^+$	1357.65	1/2,3/2
3889.94 *20*	1.9 *4*	(5241.52)	$1/2^+$	1351.60	1/2,3/2
3925.30 *10*	0.90 *6*	(5241.52)	$1/2^+$	1316.24	1/2,3/2
3944.81 *4*	12.7 *7*	(5241.52)	$1/2^+$	1296.73	$3/2^-$
3972.68 *5*	0.54 *3*	(5241.52)	$1/2^+$	1268.86	1/2,3/2
3987.74 *2*	6.4 *3*	(5241.52)	$1/2^+$	1253.80	$1/2^-$,$3/2^-$
4017.80 *6*	3.19 *23*	(5241.52)	$1/2^+$	1223.74	1/2,3/2
4151.53 *2*	6.6 *3*	(5241.52)	$1/2^+$	1090.00	$3/2^-$
4232.04 *5*	1.65 *10*	(5241.52)	$1/2^+$	1009.49	$3/2^-$
4245.84 *4*	2.39 *14*	(5241.52)	$1/2^+$	995.69	$3/2^-$
4276.61 *2*	6.1 *3*	(5241.52)	$1/2^+$	964.92	$1/2^-$
4298.95 *6*	2.50 *28*	(5241.52)	$1/2^+$	942.58	$3/2^+$
4301.25 *5*	2.7 *3*	(5241.52)	$1/2^+$	940.28	$3/2^+$
4390.97 *3*	5.42 *4*	(5241.52)	$1/2^+$	850.56	$3/2^-$
4399.54 *10*	2.12 *15*	(5241.52)	$1/2^+$	841.99	$1/2^-$
4441.12 *9*	0.53 *3*	(5241.52)	$1/2^+$	800.41	$3/2^+$
4457.42 *3*	2.34 *13*	(5241.52)	$1/2^+$	784.11	$3/2^+$
4472.29 *4*	3.7 *3*	(5241.52)	$1/2^+$	769.24	$1/2^-$
4486.19 *19*	0.48 *5*	(5241.52)	$1/2^+$	755.34	$1/2^+$
5071.8 *10*	0.58 *24*	(5241.52)	$1/2^+$	169.7	$3/2^+$
5079.80 *2*	2.76 *14*	(5241.52)	$1/2^+$	161.72	$1/2^+$

[†] Relative photon intensities in arbitrary units.

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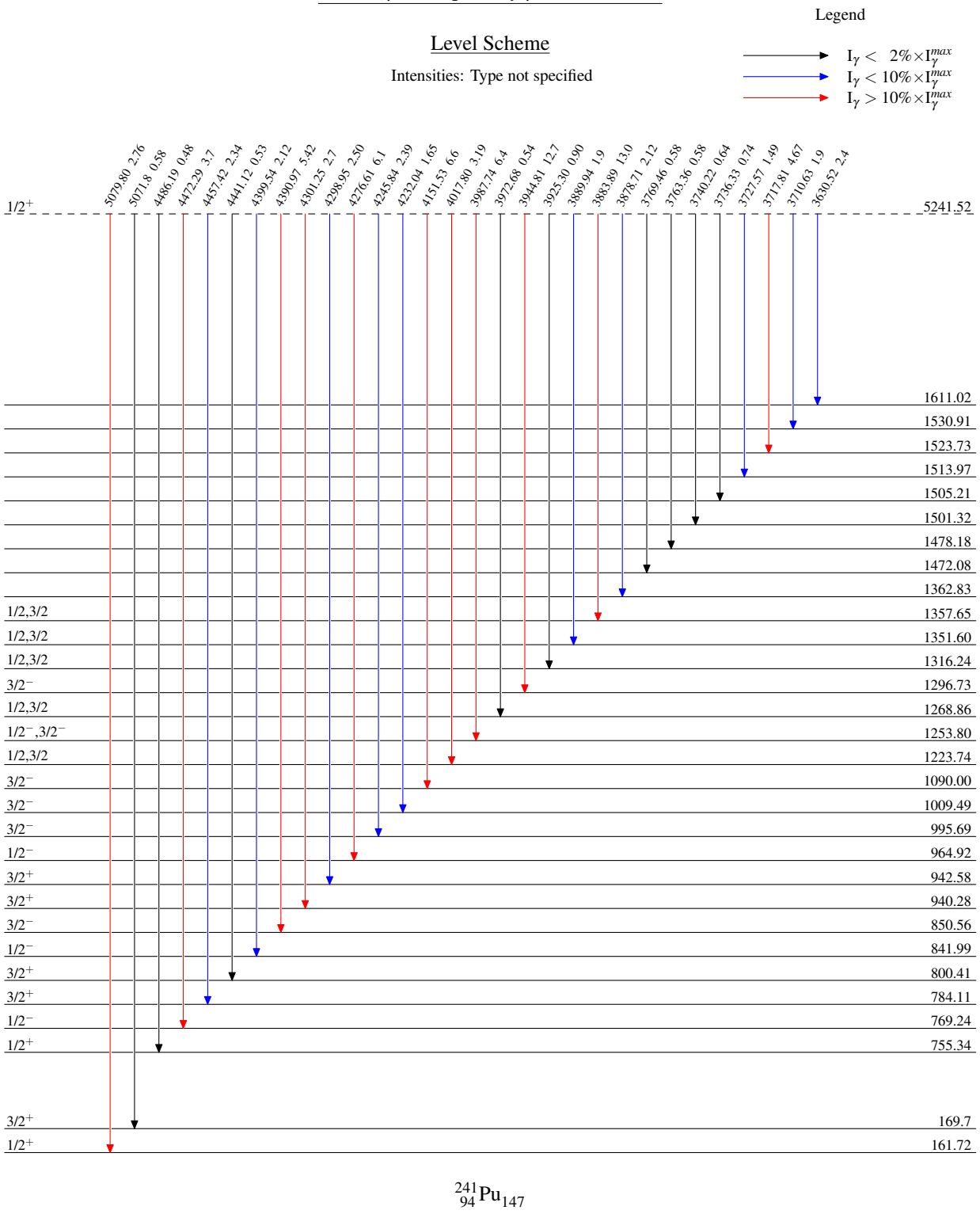
Level Scheme

Intensities: Type not specified



$^{241}_{94}Pu_{147}$