Pt(α,xnγ) 1975Li16,1978Me11

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 143, 1 (2017)	31-Mar-2017

1975Li16: ^{195}Pt(α,6nγ), E(α)=80 MeV; ^{196}Pt(α,7nγ), E(α)=90 MeV; ^{194}Pt(α,5nγ), E(α)=65 MeV. Enriched Pt targets. Measured Eγ, Iγ (Ge(Li)), $\gamma\gamma$ coin, $\gamma\gamma$(t), γ-ray angular distributions (θ from 90° to 165° in 15° steps); used rotation-alignment model to interpret level structure. Earlier report: 1974Be11.

1978Me11: ^{192}Pt,^{194}Pt,^{198}Pt(α,xnγ), E(α)=31-57 MeV. Enriched Pt targets. Measured ce(t).

^{193}Hg Levels

The level scheme is that proposed by 1975Li16.

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$[#]	Comments
140.76[@] 5	13/2$^{(+)}$	11.8 h 2	Additional information 1. E(level),$T_{1/2}$: From Adopted Levels.
522.7[@] 3	17/2$^+$		
747.1[&] 3	15/2$^+$		
1145.0[@] 4	21/2$^+$		
1380.3[&] 3	19/2$^+$		
1523.3 4	19/2$^{(+)}$		
1755.5[a] 4	21/2$^{(-)}$		
1883.6[@] 5	25/2$^+$		
1886.0[a] 5	25/2$^{(-)}$	1.58 ns 6	
1890.3 4	23/2$^{(-)}$		
2095.2 5	27/2$^{(-)}$		
2188.5[a] 6	29/2$^{(-)}$		
2501.3[@] 6	29/2$^+$		
2582.7 6	31/2$^{(-)}$		
2694.5[@] 7	33/2$^+$	573 ps 30	
2761.4[a] 7	33/2$^{(-)}$		
3175.2[@] 7	37/2$^+$		
3222.3 7	35/2$^{(-)}$		
3496.1[a] 7	37/2$^{(-)}$		
3879.6[@] 8	41/2$^+$		
3882.1 7	39/2$^{(-)}$		

[†] From least-squares fit to γ-ray energies, except otherwise noted.
[‡] From 1975Li16, based on multipolarities of transitions and fits of coincident γ rays into an interconnected set of rotational bands.
[#] ce(t) (1978Me11), except otherwise noted.
[@] Member of i13/2 favored decoupled band.
[&] Member of i13/2 unfavored decoupled band.
[a] Member of π=− side band 1.

Pt(α,xnγ) 1975Li16,1978Me11 (continued)

$\gamma(^{193}Hg)$

All γ data are from 1975Li16.

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	δ[†]	$I_{(\gamma+ce)}$[‡]	Comments
130.5 *3*	1886.0	$25/2^{(-)}$	1755.5	$21/2^{(-)}$	E2		37 *8*	Mult.: A_2=+0.28 *2*, A_4=−0.05 *3*.
134.6 *3*	1890.3	$23/2^{(-)}$	1755.5	$21/2^{(-)}$	(D+Q)		8 *4*	Mult.: A_2=−0.02 *10*, A_4=+0.14 *15*; contains contribution of contaminating 133.0 keV line in ^{192}Hg.
193.2 *3*	2694.5	$33/2^+$	2501.3	$29/2^+$	E2		28 *5*	Mult.: A_2=+0.26 *2*, A_4=−0.07 *3*.
204.9 *3*	2095.2	$27/2^{(-)}$	1890.3	$23/2^{(-)}$	E2		20 *6*	Mult.: A_2=+0.32 *2*, A_4=−0.07 *3*.
232.2 *3*	1755.5	$21/2^{(-)}$	1523.3	$19/2^{(+)}$	(D)		11 *6*	Mult.: A_2=−0.33 *8*, A_4=+0.06 *12*. $I_{(\gamma+ce)}$: includes contribution from 232.8γ in ^{194}Hg.
302.5 *3*	2188.5	$29/2^{(-)}$	1886.0	$25/2^{(-)}$	E2		23 *4*	Mult.: A_2=+0.31 *2*, A_4=−0.04 *3*.
375.2 *3*	1755.5	$21/2^{(-)}$	1380.3	$19/2^+$	(D)		20 *5*	Mult.: A_2=−0.22 *2*, A_4=−0.01 *3*.
382.0 *3*	522.7	$17/2^+$	140.76	$13/2^{(+)}$	E2		100 *8*	Mult.: A_2=+0.29 *2*, A_4=−0.05 *3*.
480.7 *3*	3175.2	$37/2^+$	2694.5	$33/2^+$	E2		23 *5*	Mult.: A_2=+0.32 *3*, A_4=−0.08 *4*.
487.5 *3*	2582.7	$31/2^{(-)}$	2095.2	$27/2^{(-)}$	E2		12 *5*	Mult.: A_2=+0.37 *4*, A_4=−0.10 *5*.
572.9 *3*	2761.4	$33/2^{(-)}$	2188.5	$29/2^{(-)}$	E2		19 *5*	Mult.: A_2=+0.15 *3*, A_4=−0.08 *4*; contains contribution from contaminating line.
606.3 *3*	747.1	$15/2^+$	140.76	$13/2^{(+)}$	D+Q		9 *4*	Mult.,δ: A_2=−0.74 *5*, A_4=+0.15 *7*; A_2 does not agree with A_2 measured in (HI,xnγ) experiment.
617.7 *3*	2501.3	$29/2^+$	1883.6	$25/2^+$	E2		26 *4*	Mult.: A_2=+0.34 *3*, A_4=−0.07 *4*.
622.4 *3*	1145.0	$21/2^+$	522.7	$17/2^+$	E2		61 *5*	Mult.: A_2=+0.29 *2*, A_4=−0.05 *3*.
633.1 *3*	1380.3	$19/2^+$	747.1	$15/2^+$	E2		10 *4*	Mult.: A_1=+0.38 *6*, A_4=−0.04 *9*. $I_{(\gamma+ce)}$: includes contributions from 633.1γ and 634.8γ in ^{192}Hg.
639.6 *3*	3222.3	$35/2^{(-)}$	2582.7	$31/2^{(-)}$	E2		11 *4*	Mult.: A_2=+0.35 *6*, A_4=+0.02 *9*.
659.8 *3*	3882.1	$39/2^{(-)}$	3222.3	$35/2^{(-)}$	E2		7 *3*	Mult.: A_2=+0.39 *7*, A_4=−0.09 *10*.
704.4 *3*	3879.6	$41/2^+$	3175.2	$37/2^+$	E2		6 *3*	Mult.: A_2=+0.36 *7*, A_4=−0.08 *10*.
734.7 *3*	3496.1	$37/2^{(-)}$	2761.4	$33/2^{(-)}$	E2		11 *4*	Mult.: A_2=+0.28 *4*, A_4=−0.04 *6*.
738.6 *3*	1883.6	$25/2^+$	1145.0	$21/2^+$	E2		39 *4*	Mult.: A_2=+0.32 *2*, A_4=−0.05 *3*.
745.4 *3*	1890.3	$23/2^{(-)}$	1145.0	$21/2^+$	(D)		16 *8*	Mult.: A_2=−0.23 *6*, A_4=+0.01 *8*; $\gamma(\theta)$ from ^{194}Pt(α,5nγ) at 65 MeV. $I_{(\gamma+ce)}$: includes contribution from 745.4γ in ^{192}Hg.
857.5 *3*	1380.3	$19/2^+$	522.7	$17/2^+$	D+Q	0.33 *6*	14 *3*	Mult.,δ: A_2=−0.76 *4*, A_4=+0.15 *6*.
1000.5 *3*	1523.3	$19/2^{(+)}$	522.7	$17/2^+$	(D+Q)		9 *3*	Mult.: A_2=−0.16 *12*, A_4=+0.16 *18*.

[†] From γ-ray angular distributions; stretched E2 assignments were based on large positive A_2. 1975Li16 assume probable E1 to pure dipole transitions, and M1+E2 to D+Q transitions, however, evaluator list those as D and D+Q.

[‡] From 1975Li16 − relative to I(γ+ce)=100 for 382.0γ.

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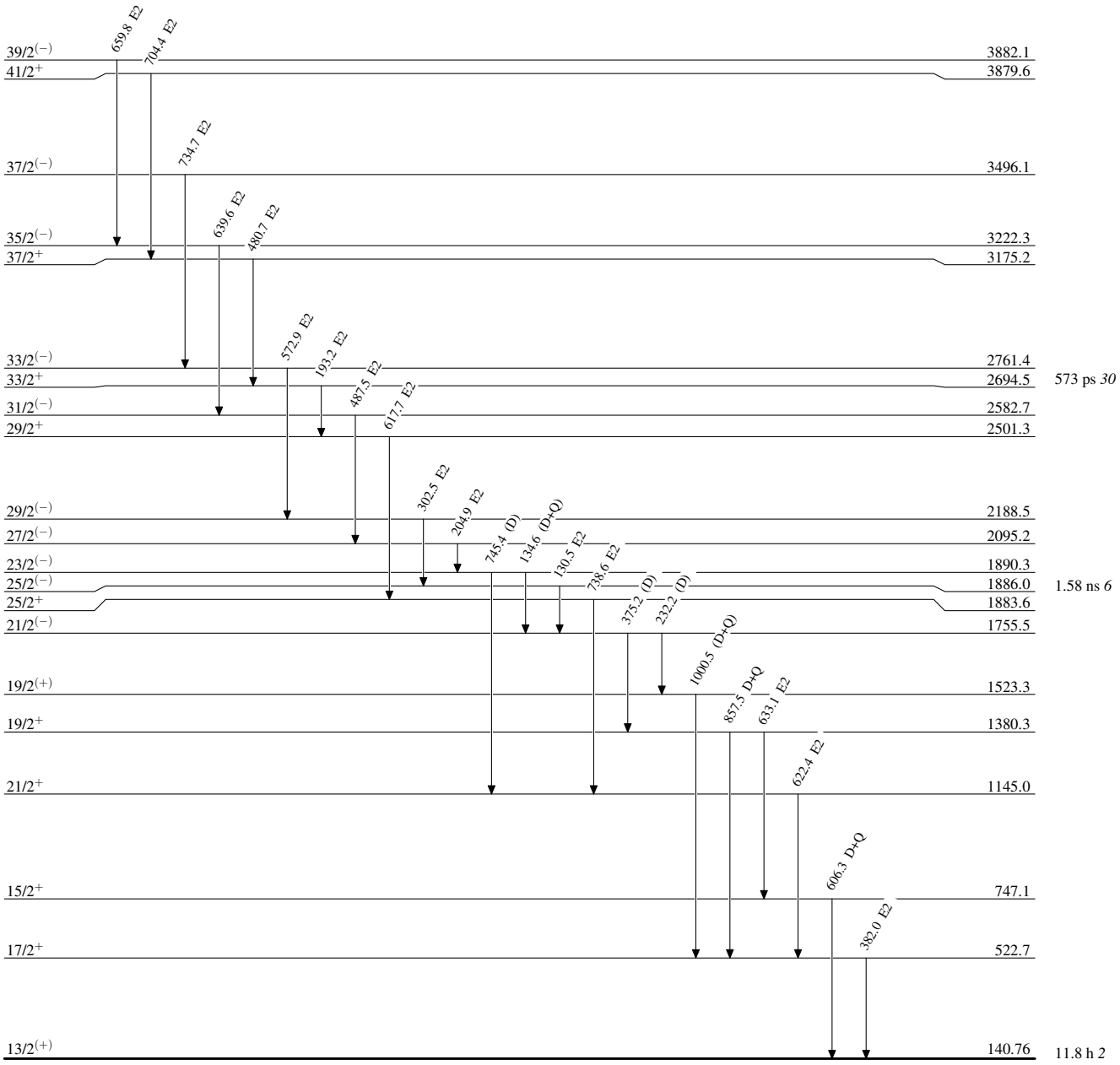
Level Scheme



$^{193}_{80}Hg_{113}$