

$^{201}\text{Hg}(n,\gamma)$  E=43 eV res [1975Lo03](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 196,342 (2024)	1-Sep-2023

[1975Lo03](#): Neutron beam provided by the NRU reactor with E(n) determined by the TOF method with a resolution of 0.32  $\mu\text{sec/m}$ . For  $E_\gamma > 4.1$  MeV, a natural liquid Hg target was used, while for lower-energy  $E_\gamma$ , a thin  $^{nat}\text{HgO}$  was used. Detectors: one 39  $\text{cm}^3$  Ge(Li) with a 6 keV energy resolution at 6 MeV and one 55  $\text{cm}^3$  Ge(Li) with 2.5 keV resolution at 1.33 MeV were used. Measured:  $E_\gamma$  and  $I_\gamma$ .

Others: [1960Ca19](#), [1969A111](#), [1975Br02](#).

 $^{202}\text{Hg}$  Levels

E(level) <sup>†</sup>	Comments
0	
439.2 4	
959.1 5	
1118.9 6	
1181.6 15	
1296.5 6	
1346.5 8	
1389.0 7	
1457.5 17	
1508.8 10	
1524.3 12	
1565 3	
1576.4 <sup>‡</sup> 11	
1642.4 7	
1677.1 17	
1722.5 14	
1747.8 <sup>‡</sup> 11	
1787 3	
1792.9 9	
1800.9 19	
1822.7 5	
1851.8 6	
1863.0 11	
1901.3 9	
1915.0 11	
1958.6 24	
1965.6 10	
1991.8 17	
2071.1 9	
2096.1 8	
2128.7 <sup>‡</sup> 11	
2142.5 18	
2161.2 8	
2196.0 21	
2222.1 12	
2249 3	
2283.6 23	E(level): 2279.4 keV in <a href="#">1975Br02</a> .
2295.4 18	
2310.9 17	
2340.7 20	
2367.4 20	
2417.4 11	
2428.5 8	
2456.8 14	

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$^{201}\text{Hg}(n,\gamma)$  E=43 eV res **1975Lo03** (continued) $^{202}\text{Hg}$  Levels (continued)

<u>E(level)<sup>†</sup></u>	<u>E(level)<sup>†</sup></u>	<u>E(level)<sup>†</sup></u>	<u>J<sup>π</sup></u>	<u>T<sub>1/2</sub></u>
2472.9 17	2908.9 14	3222.5 13		
2515 3	2918.3 22	3254.3 21		
2550.8 14	2950.7 19	3295 4		
2568.1 8	2970.5 10	3311.0 21		
2705 3	2997.9 7	3350.4 13		
2729 3	3017.9 6	3416 3		
2751.6 6	3028 3	3481 3		
2831 4	3058.8 22	3605.9 17		
2845.5 16	3080.2 21	7755.8 4	2 <sup>-</sup>	0.285 <sup>#</sup> eV 15
2858.1 24	3179 3			
2897 3	3200.1 14			

<sup>†</sup> From a least-squares fit to E<sub>γ</sub>.

<sup>‡</sup> From **1975Br02**.

<sup>#</sup> Total radiative Γ(γ) from **1966Go31**.

γ(<sup>202</sup>Hg)

<u>E<sub>γ</sub><sup>†</sup></u>	<u>I<sub>γ</sub><sup>†#</sup></u>	<u>E<sub>i</sub>(level)</u>	<u>J<sub>i</sub><sup>π</sup></u>	<u>E<sub>f</sub></u>
439.6 6	71.2 10	439.2		0
520.3 6	28.3 16	959.1		439.2
549.8 9	3.6 10	1508.8		959.1
679.7 4	7.7 15	1118.9		439.2
908.2 43	4.8 10	1346.5		439.2
961.2 12	3.3 10	959.1		0
1203.3 6	6.6 6	1642.4		439.2
1384.3 8	3.0 5	1822.7		439.2
4149.8 16	0.46 24	7755.8	2 <sup>-</sup>	3605.9
4275.0 25	<0.24	7755.8	2 <sup>-</sup>	3481
4339.9 29	1.10 24	7755.8	2 <sup>-</sup>	3416
4405.3 12	1.10 23	7755.8	2 <sup>-</sup>	3350.4
4444.7 20	<0.23	7755.8	2 <sup>-</sup>	3311.0
4460.4 35	0.37 18	7755.8	2 <sup>-</sup>	3295
4501.4 20	<0.20	7755.8	2 <sup>-</sup>	3254.3
4533.2 12	<0.20	7755.8	2 <sup>-</sup>	3222.5
4555.6 13	1.24 23	7755.8	2 <sup>-</sup>	3200.1
4576.5 26	<0.24	7755.8	2 <sup>-</sup>	3179
4675.5 20	1.40 27	7755.8	2 <sup>-</sup>	3080.2
4696.9 21	0.50 18	7755.8	2 <sup>-</sup>	3058.8
4727.9 28	4.00 30	7755.8	2 <sup>-</sup>	3028
4737.8 5	<0.30	7755.8	2 <sup>-</sup>	3017.9
4757.8 6	1.14 39	7755.8	2 <sup>-</sup>	2997.9
4785.2 9	<0.40	7755.8	2 <sup>-</sup>	2970.5
4805.0 18	1.26 37	7755.8	2 <sup>-</sup>	2950.7
4837.4 21	<0.40	7755.8	2 <sup>-</sup>	2918.3
4846.8 13	1.66 48	7755.8	2 <sup>-</sup>	2908.9
4858.5 29	0.58 43	7755.8	2 <sup>-</sup>	2897
4897.6 23	0.63 32	7755.8	2 <sup>-</sup>	2858.1
4910.2 15	0.61 31	7755.8	2 <sup>-</sup>	2845.5
4924.8 35	2.42 26	7755.8	2 <sup>-</sup>	2831
5004.1 4	5.38 30	7755.8	2 <sup>-</sup>	2751.6
5027.1 25	1.16 21	7755.8	2 <sup>-</sup>	2729
5050.4 25	<0.30	7755.8	2 <sup>-</sup>	2705

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$^{201}\text{Hg}(n,\gamma)$  E=43 eV res **1975Lo03** (continued) $\gamma(^{202}\text{Hg})$  (continued)

$E_\gamma^\dagger$	$I_\gamma^\ddagger\#$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	Comments
5187.6 7	1.82 23	7755.8	2 <sup>-</sup>	2568.1	
5204.9 13	<0.30	7755.8	2 <sup>-</sup>	2550.8	
5240.5 25	0.94 24	7755.8	2 <sup>-</sup>	2515	
5282.8 16	2.10 35	7755.8	2 <sup>-</sup>	2472.9	
5298.9 13	0.58 29	7755.8	2 <sup>-</sup>	2456.8	
5327.2 7	1.37 28	7755.8	2 <sup>-</sup>	2428.5	
5338.3 10	1.18 29	7755.8	2 <sup>-</sup>	2417.4	
5388.3 19	0.79 33	7755.8	2 <sup>-</sup>	2367.4	
5415.0 19	<0.30	7755.8	2 <sup>-</sup>	2340.7	
5444.8 16	1.88 31	7755.8	2 <sup>-</sup>	2310.9	
5460.3 17	0.84 27	7755.8	2 <sup>-</sup>	2295.4	
5472.1 22	<0.30	7755.8	2 <sup>-</sup>	2283.6	$E_\gamma$ : =5475.0 keV in <b>1975Br02</b> .
5506.8 28	<0.30	7755.8	2 <sup>-</sup>	2249	
5533.6 11	0.45 18	7755.8	2 <sup>-</sup>	2222.1	
5559.7 20	<0.2	7755.8	2 <sup>-</sup>	2196.0	
5594.5 7	0.25 18	7755.8	2 <sup>-</sup>	2161.2	
5613.2 17	<0.20	7755.8	2 <sup>-</sup>	2142.5	
5627.0 <sup>‡</sup> 10	0.4 2	7755.8	2 <sup>-</sup>	2128.7	
5659.6 7	0.09 60	7755.8	2 <sup>-</sup>	2096.1	
5684.6 8	<0.30	7755.8	2 <sup>-</sup>	2071.1	
5763.9 16	0.69 27	7755.8	2 <sup>-</sup>	1991.8	
5790.1 9	1.52 24	7755.8	2 <sup>-</sup>	1965.6	
5797.1 23	<0.30	7755.8	2 <sup>-</sup>	1958.6	
5840.7 10	<0.6	7755.8	2 <sup>-</sup>	1915.0	
5854.4 8	<0.20	7755.8	2 <sup>-</sup>	1901.3	
5892.7 <sup>‡</sup> 10	2.8 28	7755.8	2 <sup>-</sup>	1863.0	
5903.9 4	11.70 30	7755.8	2 <sup>-</sup>	1851.8	
5933.2 4	<0.30	7755.8	2 <sup>-</sup>	1822.7	
5954.8 18	1.60 30	7755.8	2 <sup>-</sup>	1800.9	
5962.8 8	<0.30	7755.8	2 <sup>-</sup>	1792.9	
5969.2 28	2.00 30	7755.8	2 <sup>-</sup>	1787	
6007.9 <sup>‡</sup> 10	0.33 8	7755.8	2 <sup>-</sup>	1747.8	
6033.2 13	<0.30	7755.8	2 <sup>-</sup>	1722.5	
6078.6 16	<0.30	7755.8	2 <sup>-</sup>	1677.1	
6113.8 14	<0.30	7755.8	2 <sup>-</sup>	1642.4	
6179.3 <sup>‡</sup> 10		7755.8	2 <sup>-</sup>	1576.4	
≈6191.0 <sup>‡</sup>		7755.8	2 <sup>-</sup>	1565	
6231.4 11	1.00 24	7755.8	2 <sup>-</sup>	1524.3	
6249 5	<0.30	7755.8	2 <sup>-</sup>	1508.8	
6298.2 16	0.47 29	7755.8	2 <sup>-</sup>	1457.5	
6366.7 6	2.76 18	7755.8	2 <sup>-</sup>	1389.0	
6409.2 7	6.99 39	7755.8	2 <sup>-</sup>	1346.5	
6459.2 5	0.6 5	7755.8	2 <sup>-</sup>	1296.5	
6574.1 14	1.77 15	7755.8	2 <sup>-</sup>	1181.6	
6797.2 5	0.85 10	7755.8	2 <sup>-</sup>	959.1	
7316.3 4	1.35 10	7755.8	2 <sup>-</sup>	439.2	
7755.2 4	<0.10	7755.8	2 <sup>-</sup>	0	

<sup>†</sup> From **1975Lo03**, unless otherwise stated.

<sup>‡</sup> From **1975Br02**.

<sup>#</sup> Intensity per 100 neutron captures.

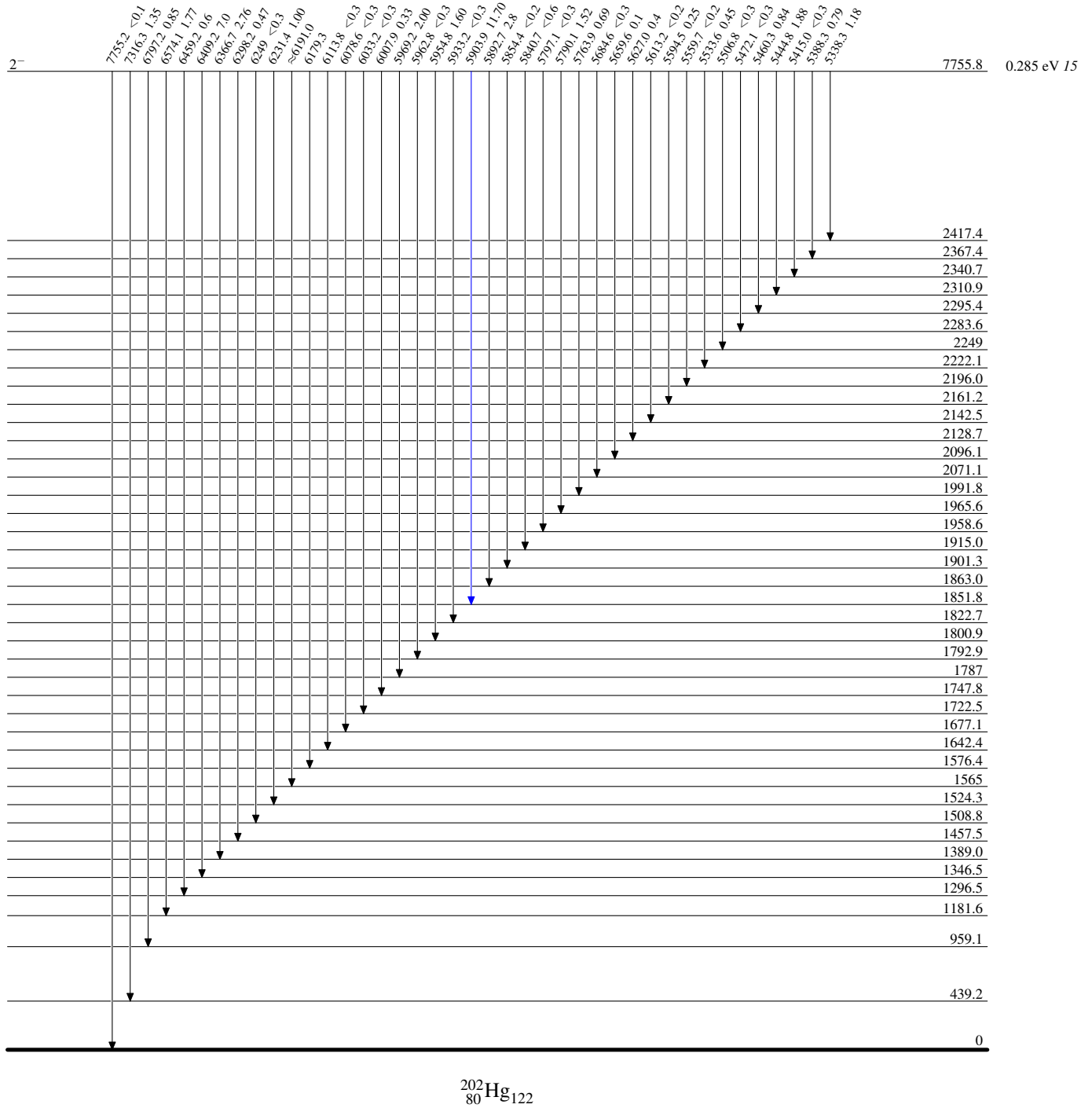
$^{201}\text{Hg}(n,\gamma) E=43 \text{ eV res } 1975\text{Lo03}$

Level Scheme

Intensities:  $I_\gamma$  per 100 neutron captures

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$



<sup>201</sup>Hg(n,γ) E=43 eV res 1975Lo03

Legend

Level Scheme (continued)

Intensities: I<sub>γ</sub> per 100 neutron captures

- I<sub>γ</sub> < 2% × I<sub>γ</sub><sup>max</sup>
- I<sub>γ</sub> < 10% × I<sub>γ</sub><sup>max</sup>
- I<sub>γ</sub> > 10% × I<sub>γ</sub><sup>max</sup>

