^{201}Hg(n,γ) E=70.9 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 was from the fast chopper facility at the NRU reactor. E(n) was determined by the TOF method with a resolution of 0.32 μsec/m. For Eγ>4.1 MeV, a natural liquid Hg target was used. For low Eγ, a thin ^{nat}HgO was used. One 39 cm^3 Ge(Li) with 6 keV resolution at 6 MeV was used for high energy γ rays; one 55 cm^3 Ge(Li) with 2.5 keV resolution at 1.33 MeV was used for low energy γ rays. Measured Eγ and Iγ.

Others: 1960Ca19, 1969Al11, 1975Br02.

^{202}Hg Levels

The levels are from 1975Lo03 based on primary γ's from all 3 resonances [43 eV (J^π=2$^-$), 70.9 eV (J^π=1$^-$), 210.3 eV (J^π=1$^-$)].

E(level)[†]	E(level)[†]	E(level)[†]	J$^\pi$	T$_{1/2}$
0	1958.6 *24*	2831 *4*		
439.2 *4*	1965.6 *10*	2845.5 *16*		
959.1 *5*	1991.8 *17*	2858.1 *24*		
1118.9 *6*	2071.1 *9*	2897 *3*		
1181.6 *15*	2128.7[#] *11*	2908.9 *14*		
1296.5 *6*	2142.5 *18*	2918.3 *22*		
1346.5 *8*	2161.2 *8*	2950.7 *19*		
1389.0 *7*	2196.0 *21*	2970.5 *10*		
1457.5 *17*	2222.1 *12*	2997.9 *7*		
1508.8 *10*	2249 *3*	3017.9 *6*		
1524.3 *12*	2283.6[‡] *23*	3028 *3*		
1565 *3*	2295.4 *18*	3058.8 *22*		
1576.4[#] *11*	2310.9 *17*	3080.2 *21*		
1642.4 *7*	2340.7 *20*	3179 *3*		
1677.1 *17*	2367.4 *20*	3200.1 *14*		
1722.5 *14*	2417.4 *11*	3222.5 *13*		
1747.8[#] *11*	2428.5 *8*	3254.3 *21*		
1787 *3*	2456.8 *14*	3295 *4*		
1792.9 *9*	2472.9 *17*	3311.0 *21*		
1800.9 *19*	2515 *3*	3350.4 *13*		
1822.7 *5*	2550.8 *14*	3416 *3*		
1851.8 *6*	2568.1 *8*	3481 *3*		
1863.0[#] *11*	2705 *3*	3605.9 *17*		
1901.3 *9*	2729 *3*	7755.8 *4*	1$^-$[@]	0.46[&] eV *3*
1915.0 *11*	2751.6 *6*			

[†] From a least-square fit to Eγ.
[‡] 2279.4 in 1975Br02.
[#] From 1975Br02.
[@] From 2018MuZY.
[&] Total radiative $\Gamma(\gamma)$.

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γ(^{202}Hg)

E_γ	I_γ[#]	E_i(level)	J_i^π	E_f	E_γ	I_γ[#]	E_i(level)	J_i^π	E_f
439.6 *6*	97.3 *13*	439.2		0	5338.3 *10*	<0.30	7755.8	1⁻	2417.4
520.3 *6*	30.0 *16*	959.1		439.2	5388.3 *19*	2.58 *24*	7755.8	1⁻	2367.4
549.8 *9*	1.3 *8*	1508.8		959.1	5415.0 *19*	<0.30	7755.8	1⁻	2340.7
679.7[†] *4*	5.2 *8*	1118.9		439.2	5444.8 *16*	<0.30	7755.8	1⁻	2310.9
908.2 *43*	1.9 *8*	1346.5		439.2	5460.3 *17*	<0.30	7755.8	1⁻	2295.4
961.2 *12*	6.2 *25*	959.1		0	5472.1[‡] *22*	0.72 *21*	7755.8	1⁻	2283.6
1203.3 *6*	6.8 *12*	1642.4		439.2	5506.8 *28*	<0.30	7755.8	1⁻	2249
1384.3 *8*	8.3 *20*	1822.7		439.2	5533.6 *11*	<0.30	7755.8	1⁻	2222.1
4149.8 *16*	0.59 *23*	7755.8	1⁻	3605.9	5559.7 *20*	<0.26	7755.8	1⁻	2196.0
4275.0 *25*	0.34 *23*	7755.8	1⁻	3481	5594.5 *7*	0.30 *16*	7755.8	1⁻	2161.2
4339.9 *29*	<0.25	7755.8	1⁻	3416	5613.2 *17*	2.10 *22*	7755.8	1⁻	2142.5
4405.3 *12*	0.55 *24*	7755.8	1⁻	3350.4	5627.0[†] *10*	0.57 *14*	7755.8	1⁻	2128.7
4444.7 *20*	0.39 *18*	7755.8	1⁻	3311.0	5684.6 *8*	<0.30	7755.8	1⁻	2071.1
4460.4 *35*	<0.18	7755.8	1⁻	3295	5763.9 *16*	<0.30	7755.8	1⁻	1991.8
4501.4 *20*	<0.20	7755.8	1⁻	3254.3	5790.1 *9*	2.19 *34*	7755.8	1⁻	1965.6
4533.2 *12*	0.83 *32*	7755.8	1⁻	3222.5	5797.1 *23*	<0.30	7755.8	1⁻	1958.6
4555.6 *13*	<0.30	7755.8	1⁻	3200.1	5840.7 *10*	0.38 *60*	7755.8	1⁻	1915.0
4576.5 *26*	0.52 *22*	7755.8	1⁻	3179	5854.4 *8*	<0.30	7755.8	1⁻	1901.3
4675.5 *20*	0.46 *18*	7755.8	1⁻	3080.2	5892.7[†] *10*	1.5 *15*	7755.8	1⁻	1863.0
4696.9 *21*	0.80 *20*	7755.8	1⁻	3058.8	5903.9 *4*	6.42 *30*	7755.8	1⁻	1851.8
4727.9 *28*	<0.20	7755.8	1⁻	3028	5933.2 *4*	9.85 *48*	7755.8	1⁻	1822.7
4737.8 *5*	2.30 *27*	7755.8	1⁻	3017.9	5954.8 *18*	1.50 *34*	7755.8	1⁻	1800.9
4757.8 *6*	0.40 *23*	7755.8	1⁻	2997.9	5962.8 *8*	<0.35	7755.8	1⁻	1792.9
4785.2 *9*	<0.30	7755.8	1⁻	2970.5	5969.2 *28*	2.60 *34*	7755.8	1⁻	1787
4805.0 *18*	<0.30	7755.8	1⁻	2950.7	6007.9[†] *10*	0.36 *18*	7755.8	1⁻	1747.8
4837.4 *21*	<0.30	7755.8	1⁻	2918.3	6033.2 *13*	0.17 *13*	7755.8	1⁻	1722.5
4846.8 *13*	1.00 *34*	7755.8	1⁻	2908.9	6078.6 *16*	0.65 *33*	7755.8	1⁻	1677.1
4858.5 *29*	0.70 *32*	7755.8	1⁻	2897	6113.8 *14*	<0.30	7755.8	1⁻	1642.4
4897.6 *23*	0.40 *19*	7755.8	1⁻	2858.1	6179.3[†] *10*	0.9 *5*	7755.8	1⁻	1576.4
4910.2 *15*	<0.20	7755.8	1⁻	2845.5	≈6191.0	<1.0	7755.8	1⁻	1565
4924.8 *35*	<0.20	7755.8	1⁻	2831	6231.4 *11*	1.18 *21*	7755.8	1⁻	1524.3
5004.1 *4*	<0.20	7755.8	1⁻	2751.6	6248.6 *54*	<0.30	7755.8	1⁻	1508.8
5027.1 *25*	<0.20	7755.8	1⁻	2729	6298.2 *16*	<0.24	7755.8	1⁻	1457.5
5050.4 *25*	2.00 *24*	7755.8	1⁻	2705	6366.7 *6*	<0.25	7755.8	1⁻	1389.0
5187.6 *7*	1.13 *31*	7755.8	1⁻	2568.1	6409.2 *7*	0.10 *25*	7755.8	1⁻	1346.5
5204.9 *13*	1.26 *32*	7755.8	1⁻	2550.8	6459.2 *5*	0.2 *4*	7755.8	1⁻	1296.5
5240.5 *25*	<0.30	7755.8	1⁻	2515	6574.1 *14*	<0.30	7755.8	1⁻	1181.6
5282.8 *16*	<0.30	7755.8	1⁻	2472.9	6797.2 *5*	5.34 *23*	7755.8	1⁻	959.1
5298.9 *13*	3.27 *39*	7755.8	1⁻	2456.8	7316.3 *4*	23.8 *4*	7755.8	1⁻	439.2
5327.2 *7*	4.69 *29*	7755.8	1⁻	2428.5	7755.2 *4*	<0.40	7755.8	1⁻	0

[†] From 1975Br02.
[‡] 5475.0 in 1975Br02.
[#] For intensity per 100 neutron captures, multiply by 1.0 *5*.

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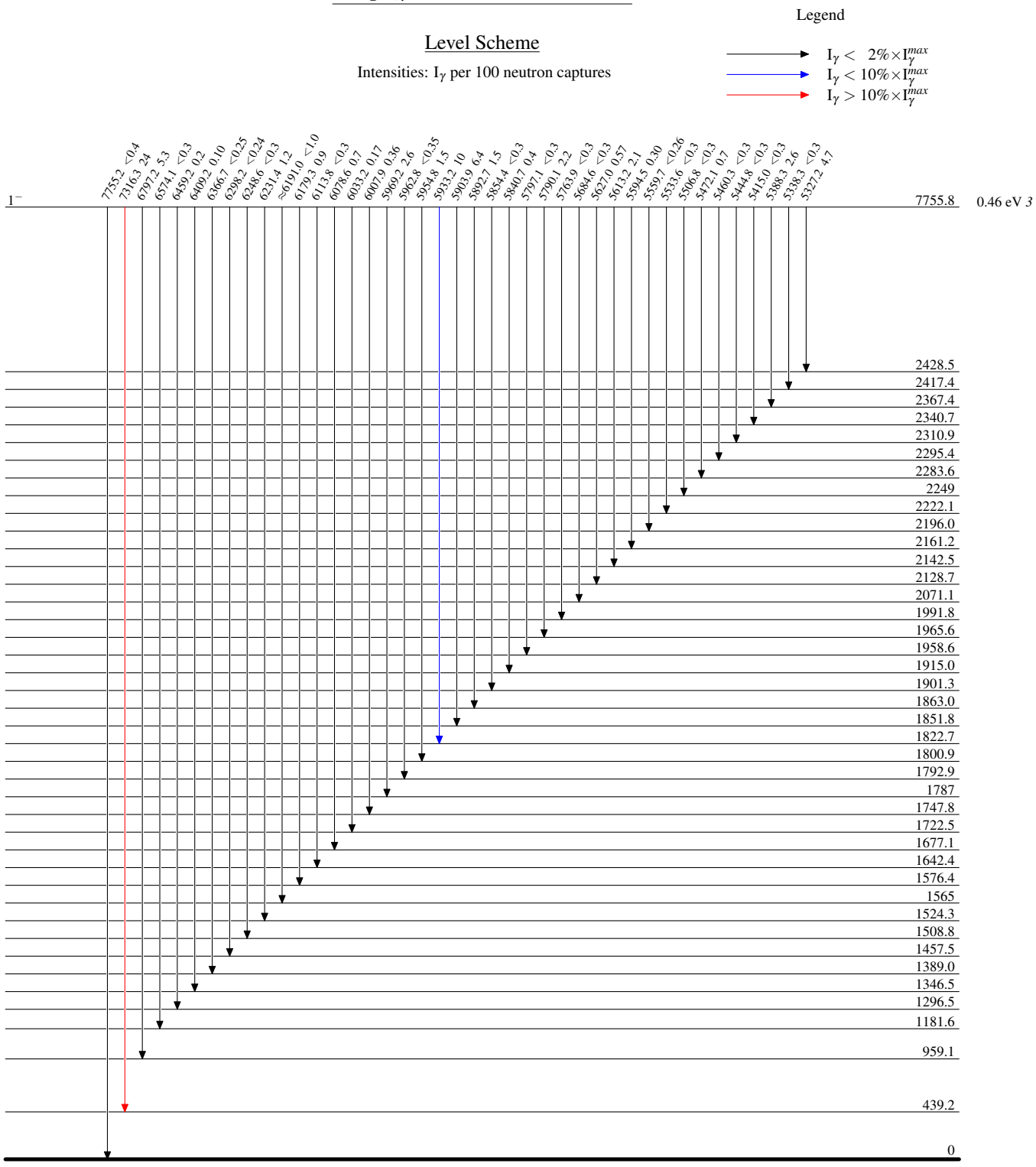
Level Scheme

Intensities: I_γ per 100 neutron captures

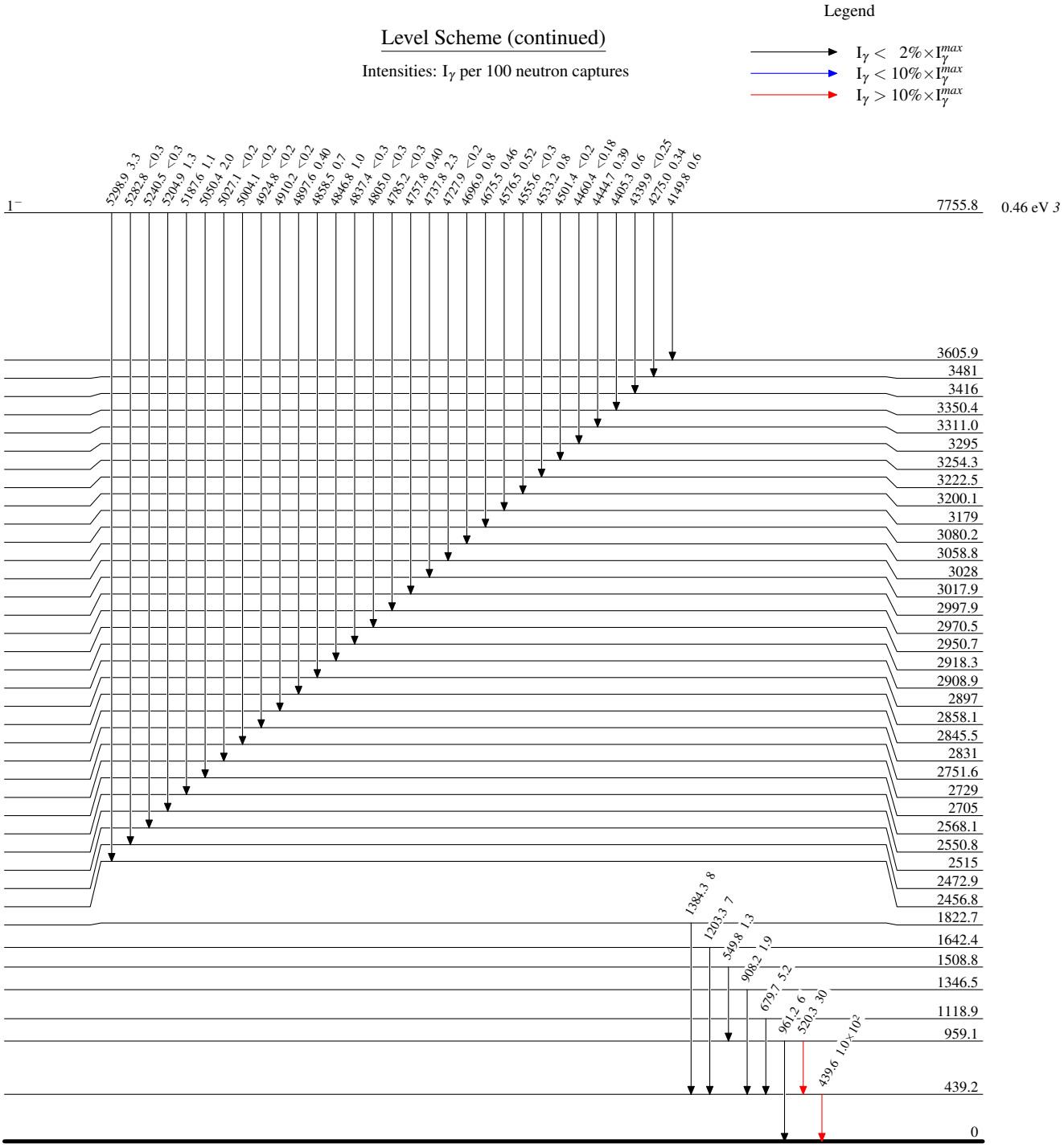


$^{202}_{80}Hg_{122}$

^{201}Hg(n,γ) E=70.9 eV res 1975Lo03

Level Scheme (continued)

Intensities: I_γ per 100 neutron captures



$^{202}_{80}Hg_{122}$