^{82}Se(^{18}O,4nγ) 2000Ch42

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	D. Abriola(a), A. A. Sonzogni	NDS 109,2501 (2008)	1-Apr-2008

E=60 MeV. Measured Eγ, Iγ, $\gamma\gamma$, $\gamma\gamma$(t) and $\gamma\gamma(\theta)$(DCO), using an array of 10 Compton-suppressed HPGe detectors along with 14 BGO detectors serving as a multiplicity filter. Comparisons of level scheme made with shell-model calculations.

^{96}Mo Levels

E(level)†	Jπ&	E(level)†	Jπ&	E(level)†	Jπ&	E(level)†	Jπ&
0‡	0^+	2712.06 *19*		4244.41# *23*	10^+	6413.8@ *3*	15^+
778.10‡ *10*	2^+	2733.7 *4*	5^+	4532.2 *3*	11^+	6709.1 *4*	15^+
1497.73 *19*	2^+	2754.49 *19*	6^+	4582.89 *23*	12^+	7504.8@ *7*	17^+
1627.76‡ *14*	4^+	2977.74‡ *18*	8^+	4794.41@ *22*	11^+	7553.5 *5*	
1869.74 *17*	4^+	3369.31 *20*	8^+	5131.50# *24*	12^+	8423.3@ *7*	19^+
1978.42 *19*	3^+	3471.90 *22*	7^+	5640.0 *3*	13^+	9466.2 *9*	20^+
2437.96 *20*	5^+	3786.29 *21*	10^+	5653.91@ *23*	13^+	9881.7 *13*	
2440.15‡ *17*	6^+	3914.97 *21*	9^+	5810.7# *3*	14^+		

† From least-squares fit to Eγ's.
‡ Band(A): g.s. sequence.
# Band(B): γ-sequence based on 10^+.
@ Band(C): γ-sequence based on 11^+.
& Author's values, based on DCO, band patterns.

γ(^{96}Mo)

DCO ratios are from ΔJ=2, quadrupole gated transitions, except where noted otherwise.

Eγ	Iγ†	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.	δ	Comments
108.8 *5*	0.5 *1*	1978.42	3^+	1869.74	4^+			
170.8 *1*	6.7 *3*	5810.7	14^+	5640.0	13^+	M1		DCO=1.92 *7*.
223.2 *1*	<2.8‡	2977.74	8^+	2754.49	6^+			
242.0 *1*	1.1‡ *1*	1869.74	4^+	1627.76	4^+			
271.9 *1*	1.6‡ *1*	2712.06		2440.15	6^+			
314.3 *2*	0.8# *1*	2754.49	6^+	2440.15	6^+			
316.4 *2*	0.8# *1*	2754.49	6^+	2437.96	5^+			
350.6 *2*	0.5 *1*	1978.42	3^+	1627.76	4^+			
372.0 *1*	1.6‡ *2*	1869.74	4^+	1497.73	2^+			
391.5 *1*	9.2‡ *1*	3369.31	8^+	2977.74	8^+	M1+E2	−0.8 *+4−3*	DCO=1.33 *18* (ΔJ=1, gated).
443.1 *1*	7.7‡ *1*	3914.97	9^+	3471.90	7^+	E2		DCO=0.92 *8*.
459.5 *1*	2.1‡ *2*	2437.96	5^+	1978.42	3^+			
508.5 *3*	1.3‡ *1*	5640.0	13^+	5131.50	12^+			
522.4 *1*	2.1 *3*	5653.91	13^+	5131.50	12^+			
537.6 *1*	37.3 *1*	2977.74	8^+	2440.15	6^+	E2		DCO=0.96 *4*.
545.6 *1*	26.9 *1*	3914.97	9^+	3369.31	8^+	M1		DCO=1.78 *4*.
550.0 *1*	1.9 *1*	4794.41	11^+	4244.41	10^+	M1		DCO=1.8 *3*.
679.2 *2*	2.5 *1*	5810.7	14^+	5131.50	12^+	E2		DCO=1.42 *3*.
719.4 *4*	1.4‡ *1*	1497.73	2^+	778.10	2^+			

Continued on next page (footnotes at end of table)

^{82}Se(^{18}O,4nγ) 2000Ch42 (continued)

γ(^{96}Mo) (continued)

E_γ	I_γ †	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ	Comments
738.3 *4*	10.7 *3*	3471.90	7^+	2733.7	5^+	E2		I_γ: Iγ(738)/Iγ(1032)=1 in table 3 of 2000Ch42, based on $\gamma\gamma$ data. DCO=1.15 *15*.
745.9 *2*	6.9 *3*	4532.2	11^+	3786.29	10^+	M1+E2	+0.18 *+5−4*	DCO=1.31 *9*.
759.9 *1*	23.6 *2*	6413.8	15^+	5653.91	13^+	E2		DCO=1.05 *3*.
778.1 *1*	100.0	778.10	2^+	0	0^+	E2		I_γ: contamination from ^{97}Mo is <0.1%. DCO=0.96 *4*.
796.6 *1*	8.6 *3*	4582.89	12^+	3786.29	10^+	E2		DCO=1.02 *5*.
808.6 *1*	30.6 *1*	3786.29	10^+	2977.74	8^+	E2		DCO=1.10 *3*.
812.4 *1*	84.6 *1*	2440.15	6^+	1627.76	4^+	E2		DCO=1.10 *4*.
844.3 *2*	2.9 *2*	7553.5		6709.1	15^+			
849.7 *1*	94.5 *2*	1627.76	4^+	778.10	2^+	E2		DCO=1.1 *2*.
859.5 *1*	26.9 *2*	5653.91	13^+	4794.41	11^+	E2		DCO=0.96 *3*.
875.0 *3*	4.9‡ *1*	4244.41	10^+	3369.31	8^+			
879.4 *1*	27.5 *3*	4794.41	11^+	3914.97	9^+	E2		DCO=1.04 *3*.
886.8 *4*	1.9‡ *3*	5131.50	12^+	4244.41	10^+	E2		DCO=0.92 *14*.
898.4 *3*	4.7‡ *7*	6709.1	15^+	5810.7	14^+	M1+E2	−0.18 *7*	DCO=2.2 *2*.
918.5 *2*	12.9‡ *1*	8423.3	19^+	7504.8	17^+	E2		DCO=1.07 *5*.
929.4 *4*	31.8 *1*	3369.31	8^+	2440.15	6^+	E2		DCO=0.92 *3*.
1009.0 *5*	1.8‡ *3*	4794.41	11^+	3786.29	10^+			
1032.2 *5*	4.7‡ *5*	3471.90	7^+	2440.15	6^+	M1		DCO=1.88 *24*.
1042.9 *6*	3.3‡ *5*	9466.2	20^+	8423.3	19^+	(M1)		DCO=1.05 *10* (ΔJ=1, gated). DCO=1.79 *16*.
1057.1 *3*	6.7 *4*	5640.0	13^+	4582.89	12^+	M1+E2	+0.12 *+8−6*	DCO=1.42 *9*.
1091.0 *6*	14.7 *6*	7504.8	17^+	6413.8	15^+	E2		DCO=1.05 *4*.
1091.4 *6*	6.3 *6*	1869.74	4^+	778.10	2^+			
1106.2 *5*	2.8 *2*	2733.7	5^+	1627.76	4^+			
1126.8 *6*	1.9 *3*	2754.49	6^+	1627.76	4^+			
1200.1 *3*	1.7 *8*	1978.42	3^+	778.10	2^+			
1202.8 *3*	<0.4	3914.97	9^+	2712.06				
1266.6 *6*	1.9 *3*	4244.41	10^+	2977.74	8^+	E2		DCO=1.22 *12*.
1345.6 *7*	3.7 *2*	5131.50	12^+	3786.29	10^+			
1458.4 *11*	0.7 *1*	9881.7		8423.3	19^+			

† From singles data at 51°, unless otherwise stated.
‡ Estimated from coincidence spectra.
# For 314.3+316.4, from $\gamma\gamma$ coin spectra.

^{82}Se(^{18}O,4nγ) 2000Ch42

Level Scheme

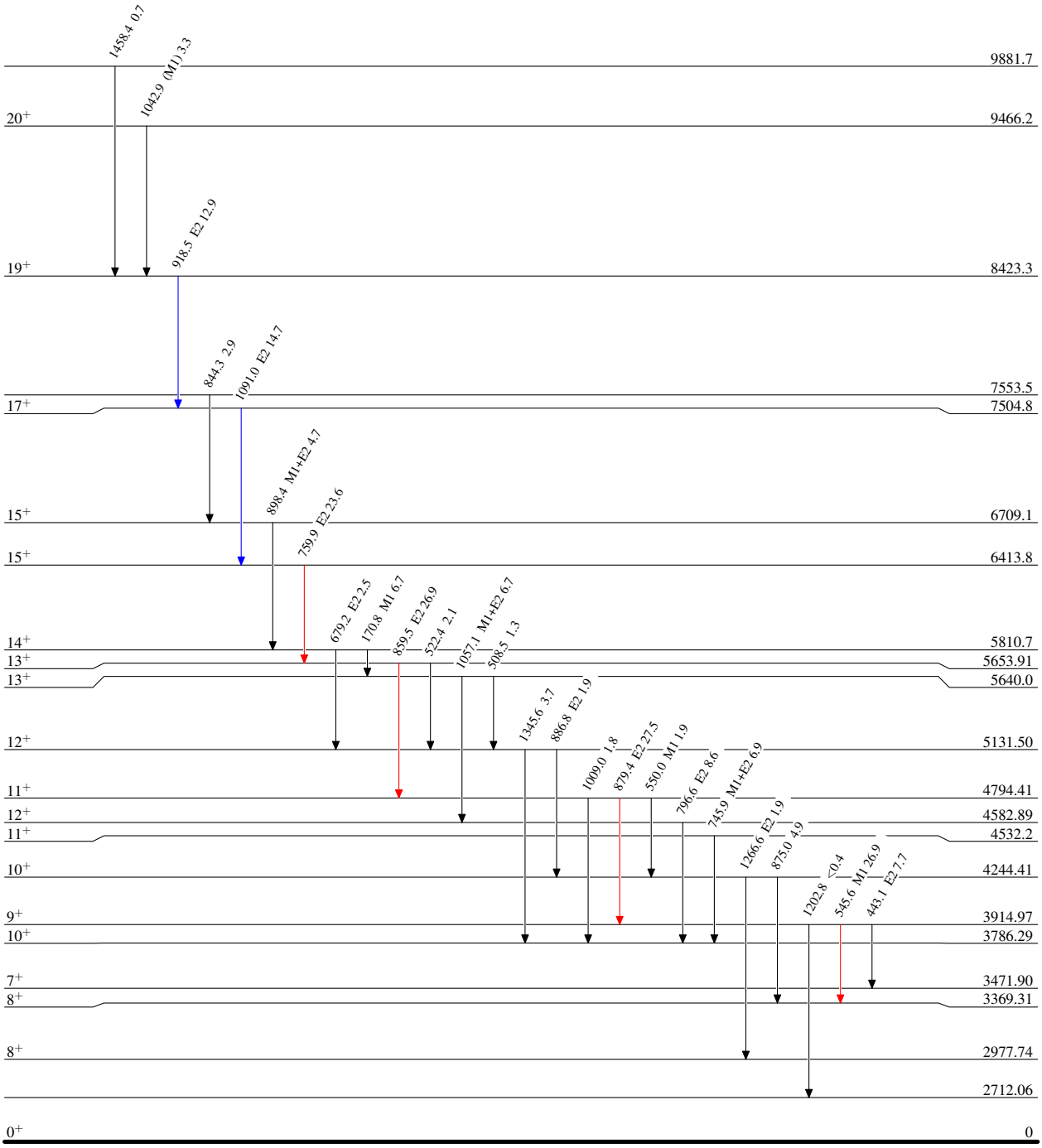
Intensities: Relative I_γ

Legend

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

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

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

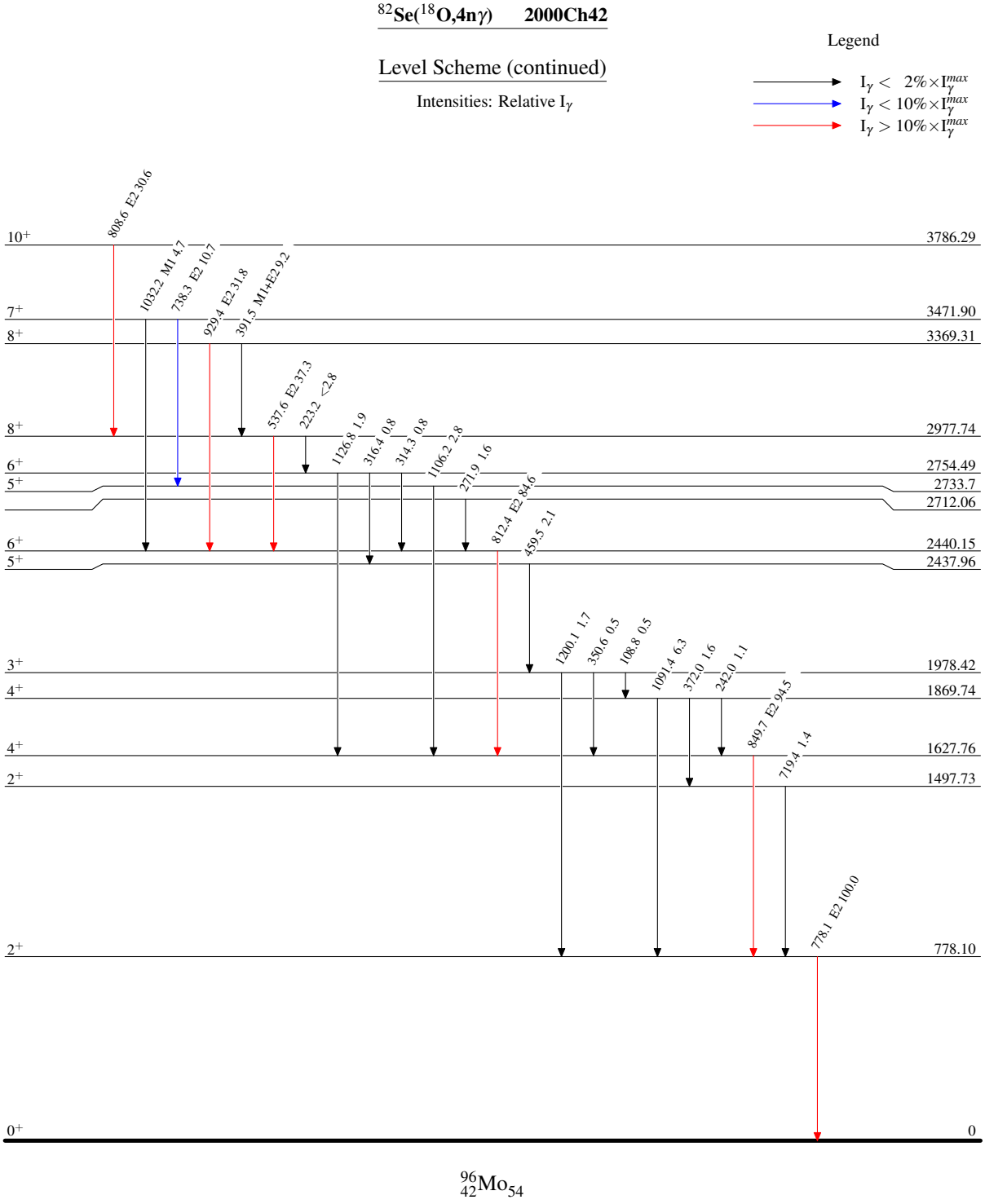


$^{96}_{42}Mo_{54}$

^{82}Se(^{18}O,4nγ) 2000Ch42

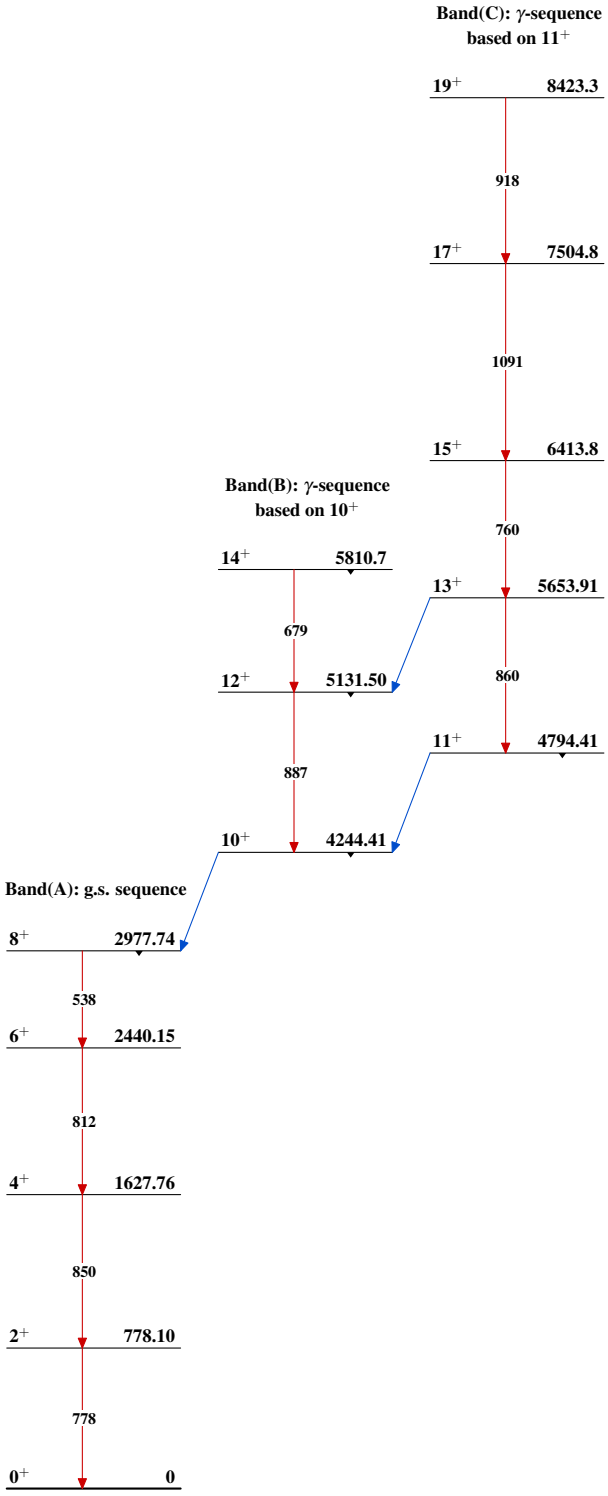
Level Scheme (continued)

Intensities: Relative I_γ



$^{96}_{42}Mo_{54}$

^{82}Se(^{18}O,4nγ) 2000Ch42



$^{96}_{42}Mo_{54}$