^{54}Fe(^{58}Ni,4pγ) 1998Je03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2008

E=243 MeV. Measured Eγ, Iγ, $\gamma\gamma$, $\gamma\gamma(\theta)$(DCO) using Gammasphere array of 95 Compton-suppressed Ge detectors. Lifetime from DSAM are are reported in 1999Je07.

^{108}Sn Levels

E(level)	J$^\pi$	E(level)	J$^\pi$	T$_{1/2}$[†]	E(level)	J$^\pi$	T$_{1/2}$[†]
0[@]	0$^+$	5957.8 *22*	12$^-$		8328.9 *21*	17$^-$	
1205.7[@] *10*	2$^+$	6097.6 *21*	13$^-$		8349.6[#] *22*	17$^-$	
2110.4[@] *15*	4$^+$	6314.4 *21*	13$^-$		8633.8[‡] *21*	17$^-$	0.23 ps *+3−1*
2363.2[@] *18*	6$^+$	6528.6 *21*	14$^-$		8694.0[#] *22*	18$^-$	
3559.0[@] *20*	8$^+$	6664.4[‡] *21*	12$^-$		9103.9[#] *22*	19$^-$	
3585.1 *20*	7$^+$	6884.4[‡] *21*	13$^-$		9168.9[‡] *21*	18$^-$	0.31 ps *+4−3*
4144.0 *20*	8$^-$	7182.0[‡] *21*	14$^-$		9577.5[#] *22*	20$^-$	
4174.8 *21*	9$^-$	7193.5 *21*	15$^-$		9719.0[‡] *21*	19$^-$	0.39 ps *9*
4254.0[@] *21*	10$^+$	7605.7[‡] *21*	15$^-$	0.46 ps *4*	10060.7[#] *22*	21$^-$	
5139.0 *21*	10$^-$	8036.6[#] *22*	15$^-$		10354.3[‡] *22*	20$^-$	
5315.6 *21*	11$^-$	8101.4[#] *22*	16$^-$		10569.8[#] *23*	22$^-$	
5414.4[@] *21*	12$^+$	8115.6[‡] *21*	16$^-$	0.16 ps *1*			

[†] From 1999Je07, DSAM.
[‡] Band(A): Magnetic-rotational band #1.
[#] Band(B): Magnetic-rotational band #2.
[@] Band(C): Yrast structure.

γ(^{108}Sn)

E$_\gamma$[†]	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
214		6528.6	14$^-$	6314.4	13$^-$	
220.0 *1*	1.5 *2*	6884.4	13$^-$	6664.4	12$^-$	DCO=0.83 *18*.
248.2 *5*	0.2 *1*	8349.6	17$^-$	8101.4	16$^-$	DCO=0.95 *17*.
253		2363.2	6$^+$	2110.4	4$^+$	
297.7 *1*	4.9 *4*	7182.0	14$^-$	6884.4	13$^-$	DCO=0.80 *6*.
313		8349.6	17$^-$	8036.6	15$^-$	
344.6 *4*	0.9 *2*	8694.0	18$^-$	8349.6	17$^-$	DCO=0.76 *14*.
357		6314.4	13$^-$	5957.8	12$^-$	
365.1 *5*	1.5 *2*	8694.0	18$^-$	8328.9	17$^-$	DCO=0.76 *30*.
408		9577.5	20$^-$	9168.9	18$^-$	
410.0 *3*	3.5 *5*	9103.9	19$^-$	8694.0	18$^-$	DCO=0.92 *5*.
423.7 *1*	10.9 *3*	7605.7	15$^-$	7182.0	14$^-$	DCO=0.95 *6*.
431.0 *1*	7.4 *4*	6528.6	14$^-$	6097.6	13$^-$	DCO=0.62 *9*.
470.0 *8*	1.3 *3*	9103.9	19$^-$	8633.8	17$^-$	DCO=1.85 *32*.
473.6 *3*	2.0 *3*	9577.5	20$^-$	9103.9	19$^-$	DCO=0.83 *4*.
483.4 *5*	2.2 *2*	10060.7	21$^-$	9577.5	20$^-$	DCO=0.90 *5*.
509.4 *8*	1.8 *2*	10569.8	22$^-$	10060.7	21$^-$	DCO=0.72 *12*.
509.9 *1*	9.7 *3*	8115.6	16$^-$	7605.7	15$^-$	DCO=0.86 *3*.
518.2 *2*	5.5 *4*	8633.8	17$^-$	8115.6	16$^-$	DCO=0.93 *2*.
535.1 *1*	1.7 *2*	9168.9	18$^-$	8633.8	17$^-$	DCO=0.75 *6*.
550.2 *2*	1.2 *3*	9719.0	19$^-$	9168.9	18$^-$	DCO=0.75 *8*.

Continued on next page (footnotes at end of table)

^{54}Fe(^{58}Ni,4pγ) 1998Je03 (continued)

γ(^{108}Sn) (continued)

E_γ †	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Comments
559		4144.0	8^-	3585.1	7^+	
570		6884.4	13^-	6314.4	13^-	
571		6528.6	14^-	5957.8	12^-	
579		8694.0	18^-	8115.6	16^-	
585		4144.0	8^-	3559.0	8^+	
592‡		8694.0	18^-	8101.4	16^-	
616		4174.8	9^-	3559.0	8^+	
635.5 *4*	0.5 *2*	10354.3	20^-	9719.0	19^-	DCO=0.91 *15*.
653.4 *1*	4.3 *7*	7182.0	14^-	6528.6	14^-	DCO=1.41 *5*.
683		6097.6	13^-	5414.4	12^+	
695		4254.0	10^+	3559.0	8^+	
720		7605.7	15^-	6884.4	13^-	
753		9103.9	19^-	8349.6	17^-	
775		9103.9	19^-	8328.9	17^-	
819		5957.8	12^-	5139.0	10^-	
868		7182.0	14^-	6314.4	13^-	
885		9577.5	20^-	8694.0	18^-	E_γ: from 1997Ju01. Eγ=865 quoted by 1998Je03 is a misprint.
905		2110.4	4^+	1205.7	2^+	
934		8115.6	16^-	7182.0	14^-	
956		10060.7	21^-	9103.9	19^-	
992		10569.8	22^-	9577.5	20^-	
995		5139.0	10^-	4144.0	8^-	
999		6314.4	13^-	5315.6	11^-	
1028		8633.8	17^-	7605.7	15^-	
1053		9168.9	18^-	8115.6	16^-	
1062		5315.6	11^-	4254.0	10^+	
1085		7182.0	14^-	6097.6	13^-	
1085		9719.0	19^-	8633.8	17^-	
1095.8 *2*	11.1 *5*	7193.5	15^-	6097.6	13^-	DCO=1.48 *5*.
1135.6 *3*	1.6 *3*	8328.9	17^-	7193.5	15^-	DCO=1.41 *23*.
1141		5315.6	11^-	4174.8	9^-	
1160		5414.4	12^+	4254.0	10^+	
1184		10354.3	20^-	9168.9	18^-	
1196		3559.0	8^+	2363.2	6^+	
1206		1205.7	2^+	0	0^+	
1222		3585.1	7^+	2363.2	6^+	
1250		6664.4	12^-	5414.4	12^+	
1349		6664.4	12^-	5315.6	11^-	
1470		6884.4	13^-	5414.4	12^+	
1525		6664.4	12^-	5139.0	10^-	
1569		6884.4	13^-	5315.6	11^-	
1722		8036.6	15^-	6314.4	13^-	
1939		8036.6	15^-	6097.6	13^-	

† Eγ without intensities are from the level scheme shown in the paper.
‡ Placement of transition in the level scheme is uncertain.

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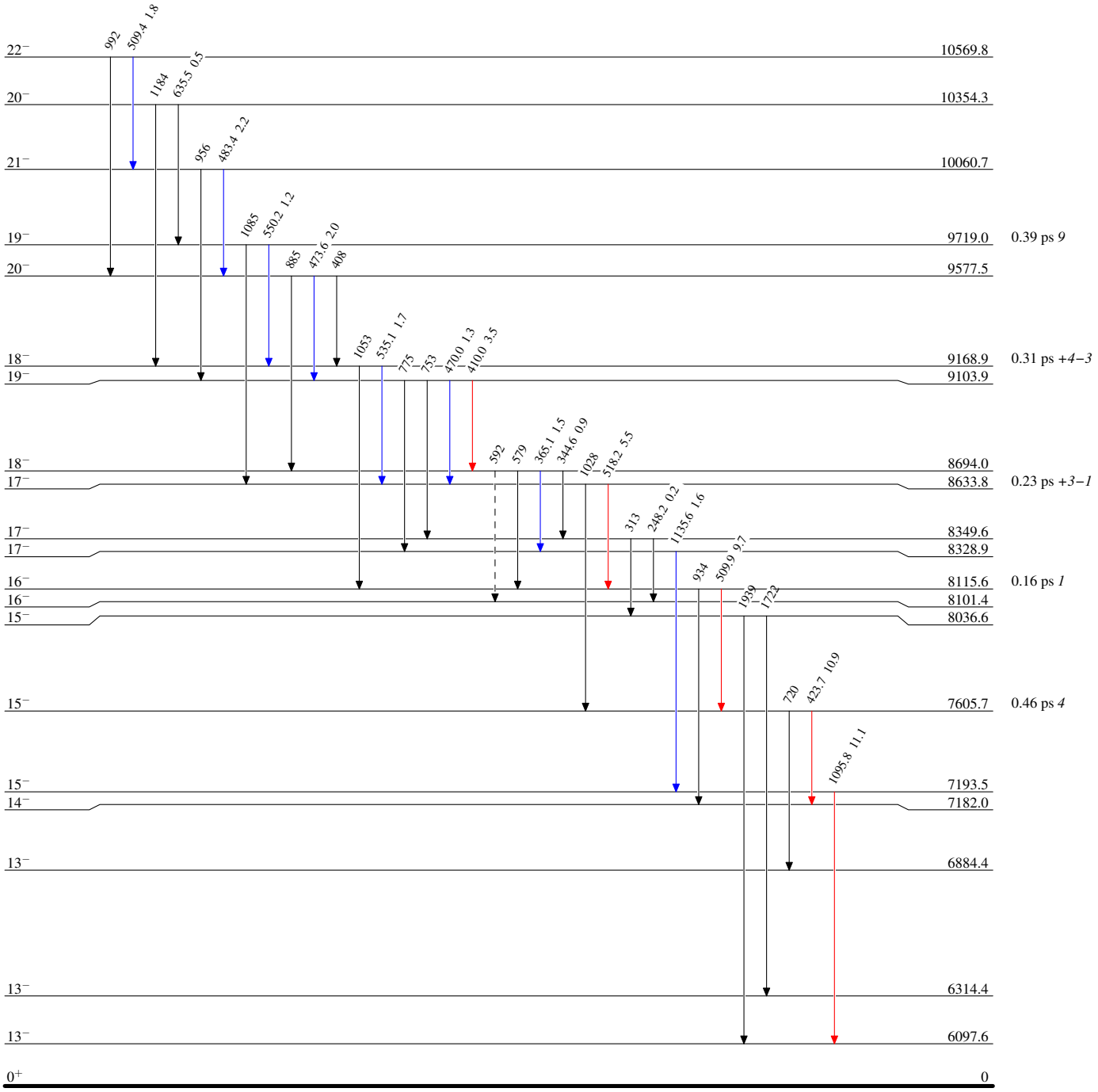
Level Scheme

Intensities: Relative I_γ

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- γ Decay (Uncertain)



$^{108}_{50}Sn_{58}$

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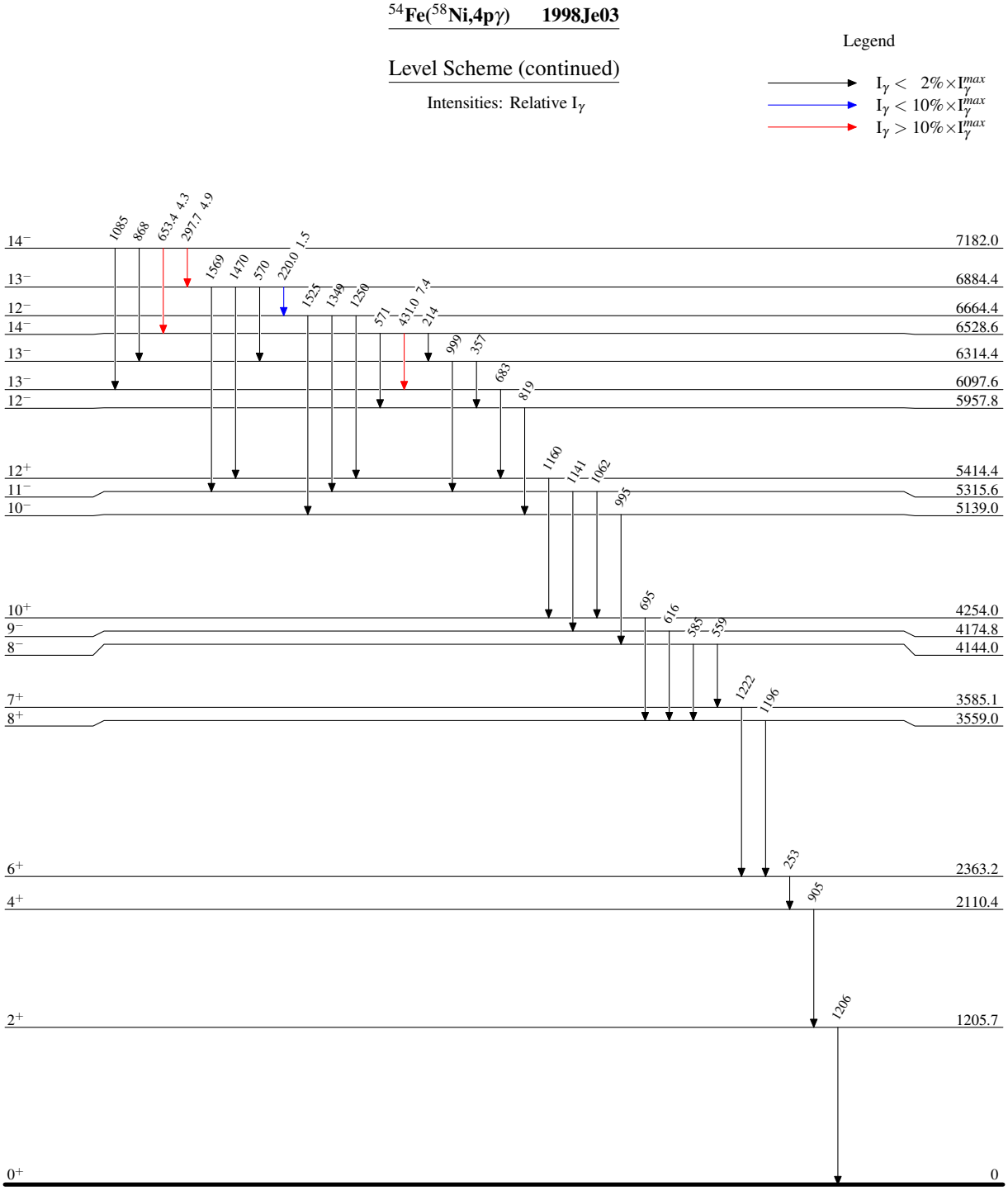
Level Scheme (continued)

Intensities: Relative I_γ



$^{108}_{50}Sn_{58}$

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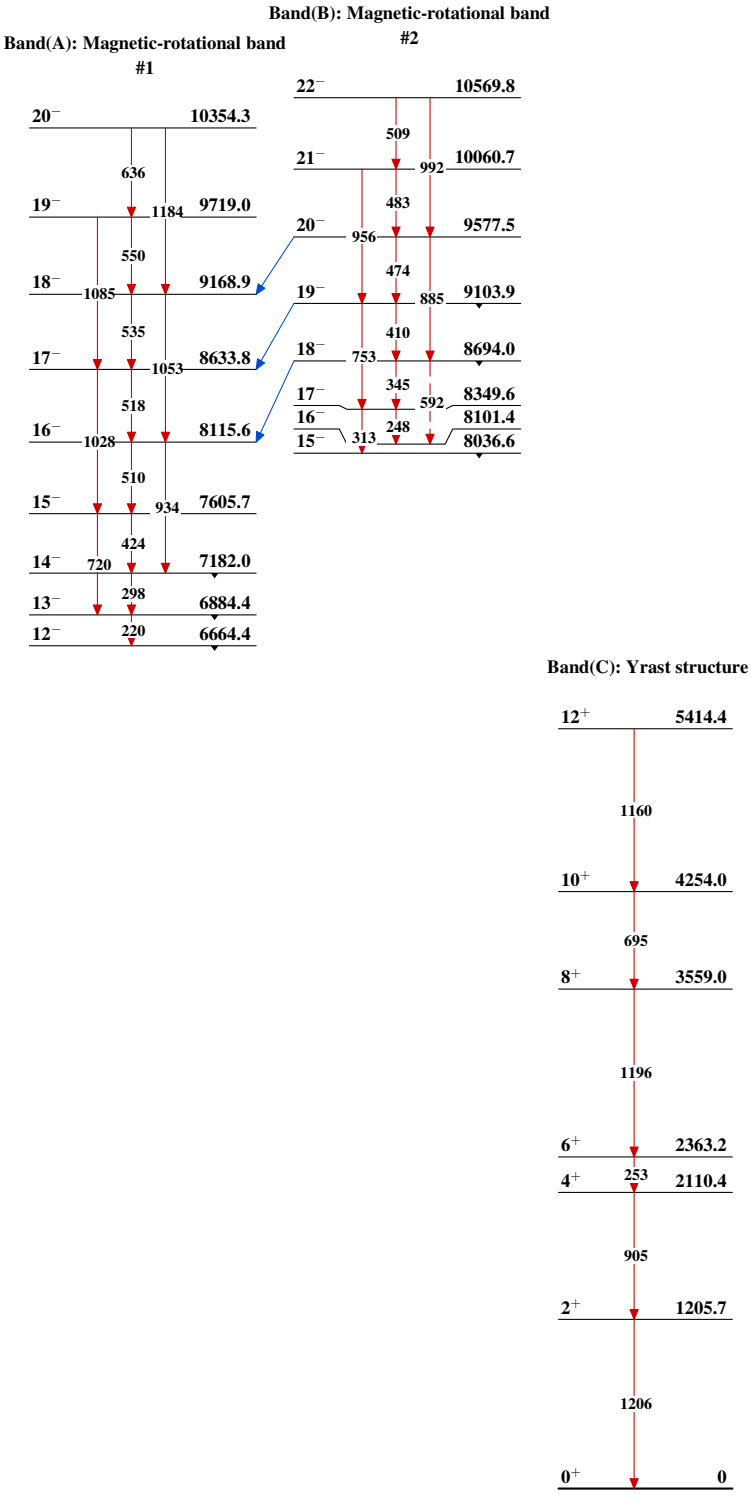

$^{108}_{50}Sn_{58}$