^{55}Mn(^{28}Si,2pnγ) 2000Ca07

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 105, 223 (2005)	22-Jun-2005

E=90 MeV. Measured Eγ, Iγ, $\gamma\gamma$ and lifetimes using Pitt-FSU array consisting of 10 high-purity Compton-suppressed HPGe detectors.

1990CaZT (from the same group as 2000Ca07): ^{52}Cr(^{34}S,αnpγ) E=130 MeV. Measured γ, $\gamma\gamma$, $\alpha\gamma$ and pγ coin, data for two bands. The authors also mention using ^{65}Cu(^{19}F,p3nγ) reaction.

Other: 2001Sm05: ^{55}Mn(^{32}S,α2pn) E=140 MeV.

Configurations are from 1998Ta07.

^{80}Rb Levels

E(level)[†]	J$^\pi$[‡]	E(level)[†]	J$^\pi$[‡]	T$_{1/2}$	E(level)[†]	J$^\pi$[‡]	T$_{1/2}$
0	1$^+$	883.4[a] *14*	(7$^-$)		4031.5[&] *21*	(14$^+$)	0.12 ps *5*
175.3[#] *8*		1122.7[@] *19*	(9$^+$)		4182.6[b] *23*	(14$^-$)	0.17 ps *6*
334.3[#] *12*	3$^{(-)}$	1204.6[b] *15*	(8$^-$)		4443.6[@] *22*	(15$^+$)	0.12 ps *3*
375.7[#] *8*	3$^+$	1541.2[&] *19*	(10$^+$)	0.97 ps *35*	4841.8[a] *24*	(15$^-$)	<0.28 ps
397.3[b] *14*	(4$^-$)	1590.8[a] *16*	(9$^-$)		5542.5[&] *23*	(16$^+$)	<0.16 ps
418.4 *15*	(4$^-$)	1998.6[b] *18*	(10$^-$)	1.0 ps *+10–4*	5545[b] *3*	(16$^-$)	<0.21 ps
471.7 *12*	4$^{(+)}$	2025.4[@] *19*	(11$^+$)	0.30 ps *8*	5905.6[@] *24*	(17$^+$)	0.06 ps *3*
485.4 *14*	(5$^-$)	2505.8[a] *19*	(11$^-$)	0.48 ps *14*	6137[a] *3*	(17$^-$)	
493.5 *14*	6$^+$	2679.2[&] *20*	(12$^+$)	0.22 ps *7*	7112[b] *3*	(18$^-$)	
496.4[a] *15*	(5$^-$)	2997.6[b] *21*	(12$^-$)	0.40 ps *9*	7545[a] *3*	(19$^-$)	0.06 ps *+8–3*
643.6[b] *14*	(6$^-$)	3149.7[@] *20*	(13$^+$)	0.23 ps *7*	7553[@] *3*	(19$^+$)	
650.4[&] *17*	(8$^+$)	3597.8[a] *22*	(13$^-$)	0.31 ps *8*	9329[@] *3*	(21$^+$)	<0.083 ps

[†] From least-squares fit to Eγ's, assuming Δ(Eγ)=1 keV for each γ ray.

[‡] As proposed by 2000Ca07. The assignments are the same in 'Adopted Levels', except that some of these are placed in parentheses there.

[#] From 1998Ta07.

[@] Band(A): $\pi g_{9/2}\nu g_{9/2}$, α=1.

[&] Band(a): $\pi g_{9/2}\nu g_{9/2}$, α=0.

[a] Band(B): $\pi f_{5/2}\nu g_{9/2}$, α=1.

[b] Band(b): $\pi f_{5/2}\nu g_{9/2}$, α=0.

γ(^{80}Rb)

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
(8.0[‡])	493.5	6$^+$	485.4	(5$^-$)	175[†]		175.3		0	1$^+$
(21.6[‡])	493.5	6$^+$	471.7	4$^{(+)}$	200[†]		375.7	3$^+$	175.3	
63	397.3	(4$^-$)	334.3	3$^{(-)}$	240		883.4	(7$^-$)	643.6	(6$^-$)
78[†]	496.4	(5$^-$)	418.4	(4$^-$)	246.5		643.6	(6$^-$)	397.3	(4$^-$)
84[†]	418.4	(4$^-$)	334.3	3$^{(-)}$	321		1204.6	(8$^-$)	883.4	(7$^-$)
88[†]	485.4	(5$^-$)	397.3	(4$^-$)	376[†]		375.7	3$^+$	0	1$^+$
96[†]	471.7	4$^{(+)}$	375.7	3$^+$	386		1590.8	(9$^-$)	1204.6	(8$^-$)
157	650.4	(8$^+$)	493.5	6$^+$	387		883.4	(7$^-$)	496.4	(5$^-$)
158	643.6	(6$^-$)	485.4	(5$^-$)	398.0		883.4	(7$^-$)	485.4	(5$^-$)
159[†]	334.3	3$^{(-)}$	175.3		412	4 *1*	4443.6	(15$^+$)	4031.5	(14$^+$)

Continued on next page (footnotes at end of table)

^{55}Mn(^{28}Si,2pnγ) 2000Ca07 (continued)

γ(^{80}Rb) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π
418	13 *1*	1541.2	(10^+)	1122.7	(9^+)	1125	28 *2*	3149.7	(13^+)	2025.4	(11^+)
470	12 *1*	3149.7	(13^+)	2679.2	(12^+)	1138	51 *3*	2679.2	(12^+)	1541.2	(10^+)
472		1122.7	(9^+)	650.4	(8^+)	1185	21 *1*	4182.6	(14^-)	2997.6	(12^-)
484	48 *2*	2025.4	(11^+)	1541.2	(10^+)	1244	11 *1*	4841.8	(15^-)	3597.8	(13^-)
561.0		1204.6	(8^-)	643.6	(6^-)	1294	27 *2*	4443.6	(15^+)	3149.7	(13^+)
653	4 *1*	2679.2	(12^+)	2025.4	(11^+)	1295	9 *1*	6137	(17^-)	4841.8	(15^-)
707.5		1590.8	(9^-)	883.4	(7^-)	1352	21 *2*	4031.5	(14^+)	2679.2	(12^+)
794	48 *2*	1998.6	(10^-)	1204.6	(8^-)	1362	8 *1*	5545	(16^-)	4182.6	(14^-)
882	2 *1*	4031.5	(14^+)	3149.7	(13^+)	1408	7 *1*	7545	(19^-)	6137	(17^-)
891	100 *3*	1541.2	(10^+)	650.4	(8^+)	1462	19 *1*	5905.6	(17^+)	4443.6	(15^+)
903	21 *1*	2025.4	(11^+)	1122.7	(9^+)	1511	12 *1*	5542.5	(16^+)	4031.5	(14^+)
915	40 *2*	2505.8	(11^-)	1590.8	(9^-)	1567	2 *1*	7112	(18^-)	5545	(16^-)
999	33 *1*	2997.6	(12^-)	1998.6	(10^-)	1647	15 *1*	7553	(19^+)	5905.6	(17^+)
1092	27 *1*	3597.8	(13^-)	2505.8	(11^-)	1776	9 *1*	9329	(21^+)	7553	(19^+)

† From 1998Ta07.
‡ From 'adopted gammas'.

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Level Scheme

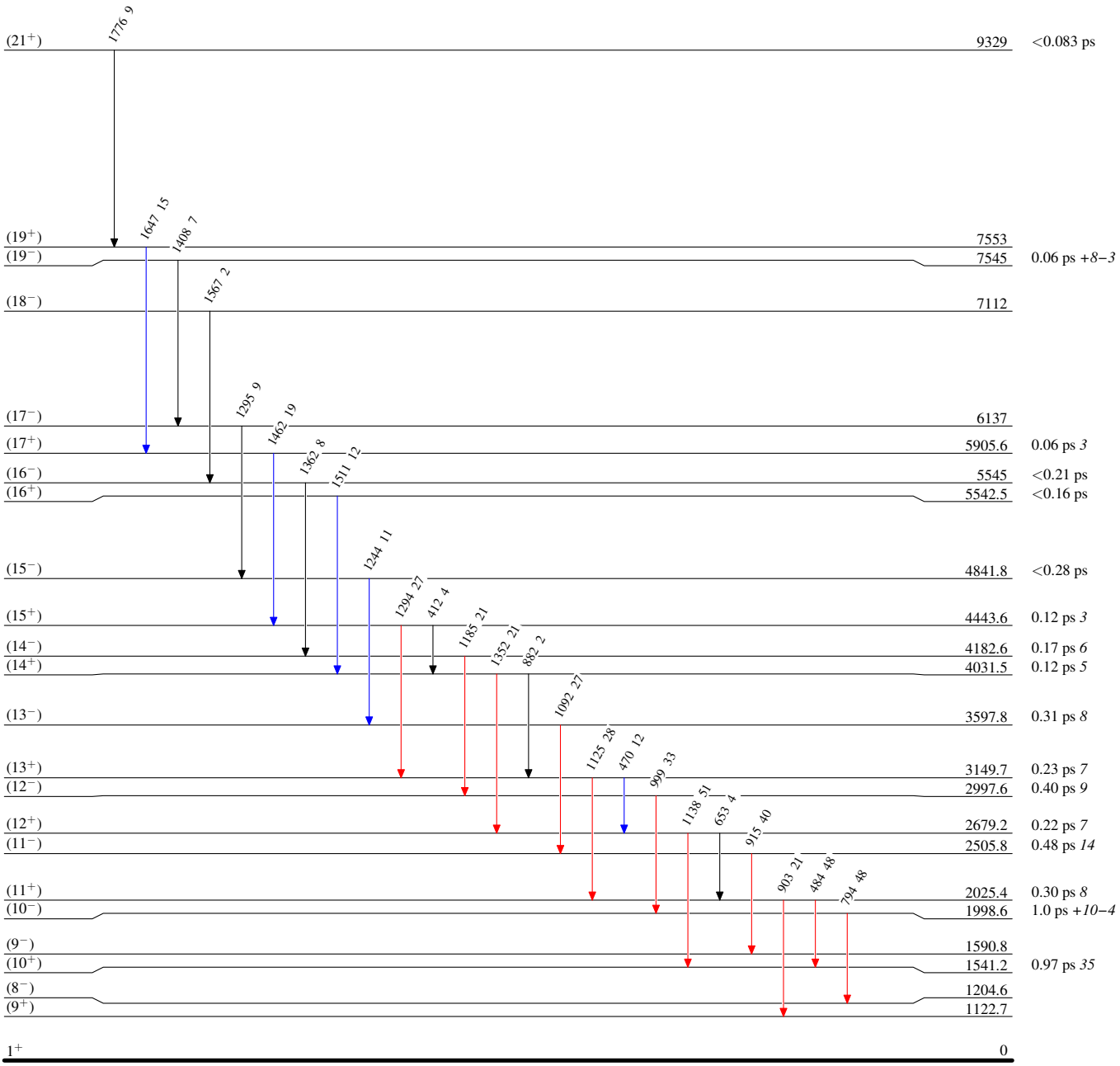
Intensities: Relative I_γ

Legend

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

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

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



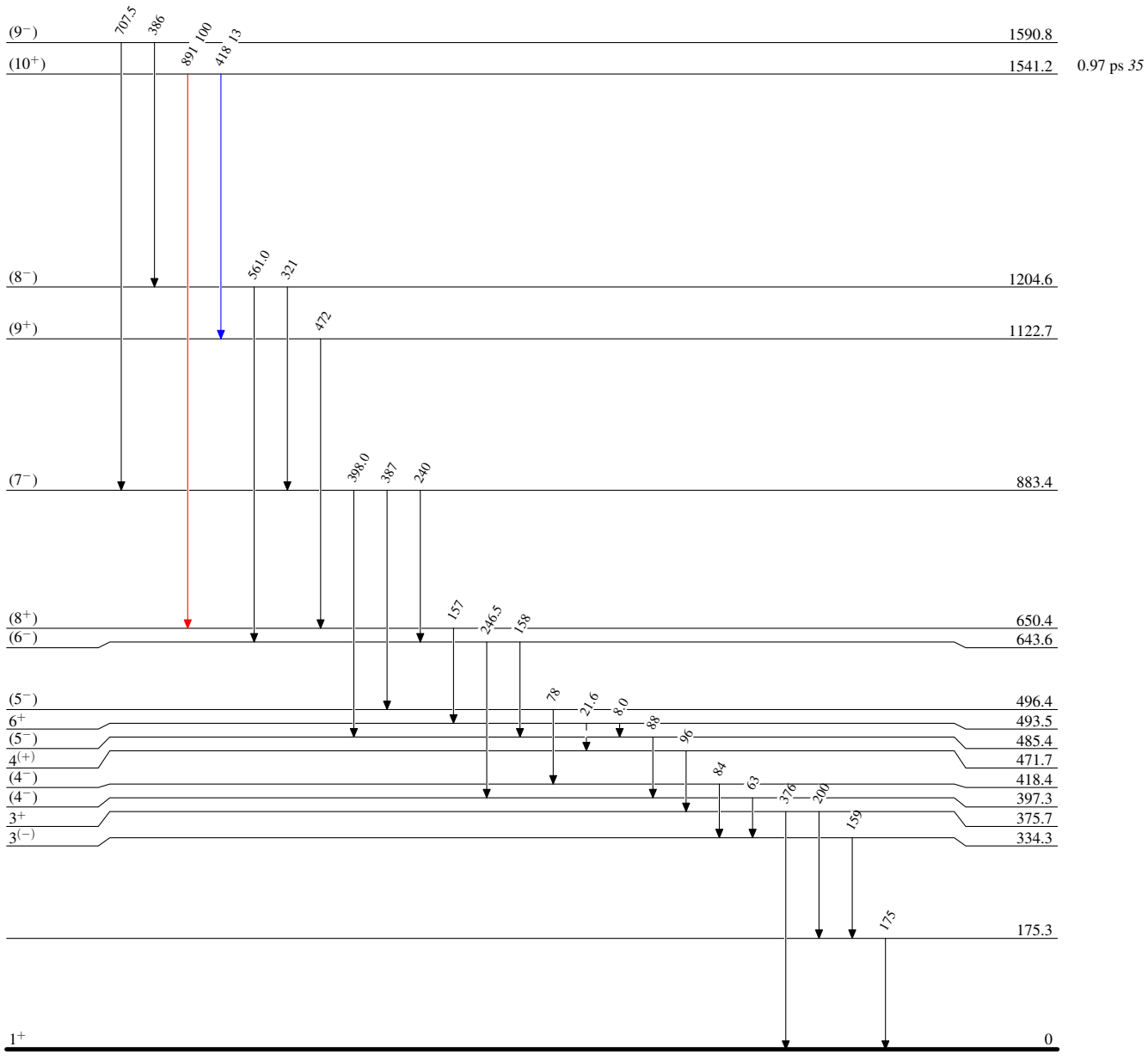
$^{80}_{37}Rb_{43}$

^{55}Mn(^{28}Si,2pnγ) 2000Ca07

Level Scheme (continued)

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)



$^{80}_{37}Rb_{43}$

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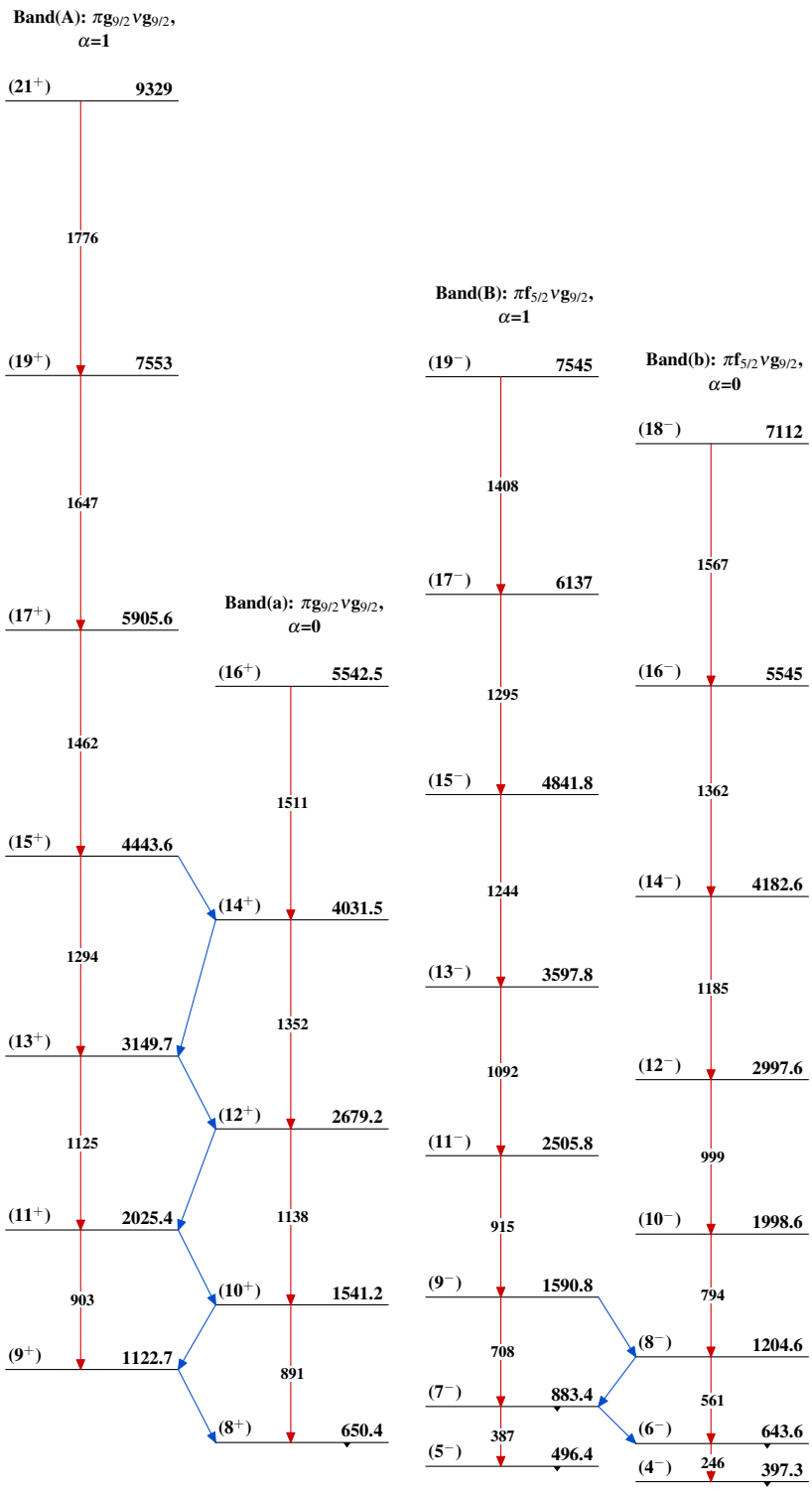

$^{80}_{37}Rb_{43}$