^{55}Mn(^{16}O,2pnγ),^{56}Fe(^{15}N,2pnγ) 2000Si38,1980RaZG,1978Fi03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan	NDS 113, 1735 (2012)	1-Mar-2012

2000Si38: ^{55}Mn(^{16}O,2pnγ), E(^{16}O)=55 MeV. Measured Eγ, Iγ, $\gamma\gamma$, and $\gamma\gamma(\theta)$(DCO) with seven Compton-suppressed HPGe detectors. Channel selection was obtained with a fourteen phoswich detector array.
1980RaZG: ^{55}Mn(^{16}O,2pnγ), E(^{16}O)=54 MeV. Measured time differential perturbed angular distribution of γ's from 1229 7$^-$ level.
1978Fi03: ^{56}Fe(^{15}N,2pnγ), E(^{15}N)=50-75 MeV. Measured Eγ, $\gamma(\theta$,H,t), and $T_{1/2}$ using Ge(Li) detector.

^{68}Ga Levels

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$	Comments
0[#]	1$^+$		
175.0[#]	2$^+$		
375.1[#]	3$^+$		
495.4[#]	4$^+$		
584.1	2$^-$		
805.3	4$^+$		
876.1	4$^-$		
1102.6	5$^-$		
1222.2	5$^+$		
1228.9	7$^-$	64 ns *2*	Q=0.72 *2*; g=+0.105 *3* $T_{1/2}$: from pulsed-beam electronic timing (1978Fi03). g: obtained from the Larmor precession frequency of 1978Fi03 and weighted average of magnetic field (B) measurements of 1967Ko28 and 1974KrZB. Other: g=+0.103 *3* (using B from 1967Ko28) and +0.118 *7* (using B from 1974KrZB). Q: from $\gamma(\theta$,t) following recoil implantation (1980RaZG). Configuration: $\pi f_{5/2}\nu g_{9/2}$ (1978Fi03).
1247.6	5$^-$		
1322.9	6$^-$		
2102.9	8$^-$		
2282.9	(7,8)		
2395.7	9$^{(-)}$		
2611.9	8		
2895.1[@]	9$^+$		
2951.9	(8,9)		
3815.9	(9$^+$)		
3852.1			
3917.9			
3964.0[@]	11$^+$		
4645.0	(11$^+$)		
5166.0[@]	(13$^+$)		
6590.0[@]	(15$^+$)		
7724.0	(17$^+$)		

[†] From least-squares fit to Eγ's by evaluator.
[‡] From the Adopted Levels.
[#] Band(A): γ sequence based on 1$^+$ g.s.
[@] Band(B): $\nu g_{9/2}$ coupled to $\pi g_{9/2}$ in ^{67}Ga (2000Si38).

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γ(^{68}Ga)

E_γ [†]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [#]	Comments
74.8[‡@]	1322.9	6^-	1247.6	5^-		
120.5[‡]	495.4	4^+	375.1	3^+		
126.3[‡]	1228.9	7^-	1102.6	5^-		
175.0[‡]	175.0	2^+	0	1^+		
200.5[‡]	375.1	3^+	175.0	2^+		
219.7[‡]	1322.9	6^-	1102.6	5^-		
226	1102.6	5^-	876.1	4^-		
292	876.1	4^-	584.1	2^-		
297.0[‡]	1102.6	5^-	805.3	4^+		
309.7[‡]	805.3	4^+	495.4	4^+		
320.4[‡]	495.4	4^+	175.0	2^+		
371	1247.6	5^-	876.1	4^-		
375.1[‡]	375.1	3^+	0	1^+		
381	876.1	4^-	495.4	4^+		
417	1222.2	5^+	805.3	4^+		
430.5[‡]	805.3	4^+	375.1	3^+		
447.8[‡@]	1322.9	6^-	876.1	4^-		
499	2895.1	9^+	2395.7	$9^{(-)}$		
501	876.1	4^-	375.1	3^+		
521	5166.0	(13^+)	4645.0	(11^+)	Q	
584	584.1	2^-	0	1^+		
607.3[‡]	1102.6	5^-	495.4	4^+		
630	805.3	4^+	175.0	2^+		
681	4645.0	(11^+)	3964.0	11^+		
727	1222.2	5^+	495.4	4^+		
780	2102.9	8^-	1322.9	6^-		
829	4645.0	(11^+)	3815.9	(9^+)	Q	DCO=1.1.
847	1222.2	5^+	375.1	3^+		
864	3815.9	(9^+)	2951.9	(8,9)		
921	3815.9	(9^+)	2895.1	9^+		
957	3852.1		2895.1	9^+		
966	3917.9		2951.9	(8,9)		
1022	3917.9		2895.1	9^+		
1054	2282.9	(7,8)	1228.9	7^-		
1069	3964.0	11^+	2895.1	9^+		
1134	7724.0	(17^+)	6590.0	(15^+)		
1167	2395.7	$9^{(-)}$	1228.9	7^-		
1202	5166.0	(13^+)	3964.0	11^+	Q	DCO=0.8.
1289	2611.9	8	1322.9	6^-		
1420	3815.9	(9^+)	2395.7	$9^{(-)}$		
1424	6590.0	(15^+)	5166.0	(13^+)		
1523	3917.9		2395.7	$9^{(-)}$		
1666	2895.1	9^+	1228.9	7^-		
1723	2951.9	(8,9)	1228.9	7^-		

[†] From 2000Si38, except where noted.
[‡] From 1978Fi03.
[#] From $\gamma(\theta)$ (DCO) (2000Si38).
[@] Placement from 2000Si38, observed by 1978Fi03 but not explicitly assigned to ^{68}Ga.

Legend

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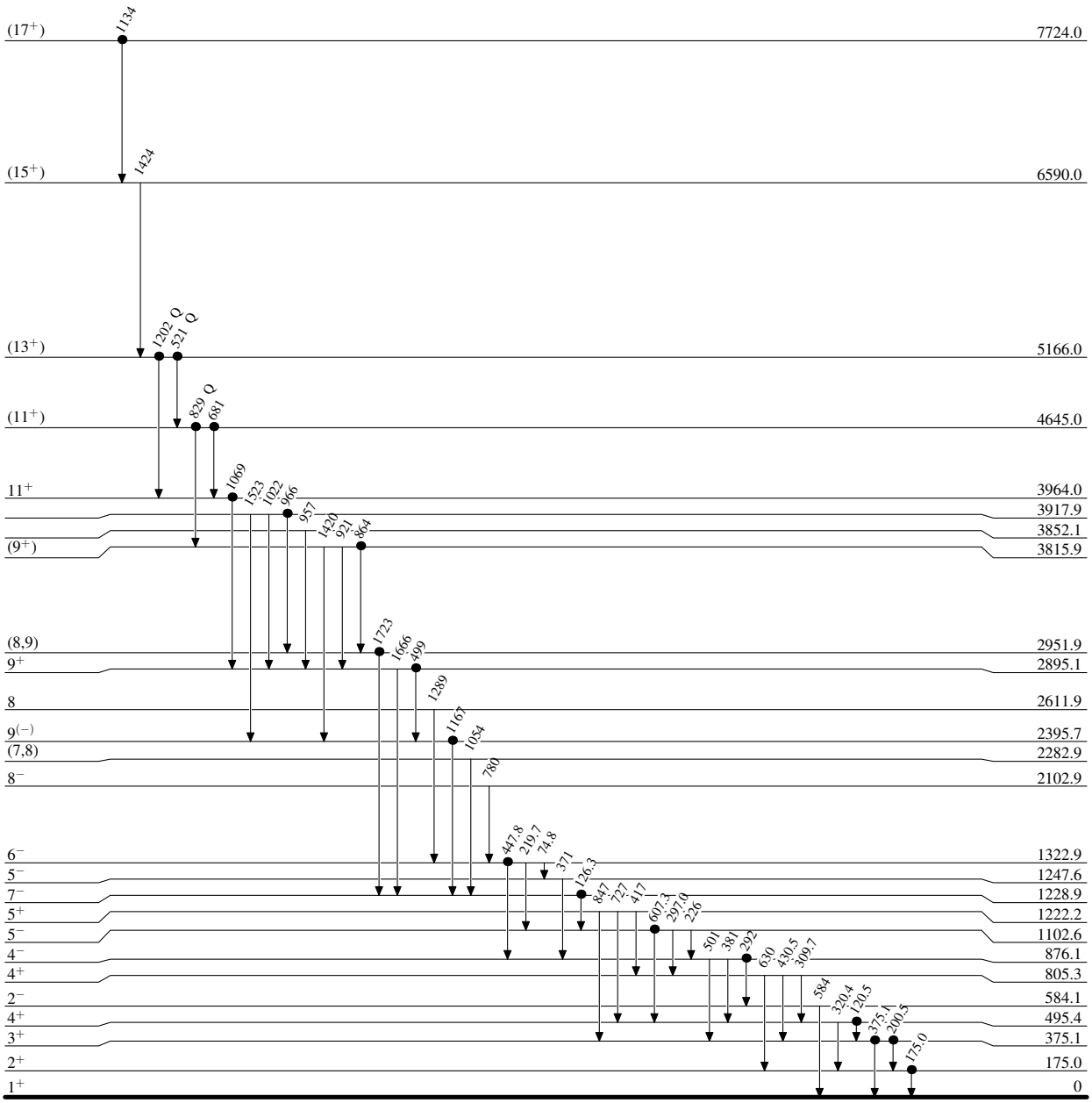
Level Scheme

● Coincidence



$^{68}_{31}Ga_{37}$

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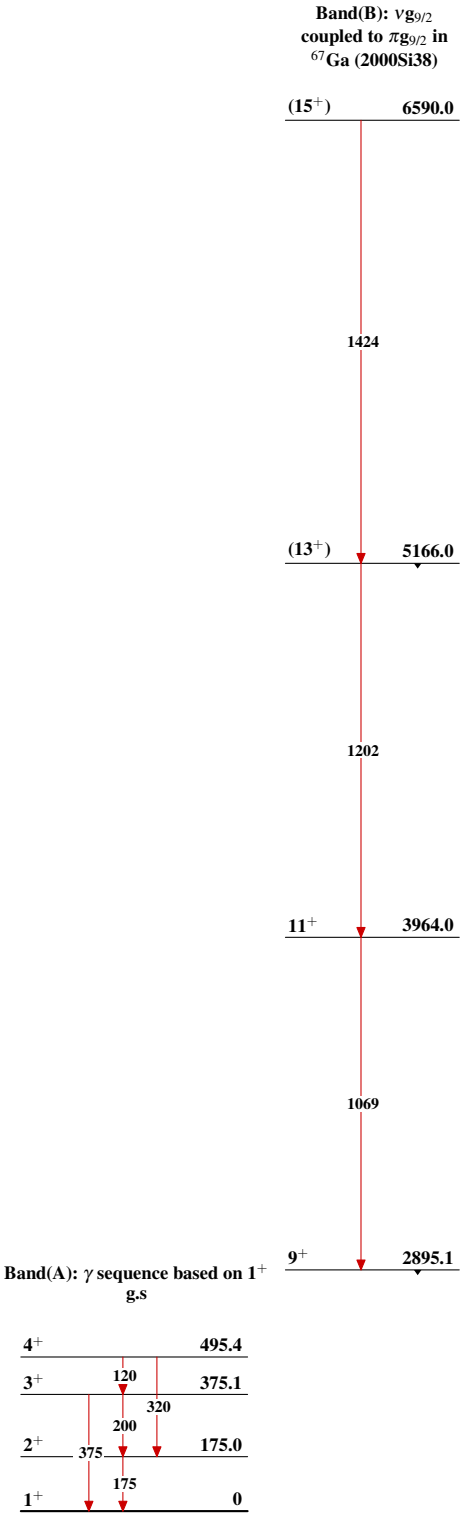

$^{68}_{31}Ga_{37}$