^{104}Ru(^{6}Li,3nγ),(^{7}Li,4nγ) 1979Sc30

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 109, 1383 (2008)	1-Mar-2008

(^{6}Li,3nγ) E=26-34 MeV: measured γ-singles, γ-excitation functions, $\gamma\gamma$-coin, $\gamma(\theta)$.
(^{7}Li,4nγ) E=31 MeV: measured γ-ray linear pol, $\gamma(\theta)$.
$\gamma(\theta)$ measured at nine angles (θ=40°−160°) at E(^{6}Li)=28 MeV; for A_2,A_4 coef, see 1979Sc30. Other $\gamma(\theta)$ measured at E(^{7}Li)=31 MeV.

^{107}Ag Levels

E(level)	J$^{\pi}$[†]	$T_{1/2}$	Comments
0.0[‡]	1/2$^-$		
93.1	7/2$^+$	44.3 s *2*	
125.7[#]	(9/2)$^+$		
324.3[‡]	3/2$^-$		
423.1[‡]	5/2$^-$		
773.4[#]	(11/2)$^+$	<15 ns	
973.1[‡]	(7/2)$^-$		
991.2[#]	(13/2)$^+$	<15 ns	Branching: Iγ(218γ)/Iγ(865γ)=0.156 *15* (1979Sc30), 0.148 *3* (1979Po13).
1147.0[‡]	(7/2,9/2)$^-$		
1577.5	(15/2)$^+$		Isomeric state ($T_{1/2}$=?) suggested by unobserved γ feeding in prompt γ(804γ)-coin spectra. Branching: Iγ(586γ)/Iγ(804γ)=0.51 *19* (1979Sc30), 0.43 *3* (1979Po13).
1799.9[#]	(15/2)$^+$		Branching: Iγ(1026γ)/Iγ(809γ)=0.35 *10* (1979Sc30), 0.17 *6* (1979Po13). Assigned to g9/2 band on basis of intraband Iγ(cascade)/Iγ(crossover) systematics; see 1979Ka05,1979Po13.
2053.9[#]	(17/2)$^+$		
2298.3[@]	(15/2)$^-$		
2412.1[@]	(17/2)$^-$		
2543.1[@]	(19/2)$^-$		
2733.3			
2747.9[@]	(21/2)$^-$		
2790.4			
3033.6			
3055.8[@]	(23/2)$^-$		
3148.0[#]	(21/2)$^+$		
3460.6	(23/2)$^+$		
3466.3[@]	(25/2)$^-$		J$^{\pi}$: from 410$\gamma(\theta)$ 1979Po13 via (^{14}N,3nγ).
3519.2?			E(level): see (^{14}N,3nγ) for alternate 485γ placement.
4023.2?			
4045.6?			E(level): see (^{14}N,3nγ) for alternate 526γ placement.
4752.7?			

[†] From Adopted Levels.
[‡] Band(A): $p_{1/2}$ band; ΔJ=1 sequence populated up to 9/2$^-$. Similar configuration observed in ^{105}Ag (1978Hi01) and ^{103}Ag (1979Ha40).
[#] Band(B): g9/2 band; ΔJ=1 sequence populated up to 21/2. 1979Sc30 compared E(levels) of similar bands observed in ^{103}Ag,^{105}Ag.
[@] Band(C): ΔJ=1 sequence built on 15/2$^-$ state up to possibly 25/2$^-$, similar configuration in ^{105}Ag based at 2497 keV; see 1979Ka05.

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$\gamma(^{107}Ag)$

Eγ, Iγ measured at E(^{6}Li)=28 MeV at 125° to beam direction: ΔE not given.
γ placements are based on semi $\gamma\gamma$-coin at E(^{6}Li)=28 MeV and γ excitation functions.
Transition properties (mult,δ) are characterized by 1979Po13 (^{14}N,3nγ).

E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.
(32.5)		125.7	(9/2)$^+$	93.1	7/2$^+$	
(93.1)		93.1	7/2$^+$	0.0	1/2$^-$	
98.8	2.0 *7*	423.1	5/2$^-$	324.3	3/2$^-$	
113.8	22.2 *10*	2412.1	(17/2)$^-$	2298.3	(15/2)$^-$	
131.0	20.0 *21*	2543.1	(19/2)$^-$	2412.1	(17/2)$^-$	
190.2	5.6 *14*	2733.3		2543.1	(19/2)$^-$	
204.8	16.7 *18*	2747.9	(21/2)$^-$	2543.1	(19/2)$^-$	
217.8	15.6 *13*	991.2	(13/2)$^+$	773.4	(11/2)$^+$	
300.3	3.8 *10*	3033.6		2733.3		
307.9	8.1 *10*	3055.8	(23/2)$^-$	2747.9	(21/2)$^-$	
312.6	3.7 *8*	3460.6	(23/2)$^+$	3148.0	(21/2)$^+$	
324.3	7.6 *18*	324.3	3/2$^-$	0.0	1/2$^-$	
410.5	5.1 *13*	3466.3	(25/2)$^-$	3055.8	(23/2)$^-$	
423.1	22.2 *33*	423.1	5/2$^-$	0.0	1/2$^-$	
485.6[†]	3.2 *9*	3519.2?		3033.6		
526.4[†@]	2.3 *7*	4045.6?		3519.2?		
550.0	4.1 *13*	973.1	(7/2)$^-$	423.1	5/2$^-$	
556.9	2.3 *8*	4023.2?		3466.3	(25/2)$^-$	
586.3	8.5 *29*	1577.5	(15/2)$^+$	991.2	(13/2)$^+$	
647.7	46.7 *21*	773.4	(11/2)$^+$	125.7	(9/2)$^+$	
680.3	3.1 *13*	773.4	(11/2)$^+$	93.1	7/2$^+$	
723.9	8.9 *20*	1147.0	(7/2,9/2)$^-$	423.1	5/2$^-$	
729.5[@]	2.1 *9*	4752.7?		4023.2?		
804.1	16.6 *22*	1577.5	(15/2)$^+$	773.4	(11/2)$^+$	
808.7	25.6 *28*	1799.9	(15/2)$^+$	991.2	(13/2)$^+$	
865.5	100 *5*	991.2	(13/2)$^+$	125.7	(9/2)$^+$	
990.5	6.8 *19*	2790.4		1799.9	(15/2)$^+$	
1026.5	8.9 *24*	1799.9	(15/2)$^+$	773.4	(11/2)$^+$	
1062.7	23.0 *18*	2053.9	(17/2)$^+$	991.2	(13/2)$^+$	
1094.1	6.5 *20*	3148.0	(21/2)$^+$	2053.9	(17/2)$^+$	
1307.1[#]	38.2 *17*	2298.3	(15/2)$^-$	991.2	(13/2)$^+$	E1[‡]

[†] See (^{14}N,3nγ) for different γ placement.
[‡] γ-ray linear pol=+0.45 *17* (exp), +0.42 (E1 theory).
[#] δ=−0.01 *2* from γ-ray linear polarization.
[@] Placement of transition in the level scheme is uncertain.

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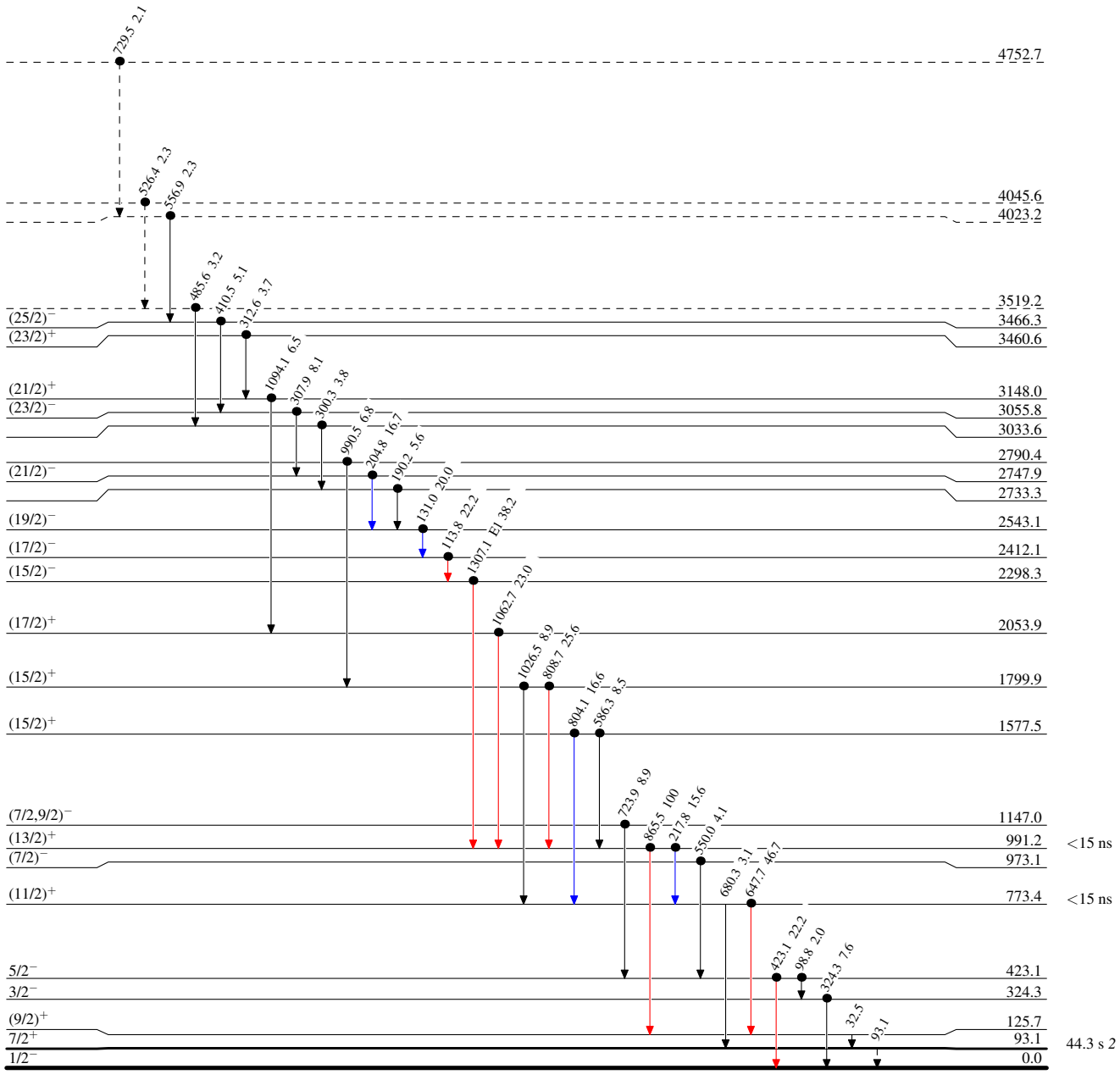
Level Scheme

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)
- Coincidence



$^{107}_{47}Ag_{60}$

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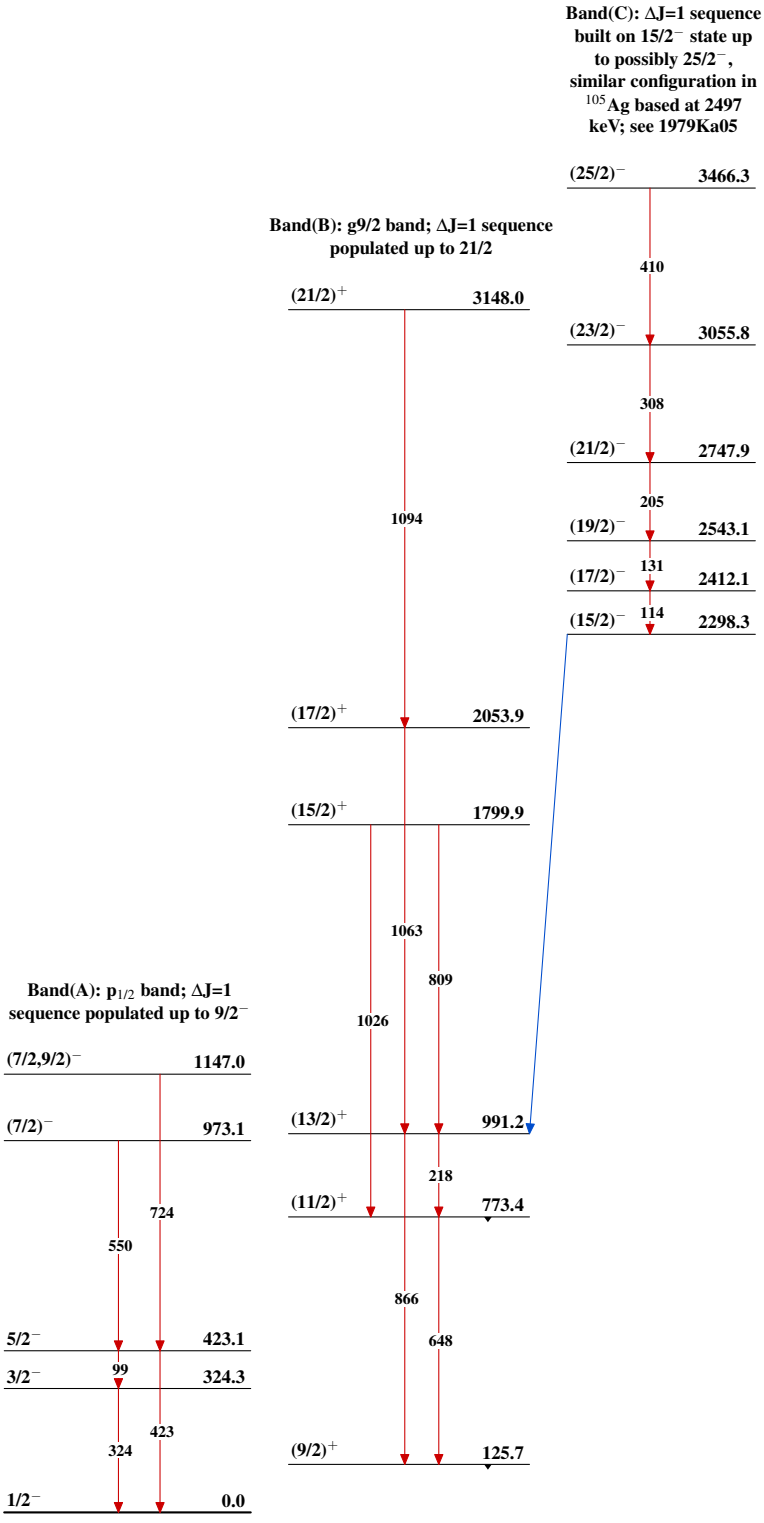

$^{107}_{47}Ag_{60}$