^{76}Ge(^{35}Cl,α4nγ) 2003Da07

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	D. De Frenne	NDS 110, 2081 (2009)	1-Mar-2009

E=132 MeV. Measured Eγ, Iγ, $\gamma\gamma$, $\gamma\gamma(\theta)$(DCO) using an array of eight Compton suppressed Clover HPGe detectors.

^{103}Ag Levels

E(level)‡	J$^\pi$†	Comments
0	7/2$^+$	
28&	9/2$^+$	Additional information 1. E(level): rounded-off energy from Adopted Levels, gammas.
591.0 *8*	11/2$^+$	
851.0& *8*	13/2$^+$	
1490.9a *10*	15/2$^+$	
1822.2& *11*	17/2$^+$	
2330.7a *11*	19/2$^+$	
2529.4 *12*	19/2$^+$	J$^\pi$: listed as 19/2$^+$ in partial decay scheme of 2003Da07. Also compatible with DCO=0.64 11. 19/2$^-$ is given in Table with γ energies, so probably typo.
2820.4& *12*	21/2$^+$	
2869.8 *12*	17/2$^-$	
3122.6 *12*	19/2$^-$	
3222.2 *15*	19/2$^-$	
3305.6 *14*	21/2$^-$	
3321.5a *13*	23/2$^+$	
3339.6 *16*	21/2$^-$	
3358.1@ *13*	21/2$^-$	
3439.5 *12*	21/2$^-$	
3599.3# *13*	23/2$^-$	
3667.4@ *14*	23/2$^-$	
3862.5& *14*	25/2$^+$	
3936.2# *15*	25/2$^-$	
4082.9@ *15*	25/2$^-$	
4373.5# *15*	27/2$^-$	
4445.1@ *15*	27/2$^-$	
4496.5a *15*	27/2$^+$	
4792.8# *16*	29/2$^-$	
4961.0@ *16*	29/2$^-$	
5322.7# *17*	31/2$^-$	
5462?@	(31/2$^-$)	
5825.7# *17*	33/2$^-$	
6410.7# *18*	35/2$^-$	
6941?#	(37/2$^-$)	

† Based on $\gamma\gamma(\theta)$(DCO) and observed band structure.
‡ From least-squares fit to Eγ's by evaluator, assuming Δ(Eγ)= 1 keV for each γ ray.
# Band(A): Magnetic rotational band based on 23/2$^-$. Configuration=$\pi g_{9/2}\nu d_{5/2}\nu h_{11/2}$.
@ Band(B): Magnetic rotational band based on 21/2$^-$. Configuration=$\pi g_{9/2}\nu g_{7/2}\nu h_{11/2}$.
& Band(C): $\pi g_{9/2}^{-1}\otimes$(^{104}Cd core), α=+1/2.
a Band(c): $\pi g_{9/2}^{-1}\otimes$(^{104}Cd core), α=−1/2.

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$\gamma(^{103}Ag)$

DCO(D)=DCO ratio corresponds to gate on ΔJ=1, dipole transition.
DCO(Q)=DCO ratio corresponds to gate on ΔJ=2, quadrupole transition.
No details on the interpretation of the DCO values with respect to the measured γ's was given.
ΔJ=2, quadrupole cross-over transition considered by the authors as E2.

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	Comments
28		28	$9/2^+$	0	$7/2^+$		E_γ: rounded-off energy from Adopted Levels, gammas.
160	28.0 *12*	3599.3	$23/2^-$	3439.5	$21/2^-$		DCO(Q)=0.54 *9*
217	6.0 *4*	3339.6	$21/2^-$	3122.6	$19/2^-$		
235	19.0 *7*	3358.1	$21/2^-$	3122.6	$19/2^-$		DCO(Q)=0.56 *9*
241	5.5 *5*	3599.3	$23/2^-$	3358.1	$21/2^-$		
253	7.9 *6*	3122.6	$19/2^-$	2869.8	$17/2^-$		DCO(D)=1.06 *16*
260	63.0 *21*	851.0	$13/2^+$	591.0	$11/2^+$		DCO(D)=0.92 *12*
291	8.0 *5*	2820.4	$21/2^+$	2529.4	$19/2^+$		
309	23.0 *10*	3667.4	$23/2^-$	3358.1	$21/2^-$		DCO(D)=1.00 *10*
317	9.2 *5*	3439.5	$21/2^-$	3122.6	$19/2^-$		
331	36.0 *12*	1822.2	$17/2^+$	1490.9	$15/2^+$		DCO(D)=0.96 *14*; DCO(Q)=0.67 *8*
337	44.0 *16*	3936.2	$25/2^-$	3599.3	$23/2^-$		DCO(Q)=0.65 *7*
362[‡]	3.5[‡] *3*	3667.4	$23/2^-$	3305.6	$21/2^-$		
362	13.7 *10*	4445.1	$27/2^-$	4082.9	$25/2^-$		DCO(D)=0.93 *11* E_γ: doublet.
362[‡#]	3.3[‡] *5*	5322.7	$31/2^-$	4961.0	$29/2^-$		
415	19.5 *10*	4082.9	$25/2^-$	3667.4	$23/2^-$		DCO(D)=0.93 *14*
419	27.0 *7*	4792.8	$29/2^-$	4373.5	$27/2^-$		DCO(Q)=0.68 *10*
437	35.0 *7*	4373.5	$27/2^-$	3936.2	$25/2^-$		DCO(Q)=0.70 *11*
490	15.0 *8*	2820.4	$21/2^+$	2330.7	$19/2^+$		DCO(Q)=0.60 *10*
501	12.0 *7*	3321.5	$23/2^+$	2820.4	$21/2^+$		DCO(Q)=0.75 *13*
502[†#]		5462?	$(31/2^-)$	4961.0	$29/2^-$		
503	10.5 *5*	5825.7	$33/2^-$	5322.7	$31/2^-$		DCO(Q)=0.71 *12*
509	47.0 *13*	2330.7	$19/2^+$	1822.2	$17/2^+$		
516	10.4 *5*	4961.0	$29/2^-$	4445.1	$27/2^-$		DCO(D)=0.95 *16*
530	19.0 *8*	5322.7	$31/2^-$	4792.8	$29/2^-$		DCO(Q)=0.67 *10*
531[†#]		6941?	$(37/2^-)$	6410.7	$35/2^-$		
541	11.8 *10*	3862.5	$25/2^+$	3321.5	$23/2^+$		DCO(Q)=0.60 *10*
563	87 *3*	591.0	$11/2^+$	28	$9/2^+$		DCO(D)=1.07 *14*
585	8.0 *5*	6410.7	$35/2^-$	5825.7	$33/2^-$		
634	10.6 *7*	4496.5	$27/2^+$	3862.5	$25/2^+$		
640	67.0 *20*	1490.9	$15/2^+$	851.0	$13/2^+$		DCO(D)=0.89 *15*
707	19.5 *9*	2529.4	$19/2^+$	1822.2	$17/2^+$		DCO(Q)=0.64 *11*
725	4.6 *3*	4082.9	$25/2^-$	3358.1	$21/2^-$	E2	
774	3.0 *2*	4373.5	$27/2^-$	3599.3	$23/2^-$	E2	
778	6.3 *4*	4445.1	$27/2^-$	3667.4	$23/2^-$	E2	
779	15.0 *12*	3599.3	$23/2^-$	2820.4	$21/2^+$		DCO(Q)=1.08 *16*
823	104 *4*	851.0	$13/2^+$	28	$9/2^+$	E2	
840	15.4 *10*	2330.7	$19/2^+$	1490.9	$15/2^+$	E2	
857	5.0 *3*	4792.8	$29/2^-$	3936.2	$25/2^-$		
878	6.3 *4*	4961.0	$29/2^-$	4082.9	$25/2^-$	E2	
900	15.0 *10*	1490.9	$15/2^+$	591.0	$11/2^+$	E2	
910	7.5 *6*	3439.5	$21/2^-$	2529.4	$19/2^+$		
949	3.2 *3*	5322.7	$31/2^-$	4373.5	$27/2^-$	E2	
971	77 *3*	1822.2	$17/2^+$	851.0	$13/2^+$	E2	DCO(D)=1.56 *24*; DCO(Q)=1.07 *12*
975	3.5 *3*	3305.6	$21/2^-$	2330.7	$19/2^+$	E1	
991	15.8 *8*	3321.5	$23/2^+$	2330.7	$19/2^+$		

Continued on next page (footnotes at end of table)

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$\gamma(^{103}Ag)$ (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	Comments
998	26.0 *11*	2820.4	$21/2^+$	1822.2	$17/2^+$		
1033	3.3 *2*	5825.7	$33/2^-$	4792.8	$29/2^-$	E2	
1042	5.0 *7*	3862.5	$25/2^+$	2820.4	$21/2^+$		
1088	3.6 *3*	6410.7	$35/2^-$	5322.7	$31/2^-$	E2	
1109	14.0 *8*	3439.5	$21/2^-$	2330.7	$19/2^+$	E1	
1116[†#]		6941?	$(37/2^-)$	5825.7	$33/2^-$		
1175[†]		4496.5	$27/2^+$	3321.5	$23/2^+$		
1300	20.0 *9*	3122.6	$19/2^-$	1822.2	$17/2^+$		DCO(D)=0.91 *12*; DCO(Q)=0.58 *10*
1379	8.8 *6*	2869.8	$17/2^-$	1490.9	$15/2^+$		
1400	10.3 *7*	3222.2	$19/2^-$	1822.2	$17/2^+$		

† From partial level scheme of 2003Da07.
‡ Multiply placed with intensity suitably divided.
# Placement of transition in the level scheme is uncertain.

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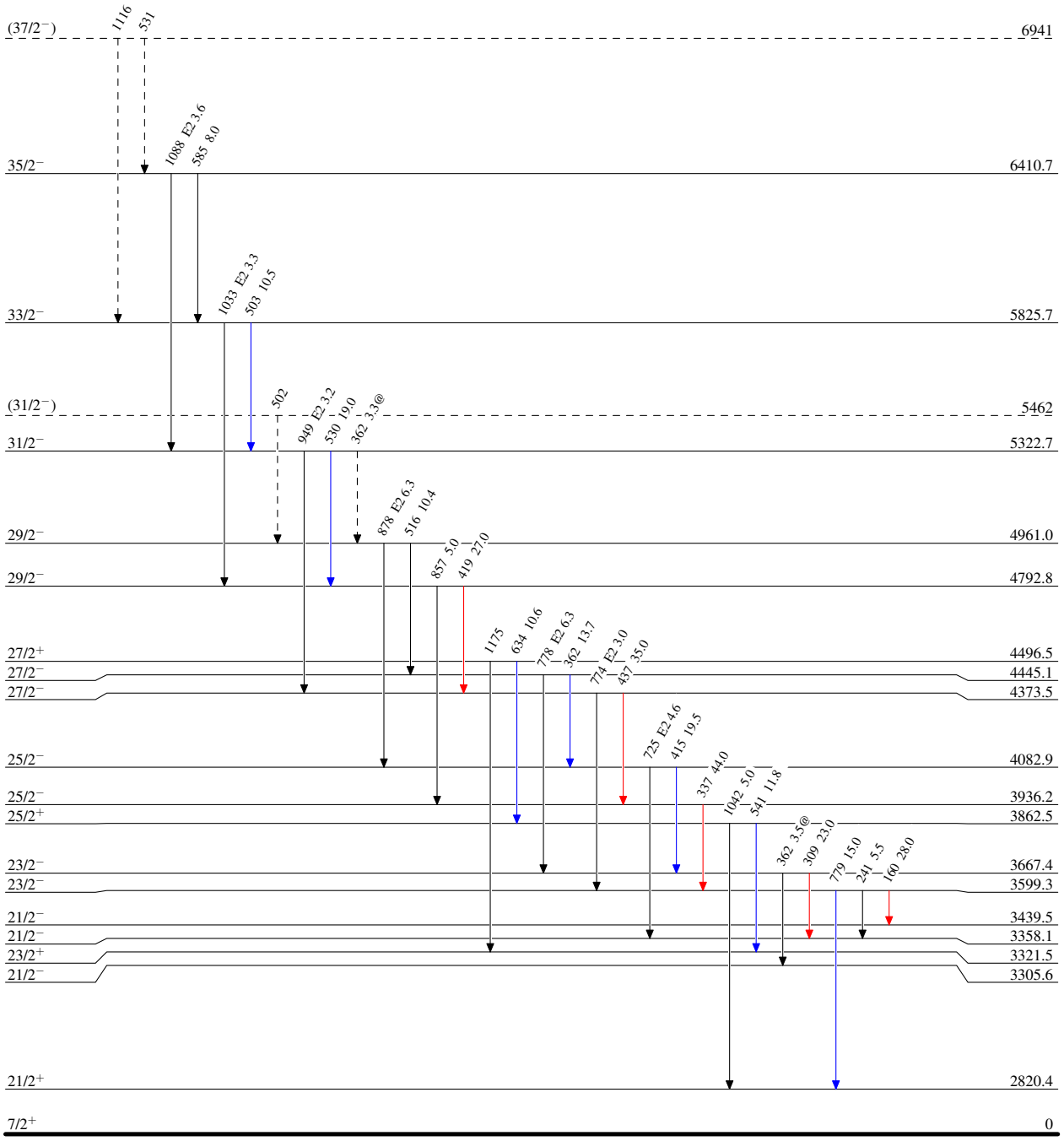
Level Scheme

Intensities: Relative I_γ
@ Multiply placed: intensity suitably divided

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)



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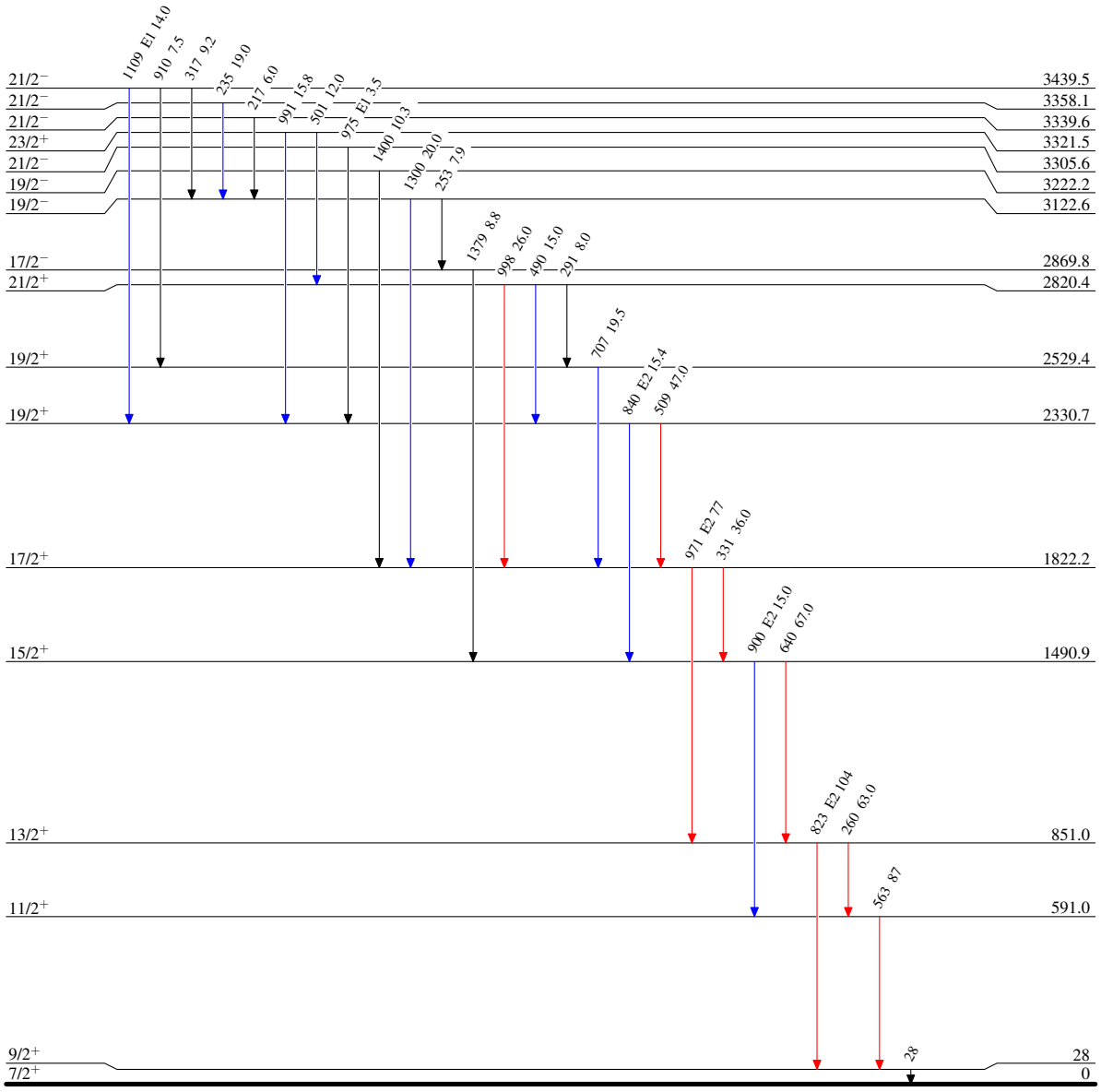
Level Scheme (continued)

Intensities: Relative I_γ
@ Multiply placed: intensity suitably divided

Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$



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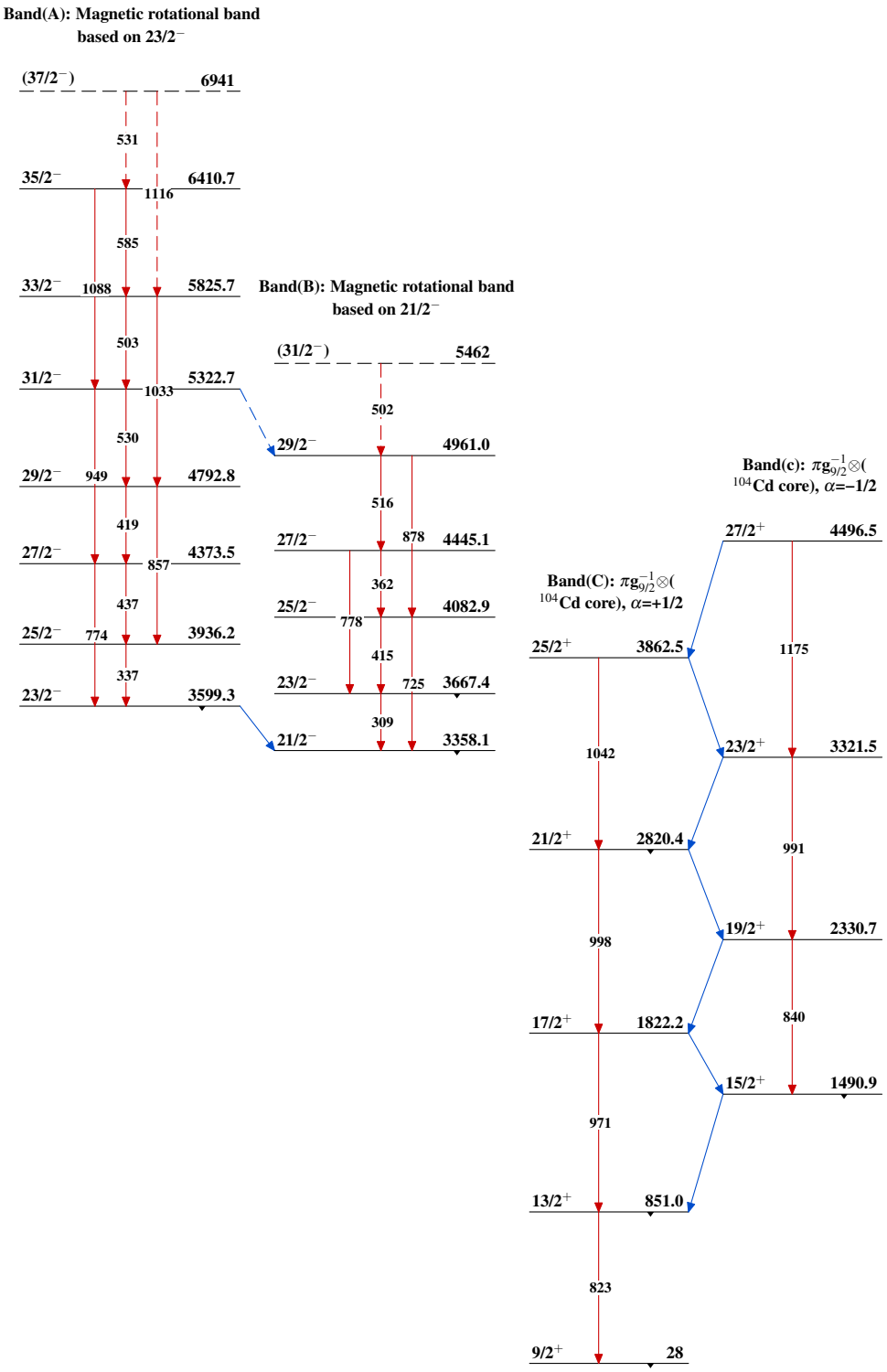

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