^{48}Ca(^{11}B,p3nγ) 2003Ap01,1978Na06

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Huo Junde	NDS 109, 787 (2008)	30-Apr-2007

Included ^{48}Ca(^{13}C,α2nγ): E(^{13}C)=40 MeV, from 1978Na06.
1978Na06: ^{48}Ca(^{13}C,α2nγ): E(^{13}C)=40 MeV; ^{48}Ca(^{11}B,p3nγ): E(^{11}B)=35 MeV, Ge(Li); measured γ(E,θ), $\gamma\gamma$-coin, RDM and DSA;
2003Ap01: E=35-40 MeV. Measured Eγ, Iγ, $\gamma\gamma$, $\gamma(\theta)$ and γ(lin pol) using the YRAST array consisting of 24 escape-suppressed Ge detectors (three 25% efficient at 160°, eight 25% efficient at 126°, seven segmented Clovers at 90°, five 25% and one 70% at 50°), and three LEPS detectors (one at 90° and two at 50°).

^{55}Cr Levels

E(level)†	J$^\pi$#	T$_{1/2}$‡	Comments
0.0@	3/2$^-$		
242.07a *11*	1/2$^-$		
517.71@ *11*	5/2$^-$	<5.2 ps	
565.91a *10*	3/2$^-$		
880.72a *9*	5/2$^-$		
1214.77a *9*	7/2$^-$	3.5 ps *+69−14*	
1438.83a *11*	9/2$^-$	4.2 ps *14*	
1479.02@ *16*	7/2$^-$		
2086.11& *15*	9/2$^+$		
2314.2?@ *7*	(9/2$^-$)		
2390.42a *15*	11/2$^-$		
2755.49a *17*	13/2$^-$	<3.5 ps	
2880.37& *16*	13/2$^+$		
2988.7 *7*	13/2$^-$		
3182.6 *8*	13/2$^-$		
3306.19a *22*	15/2$^-$	2.1 ps *14*	T$_{1/2}$: from DSA method.
4005.41& *22*	17/2$^+$		T$_{1/2}$: 0.35 ps < T$_{1/2}$ < 2.1 ps, from RDM and DSA.
4151.6a *5*	17/2$^-$		
5648.6& *6*	21/2$^+$		
7433.3& *9*	25/2$^+$		

† Least-squares fit to Eγ's.
‡ Based on RDM, from 1978Na06, except as noted.
# Adopted values based on $\gamma(\theta)$ and linear polarization In this reaction.
@ Band(A): K$^\pi$=3/2$^-$, possibly ν3/2[312].
& Band(B): νg$_{9/2}$ (intruder) band.
a Band(C): K$^\pi$=1/2$^-$, possibly ν1/[310].

γ(^{55}Cr)

E$_\gamma$†	I$_\gamma$@	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
224.08 *8*	21.0 *10*	1438.83	9/2$^-$	1214.77	7/2$^-$	A$_2$=−0.39 *4*; A$_4$=+0.14 *5*
242.08 *11*	6.2 *6*	242.07	1/2$^-$	0.0	3/2$^-$	
314.81 *10*	4.4 *7*	880.72	5/2$^-$	565.91	3/2$^-$	A$_2$=−0.26 *4*; A$_4$=+0.25 *4*
324.0‡ *5*	1.4 *3*	565.91	3/2$^-$	242.07	1/2$^-$	

Continued on next page (footnotes at end of table)

^{48}Ca(^{11}B,p3nγ) 2003Ap01,1978Na06 (continued)

γ(^{55}Cr) (continued)

E_γ[†]	I_γ[@]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[&]	Comments
334.06 *8*	33.8 *9*	1214.77	7/2$^-$	880.72	5/2$^-$		A_2=−0.21 *4*; A_4=+0.02 *4* Pol=− 0.37 *23*.
363.05 *10*	2.4 *5*	880.72	5/2$^-$	517.71	5/2$^-$		
365.10 *12*	11.1 *7*	2755.49	13/2$^-$	2390.42	11/2$^-$	D+Q	A_2=−0.14 *5*; A_4=+0.09 *5*
441.7[‡][a] *6*	3.7 *5*	2755.49	13/2$^-$	2314.2?	(9/2$^-$)		
489.96 *12*	24.0 *10*	2880.37	13/2$^+$	2390.42	11/2$^-$	D+Q	A_2=−0.23 *5*; A_4=+0.13 *4* Pol=+ 0.42 *15*.
518.3 *5*	100.0 *6*	517.71	5/2$^-$	0.0	3/2$^-$	D(+Q)	A_2=−0.35 *3*; A_4=+0.08 *3* Mult.: from A_2<0 and $T_{1/2}$, predominantly dipole. Pol=− 0.17 *7*.
550.73 *14*	28.4 *8*	3306.19	15/2$^-$	2755.49	13/2$^-$	D+Q	A_2=−0.21 *4*; A_4=+0.11 *4* Pol=− 0.32 *10*.
565.90 *13*	3.2 *9*	565.91	3/2$^-$	0.0	3/2$^-$		
598.3[‡] *6*	14.9 *9*	2988.7	13/2$^-$	2390.42	11/2$^-$		A_2=−0.47 *5*; A_4=−0.35 *6*
607.12 *12*	27.6 *9*	2086.11	9/2$^+$	1479.02	7/2$^-$	D+Q	A_2=−0.10 *4*; A_4=−0.03 *4*
696.92 *24*	11.3 *7*	1214.77	7/2$^-$	517.71	5/2$^-$		A_2=−0.21 *7*; A_4=−0.06 *7*
794.25[#] *12*	44.7 *5*	2880.37	13/2$^+$	2086.11	9/2$^+$	(E2)	A_2=+0.44 *7*; A_4=+0.11 *6* Pol=+ 0.46 *15*.
834.3[‡][a] *6*	9.9 *10*	2314.2?	(9/2$^-$)	1479.02	7/2$^-$		
845.6[‡] *5*	23.6 *5*	4151.6	17/2$^-$	3306.19	15/2$^-$		A_2=−0.12 *8*; A_4=+0.24 *8*
871.25[#] *16*	44 *3*	2086.11	9/2$^+$	1214.77	7/2$^-$		A_2=−0.29 *5*; A_4=0.00 *6* Pol=+ 0.42 *18*.
880.65 *15*	19 *3*	880.72	5/2$^-$	0.0	3/2$^-$		A_2=−0.56 *5*; A_4=+0.26 *5*
915.3[‡] *7*	7.2 *9*	3306.19	15/2$^-$	2390.42	11/2$^-$		
921.06 *15*	80 *3*	1438.83	9/2$^-$	517.71	5/2$^-$	E2	A_2=+0.31 *4*; A_4=−0.03 *4* Pol=+ 0.49 *10*.
951.61 *15*	51.8 *4*	2390.42	11/2$^-$	1438.83	9/2$^-$	D+Q	A_2=−0.31 *4*; A_4=+0.08 *4* Pol=− 0.19 *11*.
961.39 *20*	34.7 *4*	1479.02	7/2$^-$	517.71	5/2$^-$	D+Q	A_2=−0.37 *4*; A_4=+0.02 *4* Pol=− 0.19 *14*.
1125.03[#] *15*	59 *3*	4005.41	17/2$^+$	2880.37	13/2$^+$	(E2)	A_2=+0.36 *7*; A_4=+0.11 *6* Sign of A_4 is inconsistent with ΔJ=2 transition. Pol=+ 0.40 *22*.
1214.76 *12*	37 *3*	1214.77	7/2$^-$	0.0	3/2$^-$		A_2=+0.24 *6*; A_4=+0.23 *5*
1316.60 *20*	56 *3*	2755.49	13/2$^-$	1438.83	9/2$^-$		A_2=+0.38 *6*; A_4=−0.04 *5*
1395.7[‡] *6*	26.9 *5*	4151.6	17/2$^-$	2755.49	13/2$^-$		A_2=+0.80 *9*; A_4=−0.06 *8* Pol=+ 0.86 *34*.
1643.2[‡] *5*	42.7 *5*	5648.6	21/2$^+$	4005.41	17/2$^+$	E2	A_2=+0.49 *9*; A_4=−0.14 *8* Pol=+ 1.02 *31*.
1743.7[‡] *8*	11.9 *6*	3182.6	13/2$^-$	1438.83	9/2$^-$		A_2=+0.57 *14*; A_4=−0.04 *12*
1784.6[‡] *6*	26.9 *7*	7433.3	25/2$^+$	5648.6	21/2$^+$	(E2)	A_2=+0.56 *18*; A_4=+0.01 *15*

[†] From 1978Na06, average values from (^{13}C,α2nγ), (^{11}B,p3nγ) and ^{55}V β^- decay, except As noted.
[‡] From 2003Ap01.
[#] Stretched E2 transitions (2003Ap01).
[@] From 2003Ap01, except As noted.
[&] From $\gamma(\theta)$, A_2<0 indicates at least partially dipole.
[a] Placement of transition in the level scheme is uncertain.

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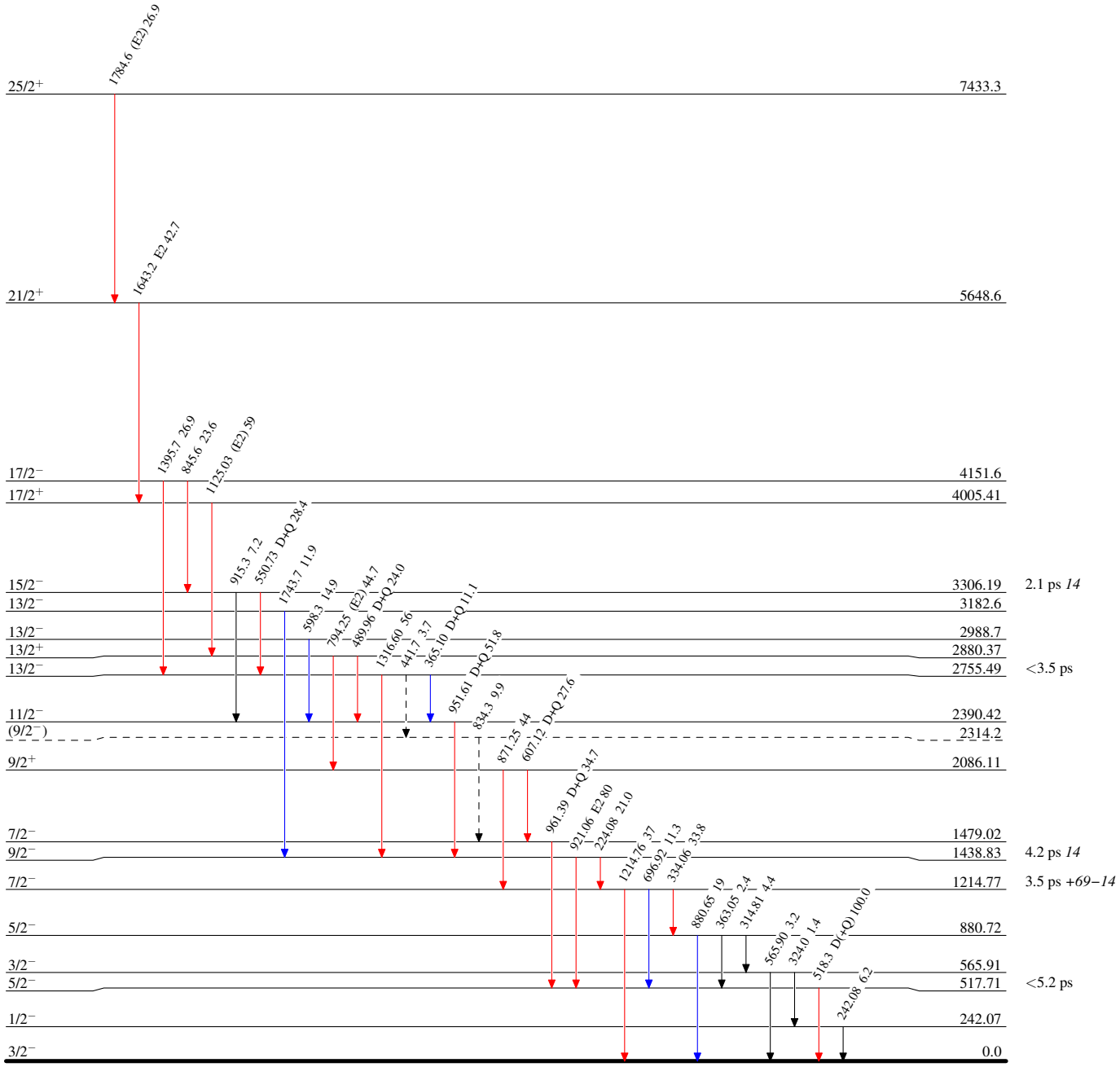
Level Scheme

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)



$^{55}_{24}Cr_{31}$

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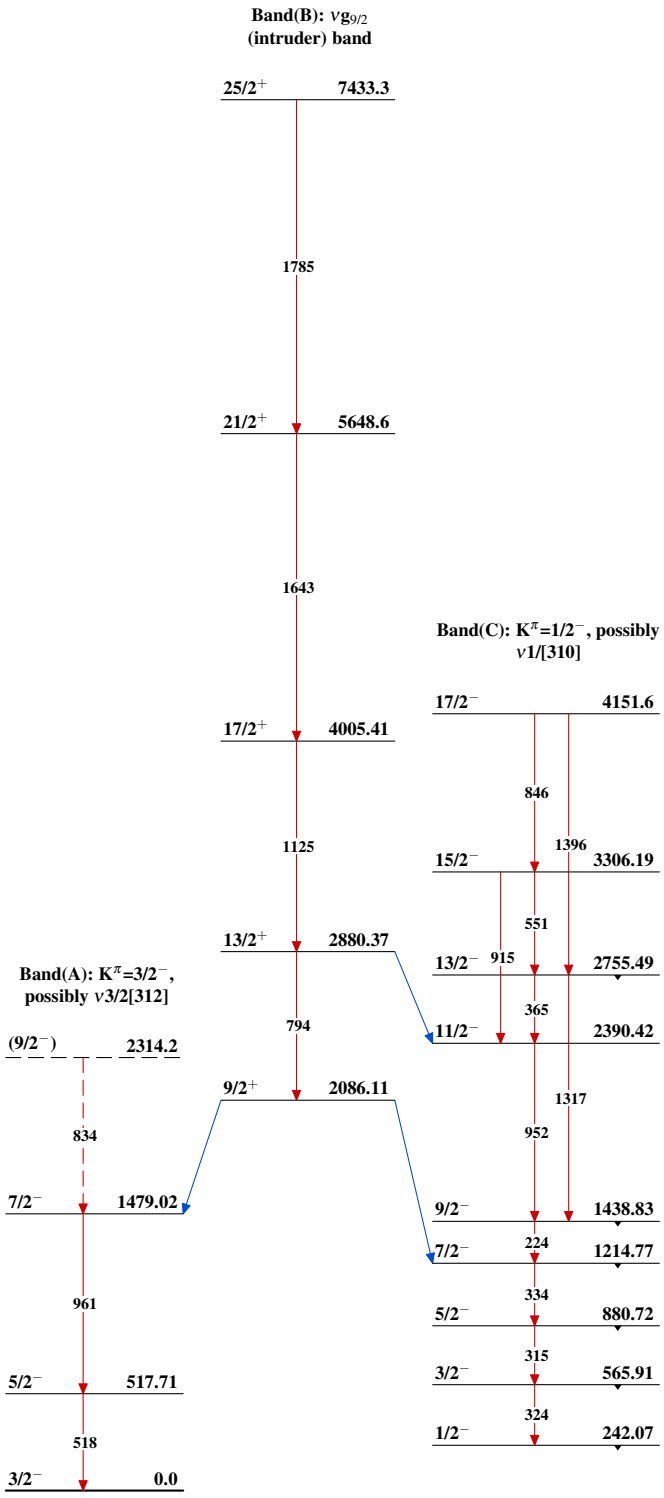

$^{55}_{24}Cr_{31}$