$^{12}C(^{48}Ca,\alpha 2n\gamma)$ 2000De01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yang Dong, Huo Junde	NDS 121, 1 (2014)	20-Jun-2014

E=157 MeV. Measured Eγ, γγ, Iγ and γγ(DCO)(θ) using GAMMASPHERE array of 95 Ge detectors and microball array of 95 CsI detectors. DCO ratios gated on a stretched E2 transition.

^{54}Cr Levels

E(level)†	Jπ	E(level)†	Jπ	E(level)†	Jπ	E(level)†	Jπ
0.0‡	0^+	5087.8 *7*	(7)	7294.2# *7*	(9)	9973.8@ *9*	(13^+)
835.3‡ *3*	2^+	5365.9@ *6*	7^+	7897.1 *10*	(10)	10553.6 *12*	(11^+)
1824.9‡ *5*	4^+	5800.0# *7*	(7)	8239.0@ *8*	(11^+)	11117.9# *11*	(11)
3224.6‡ *6*	6^+	6448.2 *8*	(9)	8827.4‡ *10*	(12^+)	11788.0@ *11*	(15^+)
4045.3@ *6*	5^+	6619.9@ *7*	9^+	8861.2# *9*	(10)	12541.9 *12*	(13)
4683.6‡ *6*	8^+	6726.2‡ *7*	10^+	9156.4 *8*	(11)		
4689.1 *8*		7237.4 *7*	(9)	9636.5 *10*	(12^+)		

† From least-squares fit to Eγ′s.
‡ Band(A): Yrast sequence.
# Band(B): cascade based on (7).
@ Band(C): Cascade based on (5^+).

γ(^{54}Cr)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Comments
278.3 *3*	0.29 *3*	5365.9	7^+	5087.8	(7)	
617.6 *4*	1.8 *1*	7237.4	(9)	6619.9	9^+	Additional information 17.
682.3 *3*	10 *1*	5365.9	7^+	4683.6	8^+	Additional information 8.
820.4 *3*	9.2 *3*	4045.3	5^+	3224.6	6^+	Additional information 4.
835.3 *3*	100	835.3	2^+	0.0	0^+	Additional information 1.
989.6 *3*	98 *3*	1824.9	4^+	835.3	2^+	Additional information 2.
1042.7 *4*	2.8 *1*	5087.8	(7)	4045.3	5^+	Additional information 7.
1110.9 *4*	0.78 *5*	5800.0	(7)	4689.1		Additional information 11.
1254.2 *4*	5.5 *2*	6619.9	9^+	5365.9	7^+	Additional information 14.
1319.9 *5*	2.5 *1*	5365.9	7^+	4045.3	5^+	Additional information 9.
1360.4 *4*	0.53 *4*	6448.2	(9)	5087.8	(7)	Additional information 13.
1399.4 *4*	80 *2*	3224.6	6^+	1824.9	4^+	Additional information 3.
1459.1 *4*	51 *2*	4683.6	8^+	3224.6	6^+	Additional information 6.
1494.3 *4*	1.9 *1*	7294.2	(9)	5800.0	(7)	Additional information 20.
1512.7 *5*	0.38 *3*	8239.0	(11^+)	6726.2	10^+	
1567.0 *5*	3.1 *1*	8861.2	(10)	7294.2	(9)	Additional information 26.
1619.2 *5*	2.6 *1*	8239.0	(11^+)	6619.9	9^+	Additional information 24.
1734.8 *5*	1.6 *1*	9973.8	(13^+)	8239.0	(11^+)	Additional information 30.
1814.1 *5*	0.71 *4*	11788.0	(15^+)	9973.8	(13^+)	Additional information 33.
1870.5 *5*	3.0 *1*	7237.4	(9)	5365.9	7^+	Additional information 18.
1919.0 *5*	1.1 *1*	9156.4	(11)	7237.4	(9)	Additional information 27.
1927.9 *5*	0.84 *4*	7294.2	(9)	5365.9	7^+	Additional information 21.
1936.0 *5*	2.6 *1*	6619.9	9^+	4683.6	8^+	Additional information 15.
2042.5 *5*	13 *1*	6726.2	10^+	4683.6	8^+	Additional information 16.
2101.2 *6*	0.48 *3*	8827.4	(12^+)	6726.2	10^+	Additional information 25.
2141.3 *6*	3.8 *2*	5365.9	7^+	3224.6	6^+	Additional information 10.
2220.9 *6*	1.7 *1*	4045.3	5^+	1824.9	4^+	Additional information 5.

Continued on next page (footnotes at end of table)

^{12}C(^{48}Ca,α2nγ) 2000De01 (continued)

γ(^{54}Cr) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Comments
2256.7 *6*	0.62 *4*	11117.9	(11)	8861.2	(10)	Additional information 32.
2430.2 *6*	2.7 *1*	9156.4	(11)	6726.2	10^+	Additional information 28.
2554.9 *6*	3.2 *1*	7237.4	(9)	4683.6	8^+	Additional information 19.
2575.7 *6*	3.4 *1*	5800.0	(7)	3224.6	6^+	Additional information 12.
2610.6 *6*	2.7 *1*	7294.2	(9)	4683.6	8^+	Additional information 22.
2910.2 *7*	0.19 *2*	9636.5	(12^+)	6726.2	10^+	Additional information 29.
3213.4 *8*	1.7 *1*	7897.1	(10)	4683.6	8^+	Additional information 23.
3385.4 *9*	0.20 *2*	12541.9	(13)	9156.4	(11)	Additional information 34.
3827.3 *9*	0.18 *2*	10553.6	(11^+)	6726.2	10^+	Additional information 31.

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Level Scheme

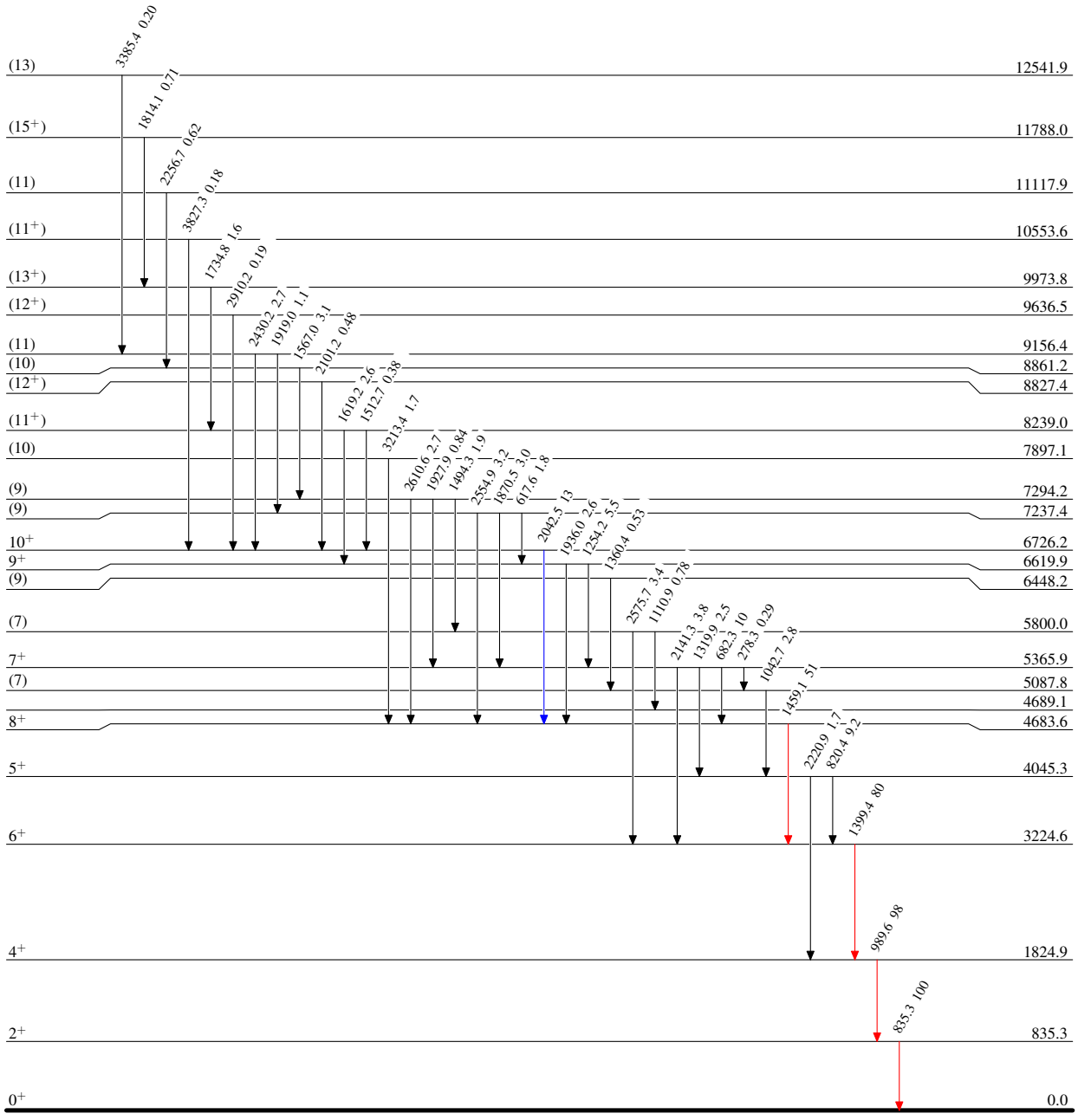
Intensities: Relative I_γ

Legend

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

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

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



$^{54}_{24}Cr_{30}$

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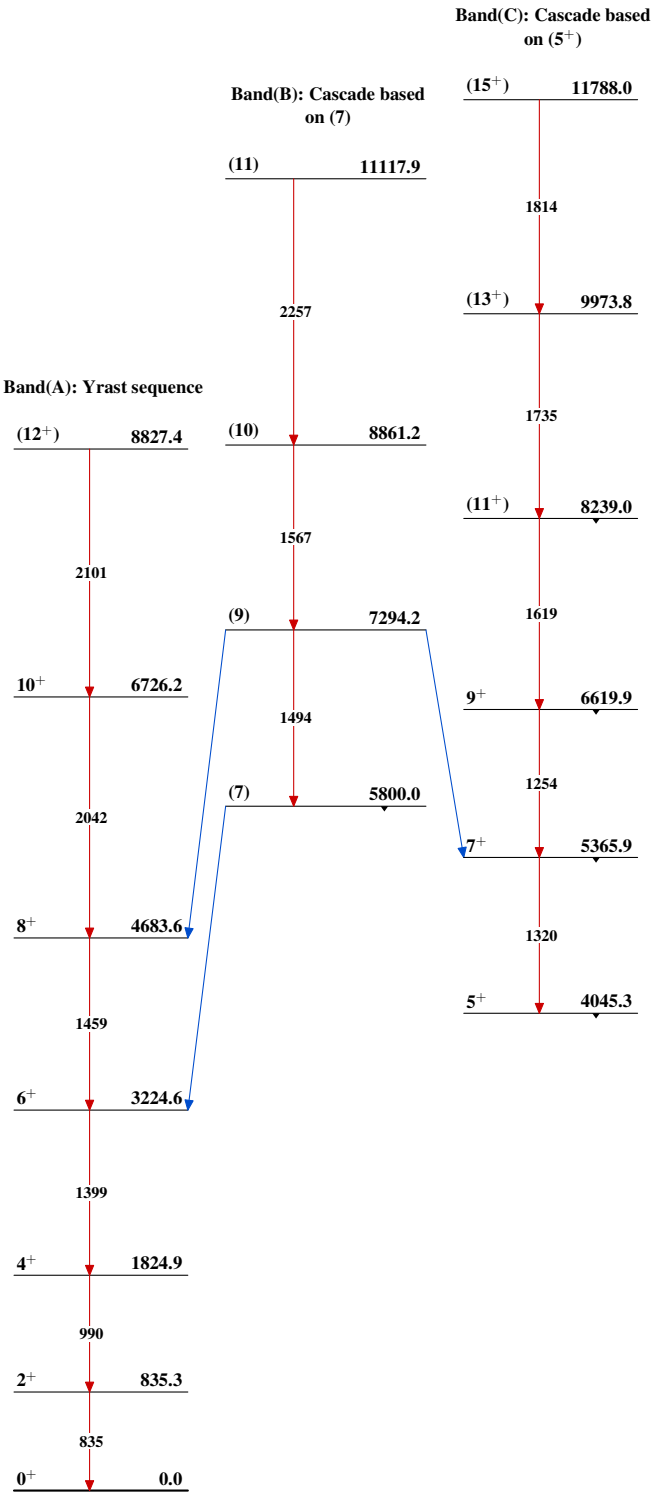

$^{54}_{24}Cr_{30}$