^{50}Cr(^{58}Ni,2αnγ) 2002Li45,1996Li06,1997Pa20

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 145, 25 (2017)	1-Jul-2017

2002Li45: E=225 MeV. Measured Eγ, Iγ, γγ, γ(θ) (DCO) using the GAMMASPHERE array comprising of 78 Compton-suppressed Ge detectors with the Microball of 95 CsI scintillators and the Neutron Shell, an array of 30 liquid scintillator detectors.
1996Li06, 1997Pa20: E=261 MeV. Measured Eγ, Iγ, γγ, γ(θ) asymmetry ratios using NORDBALL array of 15 Ge detectors.
All data are from 2002Li45 unless otherwise stated.

^{99}Cd Levels

E(level)	Jπ	$T_{1/2}$	Comments
0†	(5/2+)		
440.8 *3*	(7/2+)		
1224.3† *3*	(9/2+)		
1674.9 *4*	(11/2+)		
1831.2† *3*	(13/2+)		
2057.5† *4*	(17/2+)	13.1 ns *5*	$T_{1/2}$: from 1996Li06.
2274.3† *5*	(19/2+)		
2452.6 *5*	(19/2+)		
2700.4† *5*	(21/2+)		
3450.8 *6*	(21/2)		
4041.1 *6*	(23/2)		
4877.4† *6*	(25/2+)		
5958.7 *6*	(27/2)		
6105.6† *6*	(29/2+)		
6575.7† *7*	(31/2+)		
7099.8† *8*			

† Band(A): Yrast γ cascade based on g.s.

γ(^{99}Cd)

Asymmetry ratio R=I(143°)/[I(79°)+I(101°)] (1996Li06).

E_γ	I_γ	E_i(level)	J^π_i	E_f	J^π_f	Comments
146.8 *5*	6 *2*	6105.6	(29/2+)	5958.7	(27/2)	
156.4 *4*	8 *1*	1831.2	(13/2+)	1674.9	(11/2+)	
216.8 *3*	57 *3*	2274.3	(19/2+)	2057.5	(17/2+)	A_2=+0.2 *2* R(asymmetry)= 0.8 *2*.
226.3 *2*	81 *3*	2057.5	(17/2+)	1831.2	(13/2+)	A_2=+0.39 *9*; A_4=−0.1 *1* R(asymmetry)= 1.7 *4*.
247.8 *3*	13 *1*	2700.4	(21/2+)	2452.6	(19/2+)	A_2=−0.2 *2*
395.0 *3*	19 *1*	2452.6	(19/2+)	2057.5	(17/2+)	A_2=−0.4 *2*
426.1 *2*	42 *2*	2700.4	(21/2+)	2274.3	(19/2+)	A_2=−0.29 *4*; A_4=+0.16 *5*
440.7 *3*	20 *1*	440.8	(7/2+)	0	(5/2+)	A_2=+0.2 *3*; A_4=+0.1 *3*
470.1 *3*	24 *1*	6575.7	(31/2+)	6105.6	(29/2+)	A_2=−0.3 *1*
x505.4 *5*	6 *3*					
524.1 *4*	13 *2*	7099.8		6575.7	(31/2+)	
590.1 *4*	14 *1*	4041.1	(23/2)	3450.8	(21/2)	A_2=−0.2 *2*

Continued on next page (footnotes at end of table)

^{50}Cr(^{58}Ni,2αnγ) 2002Li45,1996Li06,1997Pa20 (continued)

γ(^{99}Cd) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Comments
606.9 *2*	81 *3*	1831.2	(13/2$^+$)	1224.3	(9/2$^+$)	A_2=+0.29 *7*; A_4=−0.14 *9* R(asymmetry)= 1.4 *4*.
783.1 *7*	9 *2*	1224.3	(9/2$^+$)	440.8	(7/2$^+$)	
836.1 *4*	11 *2*	4877.4	(25/2$^+$)	4041.1	(23/2)	A_2=+0.1 *4*
998 *1*	4 *2*	3450.8	(21/2)	2452.6	(19/2$^+$)	
1081.2 *3*	16 *1*	5958.7	(27/2)	4877.4	(25/2$^+$)	A_2=−0.1 *3*
1176.3 *4*	9 *1*	3450.8	(21/2)	2274.3	(19/2$^+$)	
1224.4 *3*	80 *3*	1224.3	(9/2$^+$)	0	(5/2$^+$)	A_2=+0.24 *8*; A_4=−0.1 *1* R(asymmetry)= 1.3 *3*.
1228.3 *3*	23 *2*	6105.6	(29/2$^+$)	4877.4	(25/2$^+$)	A_2=+0.5 *3*; A_4=−0.1 *4*
1234.1 *4*	11 *1*	1674.9	(11/2$^+$)	440.8	(7/2$^+$)	A_2=+0.4 *3*
2177.1 *3*	42 *3*	4877.4	(25/2$^+$)	2700.4	(21/2$^+$)	A_2=+0.3 *1*; A_4=−0.1 *2*

[x] γ ray not placed in level scheme.

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Level Scheme

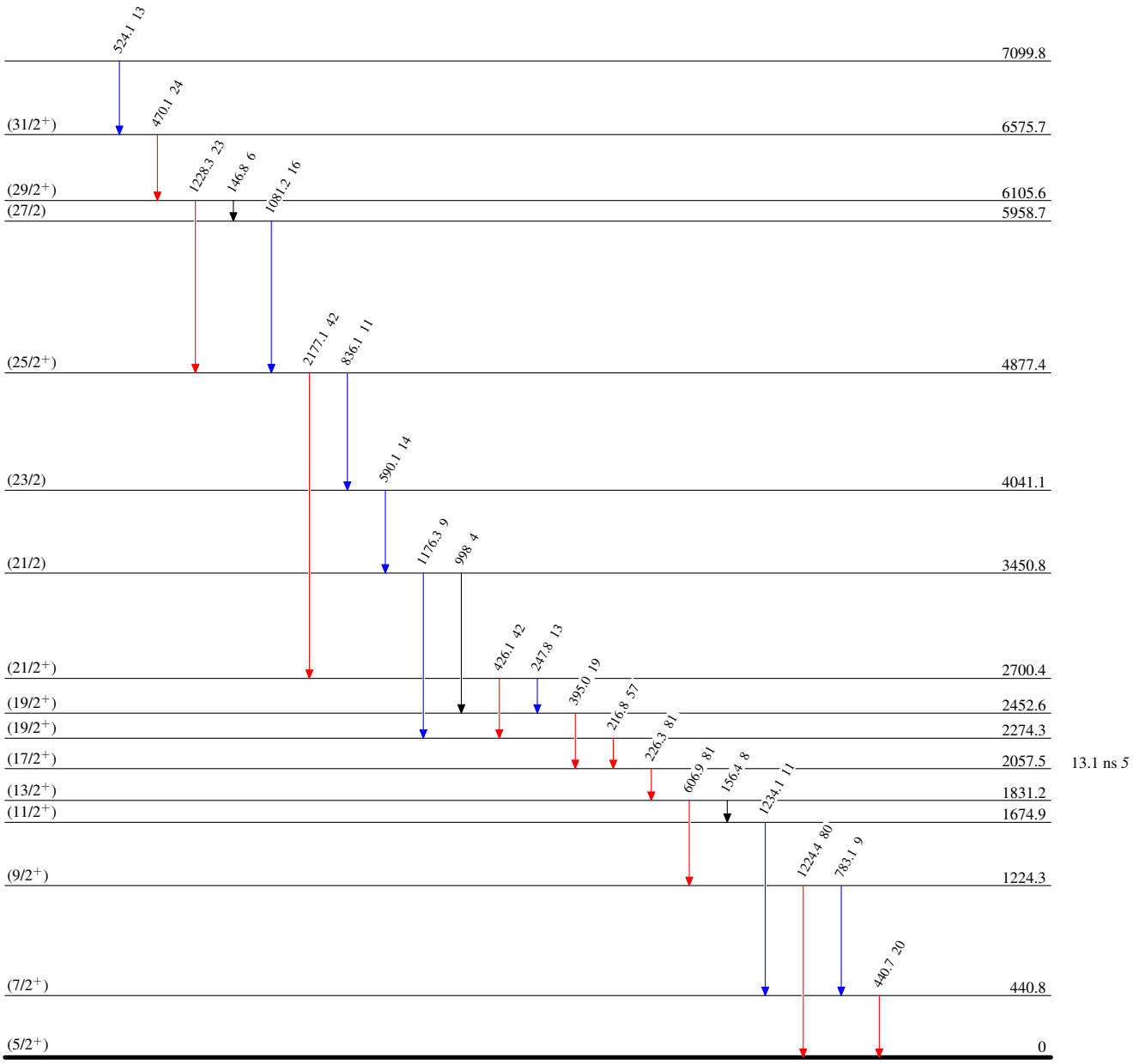
Intensities: Relative I_γ

Legend

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

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

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



$^{99}_{48}Cd_{51}$

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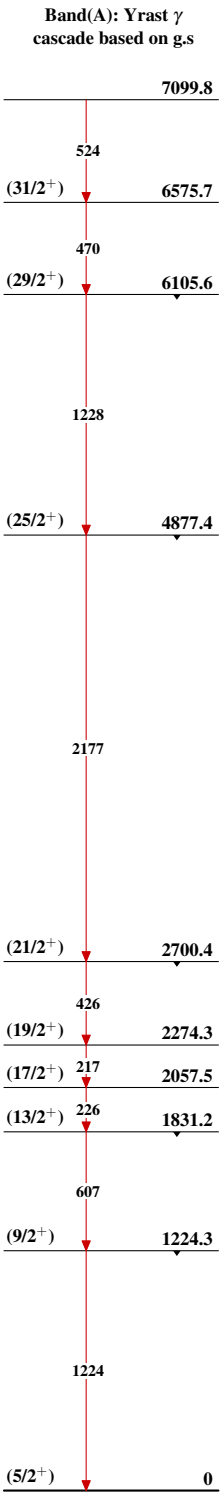

$^{99}_{48}Cd_{51}$