^{64}Ni(^{48}Ca,4nγ) 2001Cl06,2002Go03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2008

E=207 MeV. Measured Eγ, Iγ, multi-fold $\gamma\gamma$ coin, $\gamma(\theta)$, lifetimes using Gammasphere array with 101 Compton-suppressed Ge detectors. Deduced SD structure in ^{108}Cd and Q_0 from lifetime data. SD-1 band reported by 2001Cl06 and SD-2 band by 2002Go03.

^{108}Cd Levels

E(level)	J^π	Comments
x[†]	J≈(40)	A weak 1638γ may deexcite this level.
1686.0+x[†] *2*	J+2	
3421.6+x[†] *3*	J+4	
5218.7+x[†] *4*	J+6	
7083.4+x[†] *5*	J+8	
9021.6+x[†] *6*	J+10	
11037.5+x[†] *7*	J+12	
13133.8+x[†] *8*	J+14	
15310.4+x[†] *9*	J+16	
17566.4+x[†] *9*	J+18	
19902.7+x[†] *10*	J+20	
y[‡]		J^π: I a few units <40.
1534+y[‡]	J+2	
3130+y[‡]	J+4	
4796+y[‡]	J+6	
6540+y[‡]	J+8	
8361+y[‡]	J+10	
10262+y[‡]	J+12	
12244+y[‡]	J+14	
14306+y[‡]	J+16	
16450+y[‡]	J+18	
18676+y[‡]	J+20	
20979+y[‡]	J+22	

[†] Band(A): SD-1 band (2001Cl06). Percent population ≈1.4. Q(intrinsic)>9.5.
[‡] Band(B): SD-2 band (2002Go03). Percent population ≈0.6. Q(intrinsic)≈8.5.

$\gamma(^{108}$Cd)

Eγ	Iγ[‡]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.[†]
1534	0.41 *6*	1534+y	J+2	y		
1596	0.53 *6*	3130+y	J+4	1534+y	J+2	
x1638[#@]						
1666	0.64 *6*	4796+y	J+6	3130+y	J+4	
1686.0 *2*	1.19 *8*	1686.0+x	J+2	x	J≈(40)	Q
1735.6 *2*	1.27 *8*	3421.6+x	J+4	1686.0+x	J+2	Q
1744	0.64 *6*	6540+y	J+8	4796+y	J+6	
1797.1 *2*	1.30 *8*	5218.7+x	J+6	3421.6+x	J+4	Q

Continued on next page (footnotes at end of table)

^{64}Ni(^{48}Ca,4nγ) 2001Cl06,2002Go03 (continued)

γ(^{108}Cd) (continued)

E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]
1821	0.54 *7*	8361+y	J+10	6540+y	J+8	
1864.6 *3*	1.40 *8*	7083.4+x	J+8	5218.7+x	J+6	Q
1901	0.58 *8*	10262+y	J+12	8361+y	J+10	
1938.2 *3*	1.30 *6*	9021.6+x	J+10	7083.4+x	J+8	Q
1982	0.48 *8*	12244+y	J+14	10262+y	J+12	
2015.9 *4*	1.16 *6*	11037.5+x	J+12	9021.6+x	J+10	Q
2062	0.52 *5*	14306+y	J+16	12244+y	J+14	
2096.3 *3*	1.13 *6*	13133.8+x	J+14	11037.5+x	J+12	Q
2144	0.42 *5*	16450+y	J+18	14306+y	J+16	
2176.6 *4*	0.95 *6*	15310.4+x	J+16	13133.8+x	J+14	Q
2226	0.31 *5*	18676+y	J+20	16450+y	J+18	
2255.9 *3*	0.46 *5*	17566.4+x	J+18	15310.4+x	J+16	Q
2303	0.14 *4*	20979+y	J+22	18676+y	J+20	
2336.3 *3*	0.28 *5*	19902.7+x	J+20	17566.4+x	J+18	Q

[†] $\gamma(\theta)$ consistent with stretched quadrupole, presumably E2.
[‡] Read off the intensity plots given in figure 1 of 2002Go03.
[#] This tentative and weak γ may be the lowest transition in the SD-1 band.
[@] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

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Level Scheme

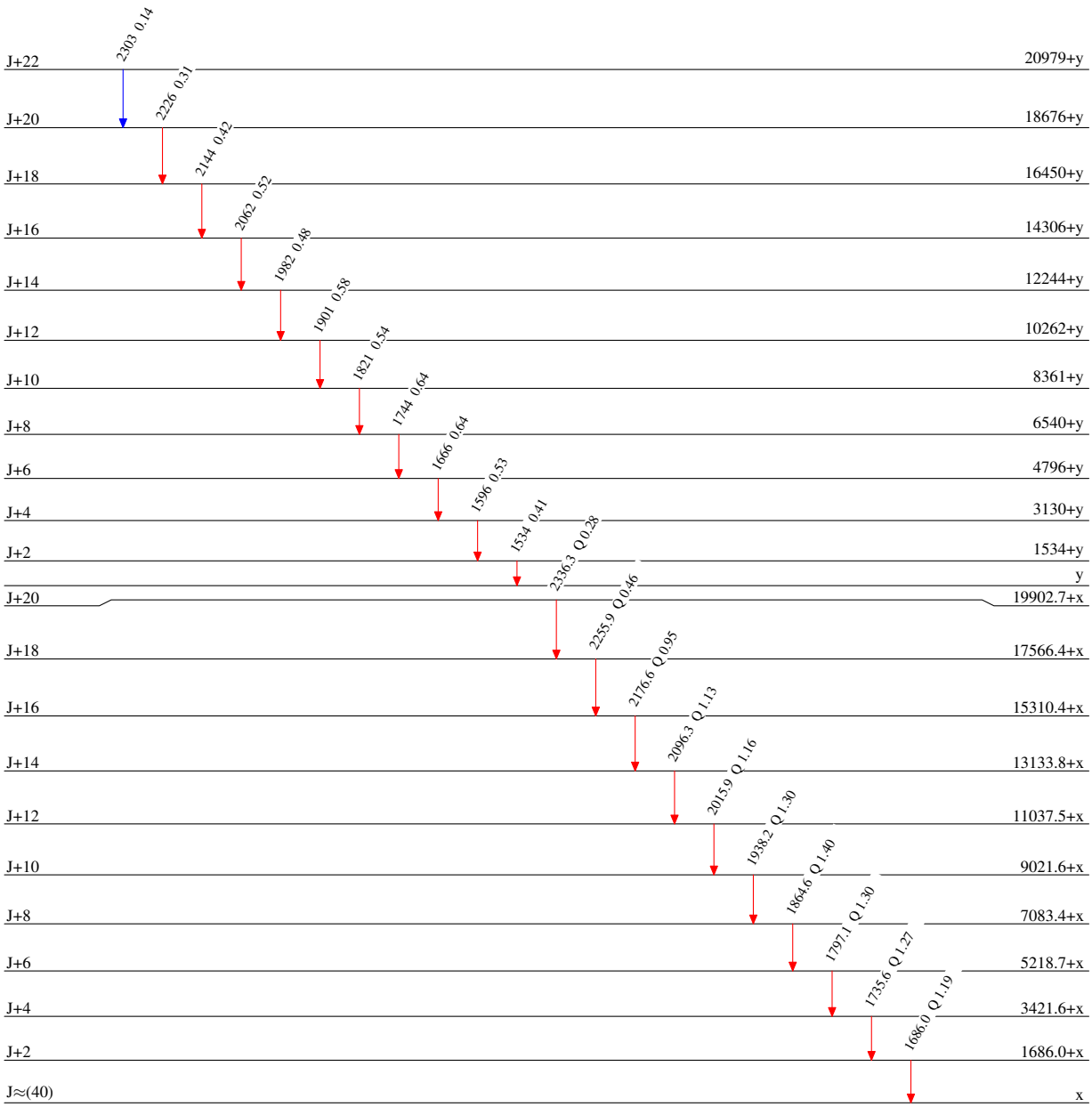
Intensities: Relative I_γ

Legend

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

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

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



$^{108}_{48}Cd_{60}$

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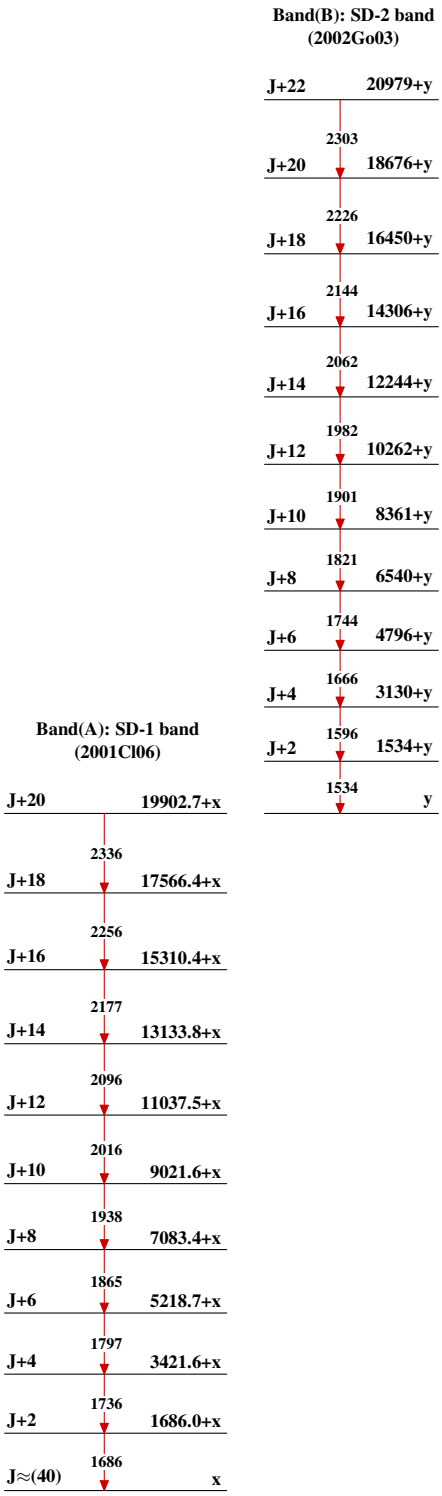

$^{108}_{48}Cd_{60}$