^{58}Ni(^{28}Si,α2pγ):SD 1997De51,2003Le08

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 105, 223 (2005)	22-Jun-2005

1997De51: E=130 MeV. Measured Eγ, Iγ, $\gamma\gamma$, Doppler shifts using GAMMASPHERE array (57 Ge detectors) and MICROBALL of 95 CsI(Tl) detectors. Deduced SD bands.
2003Le08, 1999Le56: E=130 MeV. Measured lifetimes by Doppler shifts using GAMMASPHERE array (100 Ge detectors) and MICROBALL of 95 CsI(Tl) detectors, deduced SD bands and transition quadrupole moments.
1997Da16: Analysis of SD bands.

^{80}Sr Levels

Configurations are from 2003Le08.

E(level)	J$^\pi$	Comments
x†	J≈(18)	J$^\pi$: proposed positive parity (1997De51).
1443.0+x† *10*	J+2	
3054.0+x† *15*	J+4	
4829.0+x† *18*	J+6	
6777.1+x† *20*	J+8	
8895.1+x† *23*	J+10	
11179.1+x† *25*	J+12	
13620+x† *3*	J+14	
16215+x† *3*	J+16	
18958+x† *3*	J+18	
21818+x?† *4*	J+20	
y‡	J1≈(18)	J$^\pi$: proposed positive parity (1997De51).
1688.0+y‡ *10*	J1+2	
3509.0+y‡ *15*	J1+4	
5459.1+y‡ *18*	J1+6	
7549.1+y‡ *20*	J1+8	
9805.1+y‡ *23*	J1+10	
12169.1+y‡ *25*	J1+12	
12231.2+y‡ *25*	J1+12	
14743+y‡ *3*	J1+14	
z#	J2≈(22)	J$^\pi$: proposed positive parity (1997De51).
1846.0+z# *10*	J2+2	Possible decay to 3509+y (1997De51).
3885.1+z# *15*	J2+4	Possible decay to 5459+y (1997De51).
6101.1+z# *18*	J2+6	
8492.1+z# *20*	J2+8	
11064.2+z# *23*	J2+10	
13811.2+z?# *25*	J2+12	
u@	J3≈(20)	J$^\pi$: proposed positive parity (1997De51).
2140.0+u@ *10*	J3+2	
4432.1+u@ *15*	J3+4	
6891.1+u@ *18*	J3+6	

Continued on next page (footnotes at end of table)

^{58}Ni(^{28}Si,α2pγ):SD 1997De51,2003Le08 (continued)

^{80}Sr Levels (continued)

E(level)	J^π
9512.2+u[@] *20*	J3+8
12275.2+u[@] *23*	J3+10

[†] Band(A): SD-1 band (1997De51,1999Le56,2003Le08). Q(transition)=3.42 *+26−23* (1999Le56,2003Le08), 2.7 *+7−6* (1997De51). Configuration=$\nu5^1\pi5^0$. Percent population=1.17 (2003Le08).

[‡] Band(B): SD-2 band (1997De51,2003Le08). Q(transition)=3.63 *+17−15* (2003Le08), 2.2 *+6−5* (1997De51). Configuration=$\nu5^1\pi5^0$. Percent population=0.52 (2003Le08).

[#] Band(C): SD-3 band (1997De51,2003Le08). Q(transition)=4.1 *6* (2003Le08), 3.6 *+20−11* (1997De51). Configuration=$\nu5^1\pi5^0$ (?). Percent population=0.36 (2003Le08). The lowest tentative 1712γ reported by 1997De51 is not reported by 2003Le08, and is omitted here.

[@] Band(D): SD-4 band (1997De51,2003Le08). Q(transition)=4.9 *6* (2003Le08), 2.8 *+11−8* (1997De51). Configuration=$\nu5^1\pi5^1$. Percent population=0.13 (2003Le08).

γ(^{80}Sr)

E_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Comments
1443 *1*	1443.0+x	J+2	x	J≈(18)	
1611 *1*	3054.0+x	J+4	1443.0+x	J+2	E_γ: 1613 (1997De51).
1688 *1*	1688.0+y	J1+2	y	J1≈(18)	
1775 *1*	4829.0+x	J+6	3054.0+x	J+4	
1821 *1*	3509.0+y	J1+4	1688.0+y	J1+2	
1846 *1*	1846.0+z	J2+2	z	J2≈(22)	
1948 *1*	6777.1+x	J+8	4829.0+x	J+6	
1950 *1*	5459.1+y	J1+6	3509.0+y	J1+4	
2039 *1*	3885.1+z	J2+4	1846.0+z	J2+2	
2090 *1*	7549.1+y	J1+8	5459.1+y	J1+6	E_γ: 2092 (1997De51).
2118 *1*	8895.1+x	J+10	6777.1+x	J+8	
2140 *1*	2140.0+u	J3+2	u	J3≈(20)	
2216 *1*	6101.1+z	J2+6	3885.1+z	J2+4	
2256 *1*	9805.1+y	J1+10	7549.1+y	J1+8	
2284 *1*	11179.1+x	J+12	8895.1+x	J+10	E_γ: 2282 (1997De51).
2292 *1*	4432.1+u	J3+4	2140.0+u	J3+2	
2364 *1*	12169.1+y	J1+12	9805.1+y	J1+10	
2391 *1*	8492.1+z	J2+8	6101.1+z	J2+6	
2426 *1*	12231.2+y	J1+12	9805.1+y	J1+10	E_γ: 2430 (1997De51).
2441 *1*	13620+x	J+14	11179.1+x	J+12	
2459 *1*	6891.1+u	J3+6	4432.1+u	J3+4	
2572 *1*	11064.2+z	J2+10	8492.1+z	J2+8	
2574 *1*	14743+y	J1+14	12169.1+y	J1+12	
2595 *1*	16215+x	J+16	13620+x	J+14	
2621 *1*	9512.2+u	J3+8	6891.1+u	J3+6	
2743 *1*	18958+x	J+18	16215+x	J+16	
2747[‡]	13811.2+z?	J2+12	11064.2+z	J2+10	E_γ: from 1997De51; not reported by 2003Le08.
2763 *1*	12275.2+u	J3+10	9512.2+u	J3+8	
2860[‡]	21818+x?	J+20	18958+x	J+18	E_γ: from 1997De51; not reported by 2003Le08.

[†] From 2003Le08, unless otherwise stated. Corresponding values from 1997De51 are in general agreement.

[‡] Placement of transition in the level scheme is uncertain.

Legend

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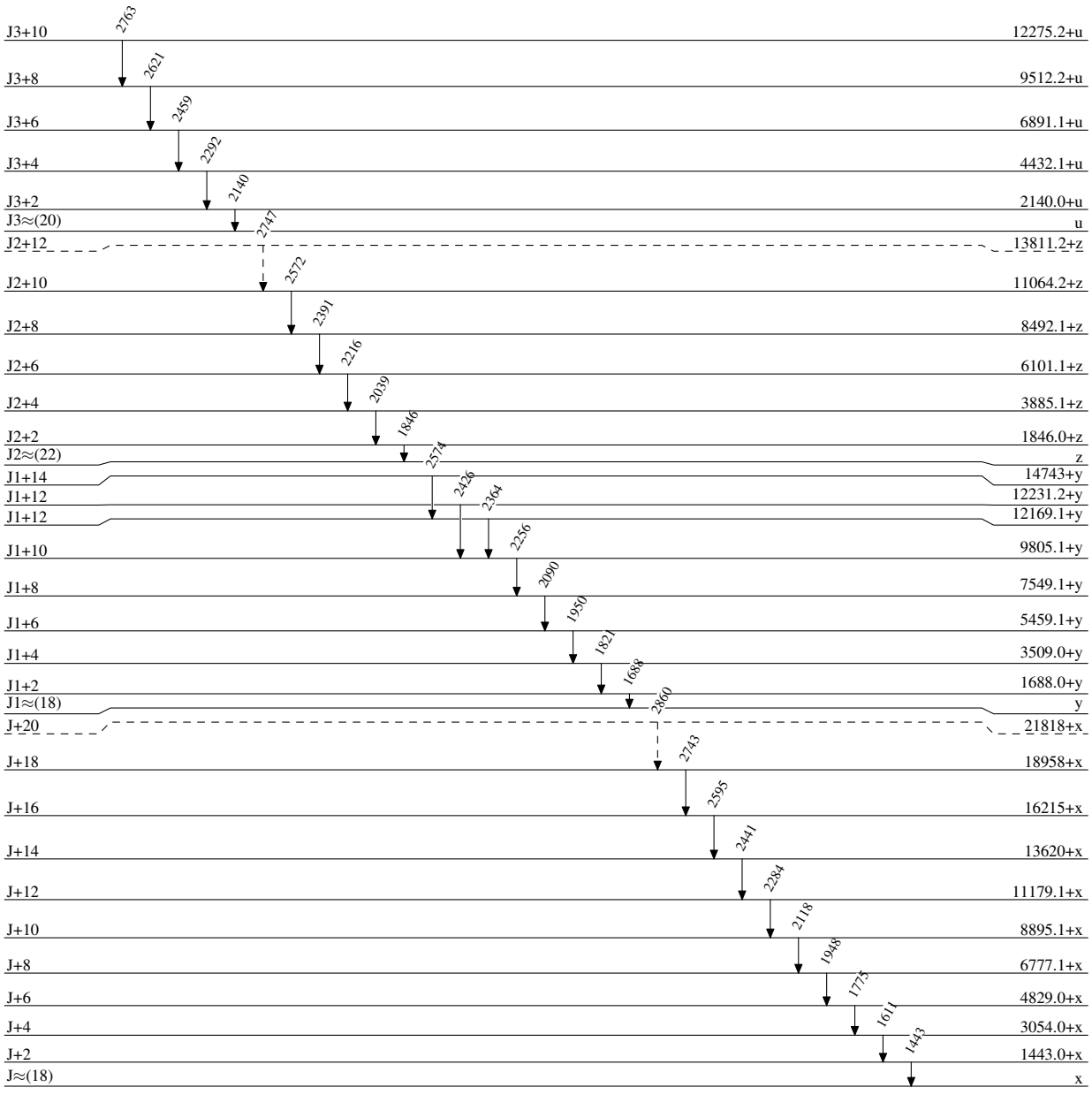
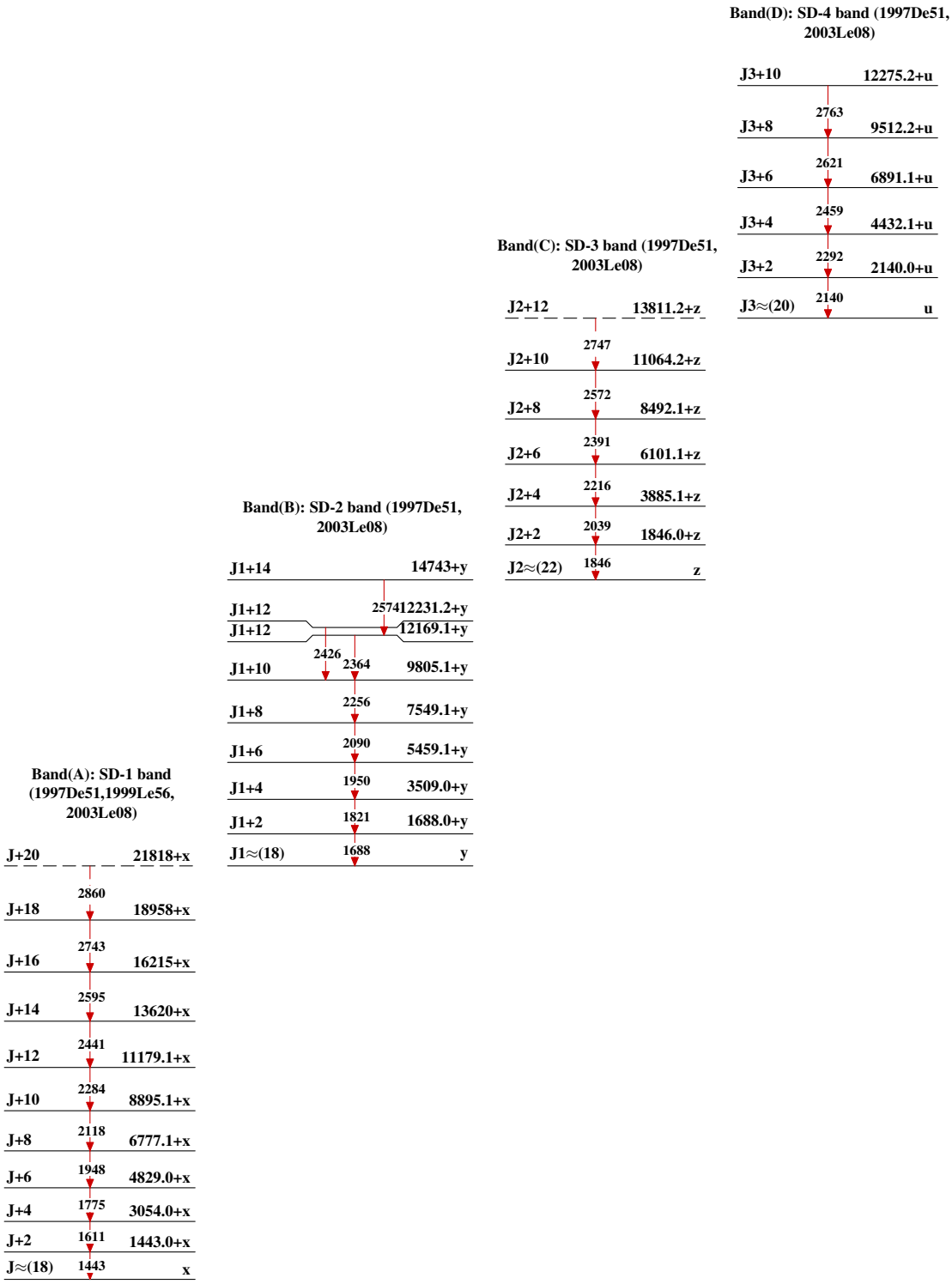
Level Scheme

γ Decay (Uncertain)



$^{80}_{38}Sr_{42}$

^{58}Ni(^{28}Si,α2pγ):SD 1997De51,2003Le08



$^{80}_{38}Sr_{42}$