^{26}Mg(^{48}Ca,α2nγ) 1999De20

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan	NDS 113, 1735 (2012)	1-Mar-2012

E(^{48}Ca)=157 MeV. Measured Eγ, Iγ, $\gamma\gamma\gamma$, $\gamma(\theta)$, γ-charged particle coincidence using Gammasphere array with 95 Compton suppressed HPGe detectors and Microball (4π, 95-element CsI array). Deduced superdeformed band structure.
See also: 2002Si26.

^{68}Zn Levels

Q(intrinsic)=2.5 +7–4, deduced from lifetime data (1999De20). Population intensity ≈1.9% of the 2^+ to 0^+ g.s.transition. The band decays into normal-deformed states through a number of transitions, including one at 1508 keV. 1999De20 proposed the configurations: $\pi(f7/2^{-2}g9/2^2)\nu(g9/2^4)$ where all the single-particle orbitals below the Z=30,N=38 super-deformed shell gaps are filled or $\pi(f7/2^{-2}g9/2^2)\nu(g9/2^4h11/2^1)$ which differs from the first in the excitation of a neutron from below the N=38 gap into the lowest h11/2 orbital.

E(level)	J^π	Comments
x†	J	J^π: based on observed feeding into known levels, the estimated spin of the lowest level in the super-deformed band is 17 *2* (1999De20).
1506+x†	J+2	
3223+x†	J+4	
5141+x†	J+6	
7262+x†	J+8	
9593+x†	J+10	
12148+x†	J+12	
14943+x†	J+14	
18016+x?†	J+16	

† Band(A): super-deformed band (1999De20).

γ(^{68}Zn)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.†
1506	1506+x	J+2	x	J	Q
1717	3223+x	J+4	1506+x	J+2	Q
1918	5141+x	J+6	3223+x	J+4	Q
2121	7262+x	J+8	5141+x	J+6	Q
2331	9593+x	J+10	7262+x	J+8	Q
2555	12148+x	J+12	9593+x	J+10	Q
2795	14943+x	J+14	12148+x	J+12	
3073‡	18016+x?	J+16	14943+x	J+14	

† From $\gamma(\theta)$.
‡ Placement of transition in the level scheme is uncertain.

Legend

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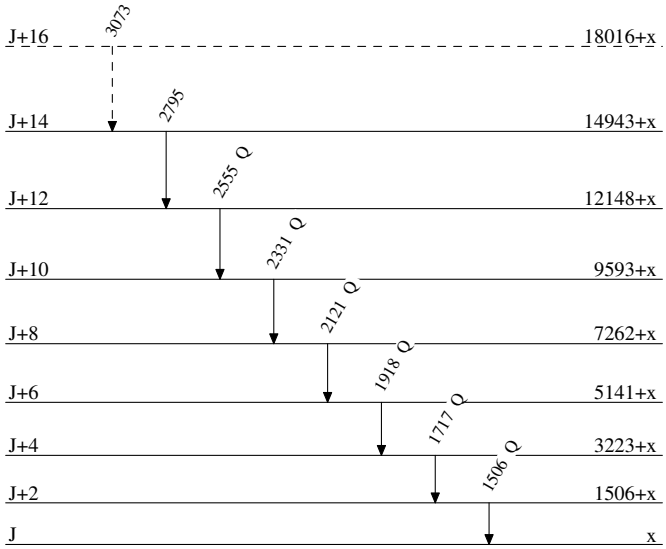
Level Scheme

γ Decay (Uncertain)



$^{68}_{30}Zn_{38}$

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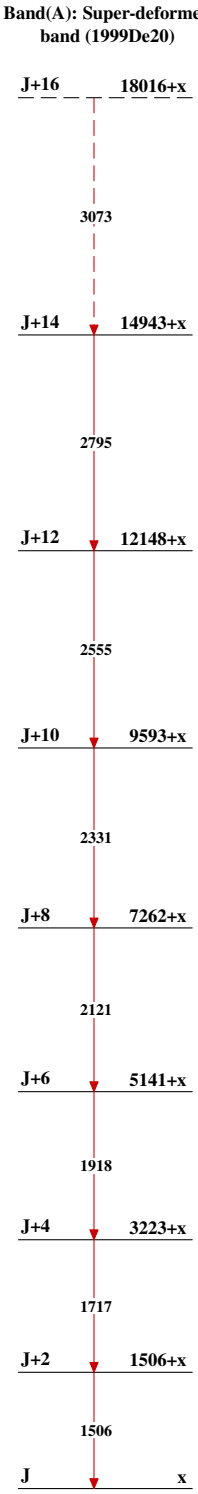

$^{68}_{30}Zn_{38}$