(HI,xnγ):SD 1996Mc01,2005Jo03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Huang Xiaolong and Kang Mengxiao	NDS 133, 221 (2016)	1-Dec-2015

1996Mc01: ^{174}Yb(^{29}Si,5nγ), E=148 MeV; measured Eγ, Iγ, γγ-coin with GAMMASPHERE array (56 Compton-suppressed Ge detectors).
2005Jo03: ^{174}Yb(^{29}Si,5nγ), E=148 MeV; measured Eγ, Iγ, γγ-coin with GAMMASPHERE array (101 Compton-suppressed Ge detectors).
All data are from 2005Jo03 unless otherwise stated.

^{198}Po Levels

E(level)[†]	Jπ[‡]	Comments
y[#]	J	E(level): y≈4.8 MeV from estimated SD excitation energy of 6.2 MeV *5* at spin of 21 and 3.9 MeV at spin of 0 (2005Jo03); SD well depth is estimated (2005Jo03) to be ≈3.3 MeV *5* at spin of 11. Jπ: J≈6, suggested by 1996Mc01 from a fitting of spins versus rotational frequencies.
175.90+y[#] *13*	J+2	
396.33+y[#] *19*	J+4	
660.70+y[#] *23*	J+6	
968.1+y[#] *3*	J+8	
1317.6+y[#] *3*	J+10	
1708.2+y[#] *4*	J+12	
2138.0+y[#] *4*	J+14	
2605.9+y[#] *5*	J+16	
3111.8+y[#] *9*	J+18	
3654.4+y[#] *10*	J+20	

[†] From Eγ.
[‡] SD band structure of E2 transitions.
[#] Band(A): SD band (1996Mc01,2005Jo03). Percent population <0.3 (1996Mc01). SD excitation energy is estimated at 6.2 MeV *5* at spin of 21 and 3.9 MeV at spin of 0; SD well depth is estimated at ≈3.3 MeV *5* at spin of 11 (2005Jo03).

γ(^{198}Po)

Eγ	Iγ[†]	Ei(level)	J_i^π	E_f	J_f^π	Mult.[‡]	α[#]	Comments
175.90 *13*	≤0.09	175.90+y	J+2	y	J	[E2]	0.749	α(K)=0.219 *3*; α(L)=0.393 *6*; α(M)=0.1042 *15* α(N)=0.0267 *4*; α(O)=0.00513 *8*; α(P)=0.000477 *7*
220.53 *14*	0.47 *3*	396.33+y	J+4	175.90+y	J+2	[E2]	0.336	α(K)=0.1343 *19*; α(L)=0.1502 *22*; α(M)=0.0396 *6* α(N)=0.01015 *15*; α(O)=0.00196 *3*; α(P)=0.000187 *3*
264.37 *13*	0.81 *2*	660.70+y	J+6	396.33+y	J+4	[E2]	0.186	α(K)=0.0892 *13*; α(L)=0.0720 *11*; α(M)=0.0188 *3* α(N)=0.00483 *7*; α(O)=0.000937 *14*; α(P)=9.17×10^{-5} *13*
307.41 *16*	0.93 *3*	968.1+y	J+8	660.70+y	J+6	[E2]	0.1172	α(K)=0.0634 *9*; α(L)=0.0401 *6*; α(M)=0.01041 *15* α(N)=0.00267 *4*; α(O)=0.000522 *8*; α(P)=5.23×10^{-5} *8*
349.52 *13*	1.00 *8*	1317.6+y	J+10	968.1+y	J+8	[E2]	0.0810	α(K)=0.0476 *7*; α(L)=0.0250 *4*; α(M)=0.00643 *9* α(N)=0.001650 *24*; α(O)=0.000324 *5*; α(P)=3.32×10^{-5} *5*

Continued on next page (footnotes at end of table)

(HI,xnγ):SD 1996Mc01,2005Jo03 (continued)

γ(^{198}Po) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	α[#]	Comments
390.58 *19*	0.89 *8*	1708.2+y	J+12	1317.6+y	J+10	[E2]	0.0598	α(K)=0.0373 *6*; α(L)=0.01685 *24*; α(M)=0.00431 *6* α(N)=0.001106 *16*; α(O)=0.000218 *3*; α(P)=2.29×10^{-5} *4*
429.77 *21*	0.84 *7*	2138.0+y	J+14	1708.2+y	J+12	[E2]	0.0466	α(K)=0.0304 *5*; α(L)=0.01218 *18*; α(M)=0.00309 *5* α(N)=0.000794 *12*; α(O)=0.0001574 *23*; α(P)=1.679×10^{-5} *24*
467.9 *3*	0.80 *6*	2605.9+y	J+16	2138.0+y	J+14	[E2]	0.0377	α(K)=0.0254 *4*; α(L)=0.00923 *13*; α(M)=0.00233 *4* α(N)=0.000598 *9*; α(O)=0.0001190 *17*; α(P)=1.290×10^{-5} *19*
505.9 *7*	0.44 *8*	3111.8+y	J+18	2605.9+y	J+16	[E2]	0.0312	α(K)=0.0216 *3*; α(L)=0.00721 *11*; α(M)=0.00181 *3* α(N)=0.000465 *7*; α(O)=9.29×10^{-5} *14*; α(P)=1.022×10^{-5} *15*
542.6 *4*	0.40 *9*	3654.4+y	J+20	3111.8+y	J+18	[E2]	0.0265	α(K)=0.0188 *3*; α(L)=0.00583 *9*; α(M)=0.001456 *21* α(N)=0.000374 *6*; α(O)=7.49×10^{-5} *11*; α(P)=8.35×10^{-6} *12* E_γ,I_γ: From 1996Mc01 only.

[†] Relative intensities. Intensities have been corrected for detector efficiency and electron conversion.
[‡] Assumed an SD structure of E2 transitions in 1996Mc01.
[#] Additional information 1.

(HI,xnγ):SD 1996Mc01,2005Jo03

Level Scheme

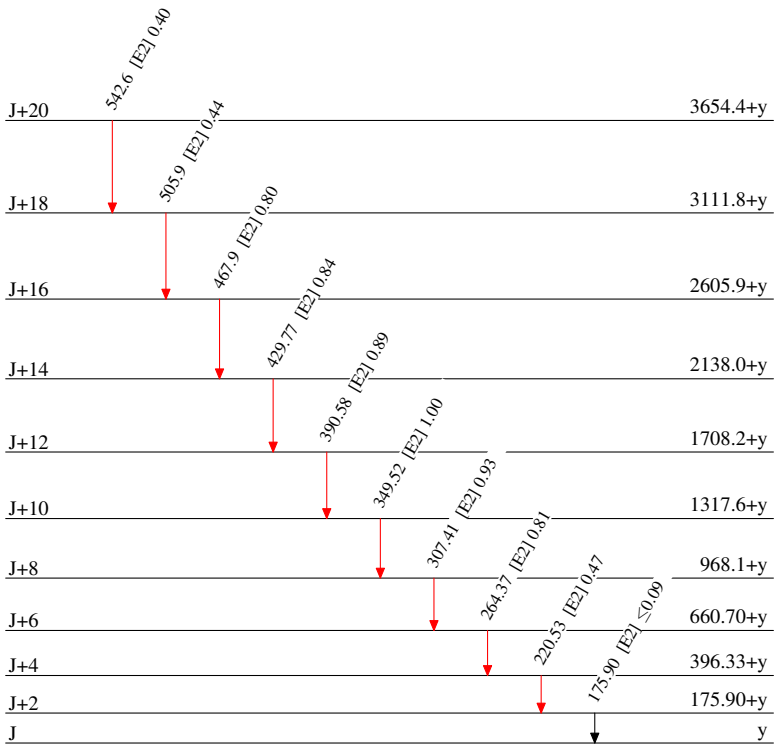
Intensities: Relative I_γ

Legend

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

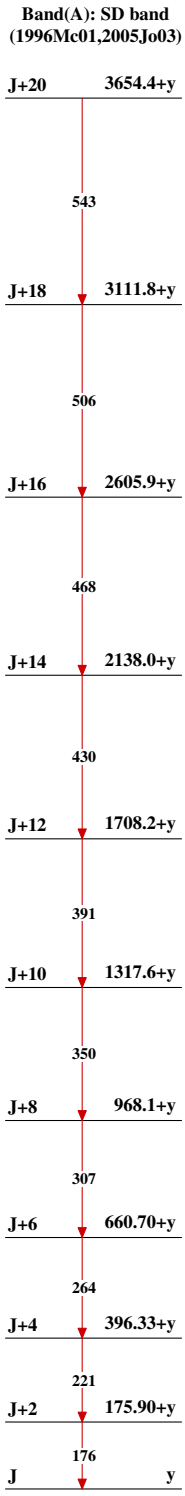
$I_\gamma < 10\% \times I_\gamma^{max}$

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



$^{198}_{84}Po_{114}$

(HI,xnγ):SD 1996Mc01,2005Jo03



$^{198}_{84}Po_{114}$