(HI,xnγ) 1990Wu01,1995Pa25

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 111, 717 (2010)	1-Dec-2009

^{92}Mo(^{27}Al,2pn) E=125 MeV (1993Pa03,1995Pa25).
Measured: γ, $\gamma\gamma$(t), $\gamma(\theta)$, Tessa3 spectrometer, DCO.
The lower part of the ^{116}I level scheme is unknown, but 1990Wu01 suggest x≥385. See IT decay.
Total routhian surface calculation have been performed to interpret the structure of this non-collective state.
^{92}Mo(^{28}Si,3pnγ) E=120 MeV (1990Wu01).
Measured: γ, $\gamma\gamma$, recoil mass spectrometer (rms), γ(t) the rms determines with a good separation the nucleus which is isomer.

^{116}I Levels

E(level)	J$^{\pi}$ †	Comments
0.0+x‡	(7$^-$)	Additional information 1.
0.0+y&	J	Additional information 2.
141+x# *1*	(8$^-$)	
249+y*a* *1*	J+1	
362+x#	(9$^-$)	
469+y& *1*	J+2	
645+x# *2*	(10$^-$)	
777+y*a* *1*	J+3	
970+x# *2*	(11$^-$)	
1089+y& *2*	J+4	
1327+x# *2*	(12$^-$)	
1435+y*a* *2*	J+5	
1714+x# *2*	(13$^-$)	
1764+x@ *2*	(11$^-$)	
1838+y& *2*	J+6	
2118+x@ *2*	(13$^-$)	
2130+x# *2*	(14$^-$)	
2195+y*a* *2*	J+7	
2570+x# *2*	(15$^-$)	
2720+y& *2*	J+8	
2866+x@ *2*	(15$^-$)	
3032+x# *2*	(16$^-$)	
3099+y*a* *2*	J+9	
3674+x@ *2*	(17$^-$)	
3708+y& *2*	J+10	
4087+y*a* *2*	J+11	
4549+x@ *3*	(19$^-$)	
4797+y& *2*	J+12	
5162+y*a* *2*	J+13	
5457+x@ *3*	(21$^-$)	
5507+x@ *3*	(21$^-$)	
5784+x@ *3*	(23$^-$)	
5984+y& *3*	J+14	
6335+y*a* *2*	J+15	
7256+y& *2*	J+16	

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(HI,xnγ) 1990Wu01,1995Pa25 (continued)

^{116}I Levels (continued)

E(level)	J^{π}[†]
7580+y[a] *2*	J+17
8593+y[&] *2*	J+18
8902+y[a] *2*	J+19
10026+y[&] *2*	J+20
10302+y[a] *2*	J+21

[†] From 1993Pa03, 1995Pa25, based on previous known J^{π} and DCO.
[‡] x is≥385 (1990Wu01).
[#] Band(A): member of the 8^- bandhead.
[@] Band(B): band 2.
[&] Band(C): band 3, Configuration=((π $g_{7/2}$)(ν $h_{11/2}$)) (1995πa25).
[a] Band(D): band 4, Configuration=((π $g_{7/2}$)(ν $h_{11/2}$)) (1995πa25).

γ(^{116}I)

E_{γ}[†]	I_{γ}	E_i(level)	J_i^{π}	E_f	J_f^{π}
[x]65.4					
[x]105[#]					
[x]109.6 *27*					
[x]114.4					
140.5		141+x	(8^-)	0.0+x	(7^-)
219.7 *1*	9 *1*	469+y	J+2	249+y	J+1
221.4		362+x	(9^-)	141+x	(8^-)
[x]227.3					
248.5[‡] *2*	14 *2*	249+y	J+1	0.0+y	J
277		5784+x	(23^-)	5507+x	(21^-)
282.9		645+x	(10^-)	362+x	(9^-)
308.5[‡] *2*	21 *2*	777+y	J+3	469+y	J+2
312.2[‡] *2*	4 *1*	1089+y	J+4	777+y	J+3
324.4		970+x	(11^-)	645+x	(10^-)
327		5784+x	(23^-)	5457+x	(21^-)
345.5[‡] *2*	18 *2*	1435+y	J+5	1089+y	J+4
353		2118+x	(13^-)	1764+x	(11^-)
357.2		1327+x	(12^-)	970+x	(11^-)
387.5		1714+x	(13^-)	1327+x	(12^-)
403.0[‡] *2*	14 *2*	1838+y	J+6	1435+y	J+5
404		2118+x	(13^-)	1714+x	(13^-)
416.3		2130+x	(14^-)	1714+x	(13^-)
440		2570+x	(15^-)	2130+x	(14^-)
462		3032+x	(16^-)	2570+x	(15^-)
468.1 *1*	72 *7*	469+y	J+2	0.0+y	J
528.4[‡] *2*	18 *2*	777+y	J+3	249+y	J+1
608		970+x	(11^-)	362+x	(9^-)
620.7[‡] *2*	91 *9*	1089+y	J+4	469+y	J+2
657.8[‡] *2*	55 *6*	1435+y	J+5	777+y	J+3
683		1327+x	(12^-)	645+x	(10^-)
748		2866+x	(15^-)	2118+x	(13^-)
748.6[‡] *2*	100 *10*	1838+y	J+6	1089+y	J+4

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(HI,xnγ) 1990Wu01,1995Pa25 (continued)

γ(^{116}I) (continued)

E_γ [†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	E_γ [†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π
760.2[‡] *2*	68 *7*	2195+y	J+7	1435+y	J+5	1074.6 *1*	19 *2*	5162+y	J+13	4087+y	J+11
791		2118+x	(13^-)	1327+x	(12^-)	1089.6[‡] *2*	18 *2*	4797+y	J+12	3708+y	J+10
808		3674+x	(17^-)	2866+x	(15^-)	1118		1764+x	(11^-)	645+x	(10^-)
856		2570+x	(15^-)	1714+x	(13^-)	1172.7[‡] *2*	6 *1*	6335+y	J+15	5162+y	J+13
875		4549+x	(19^-)	3674+x	(17^-)	1186.2[‡] *1*	6 *1*	5984+y	J+14	4797+y	J+12
882.1[‡] *2*	38 *2*	2720+y	J+8	1838+y	J+6	1245.6[‡] *2*	<5	7580+y	J+17	6335+y	J+15
903.8[‡] *2*	42 *4*	3099+y	J+9	2195+y	J+7	1272.6[‡] *2*	<5	7256+y	J+16	5984+y	J+14
908		5457+x	(21^-)	4549+x	(19^-)	1322[‡] *1*	<5	8902+y	J+19	7580+y	J+17
958		5507+x	(21^-)	4549+x	(19^-)	1337[‡] *1*	<5	8593+y	J+18	7256+y	J+16
987.8[‡] *2*	27 *3*	3708+y	J+10	2720+y	J+8	1400[‡] *1*	<5	10302+y	J+21	8902+y	J+19
988.6[‡] *2*	28 *3*	4087+y	J+11	3099+y	J+9	1433[‡] *1*	<5	10026+y	J+20	8593+y	J+18

[†] The unplaced γ's are from 1990Wu01 and lie below the 3.27−μs isomer.
[‡] From 1995Pa25.
[#] Doublet (1990Wu01).
[x] γ ray not placed in level scheme.

(HI,xnγ) 1990Wu01,1995Pa25

Level Scheme

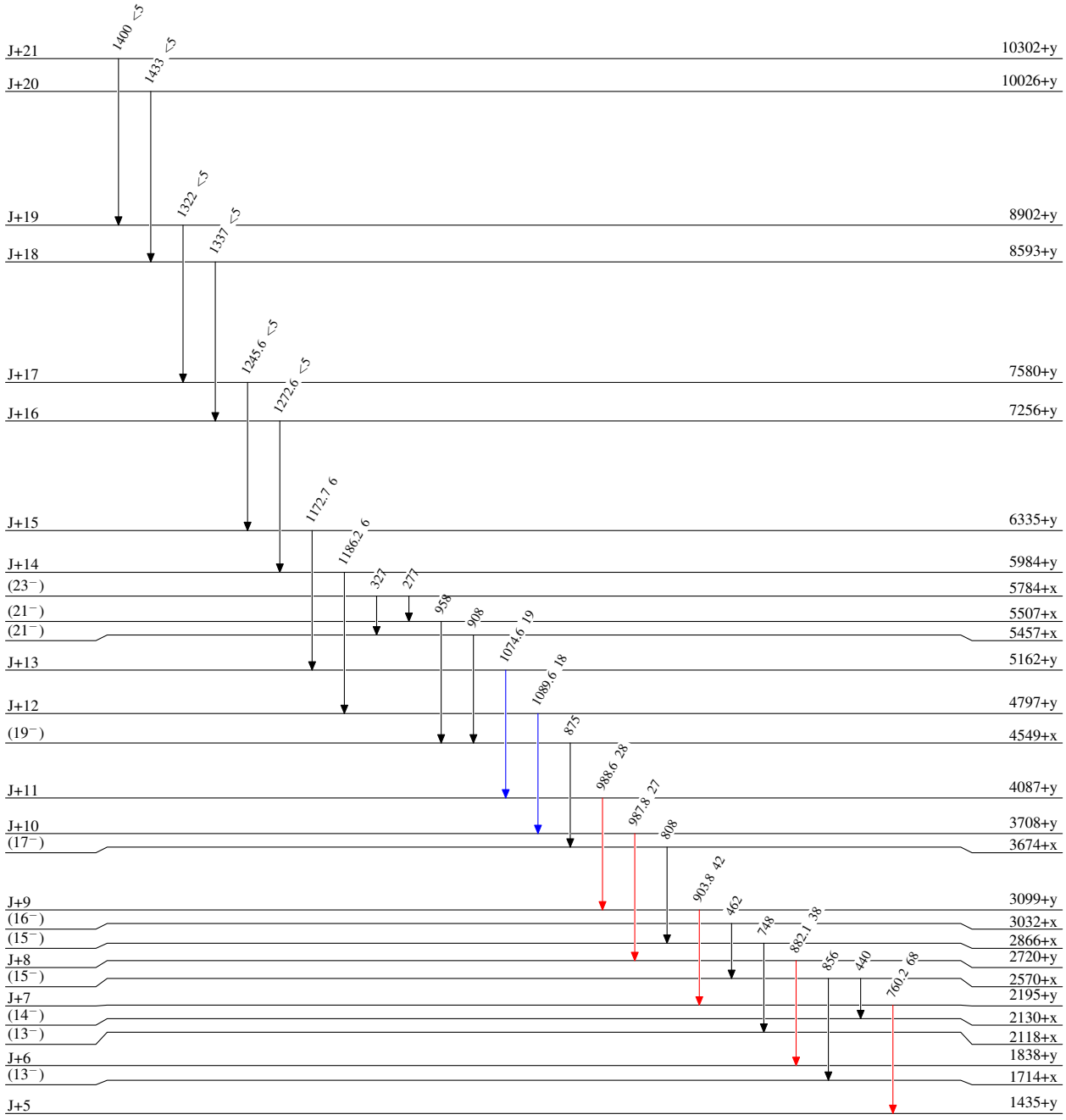
Intensities: Relative I_γ

Legend

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

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

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

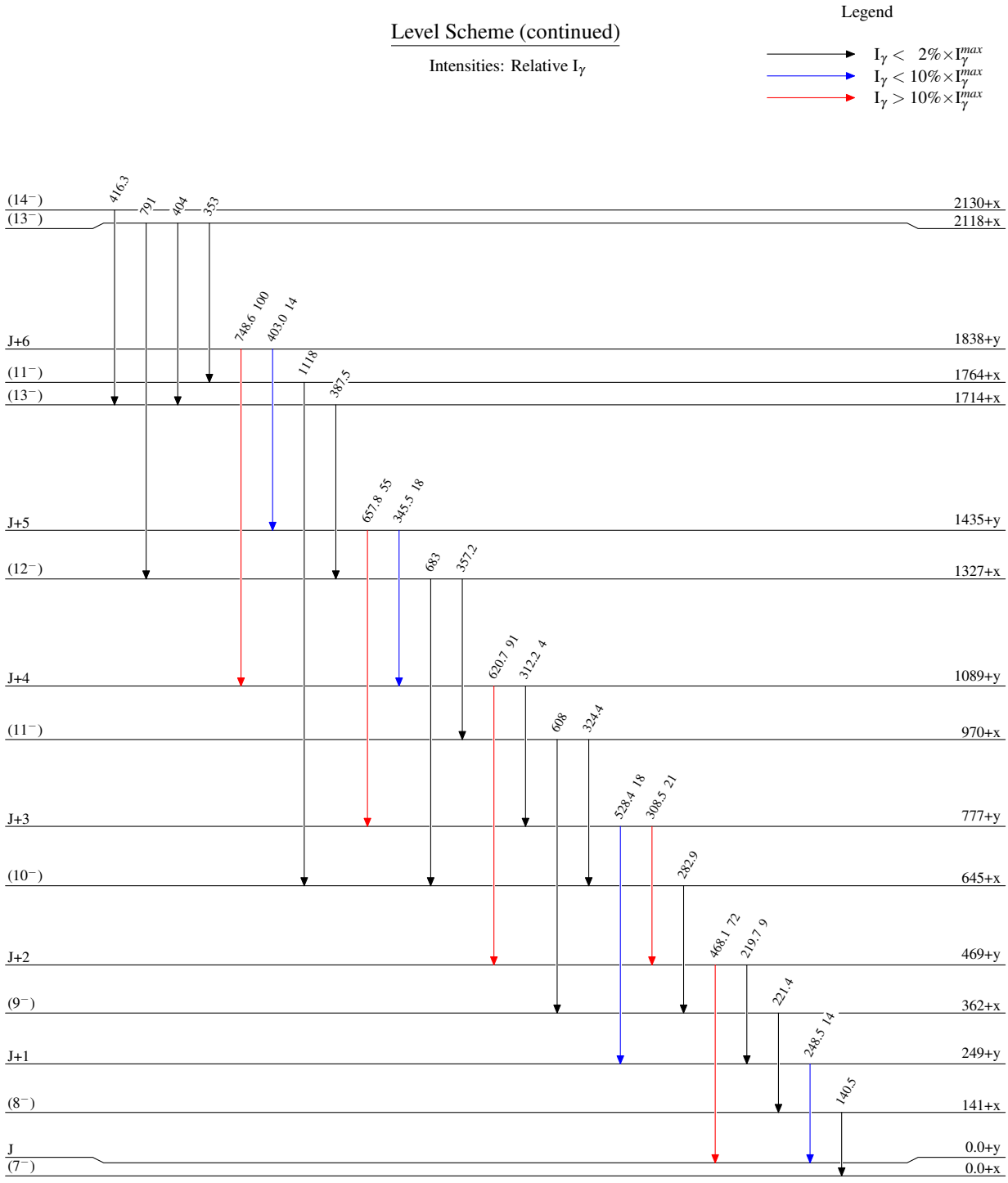


$^{116}_{53}I_{63}$

(HI,xnγ) 1990Wu01,1995Pa25

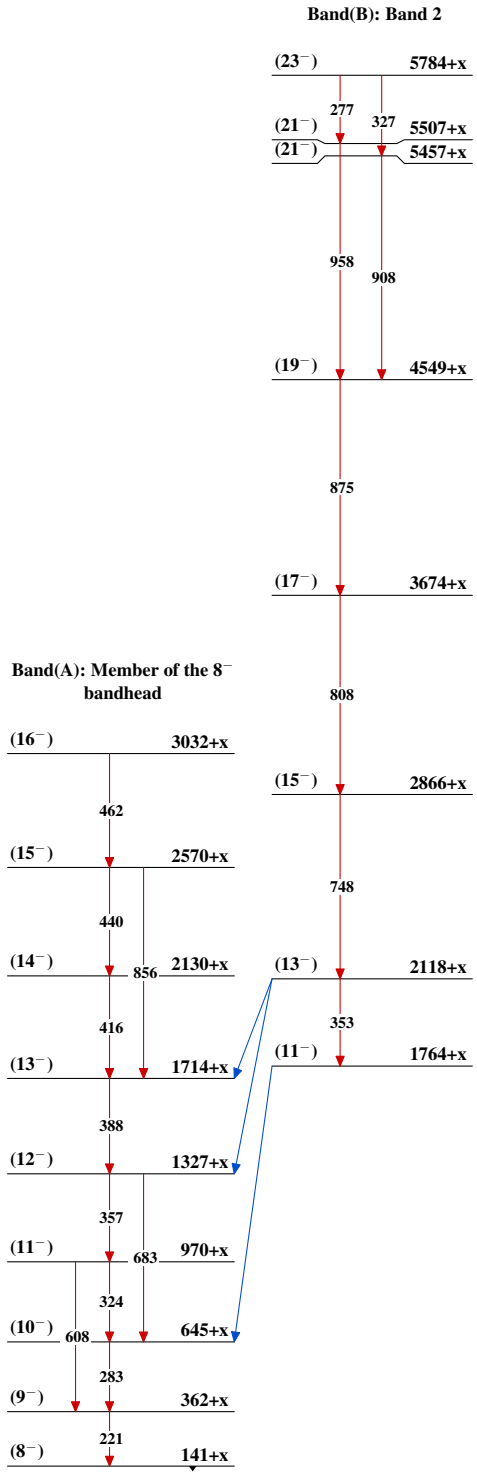
Level Scheme (continued)

Intensities: Relative I_γ



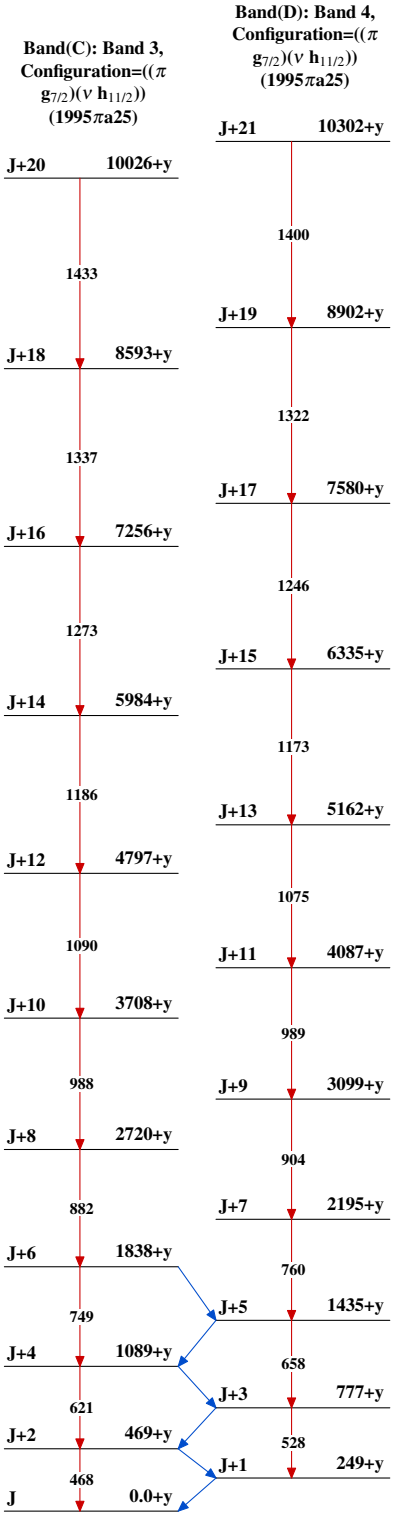
$^{116}_{53}I_{63}$

(HI,xnγ) 1990Wu01,1995Pa25



$^{116}_{53}I_{63}$

(HI,xnγ) 1990Wu01,1995Pa25 (continued)



$^{116}_{53}I_{63}$