(HI,xnγ) 2000Pa33,1996Pa13

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 113,2391 (2012)	1-Sep-2012

1996Pa13: ^{60}Ni(^{58}Ni,2pnγ) E=250 MeV, "TASCC" facility at Chalk River.
γγ with 8π spectrometer of 20 Compton-suppressed HPGe detectors plus a 71-element BGO inner-ball calorimeter.
2000Pa33: ^{60}Ni(^{58}Ni,2pnγ) E=212.3 MeV. Measured Eγ, and γγ using GAREL spectrometer consisting of 13 EUROGAM-type HPGe detectors and a single LEPS detector.
The energy of the 11/2$^-$ was not known by 1996Pa13. Only h11/2 Band was given by 1996Pa13 but 2000Pa33 show this band only to the 39/2$^-$.

^{115}Xe Levels

E(level)[†]	Jπ[‡]	Comments
0.0	(5/2$^+$)	Jπ: From Adopted Levels.
208.0[a] *9*	7/2$^+$	
220.0[&] *9*	5/2$^+$	
240.7[#] *22*	11/2$^-$	
569.0[&] *10*	9/2$^+$	
655.2[#] *22*	15/2$^-$	
709.0[a] *14*	11/2$^+$	
1125.0[&] *15*	13/2$^+$	
1284.0[a] *17*	15/2$^+$	
1289.9[#] *22*	19/2$^-$	
1548.2 *22*		
1725.0[&] *18*	17/2$^+$	
1944.0[a] *20*	19/2$^+$	
2057.2[#] *22*	23/2$^-$	
2263.7 *22*		E(level): Given only by 1996Pa13.
2329.1[@] *20*	21/2$^+$	
2397.0[&] *20*	21/2$^+$	
2543.7 *22*		
2681.0[a] *22*	23/2$^+$	
2893.2[@] *22*	25/2$^+$	
2911.1[#] *22*	27/2$^-$	
3029.1[&] *23*	25/2$^+$	
3470.2[@] *24*	29/2$^+$	
3829.7[#] *23*	31/2$^-$	
4193[@] *3*	33/2$^+$	
4781.9[#] *23*	35/2$^-$	
5083[@] *3*	37/2$^+$	
5724.3[#] *23*	39/2$^-$	
6103[@] *3*	41/2$^+$	
6731.1[#] *23*	(43/2$^-$)	
7752.1[#] *23*	(47/2$^-$)	
8835.9[#] *23*	(51/2$^-$)	
9973.2[#] *24*	(55/2$^-$)	
11182.6[#] *24*	(59/2$^-$)	

Continued on next page (footnotes at end of table)

(HI,xnγ) 2000Pa33,1996Pa13 (continued)

^{115}Xe Levels (continued)

† h11/2 band from 1996Pa13, others from 2000Pa33.
‡ As given by 2000Pa33, based on band structure combined. Levels above $39/2^-$ in h11/2 band are from 1996Pa13 with γ multipolarity deduced from DCO ratios.
# Band(A): $\nu h_{11/2}$ band, $\alpha=-1/2$.
@ Band(B): $\nu h_{11/2}\pi(h_{11/2}g_{7/2})$, $\alpha=+1/2$.
& Band(C): $\nu g_{7/2}$ band, $\alpha=+1/2$.
a Band(D): $\nu g_{7/2}$ band, $\alpha=-1/2$.

γ(^{115}Xe)

E_γ‡	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.†	Comments
208 *1*		208.0	$7/2^+$	0.0	$(5/2^+)$		
220 *1*		220.0	$5/2^+$	0.0	$(5/2^+)$		
349 *1*		569.0	$9/2^+$	220.0	$5/2^+$		
361 *1*		569.0	$9/2^+$	208.0	$7/2^+$		
414.6 *3*	100	655.2	$15/2^-$	240.7	$11/2^-$	E2	Mult.: DCO=1.03 *6*.
501 *1*		709.0	$11/2^+$	208.0	$7/2^+$		
556 *1*		1125.0	$13/2^+$	569.0	$9/2^+$		
564 *1*		2893.2	$25/2^+$	2329.1	$21/2^+$		
575 *1*		1284.0	$15/2^+$	709.0	$11/2^+$		
577 *1*		3470.2	$29/2^+$	2893.2	$25/2^+$		
600 *1*		1725.0	$17/2^+$	1125.0	$13/2^+$		
604 *1*		2329.1	$21/2^+$	1725.0	$17/2^+$		
632 *1*		3029.1	$25/2^+$	2397.0	$21/2^+$		
634.7 *3*	90 *9*	1289.9	$19/2^-$	655.2	$15/2^-$	E2	Mult.: DCO=0.96 *7*.
660 *1*		1944.0	$19/2^+$	1284.0	$15/2^+$		
672 *1*		2397.0	$21/2^+$	1725.0	$17/2^+$		
723 *1*		4193	$33/2^+$	3470.2	$29/2^+$		
737 *1*		2681.0	$23/2^+$	1944.0	$19/2^+$		
767.3 *3*	79 *8*	2057.2	$23/2^-$	1289.9	$19/2^-$	E2	Mult.: DCO=0.89 *7*.
836 *1*		2893.2	$25/2^+$	2057.2	$23/2^-$		
853.9 *3*	54 *5*	2911.1	$27/2^-$	2057.2	$23/2^-$	E2	Mult.: DCO=0.89 *7*.
890 *1*		5083	$37/2^+$	4193	$33/2^+$		
893.0 *3*	11 *1*	1548.2		655.2	$15/2^-$		
918.6 *3*	41 *4*	3829.7	$31/2^-$	2911.1	$27/2^-$	E2	Mult.: DCO=0.97 *7*.
942.4 *3*	19 *2*	5724.3	$39/2^-$	4781.9	$35/2^-$	E2	Mult.: DCO=1.03 *7*.
952.1 *3*	36 *3*	4781.9	$35/2^-$	3829.7	$31/2^-$	E2	Mult.: DCO=0.91 *8*.
973.7 *3*	17 *2*	2263.7		1289.9	$19/2^-$		
1006.8 *3*	17 *2*	6731.1	$(43/2^-)$	5724.3	$39/2^-$	E2	Mult.: DCO=1.10 *8*.
1020 *1*		6103	$41/2^+$	5083	$37/2^+$		
1021.0 *3*	15 *2*	7752.1	$(47/2^-)$	6731.1	$(43/2^-)$	E2	Mult.: DCO=1.09 *9*.
1039 *1*		2329.1	$21/2^+$	1289.9	$19/2^-$		
1083.8 *3*	14 *1*	8835.9	$(51/2^-)$	7752.1	$(47/2^-)$	E2	Mult.: DCO=0.94 *9*.
1137.3 *3*	13 *1*	9973.2	$(55/2^-)$	8835.9	$(51/2^-)$	E2	Mult.: DCO=0.99 *9*.
1209.4 *3*	7 *1*	11182.6	$(59/2^-)$	9973.2	$(55/2^-)$	(E2)	
1253.7 *3*	10 *1*	2543.7		1289.9	$19/2^-$		

† From DCO, member of stretched Q intraband γ cascade.
‡ Eγ with decimal place are from 1996Pa13, the next from 2000Pa33.

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Level Scheme

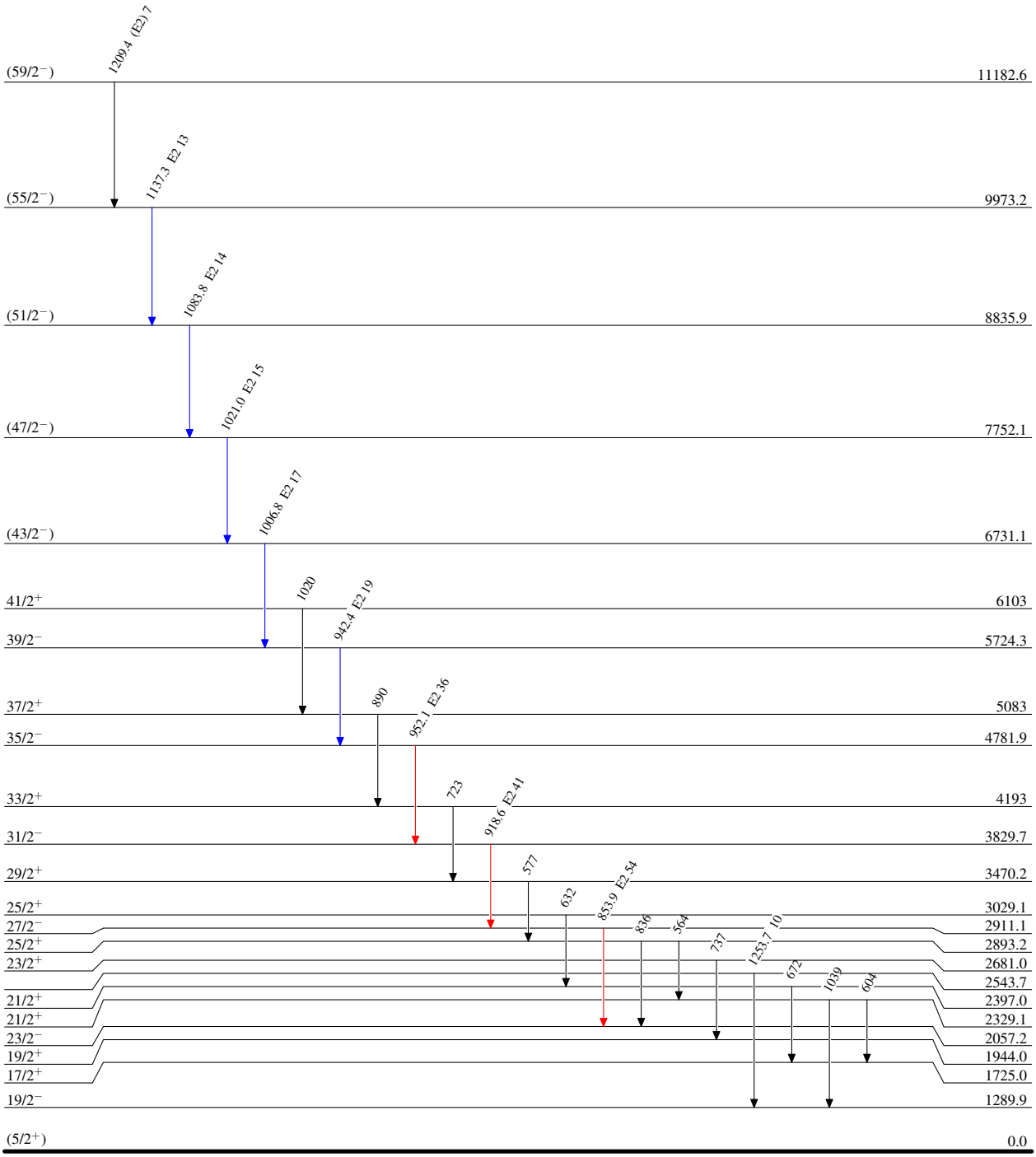
Intensities: Type not specified

Legend

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

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

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



$^{115}_{54}Xe_{61}$

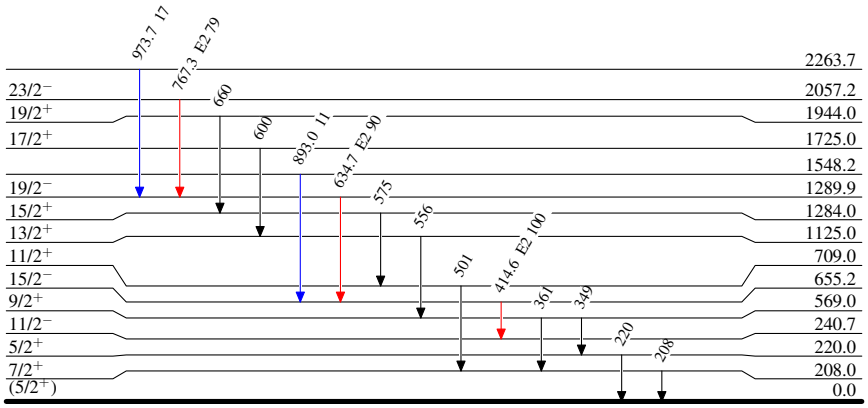
(HI,xnγ) 2000Pa33,1996Pa13

Level Scheme (continued)

Intensities: Type not specified

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$



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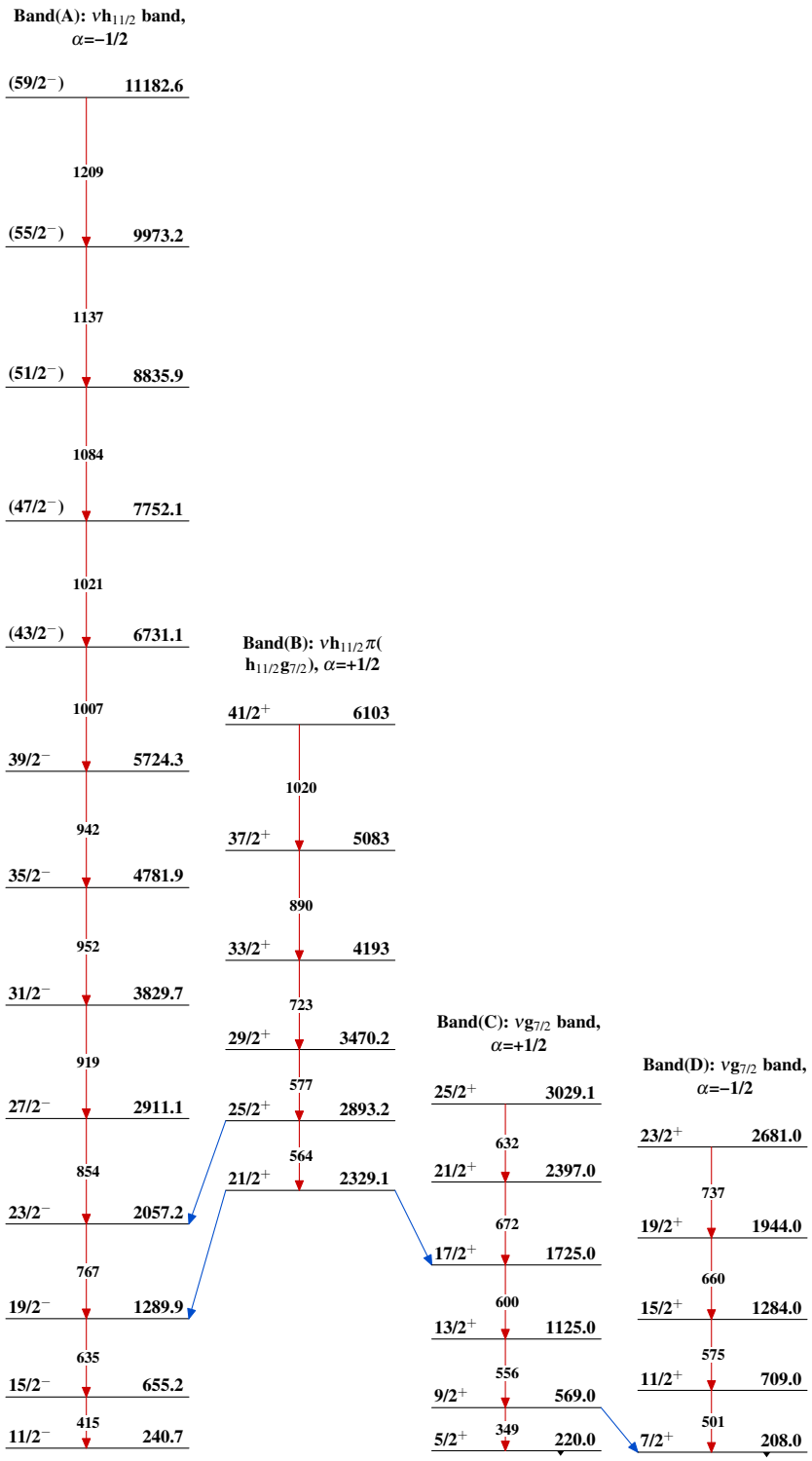

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