

(HI,xn γ) **1996Pa30,1992A117**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2006

1996Pa30: $^{58}\text{Ni}(^{58}\text{Ni},2p\alpha n\gamma)$ E= 261 MeV.

Measured: pny, $\gamma\gamma\gamma$, $\gamma\gamma n$, $\gamma\gamma(t)$, Nordball array with 15 Ge Compton suppressed, a neutron wall and a silicon ball.

1992A117: $^{46}\text{Ti}(^{58}\text{Ni},xn p\gamma)$ E= 231 MeV, $^{50}\text{Cr}(^{58}\text{Ni},xn p\gamma)$.

E= 231 MeV . Measured: pny, $\gamma\gamma\gamma$, $\gamma\gamma n$, $\gamma\gamma(t)$.

The level scheme is as given by **1996Pa30**.

 ^{101}Cd Levels

E(level)	J $^{\pi\dagger}$	T $_{1/2}$	E(level)	J $^{\pi\dagger}$	E(level)	J $^{\pi\dagger}$
0.0 \ddagger	(5/2 $^+$)		3062.3 $\#$ 2	(21/2)	5039.4 $@$ 2	(27/2,29/2)
252.0 \ddagger 1	(7/2 $^+$)		3398.5 \ddagger 2	(23/2 $^+$)	5128.2 \ddagger 3	(29/2)
891.1 $\#$ 1	(9/2 $^+$)		3561.1 $@$ 2	(23/2 $^+$)	5612.7 $\#$ 2	(29/2)
1143.7 \ddagger 1	(11/2 $^+$)		3657.3 2		6014.4 4	
1672.6 $\#$ 1	(13/2 $^+$)		3700.8 $\#$ 2	(23/2)	6077.4 $\#$ 2	(31/2)
1799.0 \ddagger 1	(15/2 $^+$)		3717.6 5		6105.0 $@$ 2	(31/2)
2127.7 2	(15/2 $^+$)		3739.5 \ddagger 2	(25/2 $^+$)	6131.0 2	
2284.8 \ddagger 2	(19/2 $^+$)	4.6 ns 4	3991.3 $\#$ 2	(25/2)	6262.8 \ddagger 3	(31/2)
2301.2 $\#$ 2	(17/2 $^+$)		4062.3 \ddagger 3	(27/2)	6363.2 $@$ 2	(33/2)
2404.1 2			4217.3 2		6531.9 \ddagger 4	(33/2)
2479.8 $\#$ 2	(19/2 $^+$)		4288.6 $@$ 2	(25/2 $^+$)	6824.8 \ddagger 4	(35/2)
2638.3 \ddagger 2	(21/2 $^+$)		4380.9 2		7099.6 \ddagger 4	(37/2)
2918.1 2			4504.2 $\#$ 2		7178.9 $@$ 2	(35/2)
3034.1 2			4687.9 3			

\dagger From **1996Pa30** based on syst and $\gamma(\text{Theta})$.

\ddagger Band(A): g.s. band.

$\#$ Band(B): band 2.

$@$ Band(C): band 3.

 $\gamma(^{101}\text{Cd})$

E $_{\gamma}$ $\#$	I $_{\gamma}$ $\#$	E $_i$ (level)	J $_i^{\pi}$	E $_f$	J $_f^{\pi}$
75.9 1	2.8 2	2479.8	(19/2 $^+$)	2404.1	
82.0 1	1.3 1	3739.5	(25/2 $^+$)	3657.3	
103.0 1	4.8 3	2404.1		2301.2 (17/2 $^+$)	
126.5 1	4.9 3	1799.0	(15/2 $^+$)	1672.6 (13/2 $^+$)	
157.1 1	1.5 1	2284.8	(19/2 $^+$)	2127.7 (15/2 $^+$)	
157.6 \ddagger 6	0.7 1	3717.6		3561.1 (23/2 $^+$)	
158.4 1	2.3 2	2638.3	(21/2 $^+$)	2479.8 (19/2 $^+$)	
178.2 3	0.3 1	3739.5	(25/2 $^+$)	3561.1 (23/2 $^+$)	
178.6 1	8.4 5	2479.8	(19/2 $^+$)	2301.2 (17/2 $^+$)	
250.2 \ddagger 9	2.8 4	1143.7	(11/2 $^+$)	891.1 (9/2 $^+$)	
252.0 \ddagger 1	100 3	252.0	(7/2 $^+$)	0.0 (5/2 $^+$)	
258.2 1	5.2 3	6363.2	(33/2)	6105.0 (31/2)	
258.8 1	2.1 2	3657.3		3398.5 (23/2 $^+$)	
269.1 1	2.4 1	6531.9	(33/2)	6262.8 (31/2)	

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(HI,xn γ) 1996Pa30,1992A117 (continued) $\gamma(^{101}\text{Cd})$ (continued)

E_γ #	I_γ #	E_i (level)	J_i^π	E_f	J_f^π	Mult. @	Comments
274.8 1	1.9 1	7099.6	(37/2)	6824.8	(35/2)		
290.4 1	5.6 3	3991.3	(25/2)	3700.8	(23/2)		
292.9 1	1.5 1	6824.8	(35/2)	6531.9	(33/2)		
\times 321 \dagger 1							E_γ : Deexciting a 2957 level in 1992A117, not seen by 1996Pa30.
322.5 2	28.2 14	4062.3	(27/2)	3739.5	(25/2 ⁺)		
328.7 1	2.9 2	2127.7	(15/2 ⁺)	1799.0	(15/2 ⁺)		
334.0 1	2.5 2	3991.3	(25/2)	3657.3			
\times 340 \dagger 1							E_γ : Deexciting a 3297 level in 1992A117, not seen by 1996Pa30.
341.1 1	23.7 12	3739.5	(25/2 ⁺)	3398.5	(23/2 ⁺)		
345.8 \ddagger 6	0.8 1	4062.3	(27/2)	3717.6			
353.4 \dagger 1	56 3	2638.3	(21/2 ⁺)	2284.8	(19/2 ⁺)		
395.7 1	3.3 2	3034.1		2638.3	(21/2 ⁺)		
464.7 1	2.4 2	6077.4	(31/2)	5612.7	(29/2)		
485.7 \dagger 1	72 4	2284.8	(19/2 ⁺)	1799.0	(15/2 ⁺)	(E2)	B(E2)(W.u.)=0.160 19
492.3 1	4.9 3	6105.0	(31/2)	5612.7	(29/2)		
502.4 1	3.9 8	2301.2	(17/2 ⁺)	1799.0	(15/2 ⁺)		
512.9 1	4.7 3	4504.2		3991.3	(25/2)		
528.8 1	6.1 4	1672.6	(13/2 ⁺)	1143.7	(11/2 ⁺)		
582.5 1	3.2 2	3062.3	(21/2)	2479.8	(19/2 ⁺)		
592.7 1	3.8 2	3991.3	(25/2)	3398.5	(23/2 ⁺)		
625.6 1	5.1 4	4687.9		4062.3	(27/2)		
628.5 1	9.2 6	2301.2	(17/2 ⁺)	1672.6	(13/2 ⁺)		
633.3 1	1.5 2	2918.1		2284.8	(19/2 ⁺)		
638.5 1	7.3 5	3700.8	(23/2)	3062.3	(21/2)		
639.2 1	7.6 7	891.1	(9/2 ⁺)	252.0	(7/2 ⁺)		
641.4 1	3.6 3	4380.9		3739.5	(25/2 ⁺)		
655.3 \dagger 1	87 4	1799.0	(15/2 ⁺)	1143.7	(11/2 ⁺)	(E2)	
679.0 \ddagger 9	1.2 1	3739.5	(25/2 ⁺)	3062.3	(21/2)		
726.8 \ddagger 6	1.6 1	4288.6	(25/2 ⁺)	3561.1	(23/2 ⁺)		
750.8 1	5.1 3	5039.4	(27/2,29/2)	4288.6	(25/2 ⁺)		
760.2 1	25.1 13	3398.5	(23/2 ⁺)	2638.3	(21/2 ⁺)		
777.5 1	10.6 6	3062.3	(21/2)	2284.8	(19/2 ⁺)		
781.6 1	13.9 9	1672.6	(13/2 ⁺)	891.1	(9/2 ⁺)		
815.7 1	4.8 3	7178.9	(35/2)	6363.2	(33/2)		
891.1 1	14.1 16	891.1	(9/2 ⁺)	0.0	(5/2 ⁺)		
891.6 \dagger 1	103 5	1143.7	(11/2 ⁺)	252.0	(7/2 ⁺)	(E2)	
918.8 1	4.6 3	3398.5	(23/2 ⁺)	2479.8	(19/2 ⁺)		
922.8 1	4.4 3	3561.1	(23/2 ⁺)	2638.3	(21/2 ⁺)		
928.3 \ddagger 6	4.4 3	3991.3	(25/2)	3062.3	(21/2)		
984.1 2	3.0 5	2127.7	(15/2 ⁺)	1143.7	(11/2 ⁺)		
1019.0 1	4.7 3	3657.3		2638.3	(21/2 ⁺)		
1065.5 1	5.8 4	6105.0	(31/2)	5039.4	(27/2,29/2)		
1065.9 1	4.7 3	5128.2	(29/2)	4062.3	(27/2)		
1074.1 2	1.2 2	7178.9	(35/2)	6105.0	(31/2)		
1101.2 1	13.8 8	3739.5	(25/2 ⁺)	2638.3	(21/2 ⁺)		
1108.5 1	2.2 2	5612.7	(29/2)	4504.2			
1134.6 1	4.5 3	6262.8	(31/2)	5128.2	(29/2)		
1183.3 1	2.8 2	4217.3		3034.1			
1417.1 2	1.3 2	6105.0	(31/2)	4687.9			
1551.0 \ddagger 6	2.0 1	5612.7	(29/2)	4062.3	(27/2)		
1621.4 2	1.8 2	5612.7	(29/2)	3991.3	(25/2)		

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(HI,xn γ) [1996Pa30,1992A117](#) (continued)

$\gamma(^{101}\text{Cd})$ (continued)

<u>E_γ</u> [#]	<u>I_γ</u> [#]	<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>
1650.3 1	1.6 1	4288.6	(25/2 ⁺)	2638.3	(21/2 ⁺)
1750.1 1	3.6 2	6131.0		4380.9	
1952.1 2	0.9 1	6014.4		4062.3	(27/2)

† Already given by [1992A117](#).

‡ The uncertainty have been increased by evaluator to get a good fit.

From [1996Pa30](#) 2.

@ From the ratio of the intensity γ lines at two angles.

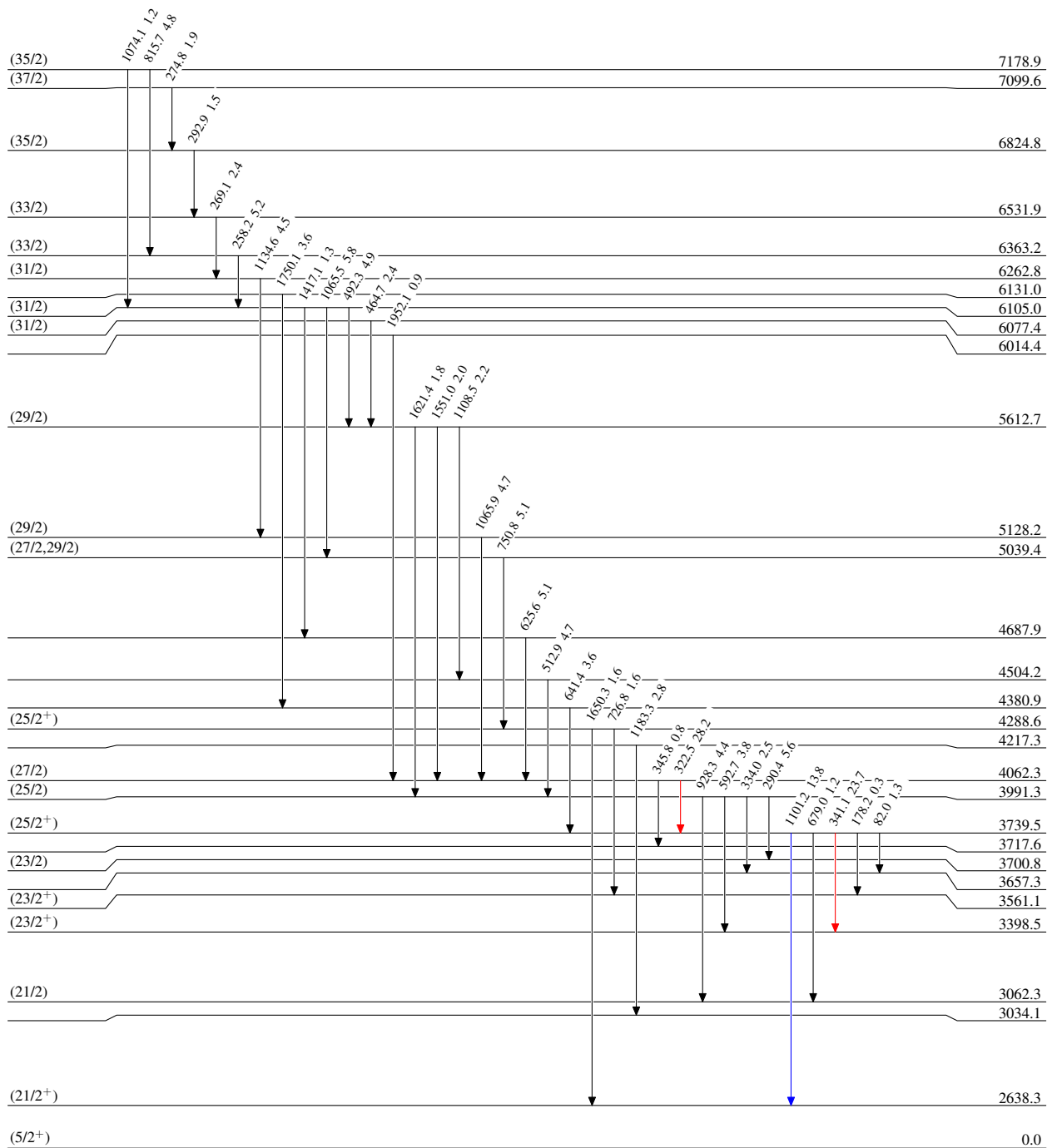
^x γ ray not placed in level scheme.

(HI,xn γ) 1996Pa30,1992A117

Level Scheme
Intensities: Relative I_{γ}

Legend

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

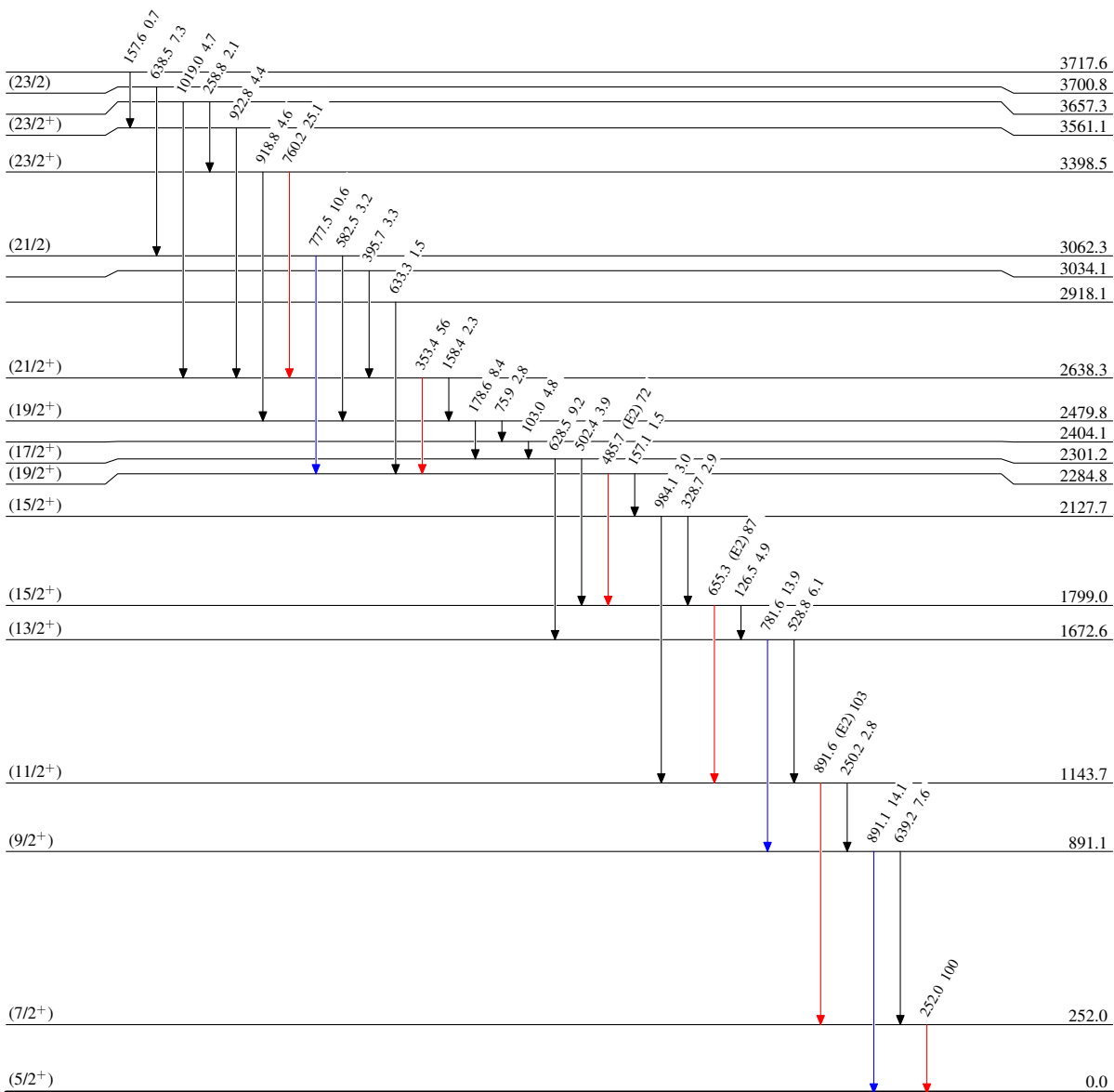


$^{101}_{48}\text{Cd}_{53}$

(HI,xn γ) 1996Pa30,1992A117**Level Scheme (continued)**Intensities: Relative I_{γ}

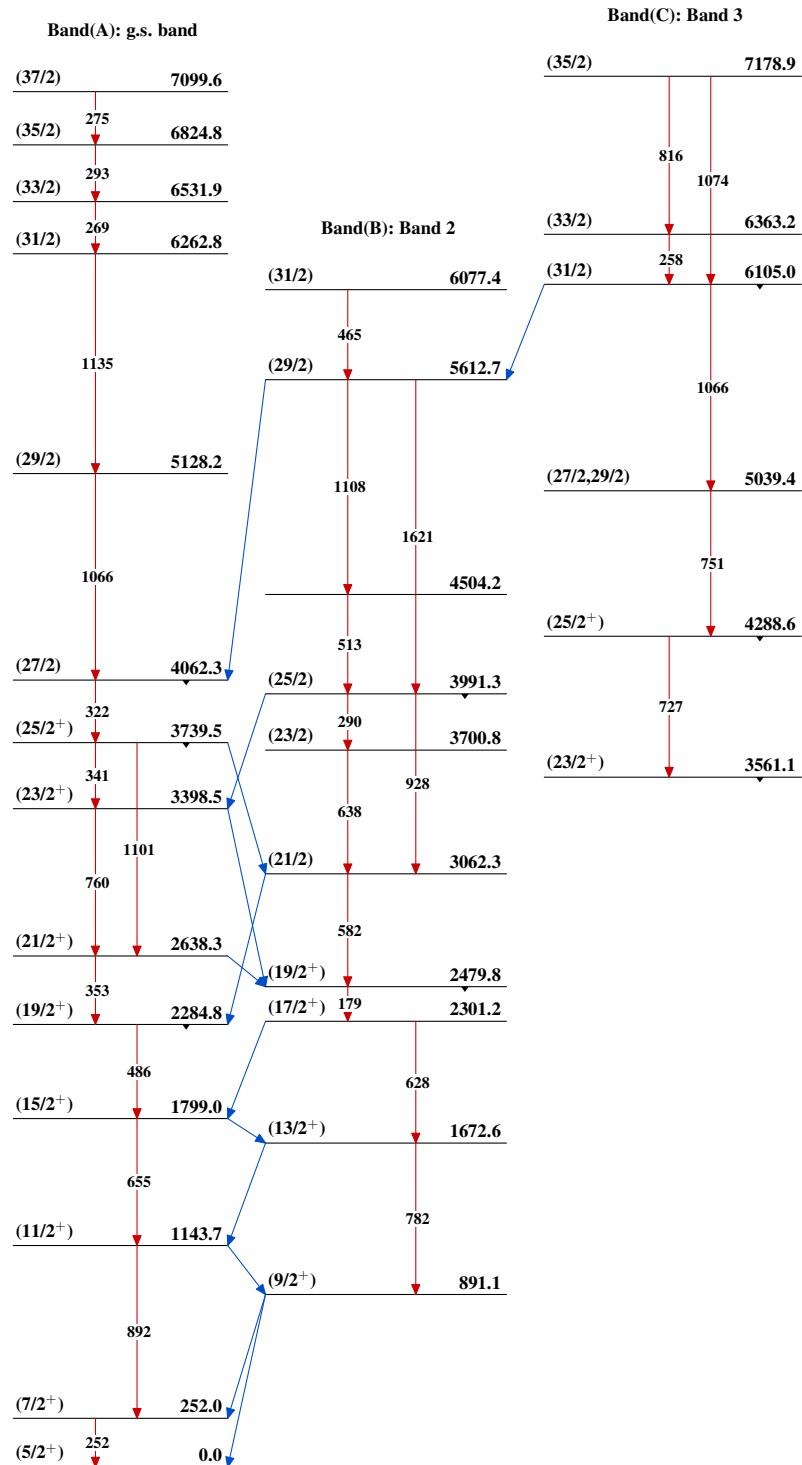
Legend

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



4.6 ns 4

 $^{101}_{48}\text{Cd}_{53}$

(HI,xn γ) 1996Pa30,1992A117 $^{101}_{48}\text{Cd}_{53}$