(HI,xnγ) 2015Ra02,2011Ki17,2010Ch54

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, J. Timar and Z. Elekes	NDS 161, 1 (2019)	1-Apr-2019

2015Ra02: Facility: TIFR, Mumbay′s 14 UD Pelletron accelerator; Beam: E(^{16}O)=75 MeV; Target: 1 mg/cm^2 thick ^{92}Mo on 10 mg/cm^2 Au backing; Detectors: INGA array, comprising 15 Compton-supressed Ge clover detectors; Measured: γ, γ-γ coinc., Eγ, Iγ, γ-$\gamma(\theta)$ coinc., linear polarization Pol from IPDCO; Deduced: ^{105}Cd level scheme, J^π.

2011Ki17: Facility: NIPNE Tandem accelearor; Beam: E(^{12}C)=50 MeV; Target: 10 mg/cm^2 thick, enriched to 95.7% in ^{96}Mo; Detectors: ROSPHERE, comprising five $LaBr_3$:Ce scintillator detectors and eight HPGe; Measured: γ-γ-γ coinc., Eγ, Iγ, γ-γ-γ(t); Deduced: ^{105}Cd level scheme, $T_{1/2}$; Also, from the same collaboration: 2011KiZZ.

2010Ch54: Facility: IUAC, New Delhi′s 15-UD Pelletron accelerator; Beam: E(^{16}O)=93 MeV; Target: 1.35 mg/cm^2 thick, enriched in ^{94}Zr and backed with 8.86 mg/cm^2 Au; Detectors: INGA, comprising 14 Compton- supressed HPGe clover detectors; Measured: γ-γ coinc., Eγ, Iγ, γ(t), and γ-$\gamma(\theta)$; Deduced: ^{105}Cd level scheme. $T_{1/2}$ from DSAM measurements. R_{DCO}.

1978St01: Facility: Purdue FN tandem Van de Graaf accelerator; Beam: E(^{16}O)=59 MeV; Target:≈3.6 mg/cm^2 thick, isotopically enriched in ^{104}Zr; Detectors: two Ge(Li) in coinc.; Measured: γ-$\gamma(\theta)$, γ- linear polarization Pol_{exp} and Pol_{ad}, deduced from the angular distribution measurements.

Others: 1993Re13.

^{105}Cd Levels

E(level)[†]	J^π[‡]	$T_{1/2}$[#]	Comments
0.0	5/2$^+$		
130.9[@] *7*	7/2$^+$	1.66 ns *12*	$T_{1/2}$: from the slope of 886γ-668γ-131γ(t) in 2011Ki17. configuration: $\nu g^1_{7/2}$ (2011Ki17).
260.2 *8*	(7/2)$^+$		J^π: Others: 9/2$^+$ in 2015Ra02 does not fit to γ-ray multipolarity; 5/2$^+$ in 1978St01. configuration: $\nu d^1_{5/2} x 2^+_1$ (2011Ki17).
603.7 *7*	(7/2)$^+$		
770.4[&] *6*	9/2$^+$		
799.0[@] *9*	11/2$^+$		
831.8 *7*	9/2$^+$		
1162.6[a] *8*	(11/2)$^-$	149 ps *12*	$T_{1/2}$: from 786γ-539γ-392γ(t) and centroid shift method in 2011Ki17.
1577.7[&] *9*	(13/2)$^+$		
1684.7[@] *11*	15/2$^+$		
1701.8[a] *12*	(15/2)$^-$		
2389.7[&] *12*	(17/2)$^+$		
2488.1[a] *14*	(19/2)$^-$		
2515.7[&] *15*	(21/2$^+$)		
2586.7[@] *15*	(19/2)$^+$		
2977.5[b] *13*	17/2$^+$		
3342.9[a] *15*	(23/2)$^-$		
3384.2[b] *14*	21/2$^+$		
3620.7[@] *18*	(23/2$^+$)		
3774.1[c] *16*	23/2$^-$		
4098.3 *16*			
4193.2[b] *16*	25/2$^+$		
4248.0[a] *16*	(27/2$^-$)	0.74 ps *+10−7*	
4524.5 *17*			
4600.1[c] *17*	27/2$^-$		
4807.7[@] *21*	(27/2$^+$)		
5010.7 *17*			
5187.2[b] *19*	29/2$^+$		

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(HI,xnγ) 2015Ra02,2011Ki17,2010Ch54 (continued)

^{105}Cd Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	E(level)[†]	Jπ[‡]	$T_{1/2}$[#]
5257.1[d] *17*	27/2⁻		7506.2[b] *24*	(37/2⁺)	
5291.6[a] *18*	(31/2)⁻	0.43 ps *6*	7644.7[e] *19*	(37/2⁻)	
5658.2[c] *17*	31/2⁻		7802.0[a] *21*	(39/2⁻)	0.143 ps *+21−20*
5758.3[e] *18*	(29/2⁻)		8110.2 *20*		
6235.1[d] *20*	31/2⁻		8434.2 *20*		
6294.2[b] *21*	33/2⁺		8546.1[d] *24*	39/2⁻	
6471.0[a] *19*	(35/2)⁻	0.277 ps *+31−21*	8638.2 *20*		
6645.5[e] *18*	(33/2⁻)		8758.7[e] *22*	(41/2⁻)	
6703.4 *20*			9267.0[a] *23*	(43/2⁻)	0.164 ps *+32−34*
6783.4[c] *18*	(35/2⁻)		9976[d] *3*	(43/2⁻)	
7297.4 *20*			10072.8[e] *24*	(45/2⁻)	
7313.1[d] *22*	35/2⁻		10851[a] *3*	(47/2⁻)	
7447.4 *20*					

† From a least-squares fit to Eγ, assuming ΔE=1 keV.
‡ From the Adopted Levels.
\# From DSAM in 2010Ch54, unless otherwise noted.
@ Band(A): Band based on 7/2⁺.
& Band(a): Band based on 9/2⁺.
a Band(B): Band based on 11/2⁻.
b Band(C): Band based on 17/2⁺.
c Band(D): Band based on 23/2⁻.
d Band(E): Band based on 27/2⁻.
e Band(F): Band based on 29/2⁻.

γ(^{105}Cd)

Eγ[‡]	Iγ[‡]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	δ[@]	α[†]	Comments
126	14.5 *7*	2515.7	(21/2⁺)	2389.7	(17/2)⁺	Q			Mult.: R_{DCO}=0.97 *3* (2015Ra02).
131	97 *8*	130.9	7/2⁺	0.0	5/2⁺	M1		0.218	α(K)=0.189 *3*; α(L)=0.0235 *4*; α(M)=0.00452 *7*; α(N+..)=0.000852 *12* α(N)=0.000806 *12*; α(O)=4.61×10⁻⁵ *7* Mult.: R_{DCO}=0.56 *3* (2015Ra02).
167[&]		770.4	9/2⁺	603.7	(7/2)⁺				
228	4.6 *11*	831.8	9/2⁺	603.7	(7/2)⁺	D			Mult.: R_{DCO}=0.55 *4* (2015Ra02).
260	12.2 *10*	260.2	(7/2)⁺	0.0	5/2⁺	M1+E2	+0.07 *9*	0.0346 *6*	α(K)=0.0300 *5*; α(L)=0.00368 *8*; α(M)=0.000706 *16*; α(N+..)=0.000133 *3* α(N)=0.000126 *3*; α(O)=7.28×10⁻⁶ *11* α(N)=0.000226 *4*; α(O)=9.42×10⁻⁶ *14* Mult.: from the adopted gammas; Also, R_{DCO}=0.61 *7* (2015Ra02); A_{22}=0.176 *10*, A_{44}=0.000 *13* (1978St01) and Pol_{exp}/Pol_{ad}=0.56 *38* (1978St01).

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(HI,xnγ) 2015Ra02,2011Ki17,2010Ch54 (continued)

γ(^{105}Cd) (continued)

E_γ[‡]	I_γ[‡]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	δ[@]	α[†]	Comments
331	44.5 *3*	1162.6	(11/2)⁻	831.8	9/2⁺	E1		0.00596 *9*	α=0.00596 *9*; α(K)=0.00521 *8*; α(L)=0.000618 *9*; α(M)=0.0001181 *17*; α(N+..)=2.21×10^{-5} *3* α(N)=2.09×10^{-5} *3*; α(O)=1.166×10^{-6} *17* Mult.: R_{DCO}=1.29 *10* (2015Ra02); Pol=+0.07 *3* (2015Ra02). Also, A_{22}=−0.251 *9*; A_{44}=0.024 *9* (1978St01); Pol_{exp}/Pol_{ad}=−0.97 *25* (1978St01).
363	1.6 *3*	1162.6	(11/2)⁻	799.0	11/2⁺	D[a]			Mult.: R_{DCO}=0.61 *7* (2015Ra02).
392	40.2 *4*	1162.6	(11/2)⁻	770.4	9/2⁺	E1(+M2)	0.033 *12*	0.00391 *7*	α=0.00391 *7*; α(K)=0.00341 *6*; α(L)=0.000405 *8*; α(M)=7.73×10^{-5} *14*; α(N+..)=1.45×10^{-5} *3* α(N)=1.371×10^{-5} *25*; α(O)=7.72×10^{-7} *14* Mult.: R_{DCO}=0.55 *3* (2015Ra02); Pol=+0.07 *3* (2015Ra02). Also, A_{22}=−0.239 *12*; A_{44}=0.025 *13* (1978St01); Pol_{exp}/Pol_{ad}=−1.08 *22* (1978St01).
407	10.8 *3*	3384.2	21/2⁺	2977.5	17/2⁺	E2		0.01228	α(K)=0.01052 *15*; α(L)=0.001432 *20*; α(M)=0.000276 *4*; α(N+..)=5.08×10^{-5} *8* α(N)=4.84×10^{-5} *7*; α(O)=2.35×10^{-6} *4* Mult.: R_{DCO}=0.97 *6* (2015Ra02); Pol=+0.02 *7* (2015Ra02).
426	2.7 *3*	4524.5		4098.3					
486	2.0 *7*	5010.7		4524.5					
510	14.4 *6*	770.4	9/2⁺	260.2	(7/2)⁺	D[a]			Mult.: R_{DCO}=1.08 *9* (2015Ra02).
539	100	1701.8	(15/2)⁻	1162.6	(11/2)⁻	E2		0.00538 *8*	α=0.00538 *8*; α(K)=0.00464 *7*; α(L)=0.000601 *9*; α(M)=0.0001156 *17*; α(N+..)=2.14×10^{-5} *3* α(N)=2.04×10^{-5} *3*; α(O)=1.059×10^{-6} *15* Pol=+0.13 *2* (2015Ra02). Also, A_{22}=0.281 *8*; A_{44}=−0.097 *10* (1978St01); Pol_{exp}/Pol_{ad}=0.87 *10* (1978St01).
604	3.5 *5*	603.7	(7/2)⁺	0.0	5/2⁺	M1+E2	−0.9 *5*	0.00410 *11*	α=0.00410 *11*; α(K)=0.00356 *11*; α(L)=0.000436 *7*; α(M)=8.37×10^{-5} *13*; α(N+..)=1.57×10^{-5} *3* α(N)=1.488×10^{-5} *24*; α(O)=8.4×10^{-7} *4* Mult.: R_{DCO}=0.62 *14*

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(HI,xnγ) 2015Ra02,2011Ki17,2010Ch54 (continued)

γ(^{105}Cd) (continued)

E_γ‡	I_γ‡	E_i(level)	J^π_i	E_f	J^π_f	Mult.#	δ@	α†	Comments
									(2015Ra02); Pol=−0.004 *8* (2015Ra02). Also, A_{22}=−0.704 *29*; A_{44}=0.17 *4* (1978St01); Pol_{exp}/Pol_{ad}=0.9 *11* (1978St01).
639	20.4 *6*	770.4	9/2$^+$	130.9	7/2$^+$	M1+E2	−4.3 *6*	0.00340 *5*	α=0.00340 *5*; α(K)=0.00295 *5*; α(L)=0.000371 *6*; α(M)=7.12×10^{-5} *10*; α(N+..)=1.328×10^{-5} *19* α(N)=1.260×10^{-5} *18*; α(O)=6.80×10^{-7} *10* Mult.: R_{DCO}=0.52 *3* (2015Ra02); Pol=−0.03 *3* (2015Ra02). Also, A_{22}=−0.185 *12*; A_{44}=0.139 *18* (1978St01); Pol_{exp}/Pol_{ad}=0.63 *38* (1978St01).
668	66.4 *12*	799.0	11/2$^+$	130.9	7/2$^+$	E2		0.00301 *5*	α=0.00301 *5*; α(K)=0.00261 *4*; α(L)=0.000328 *5*; α(M)=6.30×10^{-5} *9*; α(N+..)=1.174×10^{-5} *17* α(N)=1.114×10^{-5} *16*; α(O)=6.02×10^{-7} *9* Mult.: R_{DCO}=0.98 *4* (2015Ra02); Pol=+0.12 *3* (2015Ra02); Also, A_{22}= 0.212 *10*; A_{44}=−0.041 *14* (1978St01); Pol_{exp}/Pol_{ad}=1.17 *19* (1978St01).
701	4.8 *4*	831.8	9/2$^+$	130.9	7/2$^+$	M1+E2	2.0 *4*	0.00273 *5*	α=0.00273 *5*; α(K)=0.00237 *4*; α(L)=0.000292 *5*; α(M)=5.61×10^{-5} *9*; α(N+..)=1.050×10^{-5} *17* α(N)=9.95×10^{-6} *16*; α(O)=5.51×10^{-7} *11* Mult.: R_{DCO}=0.65 *11* (2015Ra02). Also, A_{22}=−0.50 *5*; A_{44}=0.13 *8* (1978St01); Pol_{exp}/Pol_{ad}=1.7 *8* (1978St01).
705	18.3 *6*	2389.7	(17/2)$^+$	1684.7	15/2$^+$	M1		0.00294 *5*	α=0.00294 *5*; α(K)=0.00257 *4*; α(L)=0.000304 *5*; α(M)=5.83×10^{-5} *9*; α(N+..)=1.103×10^{-5} *16* α(N)=1.042×10^{-5} *15*; α(O)=6.15×10^{-7} *9* Mult.: R_{DCO}=0.59 *7* (2015Ra02); Pol=−0.03 *4* (2015Ra02). Also, A_{22}=−0.12 *4*; A_{44}=0.05 *5* (1978St01); Pol_{exp}/Pol_{ad}=1.0 *15* (1978St01).
770	12.5 *7*	770.4	9/2$^+$	0.0	5/2$^+$	E2		0.00210 *3*	α=0.00210 *3*; α(K)=0.00183 *3*; α(L)=0.000226 *4*; α(M)=4.33×10^{-5} *6*; α(N+..)=8.10×10^{-6} *12* α(N)=7.67×10^{-6} *11*; α(O)=4.23×10^{-7} *6* Mult.: R_{DCO}=1.11 *5* (2015Ra02). Also, A_{22}=0.190 *32*; A_{44}=−0.06 *4* (1978St01); Pol_{exp}/Pol_{ad}=1.0 *7* (1978St01).
779	4.7 *4*	1577.7	(13/2)$^+$	799.0	11/2$^+$	D			Mult.: R_{DCO}=0.63 *7* (2015Ra02).
786	84.5 *7*	2488.1	(19/2)$^-$	1701.8	(15/2)$^-$	E2		0.00200 *3*	α=0.00200 *3*; α(K)=0.001738 *25*; α(L)=0.000214 *3*; α(M)=4.11×10^{-5} *6*; α(N+..)=7.69×10^{-6} *11* α(N)=7.28×10^{-6} *11*; α(O)=4.03×10^{-7} *6* Mult.: R_{DCO}=0.98 *3* (2015Ra02); Pol=+0.07 *3* (2015Ra02).

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(HI,xnγ) 2015Ra02,2011Ki17,2010Ch54 (continued)

γ(^{105}Cd) (continued)

E_γ ‡	I_γ ‡	E_i(level)	J^π_i	E_f	J^π_f	Mult.#	α†	Comments
								Also, A_{22}=0.277 *10*; A_{44}=−0.106 *13* (1978St01); Pol_{exp}/Pol_{ad}=0.99 *20* (1978St01).
807	20.1 *11*	1577.7	(13/2)$^+$	770.4	9/2$^+$	E2	0.00188 *3*	α=0.00188 *3*; α(K)=0.001631 *23*; α(L)=0.000200 *3*; α(M)=3.84×10^{-5} *6*; α(N+..)=7.19×10^{-6} *10* α(N)=6.82×10^{-6} *10*; α(O)=3.78×10^{-7} *6* Mult.: R_{DCO}=0.99 *3* (2015Ra02); Pol=+0.04 *4* (2015Ra02). Also, A_{22}=0.155 *18*; A_{44}=−0.065 *25* (1978St01); Pol_{exp}/Pol_{ad}=1.4 *6* (1978St01).
809	9.3 *11*	4193.2	25/2$^+$	3384.2	21/2$^+$	E2	0.00187 *3*	α=0.00187 *3*; α(K)=0.001621 *23*; α(L)=0.000199 *3*; α(M)=3.82×10^{-5} *6*; α(N+..)=7.15×10^{-6} *10* α(N)=6.77×10^{-6} *10*; α(O)=3.76×10^{-7} *6* Mult.: R_{DCO}=0.97 *7* (2015Ra02); Pol=+0.05 *4* (2015Ra02).
812	16.5 *7*	2389.7	(17/2)$^+$	1577.7	(13/2)$^+$	E2	0.00185 *3*	α=0.00185 *3*; α(K)=0.001607 *23*; α(L)=0.000197 *3*; α(M)=3.78×10^{-5} *6*; α(N+..)=7.08×10^{-6} *10* α(N)=6.71×10^{-6} *10*; α(O)=3.73×10^{-7} *6* Mult.: R_{DCO}=1.19 *11* (2015Ra02); Also, A_{22}=0.128 *22*; A_{44}=−0.005 *31* (1978St01); Pol_{exp}/Pol_{ad}=2.0 *7* (1978St01).
826	5.0 *4*	4600.1	27/2$^-$	3774.1	23/2$^-$	Q		Mult.: R_{DCO}=0.91 *6* (2015Ra02).
832	31.5 *6*	831.8	9/2$^+$	0.0	5/2$^+$	E2	0.001744 *25*	α=0.001744 *25*; α(K)=0.001516 *22*; α(L)=0.000186 *3*; α(M)=3.56×10^{-5} *5*; α(N+..)=6.67×10^{-6} *10* α(N)=6.32×10^{-6} *9*; α(O)=3.52×10^{-7} *5* Mult.: R_{DCO}=0.97 *6* (2015Ra02); Pol=+0.09 *4* (2015Ra02). Also, A_{22}=0.267 *12*; A_{44}=−0.088 *17* (1978St01); Pol_{exp}/Pol_{ad}=0.92 *32* (1978St01).
855	48.6 *15*	3342.9	(23/2)$^-$	2488.1	(19/2)$^-$	E2	0.001635 *23*	α=0.001635 *23*; α(K)=0.001422 *20*; α(L)=0.0001736 *25*; α(M)=3.33×10^{-5} *5*; α(N+..)=6.24×10^{-6} α(N)=5.91×10^{-6} *9*; α(O)=3.30×10^{-7} *5* Mult.: R_{DCO}=0.95 *5* (2015Ra02); Pol=+0.10 *3* (2015Ra02). Also, A_{22}=0.331 *16*; A_{44}=−0.113 *23* (1978St01); Pol_{exp}/Pol_{ad}=0.43 *25* (1978St01).
886	32.7 *8*	1684.7	15/2$^+$	799.0	11/2$^+$	E2	0.001504 *21*	α=0.001504 *21*; α(K)=0.001308 *19*; α(L)=0.0001592 *23*; α(M)=3.05×10^{-5} *5*; α(N+..)=5.72×10^{-6} α(N)=5.42×10^{-6} *8*; α(O)=3.04×10^{-7} *5* Mult.: R_{DCO}=0.96 *6* (2015Ra02); Pol=+0.13 *3* (2015Ra02). Also, A_{22}=0.231 *16*; A_{44}=−0.042 *26* (1978St01); Pol_{exp}/Pol_{ad}=1.36 *30* (1978St01).
887	2.1 *4*	6645.5	(33/2$^-$)	5758.3	(29/2$^-$)	(Q)		
896	7.1 *8*	3384.2	21/2$^+$	2488.1	(19/2)$^-$	E1	0.000601 *9*	α=0.000601 *9*; α(K)=0.000526 *8*; α(L)=6.10×10^{-5} *9*; α(M)=1.163×10^{-5} *17*;

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(HI,xnγ) 2015Ra02,2011Ki17,2010Ch54 (continued)

γ(^{105}Cd) (continued)

E_γ[‡]	I_γ[‡]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	α[†]	Comments
								α(N+..)=2.19×10^{-6} *3* α(N)=2.07×10^{-6} *3*; α(O)=1.212×10^{-7} *17* Mult.: R_{DCO}=0.49 *7* (2015Ra02).
902	12.0 *4*	2586.7	(19/2)$^+$	1684.7	15/2$^+$	E2	0.001442 *21*	α=0.001442 *21*; α(K)=0.001255 *18*; α(L)=0.0001524 *22*; α(M)=2.92×10^{-5} *4*; α(N+..)=5.48×10^{-6} α(N)=5.19×10^{-6} *8*; α(O)=2.92×10^{-7} *4* Mult.: R_{DCO}=0.97 *8* (2015Ra02); Pol=+0.08 *2* (2015Ra02).
905	36.0 *6*	4248.0	(27/2$^-$)	3342.9	(23/2)$^-$	E2	0.001431 *20*	α=0.001431 *20*; α(K)=0.001246 *18*; α(L)=0.0001512 *22*; α(M)=2.90×10^{-5} *4*; α(N+..)=5.44×10^{-6} α(N)=5.15×10^{-6} *8*; α(O)=2.90×10^{-7} *4* Mult.: R_{DCO}=0.96 *5* (2015Ra02); Pol=+0.04 *2* (2015Ra02). Also, A_{22}=0.185 *29*; A_{44}=−0.03 *4* (1978St01); Pol_{exp}/Pol_{ad}=1.2 *7* (1978St01).
978	3.5 *4*	6235.1	31/2$^-$	5257.1	27/2$^-$	E2	0.001199 *17*	α=0.001199 *17*; α(K)=0.001044 *15*; α(L)=0.0001259 *18*; α(M)=2.41×10^{-5} *4*; α(N+..)=4.53×10^{-6} α(N)=4.29×10^{-6} *6*; α(O)=2.43×10^{-7} *4* Mult.: R_{DCO}=0.96 *12* (2015Ra02); Pol=+0.07 *4* (2015Ra02).
987	<1	8434.2		7447.4				
994	4.6 *7*	5187.2	29/2$^+$	4193.2	25/2$^+$	E2	0.001156 *17*	α=0.001156 *17*; α(K)=0.001007 *14*; α(L)=0.0001213 *17*; α(M)=2.32×10^{-5} *4*; α(N+..)=4.36×10^{-6} α(N)=4.13×10^{-6} *6*; α(O)=2.35×10^{-7} *4* Mult.: R_{DCO}=0.98 *2* (2015Ra02); Pol=+0.17 *7* (2015Ra02).
999	3.3 *4*	7644.7	(37/2$^-$)	6645.5	(33/2$^-$)	Q		Mult.: R_{DCO}=0.92 *9* (2015Ra02).
1009	2.2 *4*	5257.1	27/2$^-$	4248.0	(27/2$^-$)	M1[a]	0.001303 *19*	α=0.001303 *19*; α(K)=0.001139 *16*; α(L)=0.0001336 *19*; α(M)=2.56×10^{-5} *4*; α(N+..)=4.84×10^{-6} α(N)=4.57×10^{-6} *7*; α(O)=2.72×10^{-7} *4* Mult.: R_{DCO}=0.79 *10* (2015Ra02); Pol=−0.12 *4* (2015Ra02). DCO is lower than expected value of ≈1 for ΔJ=0, dipole.
1032	4.6 *4*	1162.6	(11/2)$^-$	130.9	7/2$^+$			
1034	2.5 *4*	3620.7	(23/2$^+$)	2586.7	(19/2)$^+$	Q		Mult.: R_{DCO}=0.95 *9* (2015Ra02).
1044	23.5 *4*	5291.6	(31/2)$^-$	4248.0	(27/2$^-$)	E2	0.001036 *15*	α=0.001036 *15*; α(K)=0.000903 *13*; α(L)=0.0001083 *16*; α(M)=2.07×10^{-5} *3*; α(N+..)=3.90×10^{-6} α(N)=3.69×10^{-6} *6*; α(O)=2.11×10^{-7} *3* Mult.: R_{DCO}=0.98 *6* (2015Ra02); Pol=+0.12 *7* (2015Ra02). Also, A_{22}=0.22 *4*; A_{44}=−0.08 *6* (1978St01); Pol_{exp}/Pol_{ad}=1.0 *15* (1978St01).
1058	4.2 *5*	5658.2	31/2$^-$	4600.1	27/2$^-$	(Q)		ΔIγ: increased by the evaluators, since 0.05 quoted by the authors seems unrealistically low. Mult.: R_{DCO}=0.97 *9* (2015Ra02).
1064	2.4 *4*	5257.1	27/2$^-$	4193.2	25/2$^+$	E1	0.000432 *6*	α=0.000432 *6*; α(K)=0.000378 *6*;

Continued on next page (footnotes at end of table)

(HI,xnγ) 2015Ra02,2011Ki17,2010Ch54 (continued)

γ(^{105}Cd) (continued)

$E_γ$[‡]	$I_γ$[‡]	E_i(level)	$J^π_i$	E_f	$J^π_f$	Mult.[#]	α[†]	Comments
								α(L)=4.37×10^{-5} *7*; α(M)=8.33×10^{-6} *12*; α(N+..)=1.573×10^{-6} *22* α(N)=1.486×10^{-6} *21*; α(O)=8.73×10^{-8} *13* Mult.: R_{DCO}=0.65 *9* (2015Ra02); Pol=+0.05 *6* (2015Ra02).
1078	1.9 *4*	7313.1	35/2⁻	6235.1	31/2⁻	Q		Mult.: R_{DCO}=1.12 *10* (2015Ra02).
1107	1.9 *3*	6294.2	33/2⁺	5187.2	29/2⁺	Q		Mult.: R_{DCO}=1.14 *11* (2015Ra02).
1114	2.4 *3*	8758.7	(41/2⁻)	7644.7	(37/2⁻)	Q		Mult.: R_{DCO}=1.15 *11* (2015Ra02).
1125	1.5 *4*	6783.4	(35/2⁻)	5658.2	31/2⁻	(Q)		
1174	1.5 *4*	7644.7	(37/2⁻)	6471.0	(35/2)⁻	(D)		
1179	13.2 *6*	6471.0	(35/2)⁻	5291.6	(31/2)⁻	E2	0.000802 *12*	α=0.000802 *12*; α(K)=0.000696 *10*; α(L)=8.27×10^{-5} *12*; α(M)=1.582×10^{-5} *23*; α(N+..)=7.72×10^{-6} α(N)=2.82×10^{-6} *4*; α(O)=1.624×10^{-7} *23*; α(IPF)=4.74×10^{-6} *7* Mult.: R_{DCO}=1.05 *11* (2015Ra02); Pol=+0.08 *5* (2015Ra02).
1187	0.5 *4*	4807.7	(27/2⁺)	3620.7	(23/2⁺)	(Q)		
1212	1.1 *4*	7506.2	(37/2⁺)	6294.2	33/2⁺	(Q)		
1233	1.2 *4*	8546.1	39/2⁻	7313.1	35/2⁻	Q		Mult.: R_{DCO}=0.95 *11* (2015Ra02).
1275[b]	1.2 *4*	2977.5	17/2⁺	1701.8	(15/2)⁻	D		
1286	5.8 *7*	3774.1	23/2⁻	2488.1	(19/2)⁻	E2	0.000686 *10*	α=0.000686 *10*; α(K)=0.000581 *9*; α(L)=6.86×10^{-5} *10*; α(M)=1.313×10^{-5} *19*; α(N+..)=2.35×10^{-5} *4* α(N)=2.34×10^{-6} *4*; α(O)=1.357×10^{-7} *19*; α(IPF)=2.10×10^{-5} *3* Mult.: R_{DCO}=0.99 *5* (2015Ra02); Pol=+0.19 *8* (2015Ra02).
1293	5.6 *5*	2977.5	17/2⁺	1684.7	15/2⁺	M1	0.000778 *11*	α=0.000778 *11*; α(K)=0.000663 *10*; α(L)=7.73×10^{-5} *11*; α(M)=1.479×10^{-5} *21*; α(N+..)=2.23×10^{-5} α(N)=2.64×10^{-6} *4*; α(O)=1.577×10^{-7} *22*; α(IPF)=1.95×10^{-5} *3* Mult.: R_{DCO}=0.57 *4* (2015Ra02); Pol=−0.19 *5* (2015Ra02).
1314	2.0 *4*	10072.8	(45/2⁻)	8758.7	(41/2⁻)	(Q)		
1331	4.1 *6*	7802.0	(39/2⁻)	6471.0	(35/2)⁻	E2	0.000650 *10*	α=0.000650 *10*; α(K)=0.000541 *8*; α(L)=6.38×10^{-5} *9*; α(M)=1.221×10^{-5} *17*; α(N+..)=3.30×10^{-5} *5* α(N)=2.18×10^{-6} *3*; α(O)=1.265×10^{-7} *18*; α(IPF)=3.06×10^{-5} *5* Mult.: R_{DCO}=0.97 *12* (2015Ra02); Pol=+0.22 *9* (2015Ra02).
1341		8638.2		7297.4				
1354	3.3 *4*	6645.5	(33/2⁻)	5291.6	(31/2)⁻	M1	0.000719 *10*	α=0.000719 *10*; α(K)=0.000601 *9*; α(L)=7.00×10^{-5} *10*; α(M)=1.339×10^{-5} *19*; α(N+..)=3.44×10^{-5} *5* α(N)=2.39×10^{-6} *4*; α(O)=1.428×10^{-7} *20*; α(IPF)=3.19×10^{-5} *5* Mult.: R_{DCO}=0.67 *9* (2015Ra02); Pol=−0.07 *7* (2015Ra02).
1407	1.2 *7*	8110.2		6703.4				
1410	<1	5658.2	31/2⁻	4248.0	(27/2⁻)	(Q)		
1412	<1	6703.4		5291.6	(31/2)⁻			

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(HI,xnγ) 2015Ra02,2011Ki17,2010Ch54 (continued)

γ(^{105}Cd) (continued)

E_γ [‡]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	α[†]	Comments
1430	1.1 *4*	9976	(43/2⁻)	8546.1	39/2⁻			
1465	1.5 *4*	9267.0	(43/2⁻)	7802.0	(39/2⁻)	Q		Mult.: R_{DCO}=1.12 *13* (2015Ra02).
1492	<1	6783.4	(35/2⁻)	5291.6	(31/2)⁻	(Q)		
1510	2.4 *5*	5758.3	(29/2⁻)	4248.0	(27/2⁻)	M1	0.000622 *9*	α=0.000622 *9*; α(K)=0.000478 *7*; α(L)=5.55×10⁻⁵ *8*; α(M)=1.061×10⁻⁵ *15*; α(N+..)=7.86×10⁻⁵ *11* α(N)=1.90×10⁻⁶ *3*; α(O)=1.133×10⁻⁷ *16*; α(IPF)=7.66×10⁻⁵ *11* Mult.: R_{DCO}=0.48 *11* (2015Ra02); Pol=−0.02 *8* (2015Ra02).
1584	<1	10851	(47/2⁻)	9267.0	(43/2⁻)	(Q)		
1610	<1	4098.3		2488.1	(19/2)⁻			
1639	<1	8110.2		6471.0	(35/2)⁻			
1668	<1	5010.7		3342.9	(23/2)⁻			
1963	<1	8434.2		6471.0	(35/2)⁻			
2006	<1	7297.4		5291.6	(31/2)⁻			
2156	<1	7447.4		5291.6	(31/2)⁻			
2167	<1	8638.2		6471.0	(35/2)⁻			

† Additional information 1.

‡ From 2015Ra02.

\# From R_{DCO} and linear polarization measurements in 2015Ra02 and 1978St01. In 2015Ra02, R_{DCO}≈1 for stretched quadrupole and ≈0.5 for stretched dipole transitions, respectively, when gated on a stretched quadrupole transition. Alternatively, R_{DCO}≈2 and≈1 for quadrupole and dipole transitions, respectively, when gated on a stretched dipole transitions; Pol>0 for electric, Pol<0 for magnetic transitions, and Pol≈0 for mixed transitions. In 1978St01, p_{exp}/p_{ad}=+1 -no parity change, and −1 for parity change transitions, respectively.

@ From angular correlation measurements in 1978St01.

& From 2011Ki17.

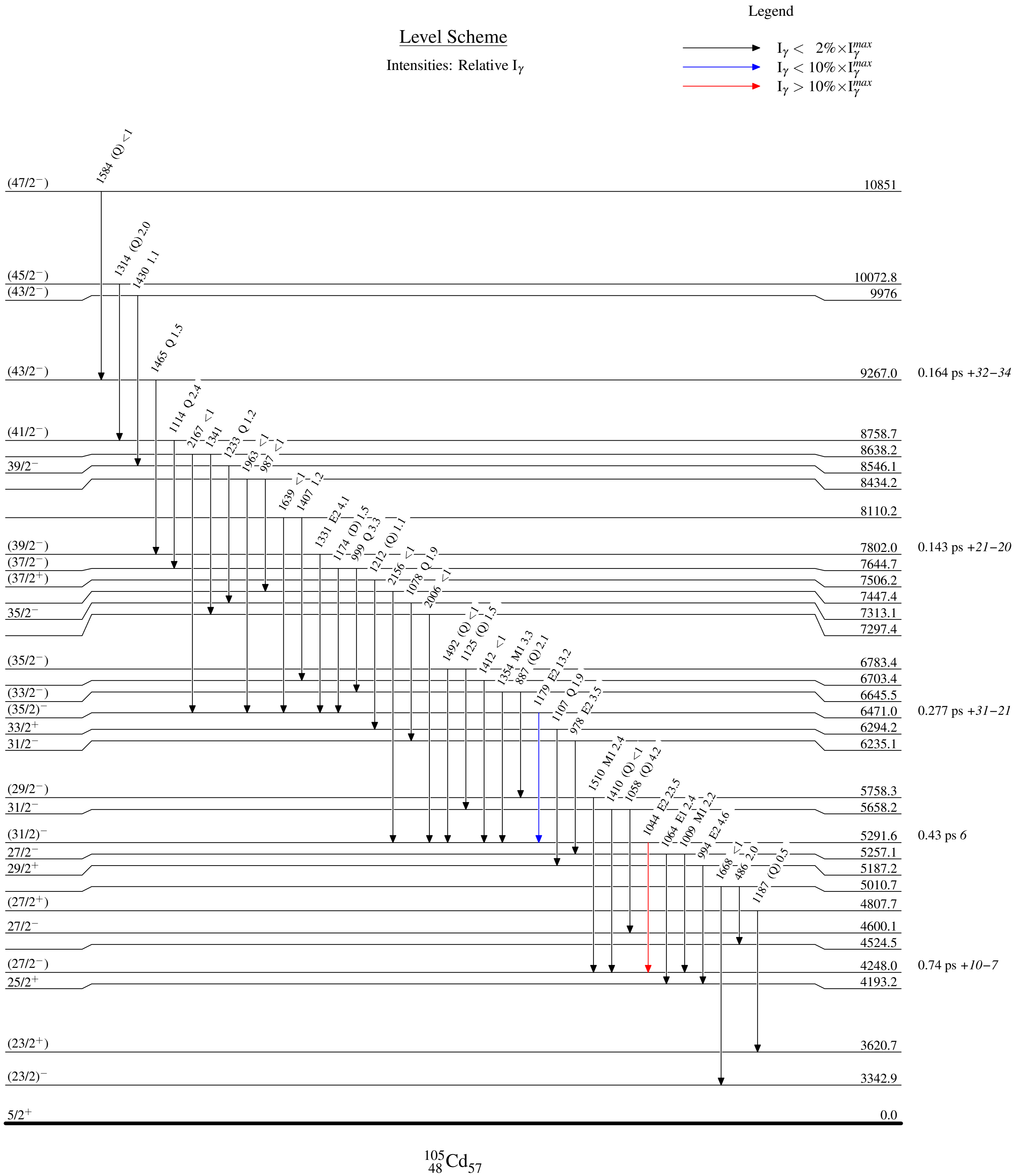
a ΔJ=0 transition.

b Placement of transition in the level scheme is uncertain.

(HI,xnγ) 2015Ra02,2011Ki17,2010Ch54

Level Scheme

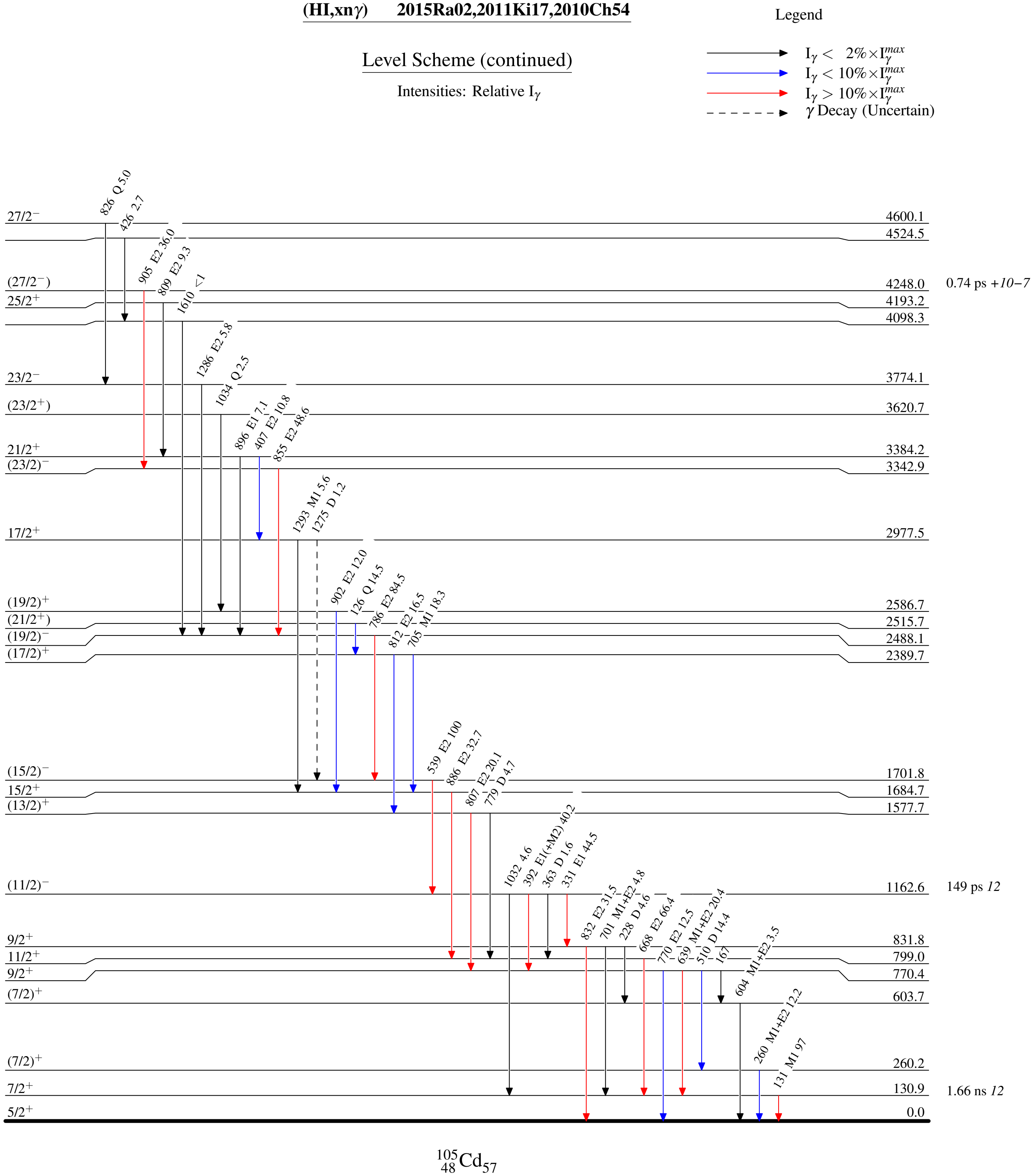
Intensities: Relative I_γ



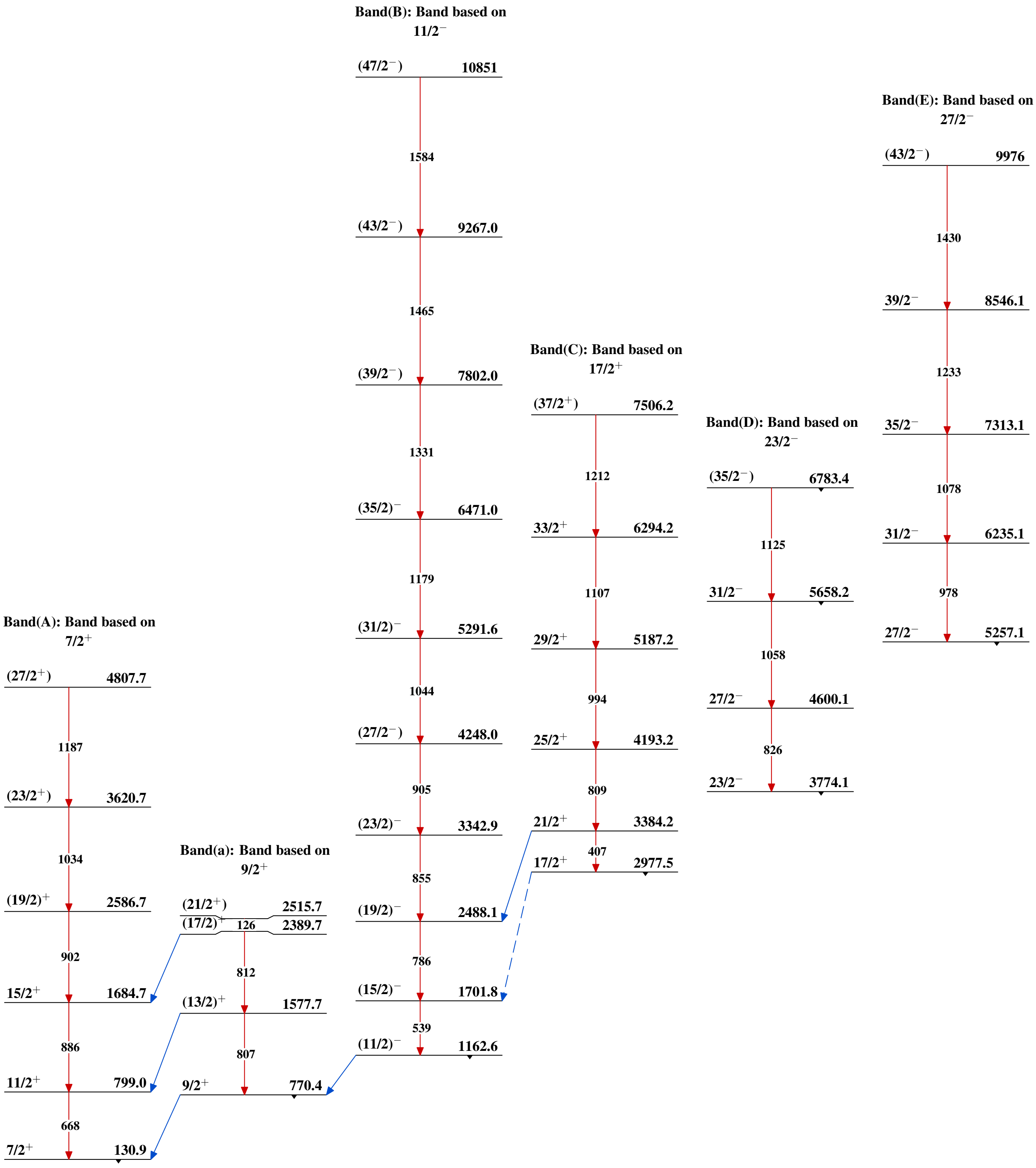
(HI,xnγ) 2015Ra02,2011Ki17,2010Ch54

Level Scheme (continued)

Intensities: Relative I_γ

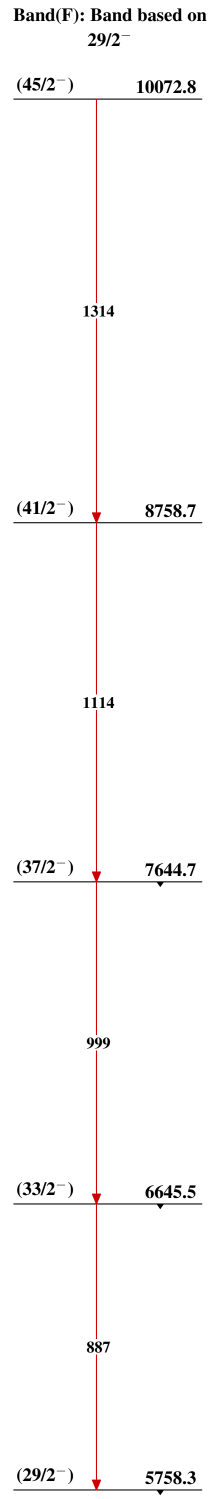


(HI,xnγ) 2015Ra02,2011Ki17,2010Ch54



$^{105}_{48}Cd_{57}$

(HI,xnγ) 2015Ra02,2011Ki17,2010Ch54 (continued)



$^{105}_{48}Cd_{57}$