(HI,xnγ)

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	D. De Frenne and A. Negret	NDS 109, 943 (2008)	1-May-2007

1979Sa01: ^{97}Mo(^{12}C,3nγ).E=45 MeV. Measured Eγ, Iγ, $\gamma\gamma$, $\gamma\gamma(\theta)$ and DCO. Deduced: ^{106}Cd levels, J, π, mult, δ.

1979Sa01: ^{96}Mo(^{13}C,2nγ). E(^{13}C)=45 MeV. Measured: Eγ, Iγ, $\gamma(\theta)$ at 9 angles from θ=+90° to −30° relative to beam direction. Deduced:^{106}Cd levels, J, π, mult, δ, rotational model calc.

1985An27: ^{93}Nb(^{16}O,p2nγ); E=56,64 MeV. Measured: Eγ, Iγ, $\gamma\gamma$(t).Deduced: ^{106}Cd levels, $T_{1/2}$.

1994Je05: ^{94}Zr(^{17}O,5nγ): E(^{17}O)=80 MeV, E(^{34}S)=148 MeV. Measured: Eγ, Iγ, $\gamma\gamma$, $\gamma\gamma(\theta)$(DCO) using Nordball array of 19 Compton-suppressed Ge detectors for ^{34}S beam and 15 detectors for ^{17}O experiment. A low-energy photon (LEPS) detector was used together with BaF_2 ball for the ^{34}S beam. Particles were detected with plastic scintillator detectors and a Si Ball. Lifetime was measured with delayed coincidence technique.

1995Re07: ^{76}Ge(^{34}S,4nγ): As these results are the most complete and accurate, these were taken for level energies, gamma energies, intensities and band structure, unless noted otherwise. This data set includes also the reaction: ^{94}Zr(^{16}O,4nγ) The following experiments were performed: (1.) ^{76}Ge(^{34}S,4nγ) E=140 MeV. Measured Eγ, Iγ, $\gamma\gamma$, γ(particle) coin, $\gamma\gamma(\theta)$(DCO) using 8π array of 20 Compton-suppressed Ge detectors, 70-element BGO inner ball and an array of CsI(Tl) detectors at Chalk River facility. (2.) ^{94}Zr(^{16}O,4nγ) E=92 MeV. Measured Eγ, Iγ, $\gamma\gamma$, $\gamma(\theta)$, $\gamma\gamma(\theta)$(DCO), γ(t) using Caesar array of six Ge detectors and a planar Ge detector at ANL facility (3.) ^{94}Zr(^{16}O,4nγ) E=88 MeV. Measured γ rays from the isomer, pulsed beam, prompt and delayed γ rays detected to determine the level scheme for the isomer.

^{106}Cd Levels

E(level)[‡]	J^π[†]	$T_{1/2}$	Comments
0.0	0^+		
632.80 *20*	2^+		
1494.1[c] *3*	4^+		
1716.8[@] *3*	2^+		
2104.6 *4*	4^+		
2305.00[@] *19*	4^+		
2330.4 *8*	5^+	0.6 ns *2*	$T_{1/2}$: From 1985An27.
2338.6[@] *3*	(4^+)		
2491.8 *4*	6^+		
2503.5[c] *4*	6^+	<0.5 ns	$T_{1/2}$: From 1983Gu14.
2522.0[@] *3*	$(4,5^+)$		J^π: from ΔJ=0 or −1 for 1028γ to 1493-keV level and $\Delta\pi$=no if J=5 in ^{96}Mo(^{13}C,3nγ) (1979Sa01).
2628.8 *5*	5^-	5 ps *+4−2*	$T_{1/2}$: From 1983Gu14 in ^{96}Mo(^{12}C,3nγ).
2920.2 *4*	5^-		E(level),J^π: Observed only by 1994Je05 in ^{94}Zr(^{17}O,5nγ).
2924.89[@] *11*	6^+		
3044.5 *4*	8^+	0.4 ns *1*	$T_{1/2}$: From 1985An27.
3084.5 *5*	7^+		
3094?	(8)		E(level): Observed only in ^{82}Se(^{30}Si,6nγ) (1989Kl02).
3127.31[@] *22*	7^+		
3319.4 *5*	6^-		
3354.2 *5*	7^+		
3366.5 *6*	8^+		
3409.4 *5*	7^-		
3462.1[@] *11*			From $\gamma(\theta)$ J^π=(6^-).
3507.3[&] *6*	8^-	1.2 ns *3*	$T_{1/2}$: Weighted average of 1.3 ns *7* (1983Gu14) and 1.2 ns *4* (1985An27).
3543.8[@] *3*	7		
3641.75[@] *22*	(8^+)		
3678.3[a] *5*	9^-	0.15 ns *+8−2*	$T_{1/2}$: From 1983Gu14 in ^{96}Mo(^{13}C,3nγ). Other: 0.7 ns *3* (1985An27).
3698.4[@]			

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(HI,xnγ) (continued)

^{106}Cd Levels (continued)

E(level)[‡]	Jπ[†]	$T_{1/2}$	Comments
3787.8[c] 4	8+		
3902?	(10)		E(level): Observed only in ^{82}Se(^{30}Si,6nγ) (1989Kl02).
4105.6[&] 7	10−	≤4 ps	$T_{1/2}$: From 1983Gu14.
4114.0[@] 24			From γ(θ) J^π=(9−).
4121.1 7	9+		
4179.6[@] 20			
4193.8 6	9+		
4323.9[a] 6	11−		
4436.3 9	10+	<1 ns	$T_{1/2}$: From 1983Gu14 in ^{96}Mo(^{12}C,3nγ).
4575.3 8			
4659.8 12	12+	62 ns 6	$T_{1/2}$: from [α,γ(t)] pulsed beam (1977Da08).
4794?	(12)		E(level): Observed only in ^{82}Se(^{30}Si,6nγ) (1989Kl02).
4816.3[c] 6	10+		
4902.9[@] 5			
4966.9[&] 7	12−		
5213.7[a] 6	13−	≤9 ps	$T_{1/2}$: From 1983Gu14 in ^{96}Mo(^{12}C,3nγ).
5241?	12+		E(level): Observed only in ^{82}Se(^{30}Si,6nγ) (1989Kl02).
5252.6[#] 13	(13+)		Jπ: Suggested by 1979Sa01.
5418.7[c] 6	12+		
5557.8?[#] 14			
5572.5?[#] 15			
5623.7[c] 5	12+		E(level): from 1994Je05.
5770.4?[#] 13			
5822?	(14)		E(level): Observed only in ^{82}Se(^{30}Si,6nγ) (1989Kl02).
5912.3[#] 13			
5975.5[&] 8	14−		
5986.7?[#] 21			
6100.6?[#] 15			
6226.6[c] 6	14+		
6264.2[a] 7	15−		
6516.0 6	14+		
6858.3 15			
7118.9?[c] 7	16+	11 ns +6−3	$T_{1/2}$: From γ(t) in (HI,xnγ) (1994Je05). E(level),$T_{1/2}$: No evidence found in ^{94}Zr(^{16}O,4nγ) by 1995Re07 although their data are the most complete. Therefore the existence of that level becomes doubtful.
7120.9[&] 9	16−		
7480.2?[#] 16			
7517.8[a] 8	17−		
8099.7[c] 7	18+	0.42 ps 4	$T_{1/2}$: From line-shape analysis (2003Si14,2005Si23).
8099.7+x			Additional information 1. E(level): this level May Be the same As 8099.7, thus x May Be zero.
8411.0[&] 18	18−		
8884.3[a] 12	19−		
9250.3[c] 8	20+	0.201 ps 28	$T_{1/2}$: From line-shape analysis (2003Si14,2005Si23).
9318.6+x[b] 14	(18+)		E(level): from 1622.6γ to 18+ level At 8099.7 or near this energy.
9722.3+x[b] 8	(19+)		
9877.0[&] 23	20−		
10160.9+x[b] 11	(20+)		
10350.1[a] 14	21−		

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(HI,xnγ) (continued)

^{106}Cd Levels (continued)

E(level)[‡]	J^{π}[†]	$T_{1/2}$	Comments
10560.9[c] *9*	22$^+$	0.180 ps *14*	$T_{1/2}$: From line-shape analysis (2003Si14,2005Si23).
10663.7+x[b] *11*	(21$^+$)		
11168.1+x[b] *12*	(22$^+$)		
11740.7+x[b] *15*	(23$^+$)		
11941.5[a] *21*	23$^-$		
12048.5[c] *12*	24$^+$	0.132 ps *14*	$T_{1/2}$: From line-shape analysis (2003Si14,2005Si23).
12312.0+x[b] *16*	(24$^+$)		
12951.8+x[b] *18*	(25$^+$)		
13614.9+x[b] *19*	(26$^+$)		
13724.1[c]	26$^+$	0.125 ps	$T_{1/2}$: Effective half-life (2005Si23). Effective half-life is obtained assuming 100% side-feeding into the top of the band via a cascade of 5 transitions with the same moment of inertia as the in-band transitions The highest γ ray for which a line shape was observed was then fitted and the extracted life time is called effective lifetime.This lifetime was used as input parameter to extract the lifetimes of the states lower in the cascade.
13726.1 *20*	26$^+$		
14333.9+x[b] *20*	(27$^+$)		E(level): 14322+x listed by 1995Re07 is a misprint.
15067.0+x[b] *21*	(28$^+$)		
15583.5 *25*	(28$^+$)		
15862.8+x[b] *23*	(29$^+$)		

† From 1995Re07, unless noted otherwise.
‡ From least-squares fit to Eγ's by evaluators.
# Possible level above the isomer, gammas from which feed the isomer.
@ In (HI,xnγ). Observed only in ^{96}Mo(^{13}C,3nγ) and ^{97}Mo(^{12}C,3nγ) (1979Sa01).
& Band(A): $\nu h_{11/2} \otimes \nu d_{5/2}$.
a Band(B): $\nu h_{11/2} \otimes \nu g_{7/2}$.
b Band(C): 4-qp band, $\nu h^2_{11/2} \otimes \pi(g_{7/2},g_{9/2})$.
c Band(D): 4$^+$ band. Antimagnetic rotational band from lifetime measurements and deduced B(E2) values (2003Si14,2005Si23). Such a rotational band is due to antimagnetic rotation of high spin states, 16$^+$ and higher, in e.g. the positive yrast band.

γ(^{106}Cd)

DCO ratios (1994Je05) correspond to angles 37° (or 143°) and 79° (or 101°). For gates on stretched quadrupole transitions, expected DCO=1 for ΔJ=2, quadrupole transitions and 0.5 for ΔJ=1, dipole.

DCO(1)=[I(γ_1 at θ_1 gated by γ_2 at θ_1)+ I(γ_1 at θ_1 gated by γ_2 at θ_2]/2I(γ_1 at θ_2 gated by γ_2 at θ_1); θ_1=48° or 145°, θ_2=97°(1995Re07). The data were obtained with the CAESAR array at ANL. For gates on stretched quadrupole transitions, expected DCO(1)=1.5 for ΔJ=2, quadrupole transitions and 0.91 for ΔJ=1, dipole .

DCO(2)=[I(γ_2 at θ_1 gated by γ_1 at θ_2)]/ [I(γ_2 at θ_2 gated by γ_1 at θ_1]; θ_1=79° or 101°), θ_2=37° or 143°. The data were obtained with the 4π array at Chalk River. For gates on stretched quadrupole transitions, expected DCO(2)=1.0 for ΔJ=2, quadrupole transitions, 0.56 for ΔJ=1, dipole, 0.25 to 1.25 for ΔJ=1, dipole+quadrupole and 0.65 to 1.05 for ΔJ=0, dipole+quadrupole transitions (1995Re07).

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(HI,xnγ) (continued)

γ(^{106}Cd) (continued)

$E_γ$[†]	$I_γ$[#]	E_i(level)	$J_i^π$	E_f	$J_f^π$	Mult.[@]	δ	Comments
[x]147.9[‡]	3[‡] *1*							
171.1 *15*	3 2	3678.3	9⁻	3507.3	8⁻	[M1]		DCO=1.08 *5* DCO(1)=0.83 *6*; A_2=−0.13 *15* DCO(2)=0.82 *12* Mult.: Other: D+Q and δ=+0.15 *1* (1979Sa01).
187.6 *8*	5 2	3507.3	8⁻	3319.4	6⁻	[E2]		DCO=1.13 *6* DCO(1)=1.25 *11*; A_2=+0.24 *8* DCO(2)=0.99 *15*
218[&]		4323.9	11⁻	4105.6	10⁻			
[x]219.1[‡]	1.0[‡] *5*							
223.6 *15*		4659.8	12⁺	4436.3	10⁺	Q		Mult.: From 1979Sa01.
225.8 *15*	2 *1*	2330.4	5⁺	2104.6	4⁺	[M1]		Mult.: Other: M1+E2 with δ=−0.58 *12* (1979Sa01).
241 *1*		4816.3	10⁺	4575.3				
269.1 *8*	5 2	3678.3	9⁻	3409.4	7⁻	[E2]		DCO=1.00 *7* DCO(1)=1.15 *13* DCO(2)=1.09 *12*
[x]274.9[‡]	1.0[‡] *5*							
282		3366.5	8⁺	3084.5	7⁺	[M1+E2]	−0.02 *6*	Mult.: From 1979Sa01.
304.9[‡b] *8*	6[‡] *1*	5557.8?		5252.6	(13⁺)			
311.6 *15*	2 *1*	3678.3	9⁻	3366.5	8⁺			A_2=−0.13 *8* DCO(2)=0.68 *15* Mult.: (D+Q) and δ=0.00 *6* (1979Sa01). $E_γ$: not observed by 1994Je05.
315.0 *15*		4436.3	10⁺	4121.1	9⁺	D+Q	+0.10 *4*	
319.9[‡b] *8*	5[‡] *1*	5572.5?		5252.6	(13⁺)			
322		3366.5	8⁺	3044.5	8⁺	(M1+E2)	+0.02 *23*	
330.5[‡b] *8*	7[‡] *1*	6100.6?		5770.4?				
335.7 *15*		4659.8	12⁺	4323.9	11⁻	D+Q	−0.019 *11*	Mult.,δ: From 1979Sa01.
[x]392.1[‡]	1.0[‡] *5*							
[x]398.1[‡]	1.0[‡] *5*							
403.6 *15*	4 2	9722.3+x	(19⁺)	9318.6+x	(18⁺)			
414.2[‡b] *15*	4[‡] *1*	5986.7?		5572.5?				
422.8 *8*	6 2	3507.3	8⁻	3084.5	7⁺	[E1]		DCO=0.42 *6* DCO(1)=0.72 *25* DCO(2)=0.71 *13* Mult.: Other D+Q and δ=−0.016 *10* (1979Sa01).
433.16 *7*		2924.89	6⁺	2491.8	6⁺	D+Q	+0.06 *27*	Mult.: in disagreement with adopted E2.
433.4 *8*	7 2	3787.8	8⁺	3354.2	7⁺	[M1]		DCO(1)=0.99 *18* DCO=0.52 *9*
438.5 *8*	7 2	10160.9+x	(20⁺)	9722.3+x	(19⁺)			
463[&]		3507.3	8⁻	3044.5	8⁺	[E1]		Mult.: Other D+Q and δ=+0.25 *36* (1979Sa01).
[x]468.5[‡]	2.0[‡] *5*							
[x]488.5[‡]	5[‡] *1*							
502.6 *8*	5 2	10663.7+x	(21⁺)	10160.9+x	(20⁺)			
504.4 *8*	5 2	11168.1+x	(22⁺)	10663.7+x	(21⁺)			
517.9[‡b] *4*	12[‡] *2*	5770.4?		5252.6	(13⁺)			

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(HI,xnγ) (continued)

γ(^{106}Cd) (continued)

E_γ[†]	I_γ[#]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[@]	δ	Comments
524.2 *4*	14 *3*	2628.8	5⁻	2104.6	4⁺	[E1]		DCO(1)=0.79 *8* DCO(2)=0.70 *10*
540.9 *4*	13 *3*	3044.5	8⁺	2503.5	6⁺	[E2]		DCO=0.97 *7* DCO(1)=1.27 *25* DCO(2)=0.91 *9*
542.4[‡b] *8*	6[‡] *1*	6100.6?		5557.8?				
[x]552.2[‡]	3[‡] *1*							
552.8 *4*	20 *3*	3044.5	8⁺	2491.8	6⁺	[E2]		DCO=0.91 *10* DCO(1)=1.40 *18* DCO(2)=0.98 *11*
570.11 *15*		4114.0		3543.8	7	Q		
571.0 *15*	4 *2*	12312.0+x	(24⁺)	11740.7+x	(23⁺)			A_2=−0.58 *1*
572.5 *15*	4 *2*	11740.7+x	(23⁺)	11168.1+x	(22⁺)			
581.3		3084.5	7⁺	2503.5	6⁺	[M1]		Mult.: Other: M1+E2 with δ=−0.16 *5* (1979Sa01).
592.5 *8*	6 *2*	3084.5	7⁺	2491.8	6⁺	[M1]		DCO(1)=0.81 *19* DCO=0.58 *5* Mult.: Other: M1+E2 with δ=−0.03 *2* (1979Sa01). J^π=7⁻ for the initial level shown in table of 1995Re07 showing level energies seems a misprint. There is only one level at this energy.
592.8[‡] *2*	35[‡] *2*	5252.6	(13⁺)	4659.8	12⁺			
598.3 *4*	16 *5*	4105.6	10⁻	3507.3	8⁻	[E2]		DCO=1.00 *25* DCO(1)=1.23 *19*
602		3094?	(8)	2491.8	6⁺			
602.4 *2*	40 *7*	5418.7	12⁺	4816.3	10⁺			DCO(1)=1.20 *13* DCO(2)=0.93 *5*
602.8 *2*		7118.9?	16⁺	6516.0	14⁺	[E2]		DCO=1.07 *10* E_γ: Observed only by 1994Je05.
610.6 *4*	15 *5*	2104.6	4⁺	1494.1	4⁺	[M1]		DCO=1.00 *5* DCO(1)=0.96 *15* DCO(2)=1.16 *22* Mult.: Other: M1+E2 with δ=−0.34 *4* (1979Sa01).
621.9[‡b] *4*	11[‡] *2*	7480.2?		6858.3				
622.6 *3*		4816.3	10⁺	4193.8	9⁺	[M1]		DCO=0.7 *3*
624.13 *20*		3127.31	7⁺	2503.5	6⁺	[M1+E2]	+0.13 *21*	
632.8 *2*	130 *10*	632.80	2⁺	0.0	0⁺	[E2]		DCO(1)=1.21 *15* DCO(2)=0.83 *8*
633.9 *4*	14 *6*	3678.3	9⁻	3044.5	8⁺	D+Q	−0.038 *28*	Mult.,δ: From 1979Sa01.
639.7 *15*	4 *2*	12951.8+x	(25⁺)	12312.0+x	(24⁺)			
645.6 *2*	41 *10*	4323.9	11⁻	3678.3	9⁻	[E2]		DCO=1.01 *4* DCO(1)=1.59 *22* DCO(2)=0.93 *9*
659.7[‡] *4*	11[‡] *2*	5912.3		5252.6	(13⁺)			
663.3 *15*	4 *2*	13614.9+x	(26⁺)	12951.8+x	(25⁺)			
690.5 *4*	14 *4*	3319.4	6⁻	2628.8	5⁻	[M1]		DCO(1)=1.28 *10* DCO(2)=0.79 *11* Mult.: Other: M1+E2 with δ=+0.71 *7* (1979Sa01).
695.3 *8*	7 *3*	4816.3	10⁺	4121.1	9⁺	[M1]		DCO=0.43 *10* DCO(1)=0.66 *20* DCO(2)=0.50 *9*

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(HI,xnγ) (continued)

γ(^{106}Cd) (continued)

E_γ[†]	I_γ[#]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[@]	δ	Comments
703.3 *4*	13 *5*	3787.8	8^+	3084.5	7^+	[M1]		DCO(1)=0.72 *20* DCO(2)=0.50 *9*
704.47 *20*		4114.0		3409.4	7^-			
^{x}714.0[‡]	2[‡] *1*							
718.8 *15*	2 *1*	14333.9+x	(27^+)	13614.9+x	(26^+)			
733.0 *15*	2 *1*	15067.0+x	(28^+)	14333.9+x	(27^+)			
754.2 *8*	6 *3*	3084.5	7^+	2330.4	5^+	[E2]		DCO(2)=1.02 *20*
757.7[‡b] *4*	15[‡] *2*	6858.3		6100.6?				
780.6 *4*	10 *4*	3409.4	7^-	2628.8	5^-	D+Q	−0.014 *32*	E_γ,Mult.,δ: Observed only by 1979Sa01 D+Q excluded if J^π initial and final levels are correct.
788.9 *4*	22.8 *16*	4902.9		4114.0		Q		Mult.: From 1979Sa01.
795.6 *15*	2 *1*	15862.8+x	(29^+)	15067.0+x	(28^+)			
805		5241?	12^+	4436.3	10^+			
807.3 *2*		5623.7	12^+	4816.3	10^+	[E2]		DCO=1.07 *12*
807.9 *2*	42 *11*	6226.6	14^+	5418.7	12^+			DCO(1)=1.3 *3* DCO(2)=0.94 *4*
808		3902?	(10)	3094?	(8)			
811.14 *10*		2305.00	4^+	1494.1	4^+	(D+Q)	0.00 *22*	
827.4 *8*	5 *2*	3319.4	6^-	2491.8	6^+	[E1+M2]		DCO(1)=1.0 *5* Mult.: δ=+0.10 *19* from γγ(θ) in ^{97}Mo(^{12}C,3nγ) or +0.09 *18* in ^{96}Mo(^{13}C,nγ) (1979Sa01). Mult.: Other: D+Q with δ=+0.08 *17* (1979Sa01).
832.8 *10*		3462.1		2628.8	5^-	D+Q	+0.35 *15*	
836.4 *15*	≤1	2330.4	5^+	1494.1	4^+	[M1+E2]	−0.18 *5*	Mult.: From 1979Sa01.
842.4 *15*	2 *1*	10160.9+x	(20^+)	9318.6+x	(18^+)			
844.78 *20*		2338.6	(4^+)	1494.1	4^+	[D+Q]	−0.05 *11*	
861.3[a] *2*	107[a] *10*	1494.1	4^+	632.80	2^+	[E2]		DCO=1.05 *4* DCO(1)=1.45 *12* DCO(2)=0.93 *10*
861.3[a] *2*	18[a] *7*	4966.9	12^-	4105.6	10^-	[E2]		
862.3 *4*	13 *5*	3354.2	7^+	2491.8	6^+			
864.18 *15*		3366.5	8^+	2503.5	6^+	[E2]		E_γ,Mult.: Observed only by 1979Sa01.
874.7 *8*	9 *4*	3366.5	8^+	2491.8	6^+	[E2]		
889.8 *2*	36 *13*	5213.7	13^-	4323.9	11^-	[E2]		DCO=1.02 *12* DCO(1)=1.2 *3* DCO(2)=0.95 *5*
892		4794?	(12)	3902?	(10)			
892.3 *3*		6516.0	14^+	5623.7	12^+	[E2]		DCO=1.05 *9*
892.3 *2*	38 *13*	7118.9?	16^+	6226.6	14^+			DCO(1)=1.53 *16* DCO(2)=1.13 *11*
906.0 *8*	6 *3*	3409.4	7^-	2503.5	6^+			DCO(2)=0.66 *17*
917.6 *8*	6 *3*	3409.4	7^-	2491.8	6^+	D+Q	−0.023 *29*	DCO(1)=0.75 *18* DCO(2)=0.69 *13*
941.5 *8*	5 *2*	10663.7+x	(21^+)	9722.3+x	(19^+)			
980.8 *2*	32 *11*	8099.7	18^+	7118.9?	16^+	[E2]		DCO(1)=1.29 *16* DCO(2)=1.02 *5*
997.7 *2*	51 *12*	2491.8	6^+	1494.1	4^+	[E2]		DCO=1.05 *5* DCO(1)=1.51 *23* DCO(2)=0.92 *7*
1007.0 *15*	4 *2*	11168.1+x	(22^+)	10160.9+x	(20^+)			
1008.6 *4*	12 *5*	5975.5	14^-	4966.9	12^-			DCO(2)=0.97 *8*

Continued on next page (footnotes at end of table)

(HI,xnγ) (continued)

γ(^{106}Cd) (continued)

E_γ†	I_γ#	E_i(level)	J^π_i	E_f	J^π_f	Mult.@	δ	Comments
1009.4 2	40 9	2503.5	6^+	1494.1	4^+	[E2]		DCO=1.08 8 DCO(1)=1.35 22 DCO(2)=0.93 7
1028		5822?	(14)	4794?	(12)			
1028.15 30	15.4 25	2522.0	$(4,5^+)$	1494.1	4^+	D+Q	+0.8 4	
1028.4 4	18 7	4816.3	10^+	3787.8	8^+	[E2]		DCO=1.01 4 DCO(1)=1.12 12 DCO(2)=1.04 11
1040.4 4		3543.8	7	2503.5	6^+	D+Q	+0.03 8	
1050.4 4	23 9	6264.2	15^-	5213.7	13^-	[E2]		DCO=0.99 10 DCO(1)=1.47 12 DCO(2)=0.88 10
1051.0 5		3543.8	7	2491.8	6^+			
1069.1 5		3698.4		2628.8	5^-			
1076.7 8	8 3	4121.1	9^+	3044.5	8^+			DCO=2.1 3 DCO(1)=1.08 25; A_2=−0.21 21 DCO(2)=0.81 14 Mult.: D+Q and δ=+0.35 15 (1979Sa01).
1077.2 15	4 2	11740.7+x	(23^+)	10663.7+x	(21^+)			A_2=+0.12 23
1084.4 4		1716.8	2^+	632.80	2^+			
1134.8 15	≤1	2628.8	5^-	1494.1	4^+			
1135.4 20		4179.6		3044.5	8^+			
1138.55 15		3641.75	(8^+)	2503.5	6^+			
1143.8 15	4 2	12312.0+x	(24^+)	11168.1+x	(22^+)			
1145.3 4	10 4	7120.9	16^-	5975.5	14^-	[E2]		DCO=1.07 12 DCO(2)=1.08 18
1149 2		4193.8	9^+	3044.5	8^+			
1150.1 4		3641.75	(8^+)	2491.8	6^+	Q		
1150.6 4	24 9	9250.3	20^+	8099.7	18^+	[E2]		DCO=1.01 4 DCO(1)=1.6 3 DCO(2)=1.00 11
1211.4 15	4 2	12951.8+x	(25^+)	11740.7+x	(23^+)			
1253.6 4	15 6	7517.8	17^-	6264.2	15^-	[E2]		DCO=0.99 9 DCO(1)=1.31 22; A_2=+0.7 3 DCO(2)=0.93 11
1284.5 4	17 7	3787.8	8^+	2503.5	6^+	[E2]		DCO=1.11 12 Mult.: Other D+Q and δ=+0.15 8 (1979Sa01).
1290.1 15	4 2	8411.0	18^-	7120.9	16^-	[E2]		DCO(2)=0.91 20
1295.9 4	10 4	3787.8	8^+	2491.8	6^+			Mult.: Other D+Q and δ=+0.26 34 (1979Sa01).
1302.6 15	4 2	13614.9+x	(26^+)	12312.0+x	(24^+)			
1310.6 4	12 5	10560.9	22^+	9250.3	20^+			DCO(1)=1.5 3 DCO(2)=1.05 14
1366.5 8	9 4	8884.3	19^-	7517.8	17^-	[E2]		DCO=1.10 22 DCO(2)=1.06 11
1382.3 15	3 1	14333.9+x	(27^+)	12951.8+x	(25^+)			
1392&		4436.3	10^+	3044.5	8^+			
1426.3		2920.2	5^-	1494.1	4^+	[E1]		DCO=0.92 10 Mult.: Other: D+Q with δ=+0.063 27 in ^{96}Mo(^{13}C,3nγ) (1979Sa01).
1452.1 15	2 1	15067.0+x	(28^+)	13614.9+x	(26^+)			
1465.8 8	6 2	10350.1	21^-	8884.3	19^-	(E2)		DCO(2)=1.01 15
1466.0 15	3 2	9877.0	20^-	8411.0	18^-			DCO(2)=1.2 3
1471.5 8	7 3	2104.6	4^+	632.80	2^+	[E2]		DCO=1.05 4
1487.6 8	6 3	12048.5	24^+	10560.9	22^+	(E2)		DCO(2)=0.87 20

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(HI,xnγ) (continued)

γ(^{106}Cd) (continued)

Eγ[†]	Iγ[#]	Ei(level)	J_i^π	Ef	J_f^π	Mult.[@]	Comments
1529.0 *15*	2 *1*	15862.8+x	(29+)	14333.9+x	(27+)		
1531 *1*		4575.3		3044.5	8+	Q	Mult.: From 1979Sa01.
1591.4 *15*	<2	11941.5	23−	10350.1	21−		
1622.6 *8*	5 *2*	9722.3+x	(19+)	8099.7+x			
1675.5		13724.1	26+	12048.5	24+		
1677.6 *15*	3 *2*	13726.1	26+	12048.5	24+		
1716.3 *10*		1716.8	2+	0.0	0+		
1857.4[b] *15*	≤1	15583.5	(28+)	13726.1	26+		

[†] Unless noted otherwise, from 1995Re07. General uncertainty is stated by 1995Re07 as 0.2 to 1.5 keV. The evaluators have assigned the uncertainties in the following manner: 0.2 keV for Iγ>30, 0.4 keV for Iγ=10-30, 0.8 keV for Iγ=5-10 and 1.5 keV for Iγ<5 and when no intensity is quoted.

[‡] γ feeding the isomer. The intensity is from 'earlier' spectrum and is on a different scale than the prompt transitions in the main level scheme.

[#] From 1996Re07.

[@] Based on DCO values from 1994Je05 and DCO(1) and DCO(2) from 1995Re07 As DCO values only give D, Q, or D+Q, E1 is distinguished from M1 on basis of observed band structure and level scheme if possible. The same for E2/M2 and M1+E2/M2+E1.

[&] From level scheme for isomer shown in figure 3 of 1995Re07.

[a] Multiply placed with intensity suitably divided.

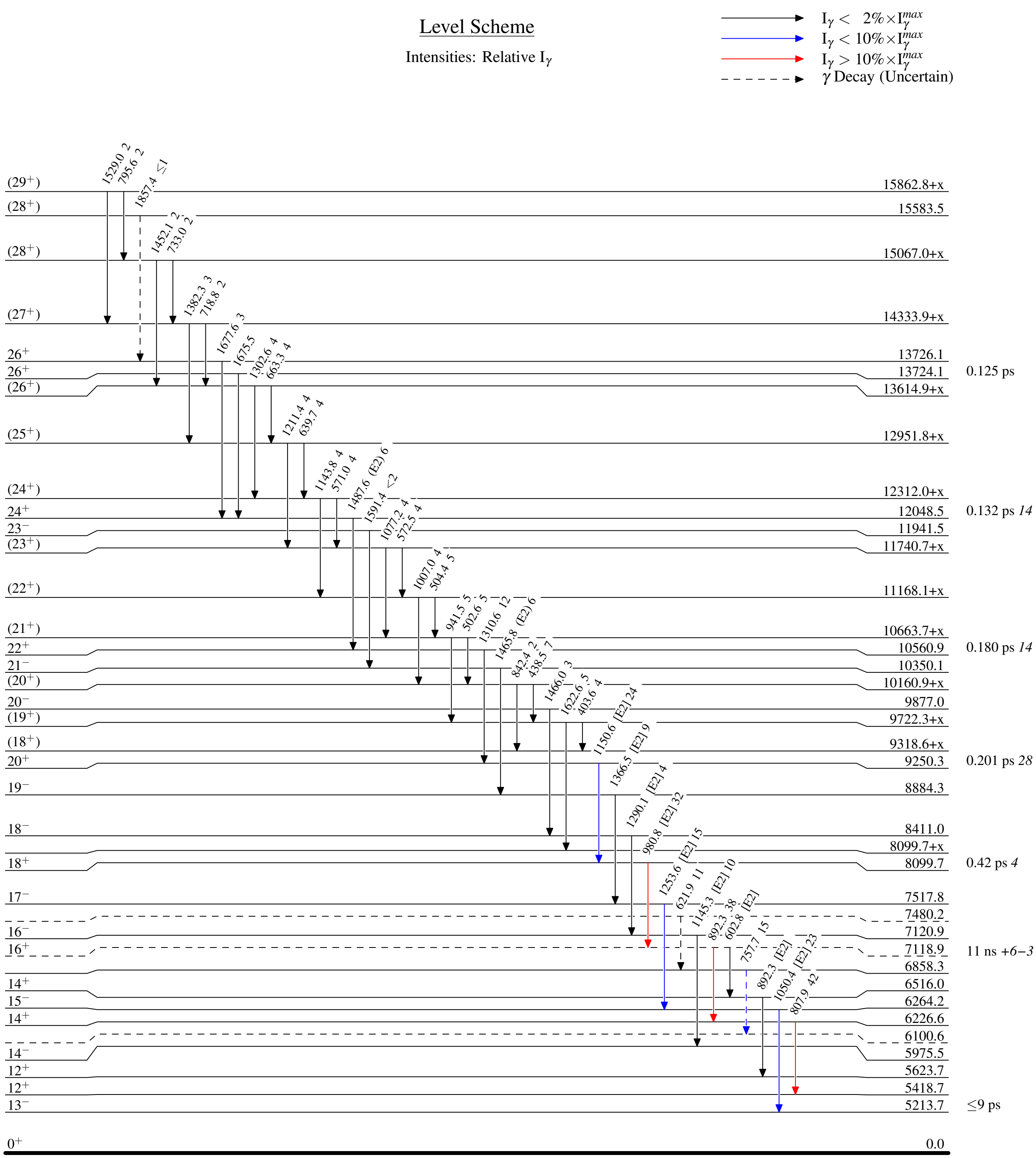
[b] Placement of transition in the level scheme is uncertain.

[x] γ ray not placed in level scheme.

(HI,xnγ)

Level Scheme

Intensities: Relative I_γ



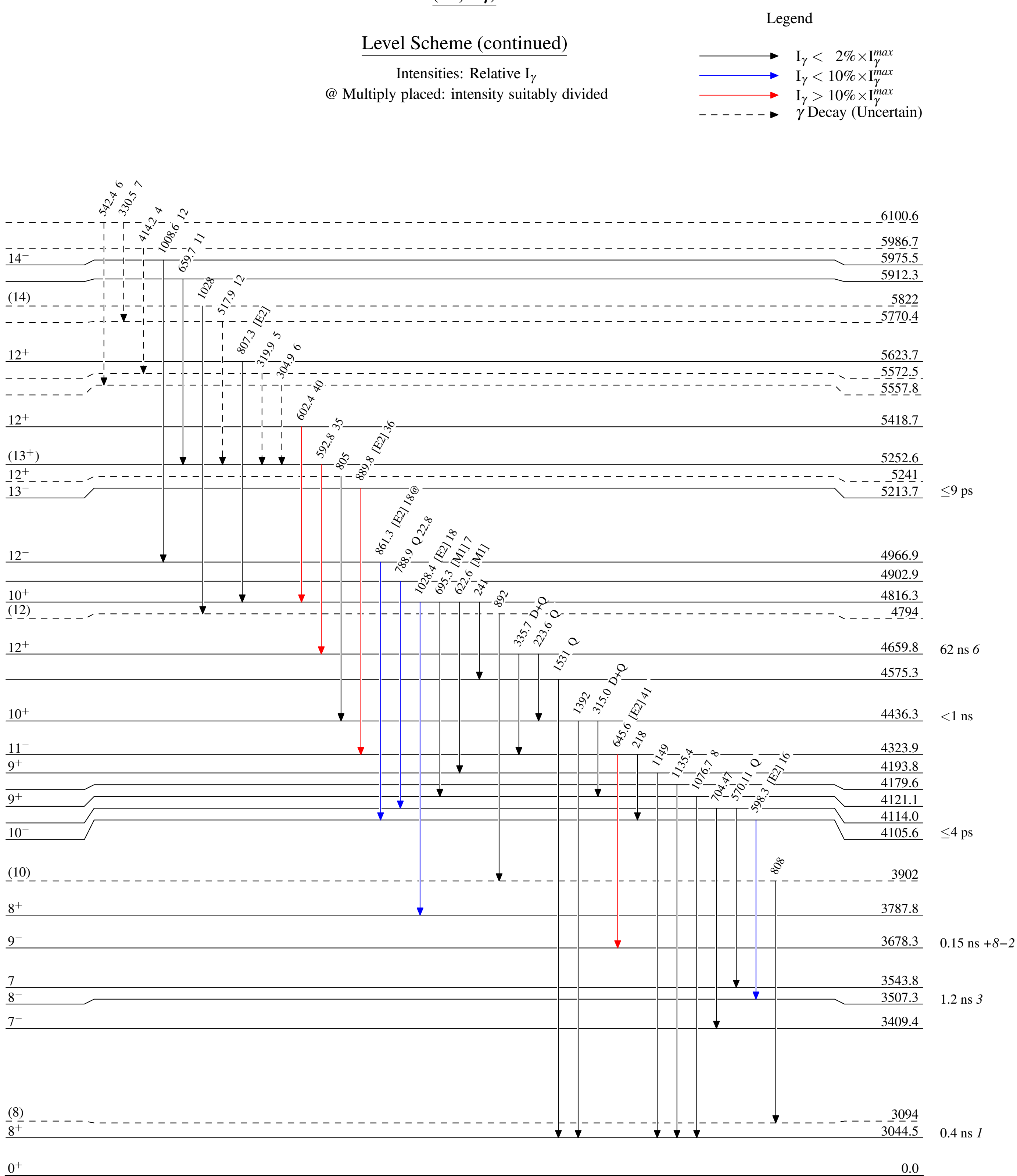
$^{106}_{48}Cd_{58}$

(HI,xnγ)

Level Scheme (continued)

Intensities: Relative I_γ

@ Multiply placed: intensity suitably divided

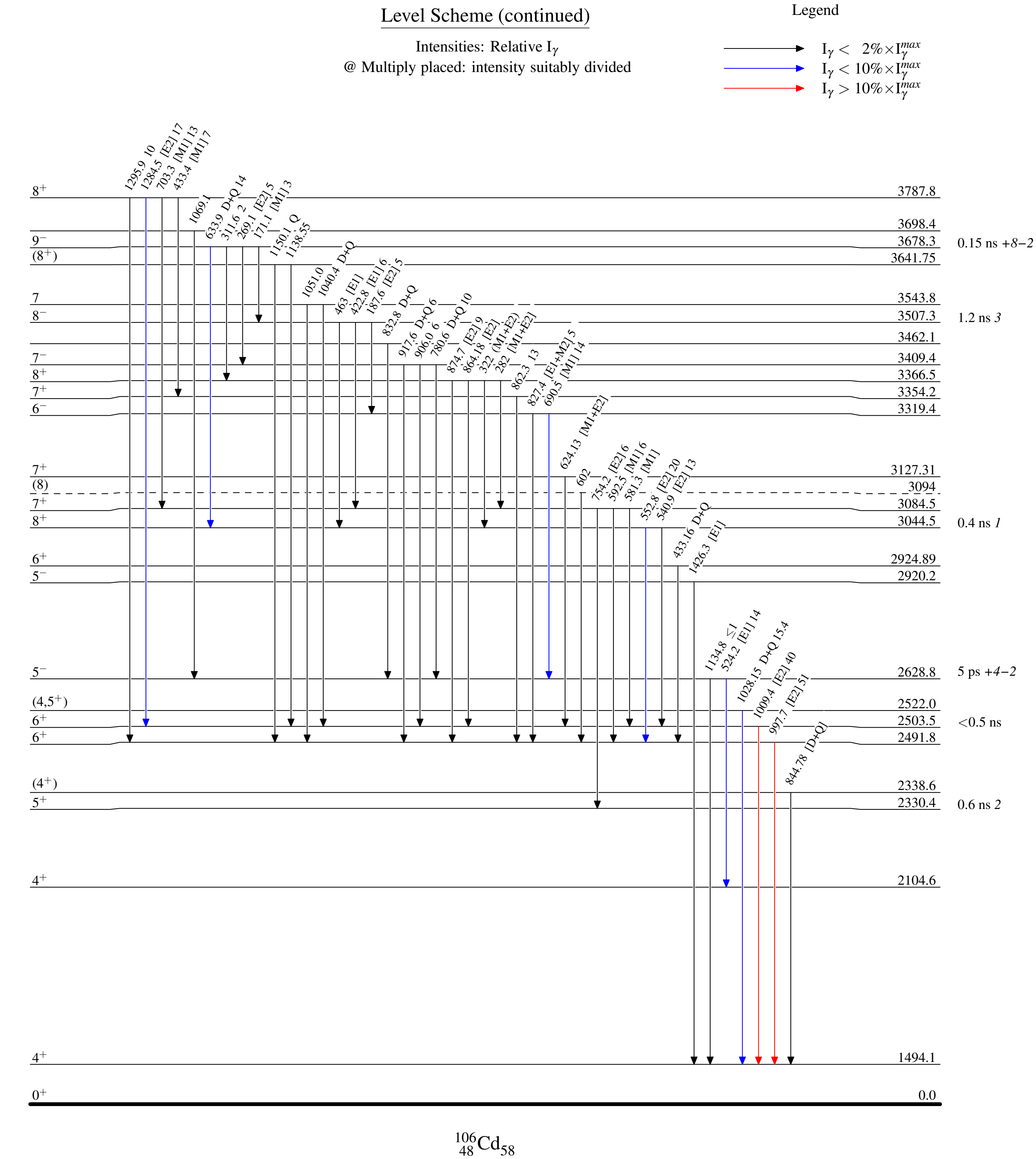


$^{106}_{48}Cd_{58}$

(HI,xnγ)

Level Scheme (continued)

Intensities: Relative I_γ
@ Multiply placed: intensity suitably divided

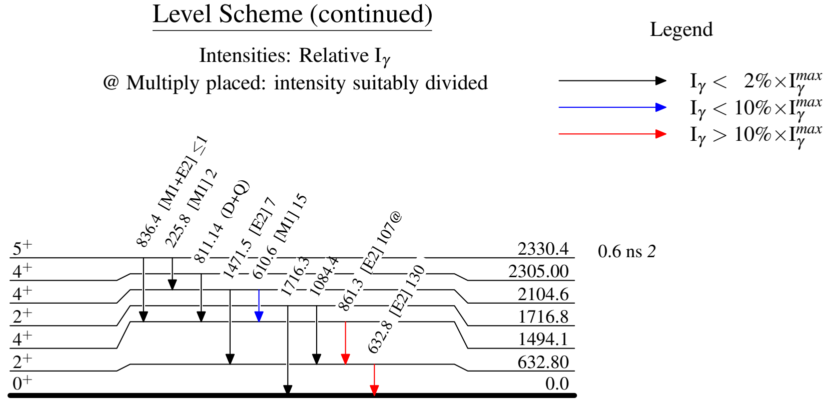


(HI,xnγ)

Level Scheme (continued)

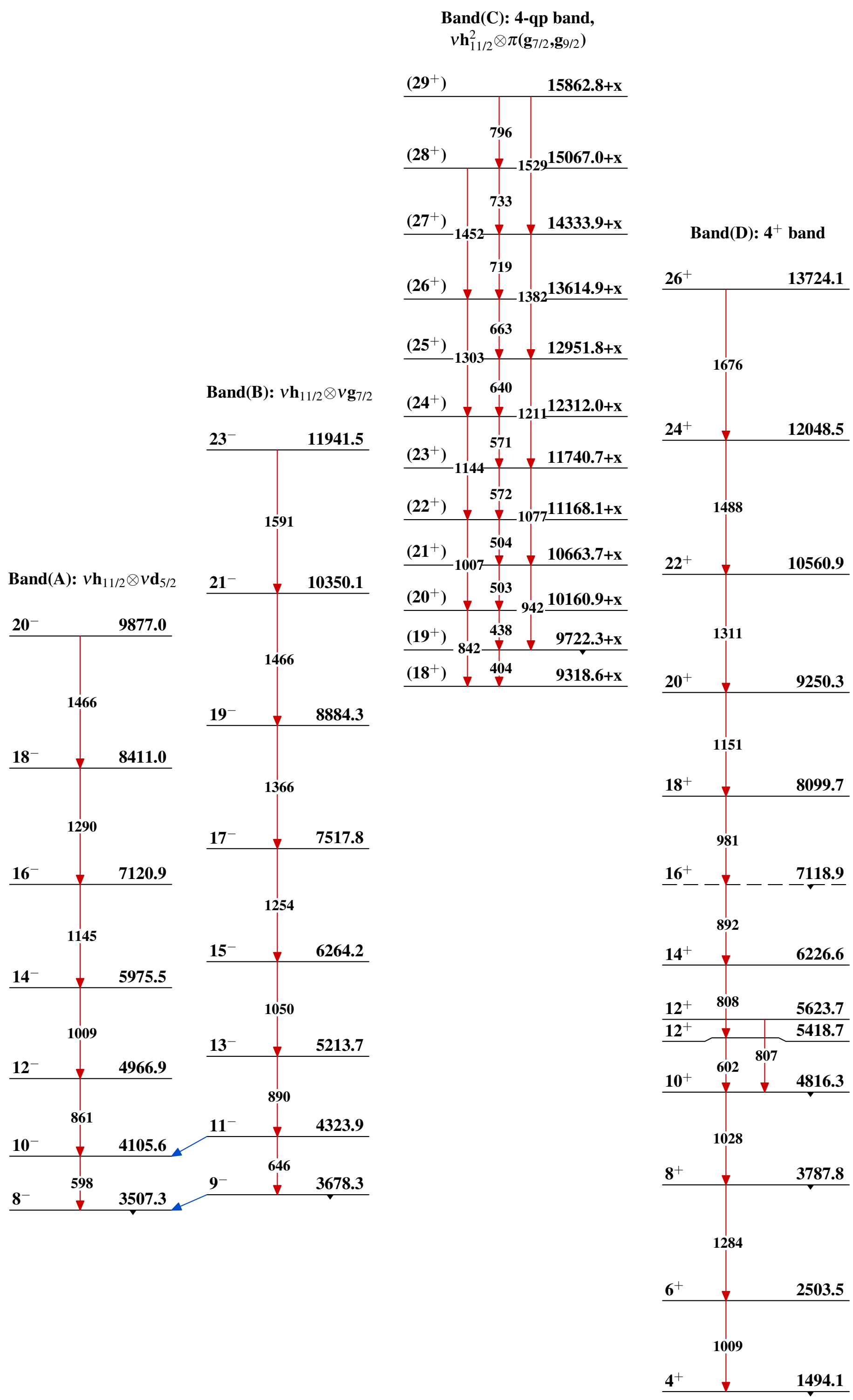
Intensities: Relative I_γ

@ Multiply placed: intensity suitably divided



$^{106}_{48}Cd_{58}$

(HI,xnγ)



$^{106}_{48}Cd_{58}$