

$^{114}\text{Cd}(^{48}\text{Ca},5n\gamma)$  2006Ev02,2004Ev01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 132, 1 (2016)	4-Dec-2015

**Additional information 1.**

The scheme is from 2006Ev02 (which is the most detailed write-up of the work published by all references described below, of which most authors are common as well).

2006Ev02, 2006Ri13, 2005Ri16, 2004Ev01:  $^{114}\text{Cd}(^{48}\text{Ca},5n\gamma)$ , E=215 MeV. Measured  $E\gamma$ ,  $I\gamma$ ,  $\gamma\gamma$ ,  $\gamma(\theta)$  using Gammasphere composed of 102 HPGe detectors, placed at  $35^\circ$ ,  $90^\circ$ , and  $145^\circ$  relative to the beam direction. Cranked shell-model calculations. All data and conclusions are from 2006Ev02, unless otherwise stated.

 $^{157}\text{Er}$  Levels

E(level) <sup>†</sup>	J $\pi$ <sup>‡</sup>	Comments
0	3/2 <sup>-</sup>	E(level),J $\pi$ : from Adopted Levels, Gammas dataset for $^{157}\text{Er}$ .
0+x <sup>d</sup>	5/2 <sup>-</sup>	<b>Additional information 2.</b> E(level),J $\pi$ : 2006Ev02 incorrectly assign this state as the g.s. in their discussion in section 3 for bands 5 and 6.
24.8+x <sup>9</sup>	7/2 <sup>-</sup>	
181.1+x <sup>&amp; 13</sup>	13/2 <sup>+</sup>	
181.9+x <sup>d 6</sup>	9/2 <sup>-</sup>	
446.8+x <sup>&amp; 12</sup>	17/2 <sup>+</sup>	
560.0+x <sup>d 9</sup>	13/2 <sup>-</sup>	
786.2+x <sup>f 14</sup>	(15/2 <sup>-</sup> )	
861.1+x <sup>&amp; 12</sup>	21/2 <sup>+</sup>	
1073.1+x <sup>d 11</sup>	17/2 <sup>-</sup>	
1142.8+x <sup>c 13</sup>	17/2 <sup>+</sup>	
1208.0+x <sup>f 12</sup>	19/2 <sup>(-)</sup>	
1388.1+x <sup>&amp; 12</sup>	25/2 <sup>+</sup>	
1487.8+x <sup>c 13</sup>	21/2 <sup>+</sup>	
1665.8+x <sup>d 12</sup>	21/2 <sup>-</sup>	
1697.8+x <sup># 12</sup>	21/2 <sup>-</sup>	
1740.8+x <sup>f 12</sup>	23/2 <sup>(-)</sup>	
1909.5+x <sup>c 13</sup>	25/2 <sup>+</sup>	
2009.9+x <sup>&amp; 12</sup>	29/2 <sup>+</sup>	
2102.2+x <sup># 12</sup>	25/2 <sup>-</sup>	
2299.9+x <sup>d 13</sup>	25/2 <sup>-</sup>	
2348.5+x <sup>f 13</sup>	27/2 <sup>(-)</sup>	
2387.0+x <sup>@ 13</sup>	27/2 <sup>-</sup>	
2424.1+x <sup>c 13</sup>	29/2 <sup>+</sup>	
2426.7+x <sup>12</sup>	25/2 <sup>-</sup>	
2572.4+x <sup>b 13</sup>	23/2 <sup>(-)</sup>	
2580.4+x <sup># 12</sup>	29/2 <sup>-</sup>	
2677.9+x <sup>a 13</sup>	25/2 <sup>(-)</sup>	
2712.7+x <sup>&amp; 12</sup>	33/2 <sup>+</sup>	
2792.7+x <sup>d 13</sup>	29/2 <sup>-</sup>	
2827.7+x <sup>b 13</sup>	27/2 <sup>(-)</sup>	
2841.0+x <sup>@ 13</sup>	31/2 <sup>-</sup>	
2892.4+x <sup>g 14</sup>	(29/2 <sup>-</sup> )	
3021.1+x <sup>a 13</sup>	29/2 <sup>(-)</sup>	

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<sup>114</sup>Cd(<sup>48</sup>Ca,5n $\gamma$ ) 2006Ev02,2004Ev01 (continued)

<sup>157</sup>Er Levels (continued)

E(level) <sup>†</sup>	J $\pi$ <sup>‡</sup>	E(level) <sup>†</sup>	J $\pi$ <sup>‡</sup>
3024.8+x <sup>c</sup> 13	33/2 <sup>+</sup>	6829.9+x <sup>c</sup> 14	53/2 <sup>+</sup>
3093.9+x <sup>#</sup> 12	33/2 <sup>-</sup>	7024.2+x <sup>d</sup> 20	(53/2 <sup>-</sup> )
3122.1+x <sup>e</sup> 13	31/2 <sup>(-)</sup>	7157.6+x <sup>@</sup> 13	55/2 <sup>-</sup>
3246.3+x <sup>b</sup> 13	31/2 <sup>(-)</sup>	7175.1+x <sup>a</sup> 16	53/2 <sup>(-)</sup>
3274.5+x 13	(31/2 <sup>-</sup> )	7471.7+x <sup>e</sup> 18	(55/2 <sup>-</sup> )
3336.9+x <sup>d</sup> 14	(33/2 <sup>-</sup> )	7479.3+x <sup>#</sup> 13	57/2 <sup>-</sup>
3377.4+x <sup>@</sup> 13	35/2 <sup>-</sup>	7522.5+x <sup>&amp;</sup> 14	57/2 <sup>+</sup>
3422.7+x <sup>g</sup> 16	(33/2 <sup>-</sup> )	7799.7+x <sup>c</sup> 15	57/2 <sup>+</sup>
3477.8+x <sup>&amp;</sup> 13	37/2 <sup>+</sup>	7947.5+x <sup>@</sup> 13	59/2 <sup>-</sup>
3507.4+x <sup>a</sup> 13	33/2 <sup>(-)</sup>	8080.7+x <sup>a</sup> 17	57/2 <sup>(-)</sup>
3668.0+x <sup>#</sup> 13	37/2 <sup>-</sup>	8271.1+x <sup>#</sup> 13	61/2 <sup>-</sup>
3679.2+x <sup>e</sup> 13	35/2 <sup>(-)</sup>	8289.0+x <sup>e</sup> 19	(59/2 <sup>-</sup> )
3703.5+x <sup>c</sup> 13	37/2 <sup>+</sup>	8437.5+x <sup>&amp;</sup> 14	61/2 <sup>+</sup>
3792.1+x <sup>b</sup> 13	35/2 <sup>(-)</sup>	8724.2+x <sup>c</sup> 16	61/2 <sup>+</sup>
3949.8+x <sup>d</sup> 16	(37/2 <sup>-</sup> )	8786.1+x <sup>@</sup> 13	63/2 <sup>-</sup>
4006.5+x <sup>@</sup> 13	39/2 <sup>-</sup>	9145.8+x <sup>#</sup> 14	65/2 <sup>-</sup>
4041.0+x <sup>g</sup> 17	(37/2 <sup>-</sup> )	9394.4+x <sup>&amp;</sup> 14	65/2 <sup>+</sup>
4099.7+x <sup>a</sup> 14	37/2 <sup>(-)</sup>	9648.7+x <sup>c</sup> 17	65/2 <sup>+</sup>
4280.9+x <sup>&amp;</sup> 13	41/2 <sup>+</sup>	9654.1+x <sup>@</sup> 14	67/2 <sup>-</sup>
4312.0+x <sup>e</sup> 13	39/2 <sup>(-)</sup>	10098.4+x <sup>#</sup> 14	69/2 <sup>-</sup>
4318.9+x <sup>#</sup> 13	41/2 <sup>-</sup>	10227.8+x <sup>&amp;</sup> 14	69/2 <sup>+</sup>
4431.5+x <sup>b</sup> 14	39/2 <sup>(-)</sup>	10548.8+x <sup>@</sup> 14	71/2 <sup>-</sup>
4441.0+x <sup>c</sup> 13	41/2 <sup>+</sup>	10825.2+x <sup>h</sup> 15	71/2 <sup>+</sup>
4626.0+x <sup>d</sup> 17	(41/2 <sup>-</sup> )	11038.4+x <sup>#</sup> 15	73/2 <sup>-</sup>
4721.9+x <sup>@</sup> 13	43/2 <sup>-</sup>	11080.6+x <sup>j</sup> 15	73/2 <sup>-</sup>
4744.7+x <sup>g</sup> 18	(41/2 <sup>-</sup> )	11306.8+x <sup>&amp;</sup> 15	73/2 <sup>+</sup>
4779.1+x <sup>a</sup> 14	41/2 <sup>(-)</sup>	11339.4+x 16	73/2 <sup>+</sup>
5017.3+x <sup>e</sup> 15	43/2 <sup>(-)</sup>	11426.7+x 15	
5046.5+x <sup>#</sup> 13	45/2 <sup>-</sup>	11461.6+x 16	
5090.8+x <sup>&amp;</sup> 13	45/2 <sup>+</sup>	11488.0+x <sup>@</sup> 15	75/2 <sup>-</sup>
5149.4+x <sup>b</sup> 14	43/2 <sup>(-)</sup>	11717.2+x <sup>h</sup> 16	(75/2 <sup>+</sup> )
5191.6+x <sup>c</sup> 14	45/2 <sup>+</sup>	11802.9+x <sup>#</sup> 15	77/2 <sup>-</sup>
5377.2+x <sup>d</sup> 18	(45/2 <sup>-</sup> )	11896.8+x <sup>i</sup> 16	75/2 <sup>+</sup>
5519.6+x <sup>#</sup> 13	47/2 <sup>-</sup>	12166.1+x <sup>&amp;</sup> 15	77/2 <sup>+</sup>
5526.6+x <sup>a</sup> 15	45/2 <sup>(-)</sup>	12206.2+x <sup>j</sup> 16	77/2 <sup>-</sup>
5798.0+x <sup>e</sup> 16	47/2 <sup>(-)</sup>	12331.6+x 16	
5846.8+x <sup>#</sup> 13	49/2 <sup>-</sup>	12339.5+x 16	
5897.3+x <sup>&amp;</sup> 13	49/2 <sup>+</sup>	12467.7+x 16	
5927.8+x <sup>b</sup> 15	47/2 <sup>(-)</sup>	12473.6+x <sup>@</sup> 15	79/2 <sup>-</sup>
5973.9+x <sup>c</sup> 13	49/2 <sup>+</sup>	12866.3+x 16	79/2 <sup>-</sup>
6179.9+x <sup>d</sup> 19	(49/2 <sup>-</sup> )	12934.9+x <sup>i</sup> 17	(79/2 <sup>+</sup> )
6328.9+x <sup>a</sup> 15	49/2 <sup>(-)</sup>	13059.0+x <sup>&amp;</sup> 16	81/2 <sup>+</sup>
6348.5+x <sup>@</sup> 13	51/2 <sup>-</sup>	13119.3+x <sup>#</sup> 15	81/2 <sup>-</sup>
6643.9+x <sup>e</sup> 17	51/2 <sup>(-)</sup>	13353.5+x 17	
6676.0+x <sup>#</sup> 13	53/2 <sup>-</sup>	13397.0+x <sup>@</sup> 15	83/2 <sup>-</sup>
6689.2+x <sup>&amp;</sup> 13	53/2 <sup>+</sup>	13439.0+x <sup>j</sup> 17	81/2 <sup>-</sup>
6756.4+x <sup>b</sup> 16	51/2 <sup>(-)</sup>	13915.3+x 17	

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<sup>114</sup>Cd(<sup>48</sup>Ca,5n $\gamma$ ) 2006Ev02,2004Ev01 (continued)

<sup>157</sup>Er Levels (continued)

E(level) <sup>†</sup>	J $\pi$ <sup>‡</sup>	Comments
14039.6+x <sup>#</sup> 17	85/2 <sup>-</sup>	
14047.0+x <sup>@</sup> 16	87/2 <sup>-</sup>	Interpreted by 2004Ev01 as terminating state with configuration= $\pi(h_{11/2}^4)_{16+} \otimes \nu(i_{13/2}^2) (h_{9/2} \text{ and/or } f_{7/2})^5]_{55/2-}$ .
14293.6+x <sup>&amp;</sup> 16	85/2 <sup>+</sup>	
14511.8+x 17	85/2 <sup>+</sup>	
14853.5+x <sup>#</sup> 18	89/2 <sup>-</sup>	Interpreted by 2004Ev01 as terminating state with configuration= $\pi(h_{11/2}^4)_{16+} \otimes \nu(i_{13/2}^2) (h_{9/2} \text{ and/or } f_{7/2})^5]_{57/2-}$ .
15064.2+x <sup>&amp;</sup> 16	89/2 <sup>+</sup>	
15311.0+x 17	89/2 <sup>-</sup>	
15486.5+x 17	89/2 <sup>-</sup>	
15585.4+x 17	89/2 <sup>-</sup>	
15628.6+x 17	91/2 <sup>-</sup>	
15761.8+x 17		
15818.1+x <sup>&amp;</sup> 17	93/2 <sup>+</sup>	Interpreted by 2004Ev01 as terminating state with configuration= $\pi(h_{11/2}^4)_{16+} \otimes \nu(i_{13/2}^3) (h_{9/2} \text{ and/or } f_{7/2})^4]_{61/2+}$ .
15827.2+x 17		
15961.9+x 17	91/2 <sup>-</sup>	
16122.1+x 17	91/2 <sup>-</sup>	
16185.8+x 17	91/2 <sup>-</sup>	
16274.1+x 19		
16348.2+x 19		
16394.0+x 17		
16409.8+x 19	93/2 <sup>-</sup>	
16455.7+x 17		
16559.9+x 19	93/2 <sup>-</sup>	
16956.1+x 19	93/2 <sup>-</sup>	
17231.3+x 18		
17298.3+x 18	95/2 <sup>+</sup>	
17453.8+x 18		
17513.3+x 18		
17519.1+x 18		
17555.2+x 18		
17654.4+x 20		
17943.5+x 18		
19056.9+x 20		
19502.8+x 19		

<sup>†</sup> From least-squares fit to E $\gamma$ 's.

<sup>‡</sup> Shown in the table are the exact J $\pi$  assignments of 2006Ev02 which are based on their angular correlation information, on systematics of similar structures in other nuclei, as well as the J $\pi$  assignments of 1995Ga13 (and some other previous measurements) with modifications from 2002Br52 as shown in the (HI,xn $\gamma$ ) dataset. Most of these previous assignments are confirmed by 2006Ev02 and extended to higher spins added in this dataset. However because no measurements were done to determine the electric or magnetic character of the  $\gamma$ -ray transitions, and the lowest 0+x level of this level scheme is only tentatively assigned to J $\pi$ =5/2<sup>-</sup>, all the assignments are actually tentative (see the Adopted Levels, Gammas dataset for the finally adopted values of this level scheme).

<sup>#</sup> Band(A):  $\nu 5/2[523] \otimes \nu i_{13/2}^2, \alpha = +1/2$ .

<sup>@</sup> Band(a):  $\nu 5/2[523] \otimes \nu i_{13/2}^2, \alpha = -1/2$ .

<sup>&</sup> Band(B):  $\nu 3/2[651]$  to  $\nu 3/2[651] \otimes \nu i_{13/2}^2, \alpha = +1/2$ .

<sup>a</sup> Band(C):  $\nu 3/2[651] \otimes \pi([7/2[523] \otimes 7/2[404]), K=7, \alpha = +1/2$ . Strongly-coupled band.

<sup>b</sup> Band(c):  $\nu 3/2[651] \otimes \pi(7/2[523] \otimes 7/2[404]), K=7, \alpha = -1/2$ . Strongly-coupled band.

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<sup>114</sup>Cd(<sup>48</sup>Ca,5n $\gamma$ ) **2006Ev02,2004Ev01 (continued)**

<sup>157</sup>Er Levels (continued)

- <sup>c</sup> Band(D):  $\nu_3/2[651] \otimes \gamma$  vibration.
- <sup>d</sup> Band(E):  $\nu_3/2[521]$  to  $\nu_3/2[521] \otimes \nu_{13/2}^2$ ,  $\alpha=+1/2$ . The signature  $\alpha=-1/2$  in table III of 2006Ev02 seems a misprint.
- <sup>e</sup> Band(e):  $\nu_3/2[521] \otimes \nu_{13/2}^2$ ,  $\alpha=-1/2$ . The signature  $\alpha=+1/2$  in table III of 2006Ev02 seems a misprint.
- <sup>f</sup> Band(F):  $\nu_3/2[521]$ ,  $\alpha=-1/2$ . Possible signature partner of  $\nu_3/2[521]$ . The signature  $\alpha=+1/2$  in table III of 2006Ev02 seems a misprint.
- <sup>g</sup> Band(G): Band based on  $(29/2^-)$ ,  $\alpha=+1/2$ . Four members in this band.
- <sup>h</sup> Band(H): Band based on  $71/2^+$ ,  $\alpha=-1/2$ . Only two members in this band.
- <sup>i</sup> Band(I): Band based on  $75/2^+$ ,  $\alpha=-1/2$ . Only two members in this band.
- <sup>j</sup> Band(J): Band based on  $73/2^-$ ,  $\alpha=+1/2$ . Only three members in this band.

$\gamma(^{157}\text{Er})$

$E_\gamma$ ‡	$I_\gamma$ #	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult. †	Comments
105.3 6	<1	2677.9+x	25/2 <sup>(-)</sup>	2572.4+x	23/2 <sup>(-)</sup>		
149.6 6	<1	2827.7+x	27/2 <sup>(-)</sup>	2677.9+x	25/2 <sup>(-)</sup>	M1+E2	R(ang)=0.81 19, A <sub>2</sub> =-0.30 2.
157.1 6	1.70 17	181.9+x	9/2 <sup>-</sup>	24.8+x	7/2 <sup>-</sup>	M1+E2	R(ang)=0.71 11.
181.9 6	<1	181.9+x	9/2 <sup>-</sup>	0+x	5/2 <sup>-</sup>		
193.3 @ 6	<1	2580.4+x	29/2 <sup>-</sup>	2387.0+x	27/2 <sup>-</sup>	M1+E2	R(ang)=0.95 9, A <sub>2</sub> =-0.25 2.
193.3 @ 6	<1	3021.1+x	29/2 <sup>(-)</sup>	2827.7+x	27/2 <sup>(-)</sup>	M1+E2	R(ang)=0.95 2, A <sub>2</sub> =-0.18 2.
225.2 6	<1	3246.3+x	31/2 <sup>(-)</sup>	3021.1+x	29/2 <sup>(-)</sup>	M1+E2	R(ang)=0.84 9, A <sub>2</sub> =-0.18 5.
231.4 6	2.30 23	2580.4+x	29/2 <sup>-</sup>	2348.5+x	27/2 <sup>(-)</sup>	M1+E2	R(ang)=0.71 1, A <sub>2</sub> =-0.30 2.
232.2 6	<1	3507.4+x	33/2 <sup>(-)</sup>	3274.5+x	(31/2 <sup>-</sup> )		
252.4 6	2.30 23	3093.9+x	33/2 <sup>-</sup>	2841.0+x	31/2 <sup>-</sup>	M1+E2	R(ang)=0.79 2, A <sub>2</sub> =-0.16 2.
255.0 6	<1	2827.7+x	27/2 <sup>(-)</sup>	2572.4+x	23/2 <sup>(-)</sup>		
260 1	<1	2841.0+x	31/2 <sup>-</sup>	2580.4+x	29/2 <sup>-</sup>		
261.0 6	<1	3507.4+x	33/2 <sup>(-)</sup>	3246.3+x	31/2 <sup>(-)</sup>	M1+E2	R(ang)=0.89 5, A <sub>2</sub> =-0.04 4.
265.7 3	100	446.8+x	17/2 <sup>+</sup>	181.1+x	13/2 <sup>+</sup>	E2	R(ang)=1.20 1, A <sub>2</sub> =+0.18 1.
277.6 6	<1	13397.0+x	83/2 <sup>-</sup>	13119.3+x	81/2 <sup>-</sup>	M1+E2	R(ang)=0.77 2, A <sub>2</sub> =-0.36 4.
281.4 6	<1	4721.9+x	43/2 <sup>-</sup>	4441.0+x	41/2 <sup>+</sup>	E1	R(ang)=0.69 14.
283.5 6	<1	3377.4+x	35/2 <sup>-</sup>	3093.9+x	33/2 <sup>-</sup>	M1+E2	R(ang)=0.88 21.
284.8 6	<1	3792.1+x	35/2 <sup>(-)</sup>	3507.4+x	33/2 <sup>(-)</sup>	M1+E2	R(ang)=0.92 4, A <sub>2</sub> =-0.01 4.
290.0 6	1.50 15	3668.0+x	37/2 <sup>-</sup>	3377.4+x	35/2 <sup>-</sup>	M1+E2	R(ang)=0.89 3, A <sub>2</sub> =-0.08 3.
303.2 6	<1	4006.5+x	39/2 <sup>-</sup>	3703.5+x	37/2 <sup>+</sup>		
307.5 6	<1	4099.7+x	37/2 <sup>(-)</sup>	3792.1+x	35/2 <sup>(-)</sup>	M1+E2	R(ang)=0.88 4, A <sub>2</sub> =-0.04 4.
312.6 6	1.40 14	4318.9+x	41/2 <sup>-</sup>	4006.5+x	39/2 <sup>-</sup>	M1+E2	R(ang)=0.89 5, A <sub>2</sub> =-0.12 5.
315.4 6	<1	11802.9+x	77/2 <sup>-</sup>	11488.0+x	75/2 <sup>-</sup>	M1+E2	R(ang)=0.85 7.
321.8 6	<1	7479.3+x	57/2 <sup>-</sup>	7157.6+x	55/2 <sup>-</sup>		
323.1 6	<1	8271.1+x	61/2 <sup>-</sup>	7947.5+x	59/2 <sup>-</sup>		
325.2 6	<1	5046.5+x	45/2 <sup>-</sup>	4721.9+x	43/2 <sup>-</sup>		
327.2 6	<1	6676.0+x	53/2 <sup>-</sup>	6348.5+x	51/2 <sup>-</sup>		
327.7 6	<1	5846.8+x	49/2 <sup>-</sup>	5519.6+x	47/2 <sup>-</sup>		
331.6 6	<1	4431.5+x	39/2 <sup>(-)</sup>	4099.7+x	37/2 <sup>(-)</sup>	M1+E2	R(ang)=0.94 4, A <sub>2</sub> =-0.13 4.
338.4 6	<1	4006.5+x	39/2 <sup>-</sup>	3668.0+x	37/2 <sup>-</sup>	M1+E2	R(ang)=0.92 9, A <sub>2</sub> =-0.19 1.
343.2 6	<1	3021.1+x	29/2 <sup>(-)</sup>	2677.9+x	25/2 <sup>(-)</sup>		
344.8 6	<1	1487.8+x	21/2 <sup>+</sup>	1142.8+x	17/2 <sup>+</sup>		
347.5 6	<1	4779.1+x	41/2 <sup>(-)</sup>	4431.5+x	39/2 <sup>(-)</sup>	M1+E2	R(ang)=0.90 5, A <sub>2</sub> =-0.05 5.
352.8 6	<1	3377.4+x	35/2 <sup>-</sup>	3024.8+x	33/2 <sup>+</sup>	E1	R(ang)=0.76 4, A <sub>2</sub> =-0.03 6.
362.2 6	5.1 5	2102.2+x	25/2 <sup>-</sup>	1740.8+x	23/2 <sup>(-)</sup>	M1+E2	R(ang)=0.73 1, A <sub>2</sub> =-0.31 2.
366.3 6	<1	2792.7+x	29/2 <sup>-</sup>	2426.7+x	25/2 <sup>-</sup>		
370.1 6	<1	5149.4+x	43/2 <sup>(-)</sup>	4779.1+x	41/2 <sup>(-)</sup>	M1+E2	R(ang)=0.80 8, A <sub>2</sub> =-0.09 7.
377.3 6	<1	5526.6+x	45/2 <sup>(-)</sup>	5149.4+x	43/2 <sup>(-)</sup>	M1+E2	R(ang)=0.78 7, A <sub>2</sub> =-0.06 6.
378.1 6	2.9 3	560.0+x	13/2 <sup>-</sup>	181.9+x	9/2 <sup>-</sup>		
381.6 6	<1	3093.9+x	33/2 <sup>-</sup>	2712.7+x	33/2 <sup>+</sup>		

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<sup>114</sup>Cd(<sup>48</sup>Ca,5n $\gamma$ ) 2006Ev02,2004Ev01 (continued)

$\gamma(^{157}\text{Er})$  (continued)

$E_\gamma$ ‡	$I_\gamma$ #	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult. †	Comments
401.1 @ 6	<1	5927.8+x	47/2 <sup>(-)</sup>	5526.6+x	45/2 <sup>(-)</sup>		
401.1 @ 6	<1	6328.9+x	49/2 <sup>(-)</sup>	5927.8+x	47/2 <sup>(-)</sup>		
403.2 6	<1	4721.9+x	43/2 <sup>-</sup>	4318.9+x	41/2 <sup>-</sup>		
404.5 6	3.5 4	2102.2+x	25/2 <sup>-</sup>	1697.8+x	21/2 <sup>-</sup>	E2	R(ang)=1.14 2, A <sub>2</sub> =+0.18 2.
414.3 3	96 5	861.1+x	21/2 <sup>+</sup>	446.8+x	17/2 <sup>+</sup>	E2	R(ang)=1.29 2, A <sub>2</sub> =+0.26 1.
418.9 6	<1	3246.3+x	31/2 <sup>(-)</sup>	2827.7+x	27/2 <sup>(-)</sup>		
421.8 6	<1	1208.0+x	19/2 <sup>(-)</sup>	786.2+x	(15/2 <sup>-</sup> )		
422.1 6	<1	1909.5+x	25/2 <sup>+</sup>	1487.8+x	21/2 <sup>+</sup>	E2	R(ang)=1.44 6, A <sub>2</sub> =+0.19 4.
427.9 6	<1	6756.4+x	51/2 <sup>(-)</sup>	6328.9+x	49/2 <sup>(-)</sup>		
429.2 6	<1	5519.6+x	47/2 <sup>-</sup>	5090.8+x	45/2 <sup>+</sup>	E1	R(ang)=0.82 5.
436.1 6	1.90 19	2102.2+x	25/2 <sup>-</sup>	1665.8+x	21/2 <sup>-</sup>		
441.2 6	<1	4721.9+x	43/2 <sup>-</sup>	4280.9+x	41/2 <sup>+</sup>	E1	R(ang)=0.96 3, A <sub>2</sub> =+0.03 3.
450.3 @ 6	<1	10548.8+x	71/2 <sup>-</sup>	10098.4+x	69/2 <sup>-</sup>	M1+E2	E <sub><math>\gamma</math></sub> : placement shown from 75/2 <sup>-</sup> to 73/2 <sup>-</sup> in table II of 2006Ev02, but placed from 71/2 <sup>-</sup> to 69/2 <sup>-</sup> in authors' figure 3. Since it seems to fit in both places, this $\gamma$ has been included with both levels. R(ang)=0.69 7, A <sub>2</sub> =-0.27 5. Note that R(ang) and A <sub>2</sub> values are the same as for 450.8 $\gamma$ . It is possible that these values are common for 450.3+450.8 doublet.
450.3 @ 6	<1	11488.0+x	75/2 <sup>-</sup>	11038.4+x	73/2 <sup>-</sup>		
450.8 6	<1	6348.5+x	51/2 <sup>-</sup>	5897.3+x	49/2 <sup>+</sup>	E1	R(ang)=0.69 7, A <sub>2</sub> =-0.27 5. Note that R(ang) and A <sub>2</sub> values are the same as for 450.3 $\gamma$ . It is possible that these values are common for 450.3+450.8 doublet.
453.9 6	2.0 2	2841.0+x	31/2 <sup>-</sup>	2387.0+x	27/2 <sup>-</sup>	E2	R(ang)=1.13 6.
467.6 6	<1	7157.6+x	55/2 <sup>-</sup>	6689.2+x	53/2 <sup>+</sup>	E1	R(ang)=0.58 4, A <sub>2</sub> =-0.19 4.
468.7 6	<1	7947.5+x	59/2 <sup>-</sup>	7479.3+x	57/2 <sup>-</sup>		
473.7 6	<1	5519.6+x	47/2 <sup>-</sup>	5046.5+x	45/2 <sup>-</sup>	M1+E2	R(ang)=0.78 9.
478.3 3	17.9 9	2580.4+x	29/2 <sup>-</sup>	2102.2+x	25/2 <sup>-</sup>	E2	R(ang)=1.34 1, A <sub>2</sub> =+0.28 1.
481.5 6	<1	7157.6+x	55/2 <sup>-</sup>	6676.0+x	53/2 <sup>-</sup>	M1+E2	R(ang)=0.92 11.
486.2 6	<1	3507.4+x	33/2 <sup>(-)</sup>	3021.1+x	29/2 <sup>(-)</sup>		
489.2 6	1.20 12	1697.8+x	21/2 <sup>-</sup>	1208.0+x	19/2 <sup>(-)</sup>	M1+E2	R(ang)=0.64 5, A <sub>2</sub> =-0.34 6.
492.6 6	<1	2792.7+x	29/2 <sup>-</sup>	2299.9+x	25/2 <sup>-</sup>		
500.9 6	<1	6348.5+x	51/2 <sup>-</sup>	5846.8+x	49/2 <sup>-</sup>		
513.1 6	1.60 16	1073.1+x	17/2 <sup>-</sup>	560.0+x	13/2 <sup>-</sup>		
513.6 3	32.5 16	3093.9+x	33/2 <sup>-</sup>	2580.4+x	29/2 <sup>-</sup>	E2	R(ang)=1.20 1, A <sub>2</sub> =+0.19 1.
514.5 <sup>a</sup> 6	3.9 <sup>a</sup> 4	2424.1+x	29/2 <sup>+</sup>	1909.5+x	25/2 <sup>+</sup>	E2	R(ang)=1.18 2, A <sub>2</sub> =+0.12 2.
514.5 <sup>a</sup> 6	<1 <sup>a</sup>	8786.1+x	63/2 <sup>-</sup>	8271.1+x	61/2 <sup>-</sup>		
521.2 6	<1	1909.5+x	25/2 <sup>+</sup>	1388.1+x	25/2 <sup>+</sup>		
527.1 3	91 5	1388.1+x	25/2 <sup>+</sup>	861.1+x	21/2 <sup>+</sup>	E2	R(ang)=1.23 1, A <sub>2</sub> =+0.12 1.
528.5 6	2.20 22	4006.5+x	39/2 <sup>-</sup>	3477.8+x	37/2 <sup>+</sup>		
530.3 6	<1	3422.7+x	(33/2 <sup>-</sup> )	2892.4+x	(29/2 <sup>-</sup> )		
533.5 6	1.20 12	1740.8+x	23/2 <sup>(-)</sup>	1208.0+x	19/2 <sup>(-)</sup>		
536.2 6	8.1 8	3377.4+x	35/2 <sup>-</sup>	2841.0+x	31/2 <sup>-</sup>	E2	R(ang)=1.21 3, A <sub>2</sub> =+0.50 2.
544.2 6	<1	3336.9+x	(33/2 <sup>-</sup> )	2792.7+x	29/2 <sup>-</sup>		
545.8 6	<1	3792.1+x	35/2 <sup>(-)</sup>	3246.3+x	31/2 <sup>(-)</sup>		
556.8 6	<1	3679.2+x	35/2 <sup>(-)</sup>	3122.1+x	31/2 <sup>(-)</sup>		
570.8 6	5.9 6	2580.4+x	29/2 <sup>-</sup>	2009.9+x	29/2 <sup>+</sup>		
574.3 3	30.4 15	3668.0+x	37/2 <sup>-</sup>	3093.9+x	33/2 <sup>-</sup>	E2	R(ang)=1.38 1, A <sub>2</sub> =+0.35 2.
592.2 6	<1	4099.7+x	37/2 <sup>(-)</sup>	3507.4+x	33/2 <sup>(-)</sup>		
592.5 <sup>a</sup> 6	3.3 <sup>a</sup> 3	1665.8+x	21/2 <sup>-</sup>	1073.1+x	17/2 <sup>-</sup>		
592.5 <sup>a</sup> 6	<1 <sup>a</sup>	2892.4+x	(29/2 <sup>-</sup> )	2299.9+x	25/2 <sup>-</sup>		
597.1 6	4.6 5	10825.2+x	71/2 <sup>+</sup>	10227.8+x	69/2 <sup>+</sup>	M1+E2	R(ang)=0.95 1, A <sub>2</sub> =-0.27 3.

Continued on next page (footnotes at end of table)

<sup>114</sup>Cd(<sup>48</sup>Ca,5n $\gamma$ ) 2006Ev02,2004Ev01 (continued)

$\gamma$ (<sup>157</sup>Er) (continued)

$E_\gamma$ ‡	$I_\gamma$ #	$E_i$ (level)	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult. †	Comments
601.2 6	6.3 6	3024.8+x	33/2 <sup>+</sup>	2424.1+x	29/2 <sup>+</sup>	(E2)	R(ang)=0.95 3, A <sub>2</sub> =-0.02 2.
601.2 6	<1	11426.7+x		10825.2+x	71/2 <sup>+</sup>		
607.1 6	2.7 3	2348.5+x	27/2 <sup>(-)</sup>	1740.8+x	23/2 <sup>(-)</sup>		
612.9 6	<1	3949.8+x	(37/2 <sup>-</sup> )	3336.9+x	(33/2 <sup>-</sup> )		
618.3 6	<1	4041.0+x	(37/2 <sup>-</sup> )	3422.7+x	(33/2 <sup>-</sup> )		
621.7 3	68 3	2009.9+x	29/2 <sup>+</sup>	1388.1+x	25/2 <sup>+</sup>	E2	R(ang)=1.34 2, A <sub>2</sub> =+0.24 1.
624.9 6	1.0 1	1697.8+x	21/2 <sup>-</sup>	1073.1+x	17/2 <sup>-</sup>		
627.4 6	<1	1487.8+x	21/2 <sup>+</sup>	861.1+x	21/2 <sup>+</sup>		
629.3 3	12.7 6	4006.5+x	39/2 <sup>-</sup>	3377.4+x	35/2 <sup>-</sup>	E2	R(ang)=1.42 3, A <sub>2</sub> =+0.37 1.
632.8 6	2.10 21	4312.0+x	39/2 <sup>(-)</sup>	3679.2+x	35/2 <sup>(-)</sup>	E2	R(ang)=1.24 11.
633.8 6	<1	2299.9+x	25/2 <sup>-</sup>	1665.8+x	21/2 <sup>-</sup>		
639.5 6	<1	4431.5+x	39/2 <sup>(-)</sup>	3792.1+x	35/2 <sup>(-)</sup>	E2	R(ang)=1.5 4, A <sub>2</sub> =+0.29 2.
650.2 6	4.1 4	14047.0+x	87/2 <sup>-</sup>	13397.0+x	83/2 <sup>-</sup>	E2	R(ang)=1.38 1, A <sub>2</sub> =+0.34 1.
650.9 3	36.8 18	4318.9+x	41/2 <sup>-</sup>	3668.0+x	37/2 <sup>-</sup>	E2	R(ang)=1.35 1, A <sub>2</sub> =+0.33 1.
664.4 6	9.5 10	3377.4+x	35/2 <sup>-</sup>	2712.7+x	33/2 <sup>+</sup>	E1	R(ang)=0.70 1, A <sub>2</sub> =-0.32 2.
671.1 6	1.70 17	12473.6+x	79/2 <sup>-</sup>	11802.9+x	77/2 <sup>-</sup>	M1+E2	R(ang)=0.31 1, A <sub>2</sub> =-0.87 2.
676.2 6	<1	4626.0+x	(41/2 <sup>-</sup> )	3949.8+x	(37/2 <sup>-</sup> )		
678.6 6	8.3 8	3703.5+x	37/2 <sup>+</sup>	3024.8+x	33/2 <sup>+</sup>	E2	R(ang)=1.43 13, A <sub>2</sub> =+0.26 2.
679.3 6	<1	4779.1+x	41/2 <sup>(-)</sup>	4099.7+x	37/2 <sup>(-)</sup>		
695.7 6	<1	1142.8+x	17/2 <sup>+</sup>	446.8+x	17/2 <sup>+</sup>		
702.8 3	48.1 24	2712.7+x	33/2 <sup>+</sup>	2009.9+x	29/2 <sup>+</sup>	E2	R(ang)=1.34 2, A <sub>2</sub> =+0.31 1.
703.7 6	<1	4744.7+x	(41/2 <sup>-</sup> )	4041.0+x	(37/2 <sup>-</sup> )		
705.3 6	1.80 18	5017.3+x	43/2 <sup>(-)</sup>	4312.0+x	39/2 <sup>(-)</sup>		
714.2 6	6.8 7	2102.2+x	25/2 <sup>-</sup>	1388.1+x	25/2 <sup>+</sup>		
715.4 3	20.2 10	4721.9+x	43/2 <sup>-</sup>	4006.5+x	39/2 <sup>-</sup>	E2	R(ang)=1.32 1, A <sub>2</sub> =+0.34 2.
718.0 6	<1	5149.4+x	43/2 <sup>(-)</sup>	4431.5+x	39/2 <sup>(-)</sup>		
722.4 6	1.0 1	11802.9+x	77/2 <sup>-</sup>	11080.6+x	73/2 <sup>-</sup>	E2	R(ang)=1.58 5, A <sub>2</sub> =+0.33 2.
727.5 3	36.1 18	5046.5+x	45/2 <sup>-</sup>	4318.9+x	41/2 <sup>-</sup>	E2	R(ang)=1.42 1, A <sub>2</sub> =+0.37 2.
737.9 6	5.8 6	4441.0+x	41/2 <sup>+</sup>	3703.5+x	37/2 <sup>+</sup>	E2	R(ang)=1.37 4, A <sub>2</sub> =+0.34 3.
739.0 6	<1	12166.1+x	77/2 <sup>+</sup>	11426.7+x			
747.7 6	<1	5526.6+x	45/2 <sup>(-)</sup>	4779.1+x	41/2 <sup>(-)</sup>		
750.3 6	3.3 3	5191.6+x	45/2 <sup>+</sup>	4441.0+x	41/2 <sup>+</sup>	E2	R(ang)=1.32 3, A <sub>2</sub> =+0.26 3.
751.2 6	<1	5377.2+x	(45/2 <sup>-</sup> )	4626.0+x	(41/2 <sup>-</sup> )		
753.9 6	1.0 1	15818.1+x	93/2 <sup>+</sup>	15064.2+x	89/2 <sup>+</sup>	E2	R(ang)=1.44 6, A <sub>2</sub> =+0.60 4.
761.2 6	<1	2426.7+x	25/2 <sup>-</sup>	1665.8+x	21/2 <sup>-</sup>		
761.3 6	<1	1208.0+x	19/2 <sup>(-)</sup>	446.8+x	17/2 <sup>+</sup>		
764.1 6	2.10 21	11802.9+x	77/2 <sup>-</sup>	11038.4+x	73/2 <sup>-</sup>	E2	R(ang)=1.37 2, A <sub>2</sub> =+0.35 1.
764.9 3	39.9 20	3477.8+x	37/2 <sup>+</sup>	2712.7+x	33/2 <sup>+</sup>	E2	R(ang)=1.21 2, A <sub>2</sub> =+0.31 1.
770.4 6	<1	15064.2+x	89/2 <sup>+</sup>	14293.6+x	85/2 <sup>+</sup>	E2	
778.3 6	<1	5927.8+x	47/2 <sup>(-)</sup>	5149.4+x	43/2 <sup>(-)</sup>	E2	R(ang)=1.53 14, A <sub>2</sub> =+0.31 2.
780.7 6	2.5 3	5798.0+x	47/2 <sup>(-)</sup>	5017.3+x	43/2 <sup>(-)</sup>	E2	R(ang)=1.24 7.
782.1 6	5.1 5	5973.9+x	49/2 <sup>+</sup>	5191.6+x	45/2 <sup>+</sup>	E2	R(ang)=1.15 3, A <sub>2</sub> =+0.31 2.
789.7 3	13.1 7	7947.5+x	59/2 <sup>-</sup>	7157.6+x	55/2 <sup>-</sup>	E2	R(ang)=1.28 1, A <sub>2</sub> =+0.32 1.
791.6 3	35.1 18	6689.2+x	53/2 <sup>+</sup>	5897.3+x	49/2 <sup>+</sup>	E2	R(ang)=1.34 2, A <sub>2</sub> =+0.19 1.
791.9 3	21.1 11	8271.1+x	61/2 <sup>-</sup>	7479.3+x	57/2 <sup>-</sup>	E2	R(ang)=1.30 1, A <sub>2</sub> =+0.26 1.
797.9 3	17.2 9	5519.6+x	47/2 <sup>-</sup>	4721.9+x	43/2 <sup>-</sup>	E2	R(ang)=1.27 2.
800.3 3	37.0 19	5846.8+x	49/2 <sup>-</sup>	5046.5+x	45/2 <sup>-</sup>	E2	R(ang)=1.34 3, A <sub>2</sub> =+0.30 1.
802.5 6	<1	6328.9+x	49/2 <sup>(-)</sup>	5526.6+x	45/2 <sup>(-)</sup>		
802.7 6	<1	6179.9+x	(49/2 <sup>-</sup> )	5377.2+x	(45/2 <sup>-</sup> )		
803.0 3	51 3	4280.9+x	41/2 <sup>+</sup>	3477.8+x	37/2 <sup>+</sup>	E2	R(ang)=1.35 1.
803.5 3	20.8 10	7479.3+x	57/2 <sup>-</sup>	6676.0+x	53/2 <sup>-</sup>	E2	R(ang)=1.34 3, A <sub>2</sub> =+0.30 1.
806.2 3	47.4 24	5897.3+x	49/2 <sup>+</sup>	5090.8+x	45/2 <sup>+</sup>	E2	R(ang)=1.29 2.
809.1 3	13.2 7	7157.6+x	55/2 <sup>-</sup>	6348.5+x	51/2 <sup>-</sup>	E2	R(ang)=1.25 1, A <sub>2</sub> =+0.38 2.
809.6 3	47.4 24	5090.8+x	45/2 <sup>+</sup>	4280.9+x	41/2 <sup>+</sup>	E2	R(ang)=1.29 2.
813.9 6	1.10 11	14853.5+x	89/2 <sup>-</sup>	14039.6+x	85/2 <sup>-</sup>	E2	R(ang)=1.27 4, A <sub>2</sub> =+0.58 4.

Continued on next page (footnotes at end of table)

$^{114}\text{Cd}(^{48}\text{Ca},5n\gamma)$  2006Ev02,2004Ev01 (continued) $\gamma(^{157}\text{Er})$  (continued)

$E_\gamma$ ‡	$I_\gamma$ #	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult. †	Comments
817.3 6	<1	8289.0+x	(59/2 <sup>-</sup> )	7471.7+x	(55/2 <sup>-</sup> )		
827.8 6	<1	7471.7+x	(55/2 <sup>-</sup> )	6643.9+x	51/2 <sup>(-)</sup>		
828.2 6	<1	6756.4+x	51/2 <sup>(-)</sup>	5927.8+x	47/2 <sup>(-)</sup>		
829.2 3	36.8 18	6348.5+x	51/2 <sup>-</sup>	5519.6+x	47/2 <sup>-</sup>	E2	R(ang)=1.24 2, A <sub>2</sub> =+0.26 1.
829.5 3	35.4 18	6676.0+x	53/2 <sup>-</sup>	5846.8+x	49/2 <sup>-</sup>	E2	R(ang)=1.26 1, A <sub>2</sub> =+0.30 1.
830.8 6	8.0 8	2841.0+x	31/2 <sup>-</sup>	2009.9+x	29/2 <sup>+</sup>		
833.3 3	27.4 14	7522.5+x	57/2 <sup>+</sup>	6689.2+x	53/2 <sup>+</sup>	E2	R(ang)=1.33 2, A <sub>2</sub> =+0.23 1.
833.3 3	27.4 14	10227.8+x	69/2 <sup>+</sup>	9394.4+x	65/2 <sup>+</sup>	E2	R(ang)=1.33 2, A <sub>2</sub> =+0.23 1.
834.2 6	<1	4312.0+x	39/2 <sup>(-)</sup>	3477.8+x	37/2 <sup>+</sup>		
837.1 6	2.6 3	1697.8+x	21/2 <sup>-</sup>	861.1+x	21/2 <sup>+</sup>	E1	R(ang)=1.15 4, A <sub>2</sub> =-0.15 2.
838.7 3	10.6 5	8786.1+x	63/2 <sup>-</sup>	7947.5+x	59/2 <sup>-</sup>	E2	R(ang)=1.24 1, A <sub>2</sub> =+0.19 1.
844.3 6	<1	7024.2+x	(53/2 <sup>-</sup> )	6179.9+x	(49/2 <sup>-</sup> )		
845.9 6	1.0 1	6643.9+x	51/2 <sup>(-)</sup>	5798.0+x	47/2 <sup>(-)</sup>		
846.2 6	<1	7175.1+x	53/2 <sup>(-)</sup>	6328.9+x	49/2 <sup>(-)</sup>		
855.8 6	1.90 19	6829.9+x	53/2 <sup>+</sup>	5973.9+x	49/2 <sup>+</sup>	E2	R(ang)=1.35 8, A <sub>2</sub> =+0.44 3.
859.4 6	3.9 4	12166.1+x	77/2 <sup>+</sup>	11306.8+x	73/2 <sup>+</sup>	E2	R(ang)=1.29 9, A <sub>2</sub> =+0.82 6.
867.9 6	9.9 10	9654.1+x	67/2 <sup>-</sup>	8786.1+x	63/2 <sup>-</sup>	E2	R(ang)=1.47 1, A <sub>2</sub> =+0.41 2.
874.7 3	20.8 10	9145.8+x	65/2 <sup>-</sup>	8271.1+x	61/2 <sup>-</sup>	E2	R(ang)=1.40 1, A <sub>2</sub> =+0.40 1.
879.2 6	<1	1740.8+x	23/2 <sup>(-)</sup>	861.1+x	21/2 <sup>+</sup>		
883.2 6	4.0 4	5973.9+x	49/2 <sup>+</sup>	5090.8+x	45/2 <sup>+</sup>	E2	R(ang)=1.45 5, A <sub>2</sub> =+0.58 4.
892.0 6	<1	11717.2+x	(75/2 <sup>+</sup> )	10825.2+x	71/2 <sup>+</sup>		
892.7 6	8.5 9	13059.0+x	81/2 <sup>+</sup>	12166.1+x	77/2 <sup>+</sup>	E2	R(ang)=1.31 4, A <sub>2</sub> =+0.37 2.
894.7 6	7.7 8	10548.8+x	71/2 <sup>-</sup>	9654.1+x	67/2 <sup>-</sup>	E2	R(ang)=1.34 2, A <sub>2</sub> =+0.28 1.
905.6 6	<1	8080.7+x	57/2 <sup>(-)</sup>	7175.1+x	53/2 <sup>(-)</sup>		
907.2 6	<1	16394.0+x		15486.5+x	89/2 <sup>-</sup>		
914.9 3	16.3 8	8437.5+x	61/2 <sup>+</sup>	7522.5+x	57/2 <sup>+</sup>	E2	R(ang)=1.22 3, A <sub>2</sub> =+0.34 2.
920.3 6	1.10 11	14039.6+x	85/2 <sup>-</sup>	13119.3+x	81/2 <sup>-</sup>	E2	R(ang)=1.43 2, A <sub>2</sub> =+0.38 2.
923.7 6	3.6 4	13397.0+x	83/2 <sup>-</sup>	12473.6+x	79/2 <sup>-</sup>	E2	R(ang)=1.51 1, A <sub>2</sub> =+0.36 2.
924.5 & 6	2.30 & 23	8724.2+x	61/2 <sup>+</sup>	7799.7+x	57/2 <sup>+</sup>	E2	I <sub>γ</sub> : quoted intensity of 2.3 is assumed to be the combined intensity for the doublet. R(ang)=1.65 3, A <sub>2</sub> =+0.44 2 for 924.5 doublet.
924.5 & 6	2.30 & 23	9648.7+x	65/2 <sup>+</sup>	8724.2+x	61/2 <sup>+</sup>	E2	R(ang)=1.65 3, A <sub>2</sub> =+0.44 2 for the doublet.
932.7 6	<1	6829.9+x	53/2 <sup>+</sup>	5897.3+x	49/2 <sup>+</sup>		
938.9 6	4.9 5	11488.0+x	75/2 <sup>-</sup>	10548.8+x	71/2 <sup>-</sup>	E2	R(ang)=1.33 1, A <sub>2</sub> =+0.33 2.
940.3 6	2.20 22	11038.4+x	73/2 <sup>-</sup>	10098.4+x	69/2 <sup>-</sup>	E2	R(ang)=1.42 1, A <sub>2</sub> =+0.37 2.
952.9 6	5.0 5	10098.4+x	69/2 <sup>-</sup>	9145.8+x	65/2 <sup>-</sup>	E2	R(ang)=1.31 1, A <sub>2</sub> =+0.34 2.
956.9 3	14.8 7	9394.4+x	65/2 <sup>+</sup>	8437.5+x	61/2 <sup>+</sup>	E2	R(ang)=1.31 4, A <sub>2</sub> =+0.44 2.
960.5 6	2.0 2	2348.5+x	27/2 <sup>(-)</sup>	1388.1+x	25/2 <sup>+</sup>		
961.7 6	<1	1142.8+x	17/2 <sup>+</sup>	181.1+x	13/2 <sup>+</sup>		
966.9 6	2.10 21	3679.2+x	35/2 <sup>(-)</sup>	2712.7+x	33/2 <sup>+</sup>	(E1)	R(ang)=0.79 9.
969.8 6	<1	7799.7+x	57/2 <sup>+</sup>	6829.9+x	53/2 <sup>+</sup>	E2	R(ang)=1.31 7, A <sub>2</sub> =+0.34 6.
982.3 6	2.0 2	11080.6+x	73/2 <sup>-</sup>	10098.4+x	69/2 <sup>-</sup>	E2	R(ang)=1.25 2, A <sub>2</sub> =+0.28 2.
985.7 6	3.5 4	12473.6+x	79/2 <sup>-</sup>	11488.0+x	75/2 <sup>-</sup>	E2	R(ang)=1.29 2, A <sub>2</sub> =+0.25 2.
991.3 6	<1	3703.5+x	37/2 <sup>+</sup>	2712.7+x	33/2 <sup>+</sup>		
998.7 6	1.20 12	2387.0+x	27/2 <sup>-</sup>	1388.1+x	25/2 <sup>+</sup>	E1	R(ang)=0.47 3, A <sub>2</sub> =-0.23 2.
1014.0 6	<1	13353.5+x		12339.5+x			
1014.6 6	1.30 13	3024.8+x	33/2 <sup>+</sup>	2009.9+x	29/2 <sup>+</sup>	E2	R(ang)=1.48 5, A <sub>2</sub> =+0.16 5.
1017.4 6	<1	15064.2+x	89/2 <sup>+</sup>	14047.0+x	87/2 <sup>-</sup>	E1	R(ang)=0.79 4, A <sub>2</sub> =-0.28 3.
1032.7 6	1.90 19	12339.5+x		11306.8+x	73/2 <sup>+</sup>		
1036.7 6	2.9 3	2424.1+x	29/2 <sup>+</sup>	1388.1+x	25/2 <sup>+</sup>	E2	R(ang)=1.36 4, A <sub>2</sub> =+0.19 4.
1038.1 6	<1	12934.9+x	(79/2 <sup>+</sup> )	11896.8+x	75/2 <sup>+</sup>		
1038.5 6	<1	2426.7+x	25/2 <sup>-</sup>	1388.1+x	25/2 <sup>+</sup>		
1040.8 6	1.20 12	1487.8+x	21/2 <sup>+</sup>	446.8+x	17/2 <sup>+</sup>		
1045.5 6	<1	17231.3+x		16185.8+x	91/2 <sup>-</sup>		

Continued on next page (footnotes at end of table)

<sup>114</sup>Cd(<sup>48</sup>Ca,5n $\gamma$ ) 2006Ev02,2004Ev01 (continued)

$\gamma$ (<sup>157</sup>Er) (continued)

$E_\gamma$ <sup>‡</sup>	$I_\gamma$ <sup>#</sup>	$E_i$ (level)	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	Comments
1048.1 6	2.10 21	1909.5+x	25/2 <sup>+</sup>	861.1+x	21/2 <sup>+</sup>	E2	R(ang)=1.42 6, A <sub>2</sub> =+0.05 5.
1049.0 6	<1	13915.3+x		12866.3+x	79/2 <sup>-</sup>		
1071.6 6	<1	11896.8+x	75/2 <sup>+</sup>	10825.2+x	71/2 <sup>+</sup>	E2	R(ang)=1.39 8, A <sub>2</sub> =+0.38 6.
1079.1 6	4.4 4	11306.8+x	73/2 <sup>+</sup>	10227.8+x	69/2 <sup>+</sup>	E2	R(ang)=1.37 4, A <sub>2</sub> =+0.39 3.
1083.4 6	<1	16394.0+x		15311.0+x	89/2 <sup>-</sup>		
1111.6 6	<1	11339.4+x	73/2 <sup>+</sup>	10227.8+x	69/2 <sup>+</sup>	E2	R(ang)=1.24 10, A <sub>2</sub> =+0.39 7.
1111.8 6	<1	3122.1+x	31/2 <sup>(-)</sup>	2009.9+x	29/2 <sup>+</sup>	(E1)	R(ang)=0.74 11.
1125.6 6	<1	12206.2+x	77/2 <sup>-</sup>	11080.6+x	73/2 <sup>-</sup>	E2	R(ang)=1.42 5, A <sub>2</sub> =+0.23 4.
1232.8 6	<1	13439.0+x	81/2 <sup>-</sup>	12206.2+x	77/2 <sup>-</sup>	E2	R(ang)=1.30 10, A <sub>2</sub> =+0.8 1.
1233.8 6	<1	11461.6+x		10227.8+x	69/2 <sup>+</sup>		
1234.4 6	<1	14293.6+x	85/2 <sup>+</sup>	13059.0+x	81/2 <sup>+</sup>	E2	R(ang)=1.40 10, A <sub>2</sub> =+0.49 8.
1236.0 6	<1	3246.3+x	31/2 <sup>(-)</sup>	2009.9+x	29/2 <sup>+</sup>	(E1)	R(ang)=0.84 7, A <sub>2</sub> =-0.25 8.
1264.3 6	<1	15311.0+x	89/2 <sup>-</sup>	14047.0+x	87/2 <sup>-</sup>	M1+E2	R(ang)=0.84 6, A <sub>2</sub> =0.0 6.
1264.9 6	<1	3274.5+x	(31/2 <sup>-</sup> )	2009.9+x	29/2 <sup>+</sup>		
1293.2 6	<1	12331.6+x		11038.4+x	73/2 <sup>-</sup>		
1316.3 6	1.20 12	13119.3+x	81/2 <sup>-</sup>	11802.9+x	77/2 <sup>-</sup>	E2	R(ang)=1.36 3, A <sub>2</sub> =+0.32 2.
1378.3 6	<1	12866.3+x	79/2 <sup>-</sup>	11488.0+x	75/2 <sup>-</sup>	E2	R(ang)=1.58 16, A <sub>2</sub> =+0.31 1.
1387.1 6	<1	12467.7+x		11080.6+x	73/2 <sup>-</sup>		
1420.6 6	<1	16274.1+x		14853.5+x	89/2 <sup>-</sup>		
1433.1 6	<1	17555.2+x		16122.1+x	91/2 <sup>-</sup>		
1439.1 6	<1	15486.5+x	89/2 <sup>-</sup>	14047.0+x	87/2 <sup>-</sup>	M1+E2	R(ang)=2.36 15.
1440.1 6	<1	2827.7+x	27/2 <sup>(-)</sup>	1388.1+x	25/2 <sup>+</sup>	(E1)	R(ang)=0.89 14.
1452.8 6	<1	14511.8+x	85/2 <sup>+</sup>	13059.0+x	81/2 <sup>+</sup>	E2	R(ang)=1.31 17.
1480.2 6	<1	17298.3+x	95/2 <sup>+</sup>	15818.1+x	93/2 <sup>+</sup>	M1+E2	R(ang)=0.89 20.
1494.7 6	<1	16348.2+x		14853.5+x	89/2 <sup>-</sup>		
1499.7 <sup>b</sup> 6	<1	19056.9+x		17555.2+x			
1538.4 6	<1	15585.4+x	89/2 <sup>-</sup>	14047.0+x	87/2 <sup>-</sup>	M1+E2	R(ang)=1.75 24.
1556.3 6	<1	16409.8+x	93/2 <sup>-</sup>	14853.5+x	89/2 <sup>-</sup>	E2	R(ang)=1.4 4.
1581.6 6	<1	15628.6+x	91/2 <sup>-</sup>	14047.0+x	87/2 <sup>-</sup>	E2	R(ang)=1.22 13.
1635.7 6	<1	17453.8+x		15818.1+x	93/2 <sup>+</sup>		
1695.2 6	<1	17513.3+x		15818.1+x	93/2 <sup>+</sup>		
1701.0 6	<1	17519.1+x		15818.1+x	93/2 <sup>+</sup>		
1706.4 6	<1	16559.9+x	93/2 <sup>-</sup>	14853.5+x	89/2 <sup>-</sup>	E2	R(ang)=1.49 17.
1710.9 6	<1	2572.4+x	23/2 <sup>(-)</sup>	861.1+x	21/2 <sup>+</sup>		E <sub><math>\gamma</math></sub> : 31/2 <sup>(-)</sup> to 29/2 <sup>+</sup> stated in table I of 2006Ev02 is incorrect, it should be 23/2 <sup>(-)</sup> to 21/2 <sup>+</sup> as in authors' figure 2.
1714.8 6	<1	15761.8+x		14047.0+x	87/2 <sup>-</sup>		
1780.2 6	<1	15827.2+x		14047.0+x	87/2 <sup>-</sup>		
1914.9 6	<1	15961.9+x	91/2 <sup>-</sup>	14047.0+x	87/2 <sup>-</sup>	E2	R(ang)=1.41 23.
2075.1 6	<1	16122.1+x	91/2 <sup>-</sup>	14047.0+x	87/2 <sup>-</sup>	E2	R(ang)=1.45 11.
2102.6 6	<1	16956.1+x	93/2 <sup>-</sup>	14853.5+x	89/2 <sup>-</sup>	E2	R(ang)=1.48 14.
2125.4 6	<1	17943.5+x		15818.1+x	93/2 <sup>+</sup>		
2138.8 6	<1	16185.8+x	91/2 <sup>-</sup>	14047.0+x	87/2 <sup>-</sup>	E2	R(ang)=1.46 13.
2166 <sup>b</sup> 1	<1	17654.4+x		15486.5+x	89/2 <sup>-</sup>		
2204.5 6	<1	19502.8+x		17298.3+x	95/2 <sup>+</sup>		
2408.7 6	<1	16455.7+x		14047.0+x	87/2 <sup>-</sup>		

<sup>†</sup> Based on angular correlation measurements and angular intensity ratio measurements, R(ang)=I $\gamma$ (35° or 145°)/I $\gamma$ (90°), with typical values:  $\approx$ 0.77 for  $\Delta J=1$ , dipole and  $\approx$ 1.33 for  $\Delta J=2$ , quadrupole as described in 2006Ev02. They adopted E2 for (pure) quadrupole transitions, M1+E2 for mixed dipole transitions, and E1 for pure dipole transitions (while in the absence of specific measurements for determining the electric or magnetic character some other arguments based on theory or systematics were also tacitly taken into account especially for dipole transitions), which are also shown here. See the Adopted Levels, Gammas dataset



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$^{114}\text{Cd}(^{48}\text{Ca},5n\gamma)$  2006Ev02,2004Ev01 (continued)

$\gamma(^{157}\text{Er})$  (continued)

for the finally adopted values of this level scheme.

‡ Uncertainty of 0.3 keV assigned to  $\gamma$  rays with  $I_\gamma > 10$  and 0.6 keV for all the others, except 1 keV for  $E_\gamma$ 's stated to nearest keV, based on a general comment by [2006Ev02](#).

# Uncertainty of 5% assigned to  $\gamma$  rays with  $I_\gamma > 10$  and 10% for all the others, based on a general comment by [2006Ev02](#).

@ Multiply placed.

& Multiply placed with undivided intensity.

<sup>a</sup> Multiply placed with intensity suitably divided.

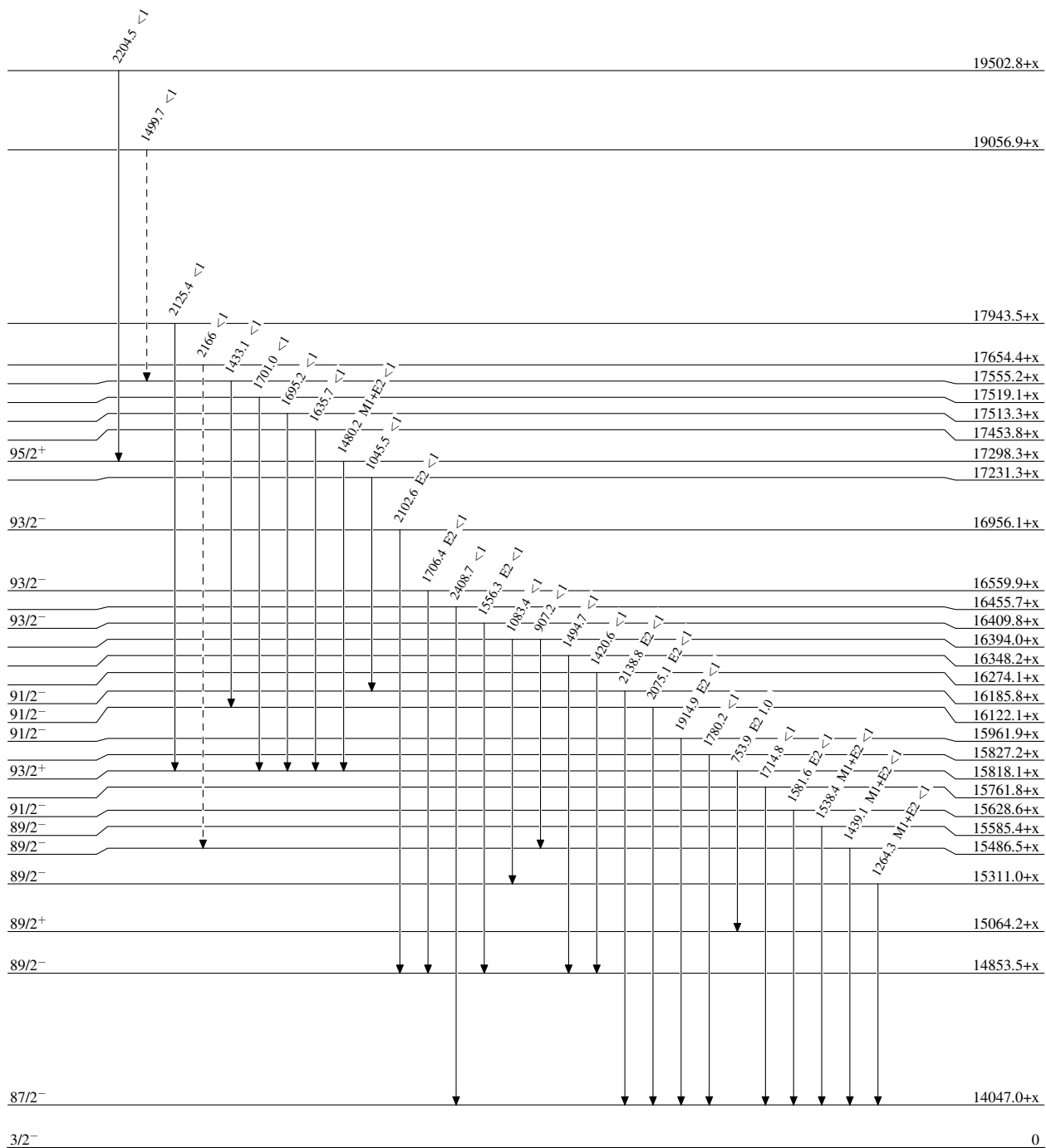
<sup>b</sup> Placement of transition in the level scheme is uncertain.

$^{114}\text{Cd}(^{48}\text{Ca},5n\gamma)$  2006Ev02,2004Ev01

Legend

**Level Scheme**  
Intensities: Relative  $I_\gamma$

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- - - - -→  $\gamma$  Decay (Uncertain)



$^{157}_{68}\text{Er}_{89}$

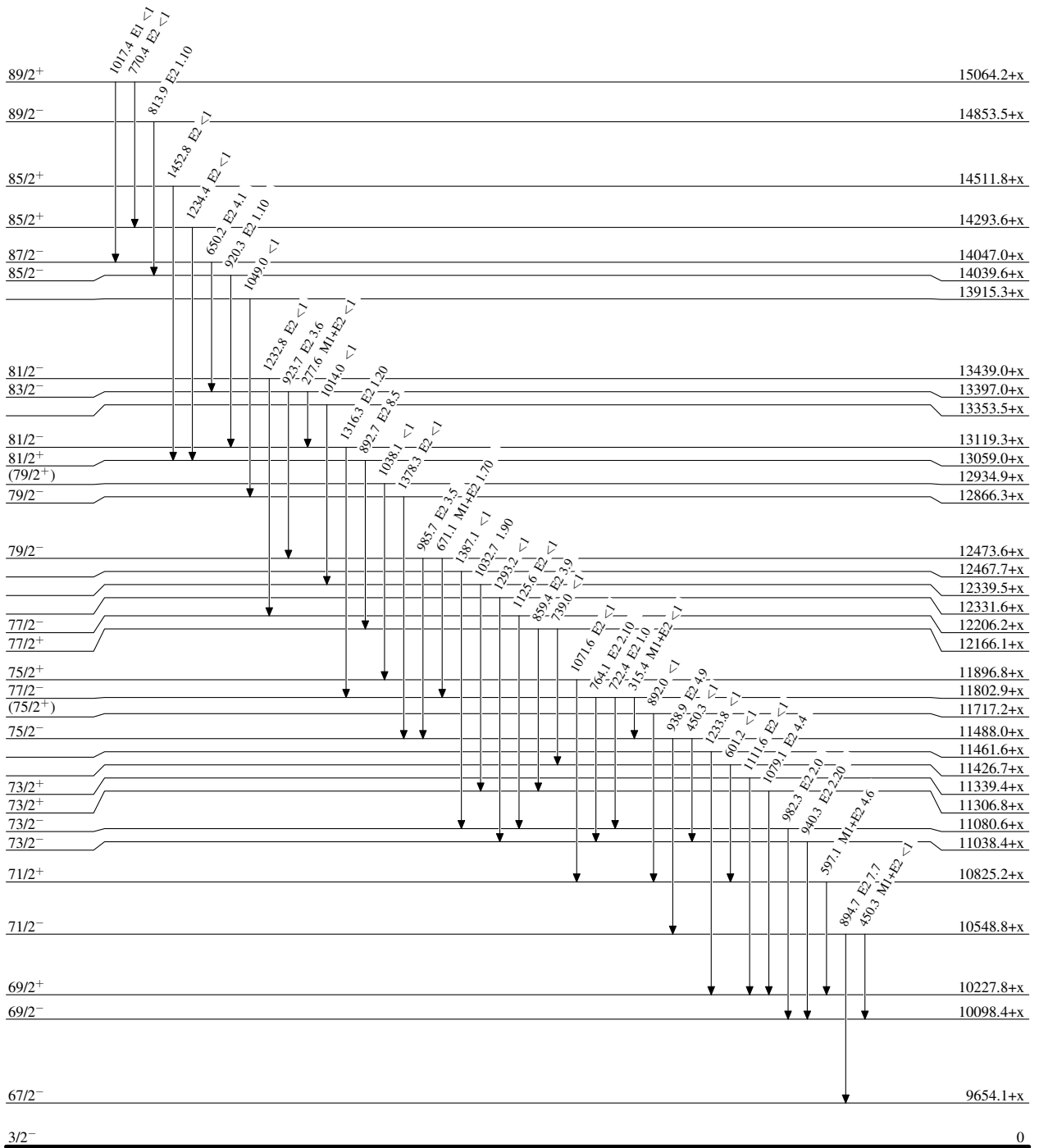
<sup>114</sup>Cd(<sup>48</sup>Ca,5n $\gamma$ ) 2006Ev02,2004Ev01

Level Scheme (continued)

Intensities: Relative I $\gamma$

Legend

- I $\gamma$  < 2%  $\times$  I $\gamma$ <sup>max</sup>
- I $\gamma$  < 10%  $\times$  I $\gamma$ <sup>max</sup>
- I $\gamma$  > 10%  $\times$  I $\gamma$ <sup>max</sup>



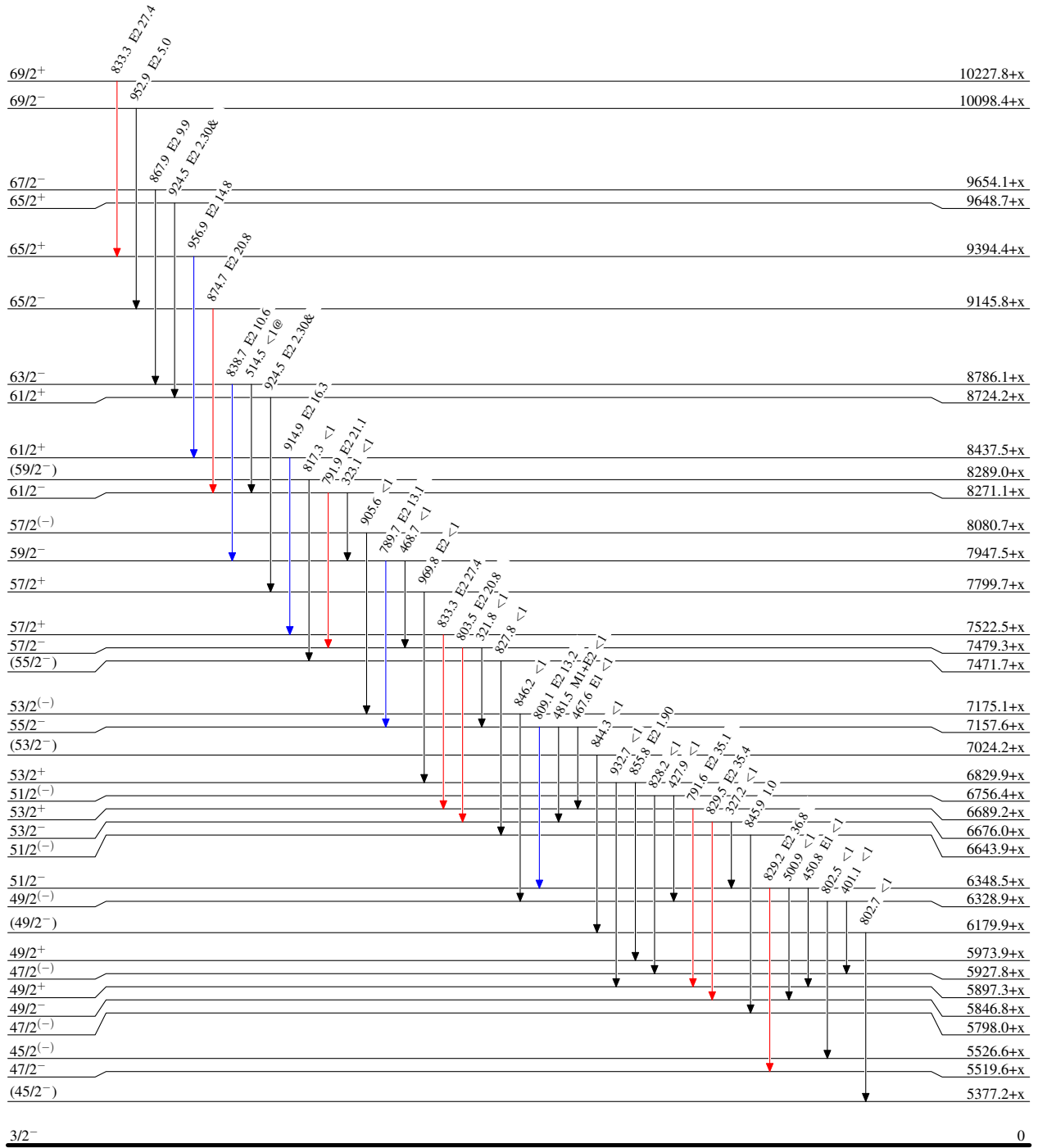
<sup>114</sup>Cd(<sup>48</sup>Ca,5n $\gamma$ ) 2006Ev02,2004Ev01

Level Scheme (continued)

Intensities: Relative I $\gamma$   
& Multiply placed: undivided intensity given  
@ Multiply placed: intensity suitably divided

Legend

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



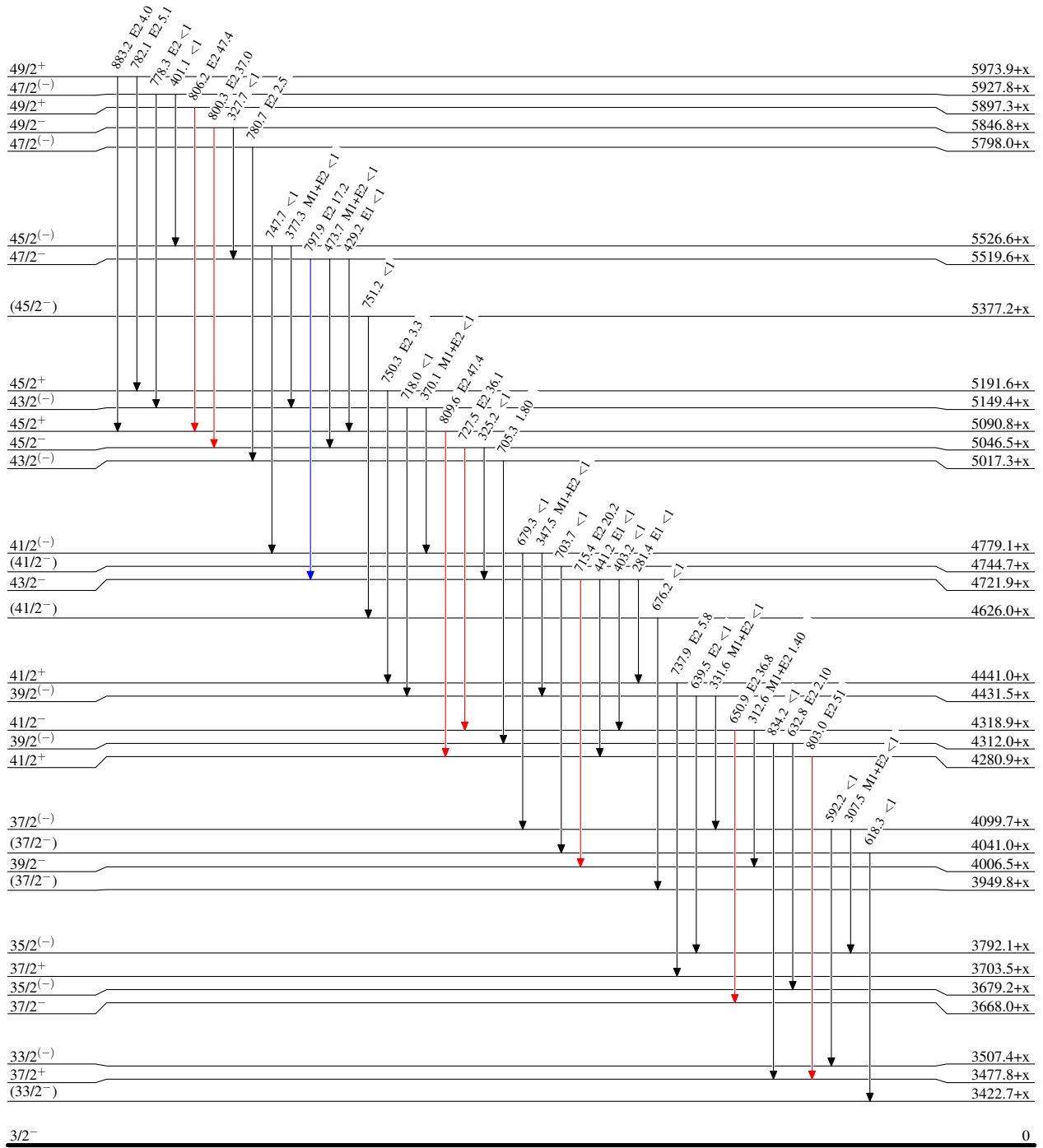
<sup>114</sup>Cd(<sup>48</sup>Ca,5n $\gamma$ ) 2006Ev02,2004Ev01

Level Scheme (continued)

Intensities: Relative I $\gamma$   
 & Multiply placed: undivided intensity given  
 @ Multiply placed: intensity suitably divided

Legend

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



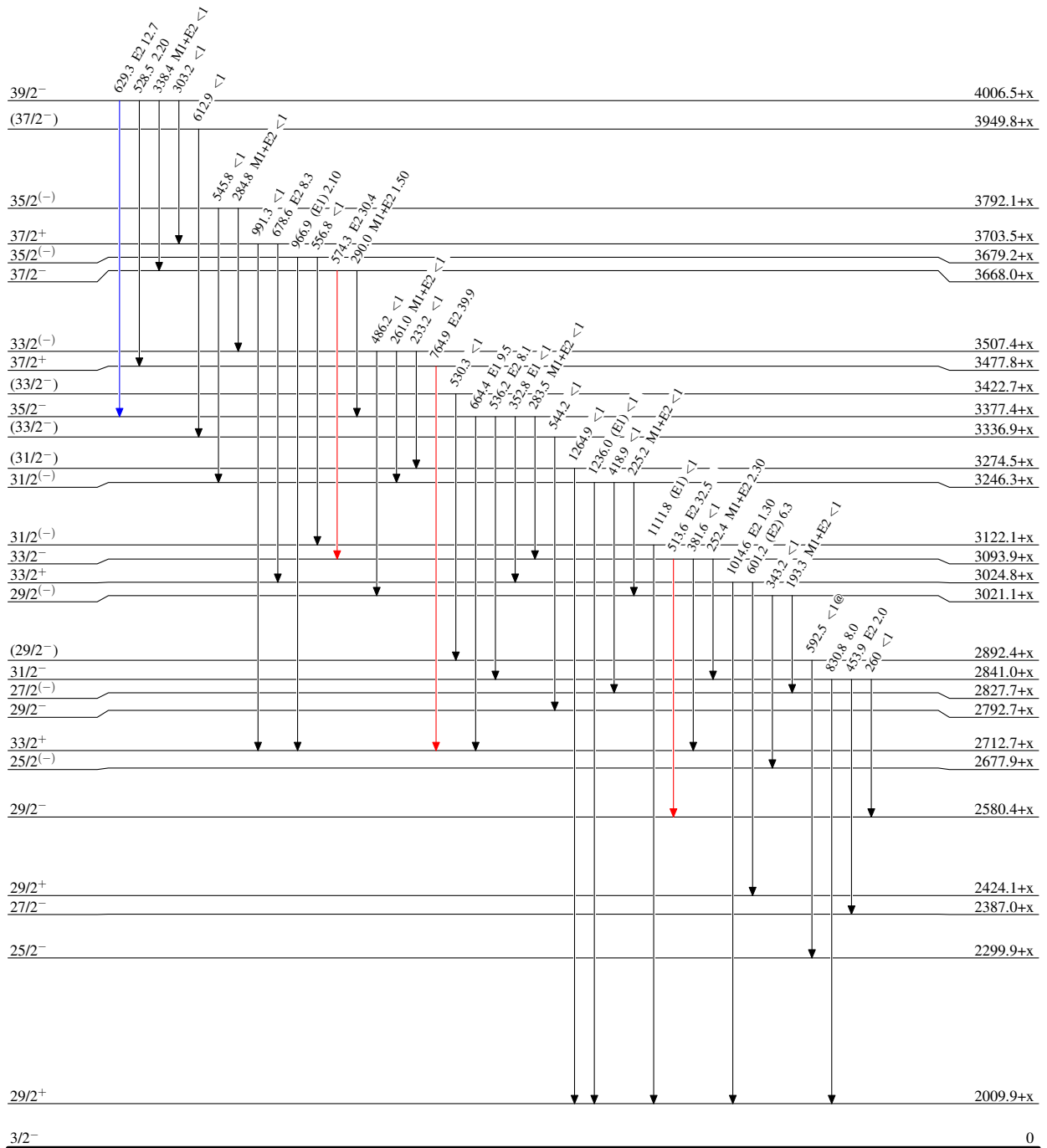
<sup>114</sup>Cd(<sup>48</sup>Ca,5n $\gamma$ ) 2006Ev02,2004Ev01

Level Scheme (continued)

Intensities: Relative I $\gamma$   
& Multiply placed: undivided intensity given  
@ Multiply placed: intensity suitably divided

Legend

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



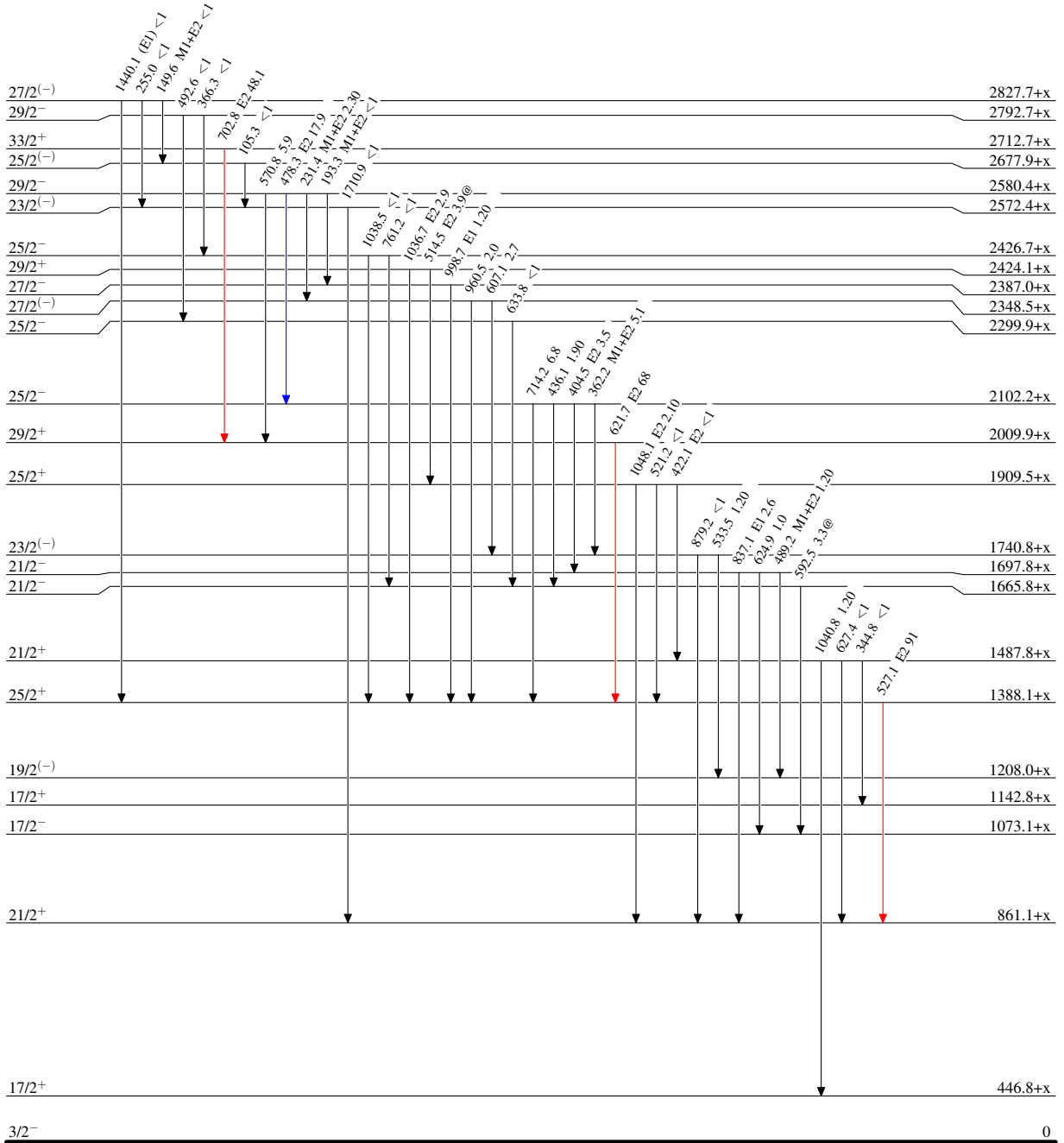
<sup>114</sup>Cd(<sup>48</sup>Ca,5n $\gamma$ ) 2006Ev02,2004Ev01

Level Scheme (continued)

Legend

Intensities: Relative I $\gamma$   
& Multiply placed: undivided intensity given  
@ Multiply placed: intensity suitably divided

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



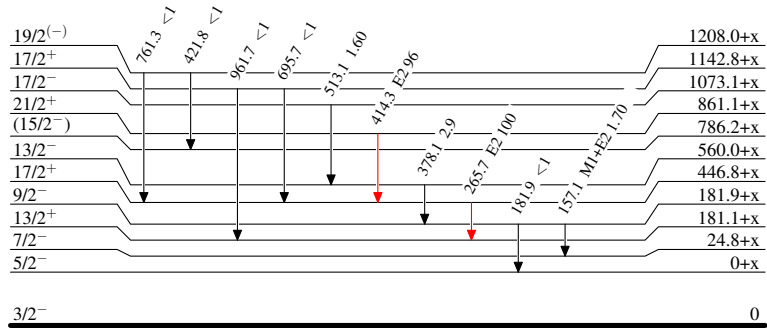
<sup>114</sup>Cd(<sup>48</sup>Ca,5n $\gamma$ ) 2006Ev02,2004Ev01

Level Scheme (continued)

Intensities: Relative I $\gamma$   
& Multiply placed: undivided intensity given  
@ Multiply placed: intensity suitably divided

Legend

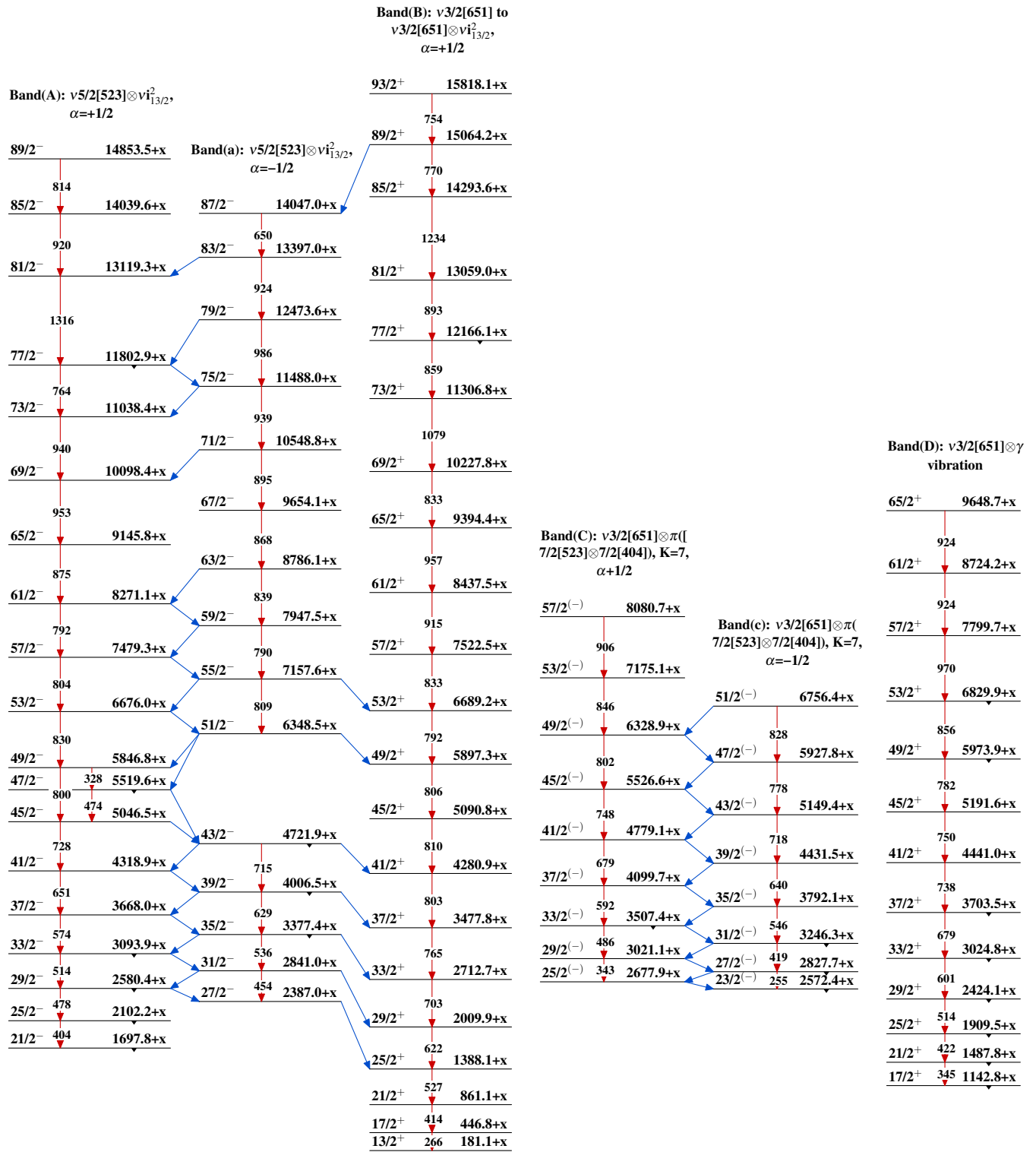
- $\rightarrow$  I $\gamma$  < 2%  $\times$  I $\gamma^{max}$
- $\rightarrow$  I $\gamma$  < 10%  $\times$  I $\gamma^{max}$
- $\rightarrow$  I $\gamma$  > 10%  $\times$  I $\gamma^{max}$



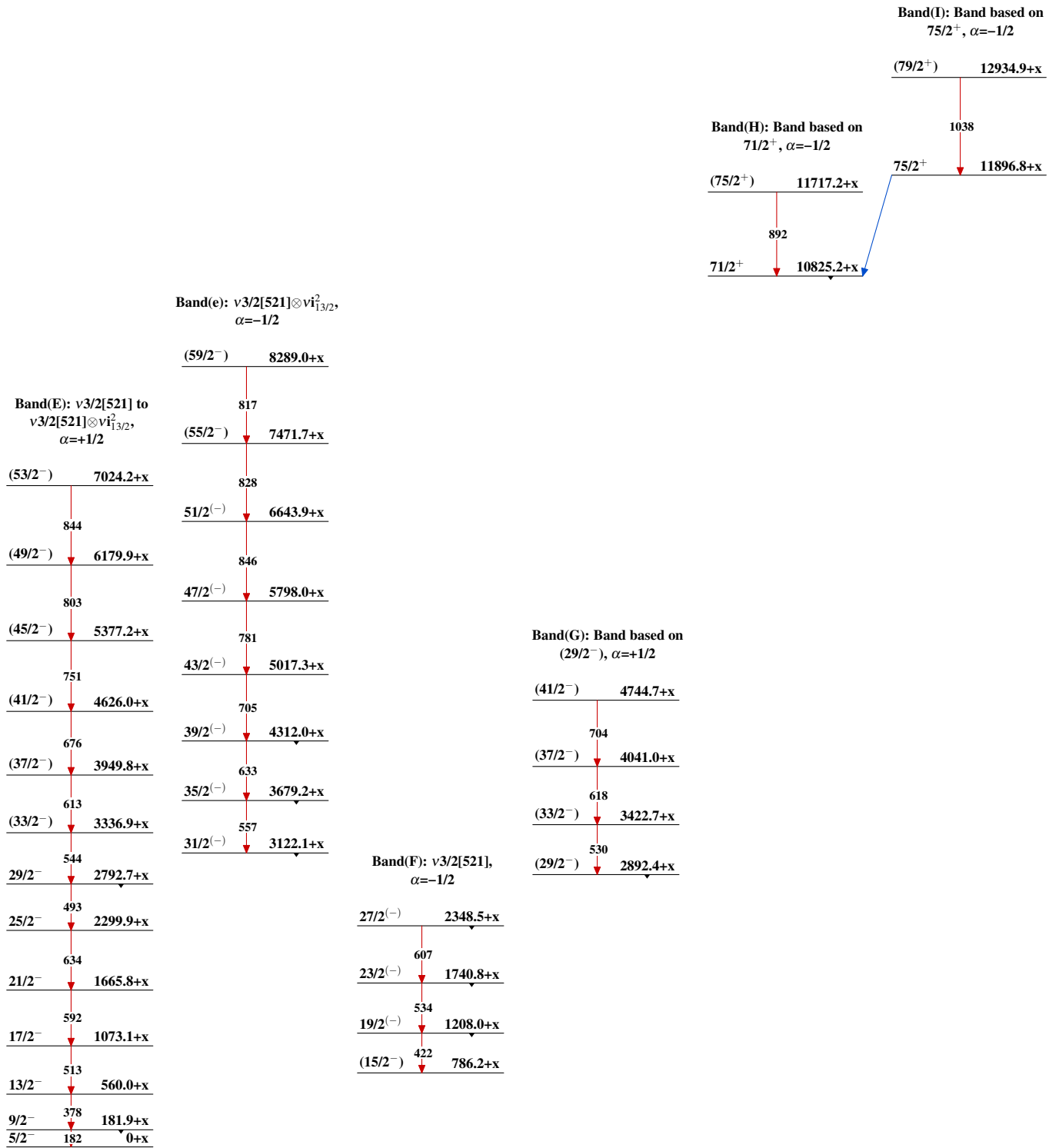
<sup>157</sup>Er<sub>89</sub>



<sup>114</sup>Cd(<sup>48</sup>Ca,5n $\gamma$ ) 2006Ev02,2004Ev01



<sup>114</sup>Cd(<sup>48</sup>Ca,5n $\gamma$ ) 2006Ev02,2004Ev01 (continued)



$^{114}\text{Cd}(^{48}\text{Ca},5n\gamma)$  2006Ev02,2004Ev01 (continued)

Band(J): Band based on  
 $73/2^-$ ,  $\alpha=+1/2$

$81/2^-$  13439.0+x

1233

$77/2^-$  12206.2+x

1126

$73/2^-$  11080.6+x

$^{157}_{68}\text{Er}_{89}$