## $^{113}$Cd(n,$\gamma$) E=thermal 1984Mh01,1979Br25,1968Gr32

| Type | Author | History Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | Jean Blachot | NDS 113, 515 (2012) | 1-Jan-2012 |

Measured: $\gamma$(1961Sm06,1962Gr22,1963Or02,1966Ba10,1966Ne06,1967Sm05,1968Mo15,1969Sa29), bent crystal (1979Br25); ce(1962Gr22,1964Ba44,1966Ba10,1967Eg01,1968Mo15,1984Mh01), mag spect.
$\gamma$ polarization: 1964Ab14, 1967Wa14, 1968Ab06, 1969Ab03, 1969Ei05, 1969Wa14, 1982Hu08.
1984Mh01 used enriched target, 96.7%.

### $^{114}$Cd Levels

| E(level) | J$^\pi$† | E(level) | J$^\pi$† | E(level) | J$^\pi$† | E(level) | J$^\pi$† |
|---|---|---|---|---|---|---|---|
| 0‡ | 0$^+$ | 2048.027‡ *4* | 2$^+$ | 2636.521‡ *27* | 0$^+$,(2$^+$) | 2953.244 *10* | 2$^+$ |
| 558.456‡ *2* | 2$^+$ | 2152.264 *4* | 4$^+$ | 2650.120‡ *6* | 2$^+$ | 2957.262 *22* | 2$^-$,(1$^-$) |
| 1134.532‡ *3* | 0$^+$ | 2204.561 *4* | 3$^+$ | 2660.900‡ *15* | 2$^+$ | 2999.559‡ *82* | 1$^-$ |
| 1209.708‡ *3* | 2$^+$ | 2218.860‡ *8* | 2$^+$ | 2701.066 *10* | 3$^+$ | 3002.223 *14* | 2$^+$ |
| 1283.739 *5* | 4$^+$ | 2298.91# *2* | 5$^-$ | 2749.265‡ *10* | 2$^+$ | 3052.902‡ *19* | (1$^+$,2$^+$) |
| 1305.609‡ *3* | 0$^+$ | 2384.759 *4* | 3$^-$ | 2756.921 *35* | 3$^-$,(4$^-$) | 3077.444‡ *16* | 1$^+$,2$^+$ |
| 1364.344‡ *3* | 2$^+$ | 2391.499 *20* | 4$^+$ | 2767.848‡ *60* | 1$^-$ | 3108.640‡ *12* | 1$^-$ |
| 1732.246 *4* | 4$^+$ | 2437.640‡ *39* | 0$^+$ | 2788.501‡ *12* | 1$^+$,2$^+$ | 3110.41 *50* | 1$^+$,2$^+$ |
| 1841.947‡ *4* | 2$^+$ | 2456.005‡ *7* | 1$^-$ | 2799.991‡ *22* | (1$^+$,2$^+$) | 3157.156‡ *19* | 1$^-$,(2$^-$) |
| 1859.696 *7* | 0$^+$ | 2460.757 *6* | 3$^-$,(4$^-$) | 2806.587 *16* | 3$^+$ | 3205.997‡ *15* | 2$^+$ |
| 1864.261 *5* | 3$^+$ | 2525.420‡ *5* | 2$^+$ | 2812.050‡ *10* | 2$^+$ | 3218.556‡ *17* | 1$^-$,(2$^-$) |
| 1932.077 *4* | 4$^+$ | 2553.866‡ *39* | 0$^+$ | 2820.216 *15* | 4$^+$ | 3258.093‡ *11* | 1$^-$,2$^-$ |
| 1958.095 *4* | 3$^-$ | 2580.357‡ *6* | 2$^-$ | 2936.116 *22* | (3$^-$) | (9042.7 *3*) | |

† From $\gamma$-ray multipolarities derived from ce measurements (1984Mh01).
‡ Levels following primary $\gamma$ transitions (1984Mh01). Levels at 2827.8, 3098.5, 3167.3, 3232.4, 3263.4, 3321.2, 3409.0, 3444.6 only seen after primary gammas.
# This level was introduced by 1987Ar24 in (n,n′$\gamma$).

$\gamma(^{114}Cd)$

Ice(K) are per 10000 neutron captures.

| $E_i$(level) | $J_i^\pi$ | $E_\gamma$[†] | $I_\gamma$[‡b] | $E_f$ | $J_f^\pi$ | Mult.[†] | $\delta$[†] | Comments |
|---|---|---|---|---|---|---|---|---|
| 558.456 | $2^+$ | 558.456 *2* | 7.44×10$^3$ *37* | 0 | $0^+$ | E2 | | $\alpha$(L1)exp=0.0040 *5*; L23/L1=0.133 *15* |
| 1134.532 | $0^+$ | 576.079 *4* | 447 *20* | 558.456 | $2^+$ | E2 | | $\alpha$(K)exp=0.0033 *2*; L23/L1=0.13 *2* |
| | | 1134.60 *5* | <2 | 0 | $0^+$ | E0 | | $\alpha$(K)exp>0.27 |
| | | | | | | | | ce(K)=0.54 *3* per 10000 n captures. |
| 1209.708 | $2^+$ | 75.177 *5* | 0.0027 *4* | 1134.532 | $0^+$ | | | |
| | | 651.256 *5* | 1409 *80* | 558.456 | $2^+$ | M1+E2 | 1.2 *+3−2* | $\alpha$(K)exp=0.00269 *17*; L23/L1=0.10 *1* |
| | | 1209.713 *7* | 415 *31* | 0 | $0^+$ | E2 | | $\alpha$(K)exp=0.00064 *5* |
| | | | | | | | | $\delta$: $\delta$(E2/M1)>1.52. |
| 1283.739 | $4^+$ | 725.298 *9* | 446 *20* | 558.456 | $2^+$ | E2 | | $\alpha$(K)exp=0.00218 *10* |
| 1305.609 | $0^+$ | 95.902 *3* | 125 *10* | 1209.708 | $2^+$ | E2 | | $\alpha$(K)exp=1.22 *12*; L3/L1=1.14 *4* |
| | | 171.077 *5* | <0.03 | 1134.532 | $0^+$ | E0 | | ce(K)=1.62 *8* |
| | | 747.151 *6* | 72 *5* | 558.456 | $2^+$ | E2 | | $\alpha$(K)exp=0.00195 *15* |
| | | 1305.59 *4* | <10 | 0 | $0^+$ | E0 | | $\alpha$(K)exp>2.33 *12* |
| | | | | | | | | ce(K)=23.3 *12*. |
| 1364.344 | $2^+$ | 80.605 *3* | 0.046 *5* | 1283.739 | $4^+$ | E2 | | L3/L1=1.5 *2* |
| | | | | | | | | $I_\gamma$: from Ice(K) and $\alpha$(K). |
| | | 154.639 *3* | 0.91 *8* | 1209.708 | $2^+$ | E2+M1+E0 | 1.9 *+7−3* | $\alpha$(K)exp=0.43 *4* |
| | | 229.812 *6* | 12.5 *12* | 1134.532 | $0^+$ | E2 | | $\alpha$(K)exp=0.068 *7*; L3/L1=0.29 *2* |
| | | 805.887 *5* | 511 *35* | 558.456 | $2^+$ | M1+E2+E0 | | $\alpha$(K)exp=0.0038 *3* |
| | | | | | | | | I(ce(K) E0)=0.98 *12* per 10000 n captures. |
| | | | | | | | | Mult.: $\delta$(E2/M1)<0.09 (1982Hu08). |
| | | 1364.339 *6* | 464 *32* | 0 | $0^+$ | E2 | | $\alpha$(K)exp=0.00048 *4* |
| 1732.246 | $4^+$ | 367.893 *9* | 20.3 *11* | 1364.344 | $2^+$ | E2 | | $\alpha$(K)exp=0.0144 *9* |
| | | 448.518 *4* | 10.7 *5* | 1283.739 | $4^+$ | M1+E2+E0 | | $\alpha$(K)exp=0.0163 *11* |
| | | | | | | | | Mult.: I(ce(K) E0)=0.092 *12* per 10000 n captures. |
| | | 522.542 *11* | 32 *3* | 1209.708 | $2^+$ | E2 | | $\alpha$(K)exp=0.0055 *6* |
| | | 1173.782 *19* | 28.8 *16* | 558.456 | $2^+$ | E2 | | $\alpha$(K)exp=0.00073 *5* |
| 1841.947 | $2^+$ | 477.604 *6* | 34.0 *18* | 1364.344 | $2^+$ | E2 | | $\alpha$(K)exp=0.0069 *5* |
| | | 536.350 *12* | 23.9 *23* | 1305.609 | $0^+$ | E2 | | $\alpha$(K)exp=0.0053 *5* |
| | | 632.247 *6* | 8.8 *4* | 1209.708 | $2^+$ | E2+E0 | | $\alpha$(K)exp=0.0155 *9* |
| | | | | | | | | Mult.: I(ce(K) E0)=0.108 *7* per 10000 n captures. |
| | | 707.419 *5* | 116 *5* | 1134.532 | $0^+$ | E2 | | $\alpha$(K)exp=0.00211 *12* |
| | | 1283.495 *14* | 169 *11* | 558.456 | $2^+$ | M1+E2 | +0.61 *+35−20* | $\alpha$(K)exp=0.00054 *4* |
| | | | | | | | | Mult.: $\delta$ from 1982Hu08. |
| | | 1841.98 *8* | 62 *5* | 0 | $0^+$ | E2 | | $\alpha$(K)exp=0.00022 *2* |
| 1859.696 | $0^+$ | 495.354 *4* | 6.3 *3* | 1364.344 | $2^+$ | E2 | | $\alpha$(K)exp=0.0060 *4* |
| | | 1301.234 *18* | 103 *8* | 558.456 | $2^+$ | E2 | | $\alpha$(K)exp=0.00045 *11* |
| | | 1859.70 *5* | <2 | 0 | $0^+$ | (E0) | | ce(K)=0.0020 *6* |
| 1864.261 | $3^+$ | 132.015 *9* | 0.041 *9* | 1732.246 | $4^+$ | M1+E2 | <0.65 | $\alpha$(K)exp=0.22 *5* |







$^{114}_{48}Cd_{66}$-2

## $^{113}$Cd(n,$\gamma$) E=thermal 1984Mh01,1979Br25,1968Gr32 (continued)

### $\gamma(^{114}Cd)$ (continued)

| $E_i$(level) | $J_i^\pi$ | $E_\gamma$[†] | $I_\gamma$[‡][b] | $E_f$ | $J_f^\pi$ | Mult.[†] | $\delta$[†] | Comments |
|---|---|---|---|---|---|---|---|---|
| 1864.261 | 3$^+$ | 499.92 *3* | 0.65 *17* | 1364.344 | 2$^+$ | M1 | | $\alpha$(K)exp=0.0070 *22* |
| | | 580.516 *5* | 30.4 *17* | 1283.739 | 4$^+$ | M1 | | |
| | | 654.551 *5* | 133 *6* | 1209.708 | 2$^+$ | E2 | | $\alpha$(K)exp=0.00268 *15* |
| | | 1305.783 *21* | 114 *6* | 558.456 | 2$^+$ | M1+E2 | −0.10 *+6−2* | Mult.: $\delta$ from 1976De42. 1982Hu08 give +0.19 *+22−16* discrepant with −2.20 *15* reported by 1987Ar24 in (n,n′$\gamma$). |
| 1932.077 | 4$^+$ | 199.833 *4* | 0.81 *3* | 1732.246 | 4$^+$ | M1 | | $\alpha$(K)exp=0.057 *5* |
| | | 567.74 *3* | 10.8 *5* | 1364.344 | 2$^+$ | E2 | | $\alpha$(K)exp=0.0040 *4* |
| | | 648.316 *17* | 20.7 *19* | 1283.739 | 4$^+$ | M1+(E2,E0) | | $\alpha$(K)exp=0.0040 *4*<br>Mult.: I(ce(K) E0)=0.018 *7* per 10000 n captures. |
| | | 722.368 *6* | 31.3 *15* | 1209.708 | 2$^+$ | E2 | | $\alpha$(K)exp=0.00216 *13* |
| 1958.095 | 3$^-$ | 225.852 *5* | 0.215 *20* | 1732.246 | 4$^+$ | E1 | | $\alpha$(K)exp=0.024 *4* |
| | | 593.755 *16* | 3.7 *3* | 1364.344 | 2$^+$ | E1 | | $\alpha$(K)exp=0.0020 *3* |
| | | 674.30 *5* | 0.86 *22* | 1283.739 | 4$^+$ | | | |
| | | 748.385 *7* | 121 *6* | 1209.708 | 2$^+$ | E1 | | $\alpha$(K)exp=0.00079 *5* |
| | | 1399.638 *11* | 345 *32* | 558.456 | 2$^+$ | E1 | | $\alpha$(K)exp=0.00025 *3* |
| 2048.027 | 2$^+$ | 89.929 *2* | 0.40 *4* | 1958.095 | 3$^-$ | E1 | | $\alpha$(K)exp=0.21 *2* |
| | | 183.782 *8* | 0.21 *5* | 1864.261 | 3$^+$ | (M1) | | $\alpha$(K)exp=0.046 *12*<br>Mult.: $\alpha$(K)exp allows M1 or E1. Placement in level scheme requires $\Delta\pi$=no. |
| | | 206.090 *4* | 0.27 *3* | 1841.947 | 2$^+$ | M1 | | $\alpha$(K)exp=0.064 *7* |
| | | 742.419 *7* | 24.8 *15* | 1305.609 | 0$^+$ | | | $\alpha$(K)exp=0.00199 *14* |
| | | 838.309 *6* | 10.6 *10* | 1209.708 | 2$^+$ | | | $\alpha$(K)exp=0.00190 *25* |
| | | 1489.560 *10* | 238 *11* | 558.456 | 2$^+$ | E2 | | $\alpha$(K)exp=0.00047 *4* |
| | | 2047.7 *3* | 18 *3* | 0 | 0$^+$ | E2 | | $\alpha$(K)exp=0.00020 *4* |
| 2152.264 | 4$^+$ | 220.189 *4* | 0.52 *4* | 1932.077 | 4$^+$ | M1 | | $\alpha$(K)exp=0.063 *4* |
| | | 287.981 *9* | 2.82 *15* | 1864.261 | 3$^+$ | M1 | | $\alpha$(K)exp=0.0228 *16* |
| | | 310.316 *6* | 2.34 *13* | 1841.947 | 2$^+$ | E2 | | $\alpha$(K)exp=0.026 *2* |
| | | 420.023 *4* | 4.3 *3* | 1732.246 | 4$^+$ | M1 | | $\alpha$(K)exp=0.0091 *6* |
| | | 868.513 *17* | 7.3 *4* | 1283.739 | 4$^+$ | M1 | | $\alpha$(K)exp=0.0010 *2* |
| | | 942.55 *3* | 11.6 *11* | 1209.708 | 2$^+$ | | | $\alpha$(K)exp=0.00066 *14* |
| 2204.561 | 3$^+$ | 156.531 *3* | 0.19 *3* | 2048.027 | 2$^+$ | M1+E2 | <0.42 | $\alpha$(K)exp=0.12 *3* |
| | | 246.472 *4* | 0.58 *4* | 1958.095 | 3$^-$ | E1 | | $\alpha$(K)exp=0.015 *3* |
| | | 340.294 *7* | 2.24 *13* | 1864.261 | 3$^+$ | M1+E2+E0 | | $\alpha$(K)exp=0.029 *2*<br>Mult.: I(ce(K) E0)=0.027 *5* per 10000 n captures. |
| | | 362.608 *5* | 2.58 *15* | 1841.947 | 2$^+$ | M1+E2 | <0.82 | $\alpha$(K)exp=0.0128 *9* |
| | | 472.310 *8* | 2.63 *15* | 1732.246 | 4$^+$ | M1 | | $\alpha$(K)exp=0.0072 *5* |
| | | 840.217 *12* | 25.0 *25* | 1364.344 | 2$^+$ | M1 | | $\alpha$(K)exp=0.00122 *14* |
| | | 920.791 *13* | 42.6 *34* | 1283.739 | 4$^+$ | M1 | | $\alpha$(K)exp=0.00118 *11* |
| | | 994.852 *9* | 41.1 *25* | 1209.708 | 2$^+$ | M1 | | $\alpha$(K)exp= 0.00104 *8* |
| | | 1646.12 *4* | 58 *3* | 558.456 | 2$^+$ | M1 | | $\alpha$(K)exp=0.00042 *3* |
| 2218.860 | 2$^+$ | 170.857 *15* | 0.045 *9* | 2048.027 | 2$^+$ | | | |
| | | 359.20 *5* | 0.17 *6* | 1859.696 | 0$^+$ | | | |
| | | 486.647 *19* | 0.56 *11* | 1732.246 | 4$^+$ | E2 | | $\alpha$(K)exp=0.0061 *20* |





$^{114}_{48}Cd_{66}$-3

γ($^{114}$Cd) (continued)

| $E_i$(level) | $J_i^\pi$ | $E_\gamma$[†] | $I_\gamma$[‡b] | $E_f$ | $J_f^\pi$ | Mult.[†] | δ[†] | Comments |
|---|---|---|---|---|---|---|---|---|
| 2218.860 | 2$^+$ | 854.62 *4* | 3.6 *5* | 1364.344 | 2$^+$ | M1 | | α(K)exp=0.0012 *4* |
| | | 1660.368 *16* | 279 *15* | 558.456 | 2$^+$ | M1 | | α(K)exp=0.00036 *2* |
| 2298.91 | 5$^-$ | 366.91[a] *4* | 0.49 *17* | 1932.077 | 4$^+$ | | | |
| | | 1015.178[a] *17* | 15.2 *15* | 1283.739 | 4$^+$ | E1 | | α(K)exp=0.00038 *16* |
| 2384.759 | 3$^-$ | 165.895 *6* | 0.275 *24* | 2218.860 | 2$^+$ | E1 | | α(K)exp=0.027 *4* |
| | | 180.198 *6* | 0.198 *9* | 2204.561 | 3$^+$ | E1 | | α(K)exp=0.028 *6* |
| | | 336.743 *11* | 0.35 *8* | 2048.027 | 2$^+$ | | | |
| | | 426.666 *6* | 8.7 *6* | 1958.095 | 3$^-$ | M1 | | α(K)exp=0.0079 *6* |
| | | 1175.076 *20* | 27.6 *14* | 1209.708 | 2$^+$ | E1 | | α(K)exp=0.00032 *2* |
| | | 1826.30 *4* | 110 *6* | 558.456 | 2$^+$ | E1 | | α(K)exp=0.000147 *12* |
| 2391.499 | 4$^+$ | 459.393 *25* | 0.56 *8* | 1932.077 | 4$^+$ | M1 | | α(K)exp=0.0064 *13* |
| | | 659.20 *5* | 1.0 *2* | 1732.246 | 4$^+$ | | | |
| | | 1107.761 *21* | 22.1 *17* | 1283.739 | 4$^+$ | M1 | | α(K)exp=0.00088 *11* |
| 2437.640 | 0$^+$ | 1228.00 *10* | 6.2 *8* | 1209.708 | 2$^+$ | E2 | | α(K)exp=0.00062 *10* |
| | | 1879.10 *5* | 72 *4* | 558.456 | 2$^+$ | E2 | | α(K)exp=0.00026 *2* |
| | | 2437.7 *1* | <10 | 0 | 0$^+$ | E0 | | α(K)exp>0.00152 *8*<br>ce(K)=0.0152 *8*. |
| 2456.005 | 1$^-$ | 1091.64 *9* | 6.1 *8* | 1364.344 | 2$^+$ | (E1) | | α(K)exp<0.0005 |
| | | 2456.0 *1* | 41 *25* | 0 | 0$^+$ | E1 | | α(K)exp=0.000097 *7* |
| 2460.757 | 3$^-$,(4$^-$) | 256.195[c] *4* | 2.20[c] *12* | 2204.561 | 3$^+$ | E1 | | α(K)exp=0.0109 *8* |
| | | 502.667 *10* | 3.15 *24* | 1958.095 | 3$^-$ | M1,E2 | | α(K)exp=0.0057 *6* |
| | | 596.485 *5* | 10.6 *10* | 1864.261 | 3$^+$ | E1 | | α(K)exp=0.00125 *17* |
| | | 728.56 *4* | 1.7 *3* | 1732.246 | 4$^+$ | | | |
| | | 1177.04 *3* | 17.5 *12* | 1283.739 | 4$^+$ | E1 | | α(K)exp=0.00035 *3* |
| | | 1902.19 *14* | 17[&] *3* | 558.456 | 2$^+$ | | | |
| 2525.420 | 2$^+$ | 140.659 *3* | 0.180 *11* | 2384.759 | 3$^-$ | E1 | | α(K)exp=0.058 *7* |
| | | 306.560 *7* | 2.36 *13* | 2218.860 | 2$^+$ | M1+E2 | >0.82 | α(K)exp=0.024 *2* |
| | | 320.835 *13* | 0.23 *4* | 2204.561 | 3$^+$ | M1 | | α(K)exp=0.035 *10* |
| | | 567.328 *7* | 9.2 *20* | 1958.095 | 3$^-$ | E1 | | α(K)exp=0.0016 *3* |
| | | 661.21 *3* | 1.7 *2* | 1864.261 | 3$^+$ | M1 | | α(K)exp=0.0039 *8* |
| | | 665.735 *15* | 3.1 *2* | 1859.696 | 0$^+$ | E2 | | α(K)exp=0.0028 *2* |
| | | 1161.06 *3* | 17.3 *17* | 1364.344 | 2$^+$ | M1 | | α(K)exp=0.00105 *15* |
| | | 1219.78 *3* | 22.5 *14* | 1305.609 | 0$^+$ | E2 | | α(K)exp=0.00070 *5* |
| | | 1315.677 *22* | 31 *3* | 1209.708 | 2$^+$ | M1 | | α(K)exp=0.00067 *7* |
| | | 1966.80 *20* | 27[@] *5* | 558.456 | 2$^+$ | | | |
| | | 2525.1 *1* | 18[@] *3* | 0 | 0$^+$ | | | |
| 2553.866 | 0$^+$ | 694.45 *12* | <0.8 | 1859.696 | 0$^+$ | E0 | | ce(K)=0.0051 *12* |
| | | 1995.06 *17* | 48 *7* | 558.456 | 2$^+$ | E2 | | α(K)exp=0.00019 *4* |
| | | 2554.0 *1* | <10 | 0 | 0$^+$ | E0 | | ce(K)=0.0082 *6*; α(K)exp>0.00082 *6* |
| 2580.357 | 2$^-$ | 361.501 *16* | 0.38 *4* | 2218.860 | 2$^+$ | | | |
| | | 532.320 *10* | 5.6 *8* | 2048.027 | 2$^+$ | E1 | | α(K)exp=0.0020 *3* |
| | | 622.259 *6* | 6.2 *3* | 1958.095 | 3$^-$ | M1 | | α(K)exp=0.0028 *2* |







$^{114}_{48}$Cd$_{66}$-4

## $^{113}$Cd(n,$\gamma$) E=thermal 1984Mh01,1979Br25,1968Gr32 (continued)

### $\gamma(^{114}Cd)$ (continued)

| $E_i$(level) | $J_i^\pi$ | $E_\gamma$[†] | $I_\gamma$[‡b] | $E_f$ | $J_f^\pi$ | Mult.[†] | Comments |
|---|---|---|---|---|---|---|---|
| 2580.357 | 2$^-$ | 738.35[c] *3* | 1.6[c] *2* | 1841.947 | 2$^+$ | | |
| | | 1370.617 *22* | 108 *6* | 1209.708 | 2$^+$ | E1 | $\alpha$(K)exp=0.00025 *2* |
| | | 2021.9 *1* | 44 *9* | 558.456 | 2$^+$ | E1 | $\alpha$(K)exp=0.00013 *3* |
| 2636.521 | 0$^+$,(2$^+$) | 1426.6 *3* | 4.1 *16* | 1209.708 | 2$^+$ | E2 | $\alpha$(K)exp=0.00055 *20* |
| | | 2078.1 *1* | 48 *3* | 558.456 | 2$^+$ | E2 | $\alpha$(K)exp=0.00020 *2* |
| 2650.120 | 2$^+$ | 124.698 *3* | 0.093 *11* | 2525.420 | 2$^+$ | M1 | $\alpha$(K)exp=0.21 *3* |
| | | 194.116 *6* | 0.122 *11* | 2456.005 | 1$^-$ | E1 | $\alpha$(K)exp=0.039 *12* |
| | | 212.488 *16* | 0.05 *15* | 2437.640 | 0$^+$ | | |
| | | 431.263 *7* | 1.78 *10* | 2218.860 | 2$^+$ | M1 | $\alpha$(K)exp=0.0079 *6* |
| | | 602.117 *16* | 1.94 *15* | 2048.027 | 2$^+$ | | |
| | | 692.10 *3* | 2.9 *3* | 1958.095 | 3$^-$ | E1 | $\alpha$(K)exp<0.0015 |
| | | 1285.83 *8* | 20 *3* | 1364.344 | 2$^+$ | M1,E2 | $\alpha$(K)exp=0.00052 *7* |
| | | 2650.1 *1* | 71 *4* | 0 | 0$^+$ | E2 | $\alpha$(K)exp=0.000129 *9* |
| 2660.900 | 2$^+$ | 276.139 *19* | 0.210 *23* | 2384.759 | 3$^-$ | | |
| | | 2102.4 *1* | 93 *5* | 558.456 | 2$^+$ | M1,E2 | $\alpha$(K)exp=0.00024 *2* |
| 2701.066 | 3$^+$ | 240.301 *7* | 0.73 *4* | 2460.757 | 3$^-$,(4$^-$) | E1 | $\alpha$(K)exp=0.008 *3* |
| | | 309.567[c] *15* | 0.23[c] *4* | 2391.499 | 4$^+$ | | |
| | | 316.327 *12* | 0.19 *5* | 2384.759 | 3$^-$ | | |
| | | 496.552[c] *21* | 1.4[c] *3* | 2204.561 | 3$^+$ | # | |
| | | 742.945 *17* | 10.7 *6* | 1958.095 | 3$^-$ | E1 | $\alpha$(K)exp=0.00090 *11* |
| | | 859.21 *5* | 2.4 *3* | 1841.947 | 2$^+$ | | |
| | | 1491.39 *23* | 15 *2* | 1209.708 | 2$^+$ | | |
| | | 2143.2 *2* | 18[@] *3* | 558.456 | 2$^+$ | | |
| 2749.265 | 2$^+$ | 597.016 *10* | 2.85 *15* | 2152.264 | 4$^+$ | E2 | $\alpha$(K)exp=0.0029 *6* |
| | | 2190.8 *1* | 57 *4* | 558.456 | 2$^+$ | M1 | $\alpha$(K)exp=0.00022 *2* |
| | | 2749.2 *2* | 4. *13* | 0 | 0$^+$ | | |
| 2756.921 | 3$^-$,(4$^-$) | 300.868[c] *17* | 0.20[c] *4* | 2456.005 | 1$^-$ | | |
| | | 798.92 *5* | 2.0 *4* | 1958.095 | 3$^-$ | M1,E2 | $\alpha$(K)exp=0.0017 *6* |
| | | 1024.73 *5* | 5.5 *6* | 1732.246 | 4$^+$ | | |
| | | 1473.40 *10* | 6.8 *14* | 1283.739 | 4$^+$ | E1 | $\alpha$(K)exp=0.00016 *3* |
| | | 2198.0 *4* | 14 *3* | 558.456 | 2$^+$ | | |
| 2767.848 | 1$^-$ | 908.30 *10* | 2.1 *5* | 1859.696 | 0$^+$ | | |
| | | 2209.2 *1* | 58 *3* | 558.456 | 2$^+$ | E1 | $\alpha$(K)exp=0.000108 *11* |
| | | 2767.5 *2* | 114 *6* | 0 | 0$^+$ | E1 | $\alpha$(K)exp=0.000084 *5* |
| 2788.501 | 1$^+$,2$^+$ | 138.376 *12* | 0.046 *12* | 2650.120 | 2$^+$ | | |
| | | 263.081 *12* | 0.21 *4* | 2525.420 | 2$^+$ | M1 | $\alpha$(K)exp=0.029 *7* |
| | | 2230.2 *1* | 63 *4* | 558.456 | 2$^+$ | M1,E2 | $\alpha$(K)exp=0.00020 *2* |
| | | 2788.4 *2* | 19 *2* | 0 | 0$^+$ | M1,E2 | $\alpha$(K)exp=0.00013 *2* |
| 2799.991 | (1$^+$,2$^+$) | 2242.0 *2* | 23 *3* | 558.456 | 2$^+$ | M1,E2 | $\alpha$(K)exp=0.00024 *4* |
| | | 2800.1 *1* | 11 *46* | 0 | 0$^+$ | M1,E2 | $\alpha$(K)exp=0.000117 *7* |
| 2806.587 | 3$^+$ | 226.213 *9* | 0.194 *18* | 2580.357 | 2$^-$ | E1 | $\alpha$(K)exp=0.023 *6* |
| | | 281.12 *3* | 0.09 *3* | 2525.420 | 2$^+$ | | |
| | | 1522.90 *9* | 13.8 *15* | 1283.739 | 4$^+$ | M1,E2 | $\alpha$(K)exp=0.00050 *6* |





$^{114}_{48}Cd_{66}$-5

γ($^{114}$Cd) (continued)

| $E_i$(level) | $J_i^\pi$ | $E_\gamma$[†] | $I_\gamma$[‡b] | $E_f$ | $J_f^\pi$ | Mult.[†] | δ[†] | Comments |
|---|---|---|---|---|---|---|---|---|
| 2806.587 | 3$^+$ | 2248.1 *3* | 15 *3* | 558.456 | 2$^+$ | M1,E2 | | α(K)exp=0.00026 *6* |
| 2812.050 | 2$^+$ | 110.985 *5* | 0.171 *17* | 2701.066 | 3$^+$ | M1+E2 | <0.42 | α(L1)exp=0.036 *7* |
| | | 175.531 *13* | 0.046 *16* | 2636.521 | 0$^+$,(2$^+$) | | | |
| | | 231.684[c] *8* | 0.150[c] *16* | 2580.357 | 2$^-$ | | | |
| | | 607.452 *14* | 1.31 *20* | 2204.561 | 3$^+$ | M1,E2 | | α(K)exp=0.0037 *7* |
| | | 853.983 *14* | 8.5 *8* | 1958.095 | 3$^-$ | E1 | | α(K)exp=0.00057 *17* |
| | | 1447.63 *6* | 9.6 *8* | 1364.344 | 2$^+$ | M1,E2 | | α(K)exp=0.00040 *10* |
| | | 2253.4 *1* | 58 *4* | 558.456 | 2$^+$ | M1,E2 | | α(K)exp=0.00025 *5* |
| | | 2811.9 *2* | 21[@] *5* | 0 | 0$^+$ | | | |
| 2820.216 | 4$^+$ | 601.354 *20* | 1.36 *23* | 2218.860 | 2$^+$ | E2 | | α(K)exp=0.0032 *6* |
| | | 772.17 *3* | 2.42 *23* | 2048.027 | 2$^+$ | E2 | | α(K)exp=0.0026 *4* |
| | | 862.171 *24* | 6.0 *4* | 1958.095 | 3$^-$ | | | |
| 2936.116 | (3$^-$) | 286.021 *22* | 0.15 *4* | 2650.120 | 2$^+$ | | | |
| | | 475.327 *21* | 1.18 *13* | 2460.757 | 3$^-$,(4$^-$) | | | |
| | | 1652.59 *11* | 26 *6* | 1283.739 | 4$^+$ | E1 | | α(K)exp=0.00023 *6* |
| | | 2377.8 *2* | 20[&] *4* | 558.456 | 2$^+$ | | | |
| 2953.244 | 2$^+$ | 800.99 *4* | 3.1 *4* | 2152.264 | 4$^+$ | E2 | | α(K)exp=0.0017 *4* |
| | | 905.08 *7* | 2.2 *5* | 2048.027 | 2$^+$ | | | |
| | | 2394.9 *1* | 69 *5* | 558.456 | 2$^+$ | M1,E2 | | α(K)exp=0.00019 *2* |
| 2957.262 | 2$^-$,(1$^-$) | 256.195[c] *4* | 2.20[c] *12* | 2701.066 | 3$^+$ | E1 | | |
| | | 496.552[c] *21* | 1.4[c] *3* | 2460.757 | 3$^-$,(4$^-$) | M1,E2[#] | | |
| | | 738.35[c] *3* | 1.6[c] *2* | 2218.860 | 2$^+$ | | | |
| | | 1097.35[d] *11* | 3.6 *8* | 1859.696 | 0$^+$ | | | |
| | | 2398.6 *1* | 77 *5* | 558.456 | 2$^+$ | E1 | | α(K)exp=0.000105 *9* |
| 2999.559 | 1$^-$ | 231.684[c] *8* | 0.150[c] *16* | 2767.848 | 1$^-$ | | | |
| | | 780.54 *8* | 2.40 *24* | 2218.860 | 2$^+$ | | | |
| | | 2440.7 *3* | 16[&] *3* | 558.456 | 2$^+$ | | | |
| | | 2999.7 *1* | 118 *7* | 0 | 0$^+$ | E1 | | α(K)exp=0.000061 *7* |
| 3002.223 | 2$^+$ | 341.321 *17* | 0.47 *6* | 2660.900 | 2$^+$ | (D) | | α(K)exp<0.010 |
| | | 476.80 *3* | 1.02 *24* | 2525.420 | 2$^+$ | M1,E2 | | α(K)exp=0.0094 *26* |
| | | 3001.8 *4* | 21 *5* | 0 | 0$^+$ | E2 | | α(K)exp=0.00019 *4* |
| 3052.902 | (1$^+$,2$^+$) | 232.689 *8* | 0.094 *20* | 2820.216 | 4$^+$ | | | |
| | | 833.98 *3* | 3.5 *4* | 2218.860 | 2$^+$ | M1,E2 | | α(K)exp=0.0017 *4* |
| | | 1004.91 *5* | 5.0 *7* | 2048.027 | 2$^+$ | | | |
| | | 3053.1 *2* | 64 *6* | 0 | 0$^+$ | M1,E2 | | α(K)exp=0.00016 *2* |
| 3077.444 | 1$^+$,2$^+$ | 270.804 *16* | 0.175 *25* | 2806.587 | 3$^+$ | | | |
| | | 277.469 *12* | 0.16 *3* | 2799.991 | (1$^+$,2$^+$) | | | |
| | | 309.567[c] *15* | 0.23[c] *4* | 2767.848 | 1$^-$ | | | |
| | | 376.347 *19* | 0.30 *5* | 2701.066 | 3$^+$ | | | |
| | | 523.588 *20* | 1.13 *23* | 2553.866 | 0$^+$ | | | |
| | | 1029.471 *20* | 8.5 *8* | 2048.027 | 2$^+$ | M1,E2 | | α(K)exp=0.00090 *18* |

γ($^{114}$Cd) (continued)

| $E_i$(level) | $J_i^\pi$ | $E_\gamma$[†] | $I_\gamma$[‡][b] | $E_f$ | $J_f^\pi$ | Mult.[†] | δ[†] | Comments |
|---|---|---|---|---|---|---|---|---|
| 3077.444 | 1⁺,2⁺ | 2518.9 *2* | 10[@] *2* | 558.456 | 2⁺ | | | |
| | | 3077.6 *2* | 21 *2* | 0 | 0⁺ | | | |
| 3108.640 | 1⁻ | 151.378 *3* | 0.197 *10* | 2957.262 | 2⁻,(1⁻) | M1+E2 | <0.33 | α(K)exp=0.131 *9* |
| | | 2550.1 *1* | 153 *8* | 558.456 | 2⁺ | E1 | | α(K)exp=0.000081 *8* |
| | | 3108.2 *2* | 57 *10* | 0 | 0⁺ | E1 | | α(K)exp=0.000072 *14* |
| 3157.156 | 1⁻,(2⁻) | 345.073 *21* | 0.24 *4* | 2812.050 | 2⁺ | | | |
| | | 400.253 *15* | 1.31 *14* | 2756.921 | 3⁻,(4⁻) | M1,E2 | | α(K)exp=0.008 *2* |
| | | 2022.7 *2* | 44 *9* | 1134.532 | 0⁺ | E1 | | α(K)exp=0.00014 *3* |
| | | 2598.6 *1* | 52 *3* | 558.456 | 2⁺ | E1 | | α(K)exp=0.000089 *10* |
| 3205.997 | 2⁺ | 203.774 *6* | 0.092 *19* | 3002.223 | 2⁺ | M1 | | α(K)exp=0.068 *17* |
| | | 269.96 *3* | 0.073 *23* | 2936.116 | (3⁻) | | | |
| | | 987.20 *3* | 11.8 *6* | 2218.860 | 2⁺ | M1 | | α(K)exp=0.00097 *20* |
| | | 1247.85 *6* | 6.7 *12* | 1958.095 | 3⁻ | E1 | | α(K)exp=0.00037 *8* |
| | | 1900.3 *3* | 18 *3* | 1305.609 | 0⁺ | E2 | | α(K)exp=0.00024 *5* |
| 3218.556 | 1⁻,(2⁻) | 109.915 *3* | 0.080 *8* | 3108.640 | 1⁻ | M1+E2 | <0.35 | α(K)exp=0.34 *4* |
| | | 418.554 *14* | 0.69 *6* | 2799.991 | (1⁺,2⁺) | E1 | | α(K)exp=0.0024 *10* |
| | | 999.743 *19* | 10.1 *8* | 2218.860 | 2⁺ | E1 | | α(K)exp=0.00065 *24* |
| | | 1260.56 *5* | 11.8 *12* | 1958.095 | 3⁻ | E2 | | α(K)exp=0.00060 *12* |
| | | 1853.68 *36* | 13 *3* | 1364.344 | 2⁺ | E1 | | α(K)exp=0.00013 *3* |
| | | 2660.1 *1* | 277 *11* | 558.456 | 2⁺ | E1 | | α(K)exp=0.000083 *5* |
| | | 3217.5 *4* | 13 *4* | 0 | 0⁺ | | | |
| 3258.093 | 1⁻,2⁻ | 300.868[c] *17* | 0.20[c] *4* | 2957.262 | 2⁻,(1⁻) | | | |
| | | 304.855 *8* | 0.40 *4* | 2953.244 | 2⁺ | | | |
| | | 321.877 *15* | 0.47 *11* | 2936.116 | (3⁻) | M1,E2 | | α(K)exp=0.021 *5* |
| | | 802.076 *17* | 5.8 *9* | 2456.005 | 1⁻ | M1,E2 | | α(K)exp=0.0016 *3* |
| | | 873.31 *4* | 3.6 *4* | 2384.759 | 3⁻ | | | |
| | | 1416.10 *11* | 13.6 *17* | 1841.947 | 2⁺ | E1 | | α(K)exp=0.00016 *3* |
| | | 2699.5 *2* | 53 *5* | 558.456 | 2⁺ | E1 | | α(K)exp=0.000084 *9* |
| (9042.7) | | 5785.1 *1* | 81 *4* | 3258.093 | 1⁻,2⁻ | E1 | | α(K)exp=0.032×10$^{-3}$ *3* |
| | | 5824.6 *1* | 295 *14* | 3218.556 | 1⁻,(2⁻) | E1 | | α(K)exp=0.0307×10$^{-3}$ *20* |
| | | 5837.4 *5* | 29 *11* | 3205.997 | 2⁺ | | | α(K)exp=0.038×10$^{-3}$ *12* |
| | | 5885.9 *2* | 14.0 *11* | 3157.156 | 1⁻,(2⁻) | | | |
| | | 5934.5 *1* | 80 *4* | 3108.640 | 1⁻ | E1 | | α(K)exp=0.0292×10$^{-3}$ *20* |
| | | 5965.3 *3* | 5.2 *6* | 3077.444 | 1⁺,2⁺ | | | |
| | | 5990.4 *1* | 13.3 *14* | 3052.902 | (1⁺,2⁺) | M1,E2 | | α(K)exp=0.044×10$^{-3}$ *9* |
| | | 6043.4 *1* | 19.4 *11* | 2999.559 | 1⁻ | E1 | | α(K)exp=0.029×10$^{-3}$ *3* |
| | | 6231.0 *1* | 23.2 *12* | 2812.050 | 2⁺ | M1,E2 | | α(K)exp=0.038×10$^{-3}$ *3* |
| | | 6242.7 *2* | 9.3 *7* | 2799.991 | (1⁺,2⁺) | M1,E2 | | α(K)exp=0.038×10$^{-3}$ *5* |
| | | 6254.6 *1* | 11.8 *7* | 2788.501 | 1⁺,2⁺ | M1,E2 | | α(K)exp=0.034×10$^{-3}$ *5* |
| | | 6275.5 *3* | 5.2 *6* | 2767.848 | 1⁻ | E1 | | α(K)exp=0.029×10$^{-3}$ *6* |
| | | 6293.1 *5* | 2.5 *5* | 2749.265 | 2⁺ | | | |
| | | 6382.2 *1* | 11.5 *6* | 2660.900 | 2⁺ | M1,E2 | | α(K)exp=0.033×10$^{-3}$ *4* |
| | | 6393.2 *4* | 3.2 *5* | 2650.120 | 2⁺ | | | |







$^{114}_{48}$Cd$_{66}$-7

## $^{113}$Cd(n,$\gamma$) E=thermal 1984Mh01,1979Br25,1968Gr32 (continued)

### $\gamma(^{114}Cd)$ (continued)

| $E_i$(level) | $J_i^\pi$ | $E_\gamma$[†] | $I_\gamma$[‡b] | $E_f$ | $J_f^\pi$ | Mult.[†] | Comments |
|---|---|---|---|---|---|---|---|
| (9042.7) | | 6405.9 *3* | 5.9 *6* | 2636.521 | $0^+$,($2^+$) | M1,E2 | $\alpha$(K)exp=0.038×10$^{-3}$ *6* |
| | | 6462.7 *1* | 25.9 *13* | 2580.357 | $2^-$ | E1 | $\alpha$(K)exp=0.0266×10$^{-3}$ *17* |
| | | 6489.7 *5* | 2.5 *5* | 2553.866 | $0^+$ | | |
| | | 6517.8 *1* | 21.4 *14* | 2525.420 | $2^+$ | M1,E2 | $\alpha$(K)exp=0.0335×10$^{-3}$ *23* |
| | | 6587.2 *1* | 32.4 *17* | 2456.005 | $1^-$ | E1 | $\alpha$(K)exp=0.0260×10$^{-3}$ *16* |
| | | 6605.4 *1* | 40.7 *20* | 2437.640 | $0^+$ | M1,E2 | $\alpha$(K)exp=0.0300×10$^{-3}$ *20* |
| | | 6824.2 *1* | 60 *3* | 2218.860 | $2^+$ | M1,E2 | $\alpha$(K)exp=0.032×10$^{-3}$ *4* |
| | | 6995.1 *1* | 12.9 *8* | 2048.027 | $2^+$ | | |
| | | 7200.7 *3* | 2.7 *3* | 1841.947 | $2^+$ | | |
| | | 7678.7 *1* | 63 *3* | 1364.344 | $2^+$ | M1,E2 | $\alpha$(K)exp=0.029×10$^{-3}$ *3* |
| | | 7737.4 *1* | 31.2 *16* | 1305.609 | $0^+$ | M1,E2 | $\alpha$(K)exp=0.0258×10$^{-3}$ *18* |
| | | 7833.3 *1* | 29.7 *15* | 1209.708 | $2^+$ | M1,E2 | $\alpha$(K)exp=0.0245×10$^{-3}$ *18* |
| | | 7908.4 *2* | 5.4 *4* | 1134.532 | $0^+$ | | |
| | | 8484.8 *1* | 48 *3* | 558.456 | $2^+$ | M1,E2 | $\alpha$(K)exp=0.0231×10$^{-3}$ *17* |
| | | 9043.1 *1* | 24.7 *13* | 0 | $0^+$ | | |

[†] From 1984Mh01.
[‡] Intensities per 10000 neutron captures (1984Mh01).
[#] $\alpha$(K)exp=0.0060 *15* for the doubly placed 496.552$\gamma$.
[@] Seen only in ce spectrum. Value is for Mult=M1,E2.
[&] Seen only in ce spectrum. Value is for Mult=E1; however, for the 1902$\gamma$, the present adopted $J^{\pi\prime}$s require Mult=M2 for this transition. This Mult would lead to I$\gamma$=3.9 *7*.
[a] Unassigned by authors. The evaluator assigns the 1015$\gamma$ to the 2299 level, on the basis of (n,n$'\gamma$) work. The 366$\gamma$ is also assigned by the evaluator to this level on the basis of energy fit.
[b] For intensity per 100 neutron captures, multiply by 0.01.
[c] Multiply placed with undivided intensity.
[d] Placement of transition in the level scheme is uncertain.
[x] $\gamma$ ray not placed in level scheme.



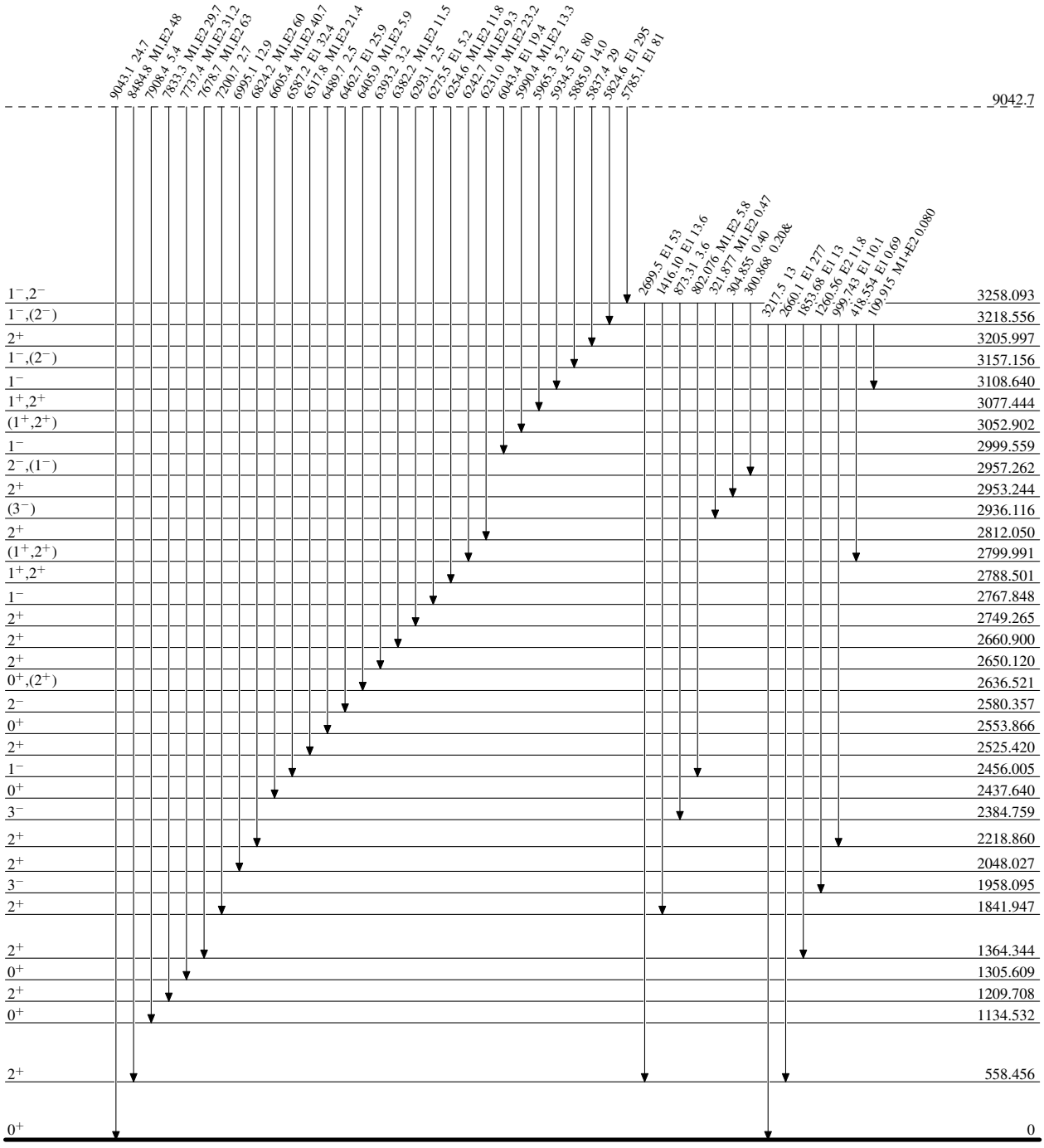


$^{114}_{48}Cd_{66}$-8

## $^{113}$Cd(n,γ) E=thermal 1984Mh01,1979Br25,1968Gr32

### Level Scheme

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given




$^{114}_{48}Cd_{66}$

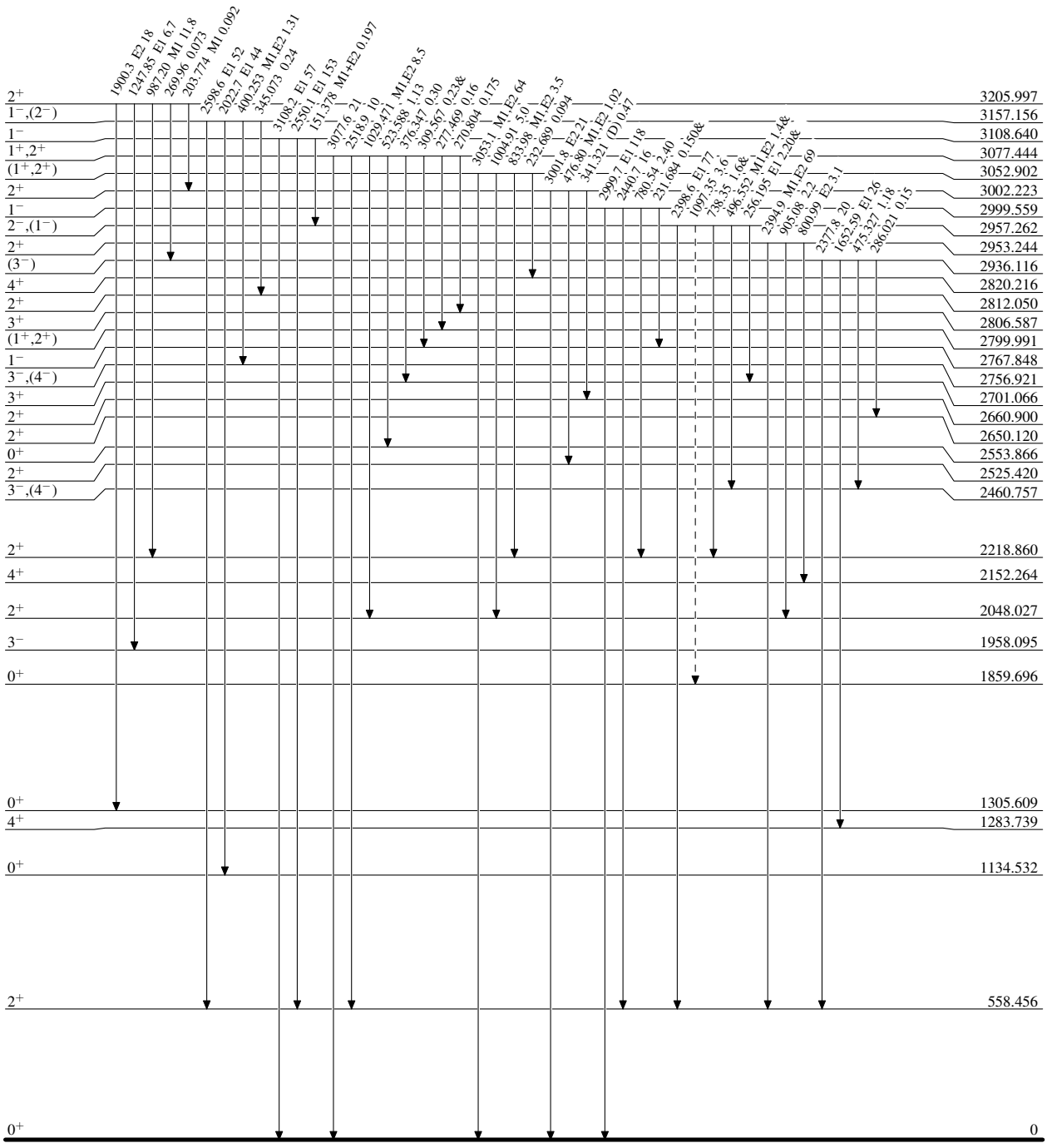
## $^{113}$Cd(n,γ) E=thermal 1984Mh01,1979Br25,1968Gr32

Legend

### Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

γ Decay (Uncertain)

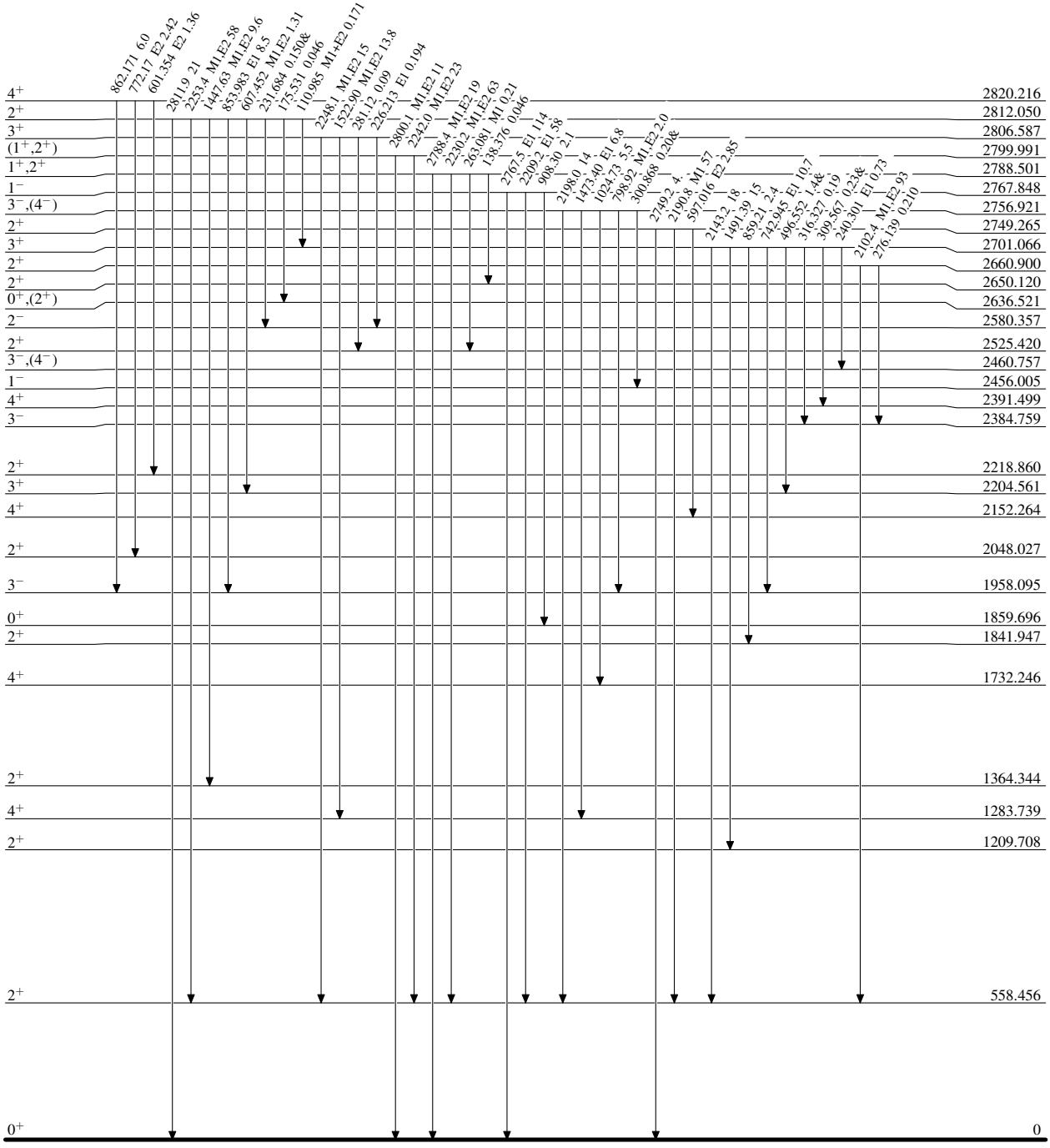



$^{114}_{48}Cd_{66}$

## $^{113}$Cd(n,γ) E=thermal 1984Mh01,1979Br25,1968Gr32

### Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

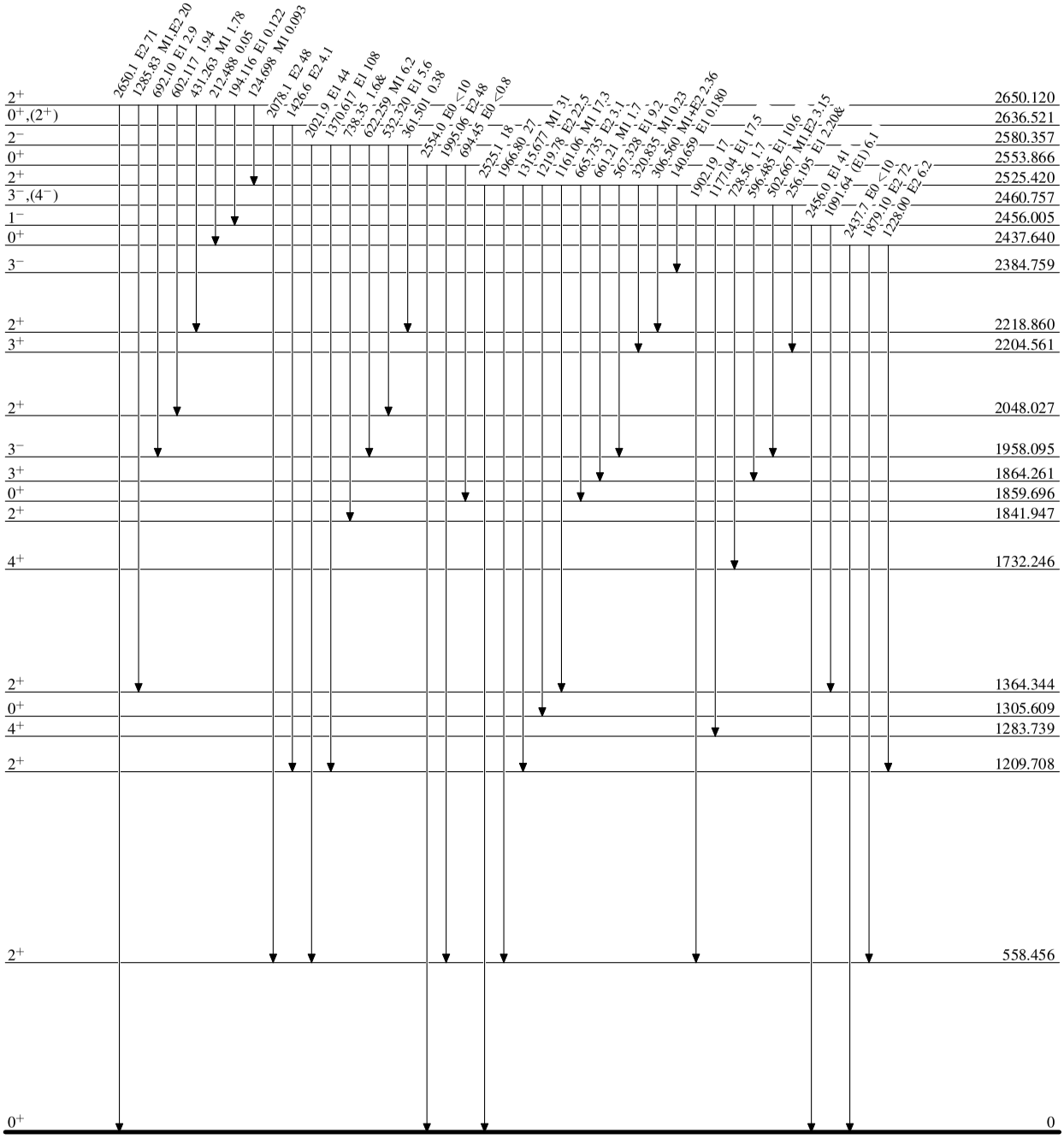



$^{114}_{48}Cd_{66}$

## $^{113}$Cd(n,γ) E=thermal 1984Mh01,1979Br25,1968Gr32

### Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

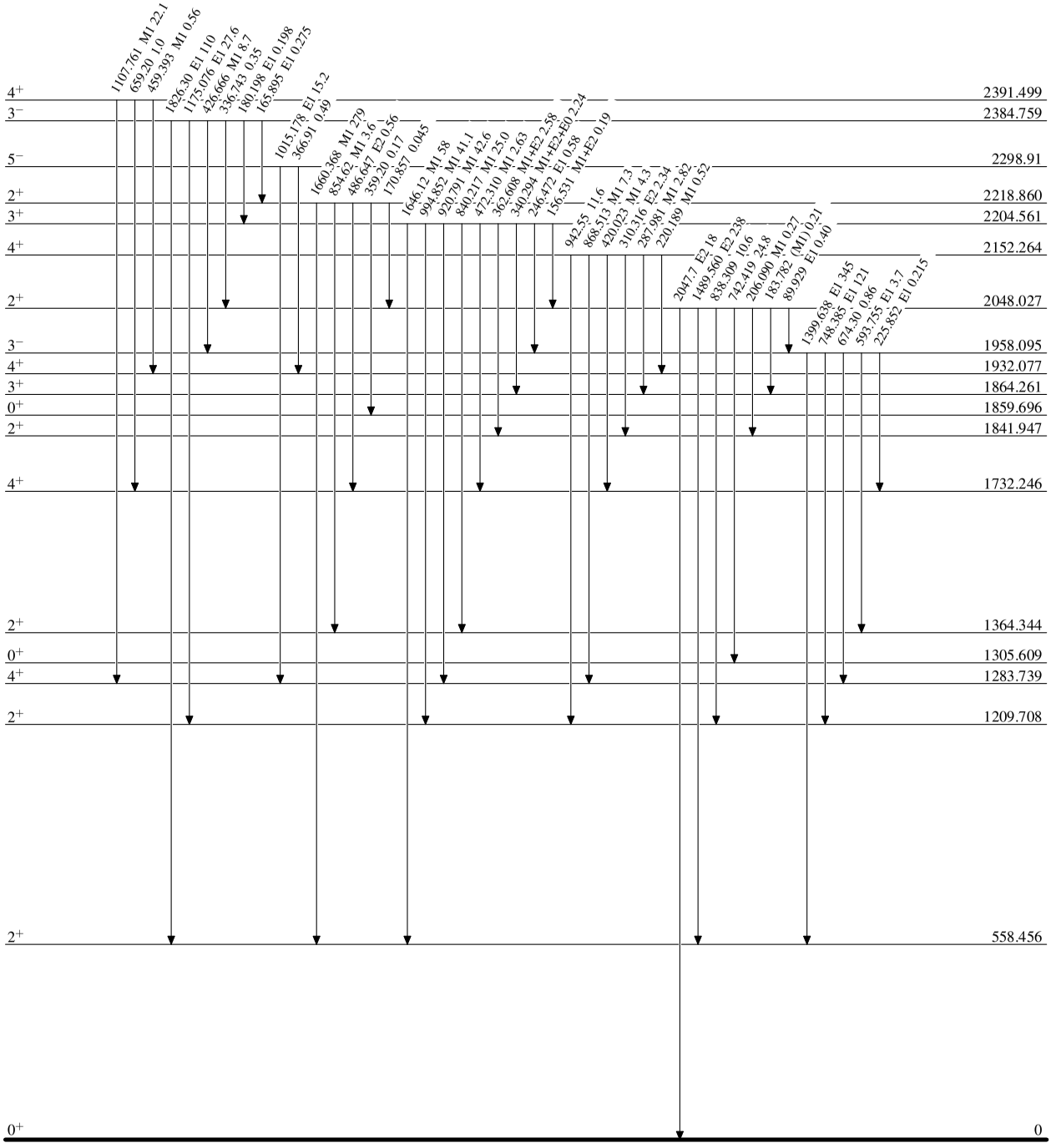



$^{114}_{48}Cd_{66}$

## $^{113}$Cd(n,γ) E=thermal 1984Mh01,1979Br25,1968Gr32

### Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

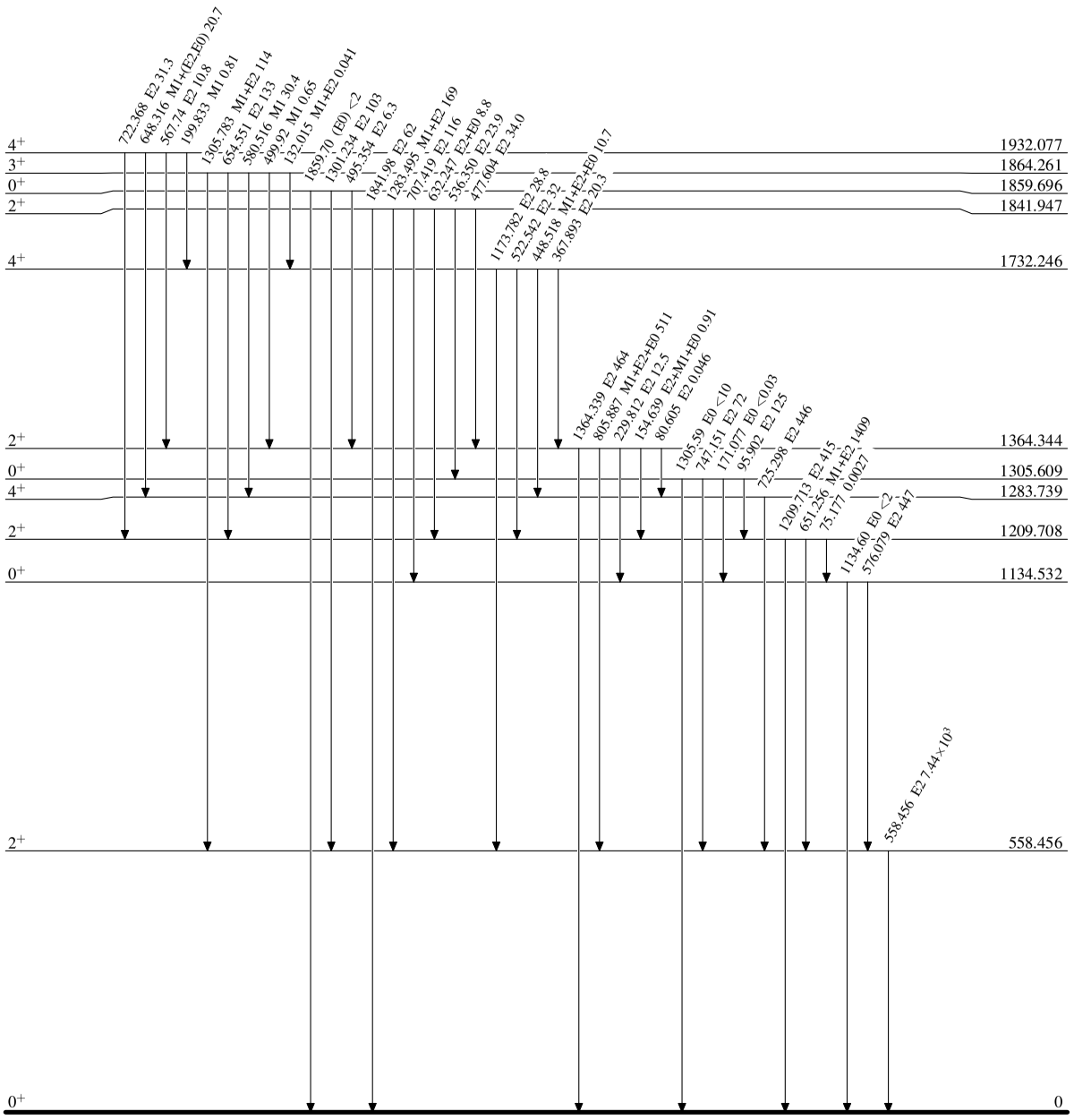



$^{114}_{48}Cd_{66}$

## $^{113}$Cd(n,γ) E=thermal 1984Mh01,1979Br25,1968Gr32

### Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given




$^{114}_{48}Cd_{66}$