$^{112}$Cd(pol d,d′)　　**1994He22**

### History

| Type | Author | Citation | Literature Cutoff Date |
|------|--------|----------|------------------------|
| Full Evaluation | S. Lalkovski, F. G. Kondev | NDS 124, 157 (2015) | 1-Aug-2014 |

Facility: Garching Tandem; Beam: E(pol d)=20 MeV; Targets: 107 $\mu$g/cm$^2$ to 2.4mg/cm$^2$ enriched to 98% in $^{112}$Cd; Detectors: Q3D magnetic spectrograph, focal plane particle detector, surface barrier detectors; Measured: d$\sigma$/d$\Omega$. Coupled channel analysis; Deduced: $^{112}$Cd levels, J$^\pi$.

### $^{112}$Cd Levels

| E(level)[†] | J$^{\pi}$[‡] | Comments |
|------|------|----------|
| 0.0 | 0$^+$ | |
| 617.5 _10_ | 2$^+$ | |
| 1224.2 _10_ | 0$^+$ | |
| 1312.3 _10_ | 2$^+$ | |
| 1415.3 _10_ | 4$^+$ | |
| 1433.2 _10_ | 0$^+$ | |
| 1468.8 _10_ | 2$^+$ | |
| 1870.9 _10_ | 4$^+$,0$^+$ | |
| 1954.8? _10_ | 2,3 | ambiguous level which is not observed in any other data set. |
| 2005.1 _10_ | 3$^-$ | |
| 2064 _1_ | | |
| 2082 _1_ | 4$^+$ | |
| 2122 _1_ | 2$^+$,1$^-$ | |
| 2156 _1_ | 2$^+$ | |
| 2167 _1_ | 6$^+$ | J$^\pi$: from the Adopted Levels; 2$^+$,3$^-$ in 1994He22. |
| 2231 _1_ | 2$^+$ | |
| 2300 _1_ | (0$^+$) | |
| 2373 _1_ | 5$^-$ | |
| 2416 _1_ | 3$^-$ | |
| 2454 _1_ | 4$^+$ | |
| 2493 _1_ | 4$^+$ | |
| 2507 _1_ | (2$^+$) | |
| 2533 _1_ | | |
| 2570 _1_ | (6$^+$) | |
| 2589 _1_ | (6$^+$) | |
| 2635 _1_ | 2$^+$,1$^-$ | |
| 2649 _1_ | 2$^+$,3$^-$ | |
| 2653 _1_ | (1$^-$) | |
| 2667 _1_ | 5$^+$ | J$^\pi$: from the Adopted Levels; 5$^-$ in 1994He22. |
| 2673 _1_ | 2$^+$ | J$^\pi$: from the Adopted Levels; 4$^+$ in 1994He22. |
| 2711 _1_ | 4$^+$ | |
| 2722 _1_ | 2$^+$ | |
| 2763 _1_ | 2$^+$ | |
| 2775 _1_ | 0$^+$,4$^+$ | J$^\pi$: from the Adopted Levels; (6$^+$) in 1994He22. |
| 2793 _1_ | (5$^-$) | |
| 2816 _1_ | 4$^+$ | |
| 2819 _1_ | | |
| 2830 _1_ | 4$^+$ | |
| 2832 _1_ | | |
| 2835 _1_ | 4$^+$ | |
| 2840 _1_ | 2$^+$,4$^+$ | |
| 2844 _1_ | | |
| 2850 _1_ | 2$^+$ | |
| 2867 _1_ | 3$^-$ | |
| 2877 _1_ | (2$^+$) | |
| 2882 _1_ | | |

## $^{112}$Cd(pol d,d′)    1994He22 (continued)

### $^{112}$Cd Levels (continued)

| E(level)[†] | J$^{\pi}$[‡] | Comments |
|---|---|---|
| 2892 *1* | (4$^+$) | |
| 2897 *1* | (4$^+$) | |
| 2916 *1* | | |
| 2922 *1* | (5$^-$) | |
| 2926 *1* | 4$^-$ | J$^{\pi}$: from the Adopted Levels; 2$^+$ in 1994He22. |
| 2932 *1* | 6$^-$ | J$^{\pi}$: from the Adopted Levels; (6$^+$) in 1994He22. |
| 2942 *1* | (2$^+$) | |
| 2946 *1* | (2$^+$) | |
| 2949 *1* | 2$^+$ | |
| 2967 *1* | (2$^+$) | |
| 2976 *1* | 2$^+$,4$^+$ | |
| 2980 *1* | 2$^+$ | |
| 3022 *1* | (3$^-$) | |
| 3046 *1* | (4$^+$) | |
| 3050 *1* | 4$^+$,1$^-$ | |
| 3058 *1* | 2$^+$,3$^-$ | |
| 3065 *1* | 3$^-$ | |
| 3074 *1* | 5$^-$ | |
| 3080 *1* | | |
| 3091 *1* | 2$^+$ | J$^{\pi}$: from the Adopted Levels; (6$^+$) in 1994He22. |
| 3100 *1* | 4$^+$ | J$^{\pi}$: from the Adopted Levels; 4$^+$,2$^+$ in 1994He22. |
| 3104 *2* | (4$^+$) | |
| 3124 *2* | 2$^+$,3$^-$ | |
| 3131 *2* | 3$^-$ | |
| 3168 *2* | (4$^+$) | |
| 3177 *2* | 2$^+$ | |
| 3188[#] *2* | 2$^+$ | |
| 3205 *2* | 4$^+$ | |
| 3246 *2* | 2$^+$,4$^+$,5$^-$ | |
| 3265 *2* | 4$^+$ | |
| 3293[#] *2* | (6$^+$) | |
| 3309 *2* | (5$^-$) | |
| 3329 *2* | 5$^-$ | |
| 3350 *2* | 0$^+$ | J$^{\pi}$: from the adopted; 2$^+$ in 1994He22. |
| 3366 *2* | 2$^+$ | |
| 3372[#] *2* | | |
| 3380 *2* | 2$^+$ | |
| 3417[#] *2* | 4$^+$ | |
| 3422 *2* | (4$^+$) | |
| 3457 *2* | (2$^+$) | |
| 3492 *2* | | |
| 3543 *2* | 4$^+$ | |
| 3560 *2* | (3$^-$) | |
| 3590 *2* | (2$^+$) | |
| 3616 *2* | (3$^-$) | |
| 3625 *2* | (6$^+$) | |
| 3667 *2* | 3$^-$ | |
| 3691 *2* | 4$^+$ | |
| 3700 *2* | (5$^-$) | |
| 3717 *2* | 2$^+$ | |
| 3740 *2* | (2$^+$) | |
| 3754 *2* | (2$^+$) | |
| 3761 *2* | (2$^+$) | |

$^{112}$**Cd(pol d,d′)**    **1994He22 (continued)**

$^{112}$Cd Levels (continued)

† From 1994He22.
‡ Based on dσ/dΩ analysis in 1994He22, unless otherwise noted.
# Unresolved multiplet.