## $^{200}$Hg(d,t) 1972Mo12

| Type | Author | History Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | Balraj Singh | NDS 108, 79 (2007) | 15-Oct-2006 |

1972Mo12 (also 1972MoZA, thesis): E=17 MeV, magnetic spectrometer, FWHM=8-12 keV. Measured $\sigma(\theta)$, DWBA analysis used to determine L and S.

$^{199}$Hg Levels

| E(level) (keV) | dσ/dΩ (max) (μb/sr) | E(level) (keV) | dσ/dΩ (max) (μb/sr) |
|---|---|---|---|
| 0 | 1500 | 1454 | 600 |
| 158 | 600 | 1561 ? | 20 |
| 208 | 800 | 1592 ? | 10 |
| 403 | 1100 | 1649 | 80 |
| 413 | ≈500 | 1686 | 40 |
| 455 | 40 | 1778 | 15 |
| 491 | 35 | 1853 | 50 |
| 531 | 200 | 1953 | 50 |
| 638 | 50 | 2038 | 20 |
| 667 | 60 | 2084 ? | 5 |
| 698 | 160 | 2175 | 40 |
| 749 | 100 | 2218 | 60 |
| 822 | 20 | 2230 ? | 5 |
| 969 | 50 | 2279 | 10 |
| 1104 | 21 | 2360 | 10 |
| 1226 | 150 | 2384 | 5 |
| 1325 | 200 | 2416 ? | 10 |
| 1358 | 30 | 2521 ? | 5 |
| 1436 | 150 | | |

| E(level)[&] | Jπ[†] | L | S[@] | Comments |
|---|---|---|---|---|
| 0 | 1/2$^-$[‡] | 1 | 1.5 | |
| 158 *1* | 5/2$^-$[‡] | 3 | 2.4 | |
| 208 *1* | 3/2$^-$[#] | 1 | 0.72 | |
| 403 *2* | 3/2$^-$[#] | 1 | 1.1 | |
| 413 *5* | (5/2$^-$)[‡] | [3] | (2.5) | L: assignment not possible because of proximity of more intense 403 group. |
| 455 *2* | (1/2$^-$)[‡] | [1] | (0.04) | Jπ: 1/2$^-$,3/2$^-$ In 'Adopted Levels'. |
| 491 *2* | (3/2$^-$)[#] | (1) | (0.04) | |
| 531 *2* | 13/2$^+$[#] | 6 | 7.4 | |
| 638 *3* | | | | |
| 667 *3* | 5/2$^-$[‡*a*] | 3 | 0.31 | |
| 698 *3* | 5/2$^-$[‡*a*] | 3 | 0.74 | |
| 749 *3* | 3/2$^-$[#*a*] | 1 | 0.13 | |
| 822 *3* | | | | |
| 969 *4* | 7/2$^-$[#*a*] | 3 | 0.19 | |
| 1104 *5* | | | | |
| 1226 *5* | (7/2$^-$,3/2$^-$)[#*b*] | (3,1) | 0.76,0.23 | E(level): probable doublet. |
| 1325 *5* | 3/2$^-$[#*a*] | 1 | 0.37 | |
| 1358 *5* | | | | |
| 1436 *6* | 3/2$^-$[#*a*] | 1 | 0.27 | |
| 1454 *6* | (7/2$^-$)[#*a*] | (3) | (2.7) | |

Continued on next page (footnotes at end of table)

## $^{200}$Hg(d,t) 1972Mo12 (continued)

### $^{199}$Hg Levels (continued)

| E(level)[&] | Jπ[†] | L | S[@] | E(level)[&] | E(level)[&] |
|---|---|---|---|---|---|
| 1561? *6* | | | | 1953 *8* | 2279 *9* |
| 1592? *6* | | | | 2038 *8* | 2360 *10* |
| 1649 *7* | (3/2$^-$)[#a] | (1) | (0.14) | 2084? *8* | 2384 *10* |
| 1686 *7* | | | | 2175 *9* | 2416? *10* |
| 1778 *7* | | | | 2218 *9* | 2521? *10* |
| 1853 *7* | | | | 2230? *9* | |

[†] From 1972Mo12 based on L transfers. The more probable of the two possible J values is given by 1972Mo12 based on shell model and sum rules.

[‡] L-1 assumed, $p_{1/2}$ for L=$^1$,$F_{5/2}$ for L=3.

[#] L+1 assumed, $p_{3/2}$ for L=$^1$,$F_{7/2}$ for L=$^3$,$I_{13/2}$ for L=6.

[@] S=[dσ/dΩ(exp)]/[N(dσ/dΩ(DWBA))], where N=3.33. Values are accurate to 30%, exclusive of DWBA calculations and spin assignment.

[&] Uncertainties assigned (evaluator) based on general statement by that these are 0.4% for resolved levels.

[a] Both possible spins (L+1/2 and L-1/2) are given In 'Adopted Levels'.

[b] 1/2$^{(-)}$,3/2$^{(-)}$ In 'Adopted Levels'.