## $^{63}$Cu(e,e′) 2010De09

| Type | Author | History Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | Jun Chen | NDS 196,17 (2024) | 30-Sep-2023 |

$J^{\pi}(^{63}\text{Cu g.s.})=3/2^{-}$.

Adopted from a XUNDL dataset compiled by K. Abusaleem (U. of Jordan) and B. Singh (McMaster), on May 20, 2010.

2010De09: E=120 MeV electron beam was produced from the LUE-300 linear electron accelerator of Kharkiv Institute for Physics and Technology. Target was 97.8% enriched $^{63}$Cu. Measured E(e), I(e), form factors. Deduced levels, transition strengths. Comparisons with available data. The authors also present re-analysis of data reported in 1988Ra11.

1988Ra11: E=79-150 meV electron beams were produced at the Saskatchewan Accelerator Laboratory, Canada. Measured E(e), I(e), form factors.

1986Ka15: 100, 140 and 220 MeV electrons were produced from the Tohoku Unversity 300-MeV electron linear accelerator. Measured form factors. Deduced giant multipole resonances.

1963Ke05: E=183, 300, 600 MeV electrons were produced at Stanford. Scattered electrons were detected with the Stanford 72-inch magnetic spectrometer. Measured form factors. Data analyzed in 1964On04.

### $^{63}$Cu Levels

Transition strengths under comments are from 2010De09.

| E(level)† | L | Comments |
|---|---|---|
| 670 | | B(E2)↑=0.0098 *34* |
| 960 | | B(E2)↑=0.0170 *25* |
| 1330 | | B(E2)↑=0.0073 *17* |
| 2.3×10$^3$ *1* | | B(E3)↑=0.00289 *42* |
| 2730 *50* | | B(E4)↑=0.00103 *8* |
| 2.8×10$^3$ *1* | | B(E2)↑=0.0124 *10* |
| 3.3×10$^3$ *1* | | B(E3)↑=0.0046 *9* |
| 3.6×10$^3$ *1* | | B(E2)↑=0.0095 *13* |
| 3.8×10$^3$ *1* | | B(E3)↑=0.0014 *7* |
| 3860 *50* | | B(E4)↑=0.00151 *10* |
| 4.2×10$^3$ *1* | | B(E2)↑=0.0079 *6* |
| 5.5×10$^3$ *2* | 4 | E(level),L: from 1963Ke05. |
| 7.5×10$^3$ *2* | | E(level): from 1963Ke05. |
| 14.9×10$^3$ | | Γ=5.0 MeV, %EWSR=89 for ISGQR (1986Ka15). |
| 17.2×10$^3$ | | Γ=6.1 MeV, %EWSR=109 for IVGDR (1986Ka15). |
| 32.0×10$^3$ | | Γ=18.2 MeV, %EWSR=82 for IVGQR (1986Ka15). |

† From 2010De09, unless otherwise noted.