Coulomb excitation 2008St04

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 115, 1 (2014)	31-Jul-2013

E(^{69}Cu)=2.99 MeV/nucleon. Target=^{104}Pd. ^{69}Cu beam produced in the reaction U(p,X) at 1.4 GeV protons on thick UC_x target using laser ionization RILIS. Mass separation followed by post acceleration at REX-ISOLDE which bombarded a 2mg/cm^2 ^{104}Pd target. Measured Eγ, Iγ, (particle)γ coin using MINIBALL Ge array, and charged particles with a double-sided silicon strip detector. Deduced B(E2)(W.u.) values from experimental Coulomb excitation cross sections deduced from observed gamma-ray yields normalized to the known cross section for excitation of the first 2$^+$ state in ^{104}Pd target.

^{69}Cu Levels

E(level)[†]	J$^\pi$	T$_{1/2}$[‡]
0	3/2$^-$	
1096	1/2$^-$	2.0 ps *2*
1214	5/2$^-$	4.3 ps *4*
1871	7/2$^-$	0.30 ps *5*

[†] From least-square fit to Eγ's.
[‡] Deduced by evaluators from experimental B(E2)(W.u.) and adopted branching ratio.

γ(^{69}Cu)

ΔE: No uncertainties are given by the authors.

E$_i$(level)	J$_i^\pi$	E$_\gamma$	I$_\gamma$	E$_f$	J$_f^\pi$	Mult.[@]	α[†]	Comments
1096	1/2$^-$	1096		0	3/2$^-$	[E2]	0.000215 *3*	B(E2)↓=0.0087 *9* (2008St04) α=0.000215 *3*; α(K)=0.000193 *3*; α(L)=1.91×10^{-5} *3*; α(M)=2.69×10^{-6} *4*; α(N+..)=8.19×10^{-8} *12* α(N)=8.19×10^{-8} *12*
1214	5/2$^-$	1214		0	3/2$^-$	[E2]	0.000182 *3*	B(E2)↓=0.0076 *8* (2008St04) α=0.000182 *3*; α(K)=0.0001537 *22*; α(L)=1.518×10^{-5} *22*; α(M)=2.13×10^{-6} *3*; α(N+..)=1.101×10^{-5} α(N)=6.51×10^{-8} *10*; α(IPF)=1.095×10^{-5} *16*
1871	7/2$^-$	657[#]	4.3[#]	1214	5/2$^-$			
		1871[#]	100[#]	0	3/2$^-$	[E2]	0.000321 *5*	B(E2)↓=0.0155 *24* (2008St04) α=0.000321 *5*; α(K)=6.39×10^{-5} *9*; α(L)=6.28×10^{-6} *9*; α(M)=8.83×10^{-7} *13*; α(N+..)=0.000249 *4* α(N)=2.71×10^{-8} *4*; α(IPF)=0.000249 *4*

[†] Additional information 1.
[‡] No uncertainties are given by the authors.
[#] Eγ and relative branching ratio from Adopted Levels.
[@] Assumed from level J^π's and from Coulomb Excitation code(GOSIA) in 2008St04 showing M1 transitions are 3 orders of magnitude smaller than E2 transitions.

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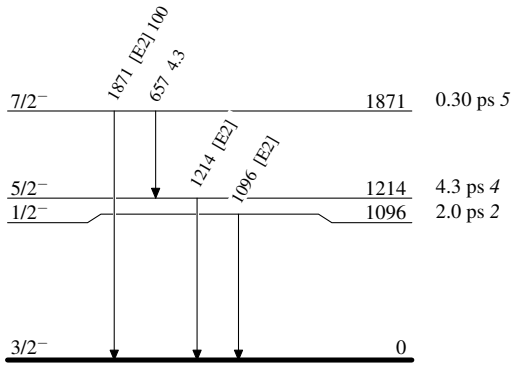
Level Scheme

Intensities: Relative photon branching from each level



$^{69}_{29}Cu_{40}$