Adopted Levels

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 199,271 (2025)	1-Sep-2024

Q(β^-)=14290 *syst*; S(n)=3300 *syst*; S(p)=15960 *syst*; Q(α)=−12430 *syst* 2021Wa16
ΔQ(β^-)=300, ΔS(n)=420, ΔS(p)=670, ΔQ(α)=670 (syst,2021Wa16).
S(2n)=5650 *320*, Q(β^-n)=11670 *300* (syst,2021Wa16).
Slightly edited version of the one evaluated by B. Singh for ENSDF, dated: 31-Jul-2014.
2010Oh02: ^{81}Cu nuclide identified in Be(^{238}U,F) and Pb(^{238}U,F) reactions with a $^{238}U^{86+}$ beam energy of 345 MeV/nucleon produced by the cascade operation of the RBIF accelerator complex of the linear accelerator RILAC and four cyclotrons RRC, fRC, IRC and SRC. Identification of ^{81}Cu nuclei was made on the basis of magnetic rigidity, time-of-flight and energy loss of the fragments using BigRIPS fragment separator. Experiments performed at RIKEN facility.
Based on A/Q spectrum and Z versus A/Q plot, 36 counts were assigned to ^{81}Cu isotope. (Q=charge state).
2014Xu07: ^{81}Cu nuclide produced in ^{9}Be(^{238}U,F) reaction with a $^{238}U^{86+}$ beam of 345 MeV/nucleon produced at the RIKEN accelerator complex. Separation of ^{81}Cu nuclei was made on the basis of magnetic rigidity, time-of-flight and energy loss of the fragments (ΔE-Bρ-tof method) using BigRIPS fragment separator and and ZeroDegree Spectrometer (ZDS) at RIBF-RIKEN facility. Based on A/Q spectrum and Z versus A/Q plot. Measured heavy fragment, β and γ spectra using wide-range active silicon strip stopper array (WAS3ABi) for beta and ion detection, and EUROBALL-RIKEN Cluster array for γ detection. Decay curves were obtained from time differences between implantation and correlated β decays.
2005Bo19: calculated half-life, β-delayed neutron emission probability.
Additional information 1.

^{81}Cu Levels

E(level)	$T_{1/2}$	Comments
0	73.2 ms *68*	%β^-=100; %β^-n=?; %β^-2n=? Theoretical %β^-n=80, %β^-2n=6 (2019Mo01); %β^-n=100 (2002Pf04). Only β^- decay mode has been observed in 2014Xu07. E(level): the observed activity is assumed to be in its ground state. J^π: $5/2^-$ from systematics (2021Ko07), $1/2^-$ in theoretical calculations (2019Mo01). $T_{1/2}$: from 2014Xu07, decay curve of time difference between implantations and correlated β decays using maximum likelihood (MLH) method and including half-lives of parent, daughter, and grand-daughter nuclei together with β-delayed neutron emission channels. Measured production σ=70 pb *35* (2010Oh02).