^{70}Cu IT decay (6.6 s) 2004Va08,2004Va07

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	G. Gürdal, E. A. Mccutchan	NDS 136, 1 (2016)	1-Jul-2016

Parent: ^{70}Cu: E=242.6 *5*; $J^{\pi}=1^+$; $T_{1/2}$=6.6 s *2*; %IT decay=6.8 *9*

2004Va08,2004Va07: ^{70}Cu activity produced through proton-induced fission of a uranium carbide target, E(p)=1 GeV and through low-energy neutron induced fission following a proton-to-neutron converter. Fragments separated using resonant laser-ionization (RILIS) followed by mass separation. In one setup, in-source laser spectroscopy measurements were performed combined with a 4π cylindrical β detector and a Ge(Li) detector. In another setup, measured Eγ, Iγ, $\beta\gamma$, γ(t) using two HPGe detectors and three thin plastic ΔE detectors. 2004Va07 also performed high-resolution mass spectroscopy with the Penning trip mass spectrometer ISOLTRAP.

α: Additional information 1.

^{70}Cu Levels

E(level)	J^{π} †	$T_{1/2}$	Comments
101.1 *3*	3^-	33 s *2*	$T_{1/2}$: from γ(t) of the 209γ, 387γ, 553γ and 708γ from the 3247-keV level in ^{70}Zn (2004Va08).
242.4 *3*	1^+	6.6 s *2*	%IT=6.8 *9*; %β^-=93.2 *9* (2004Va08) $T_{1/2}$: from β(t); a three component exponential decay was used to account for the 6^- ground state, 1^+ 243-keV isomer and a constant background (2004Va08).

† From the Adopted Levels.

γ(^{70}Cu)

E$_\gamma$ †	I$_\gamma$ ‡	E$_i$(level)	J^{π}_i	E$_f$	J^{π}_f	Mult.	α	I$_{(\gamma+ce)}$ ‡	Comments
141.3 *3*	85.6 *2*	242.4	1^+	101.1	3^-	[M2]	0.168 *3*	100	ce(K)/(γ+ce)=0.1273 *18*; ce(L)/(γ+ce)=0.01446 *23*; ce(M)/(γ+ce)=0.00204 *4*; ce(N)/(γ+ce)=5.80×10^{-5} *10* α(K)=0.1488 *24*; α(L)=0.0169 *3*; α(M)=0.00239 *11* I$_\gamma$: from I(γ+ce) and α.

† From 2004Va08.

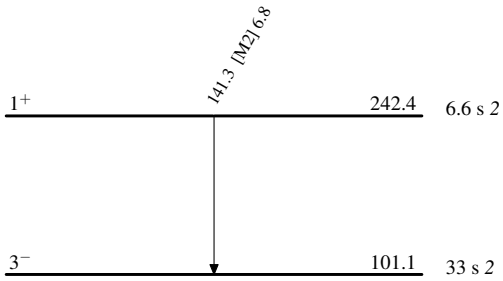
‡ For absolute intensity per 100 decays, multiply by 0.068 *9*.

^{70}Cu IT decay (6.6 s) 2004Va08,2004Va07

Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays

%IT=6.8 *9*



$^{70}_{29}Cu_{41}$