^{70}Zn(^{238}U,Xγ) 2012Di03

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 207,1 (2026)	1-Apr-2023

2012Di03: Multinucleon transfer reaction in inverse kinematics. E(^{238}U)=6.33 MeV/nucleon bombarded a 1.3 mg/cm^2 thick target. The target-like reaction products were detected and identified in the VAMOS spectrometer at GANIL facility. Atomic number of fragments determined by energy loss information in several ionization chambers and Si detectors. Mass was determined from the total kinetic energy and the time-of-flight information. Prompt γ rays were measured using 11 Clover Ge detectors from the EXOGAM array in coincidence with recoils identified in VAMOS. Delayed γ rays were detected at the VAMOS focal plane by four high-purity Ge detectors. Measurement of half-life from γ(t) of 13/2$^+$ isomer. Six delayed γ rays emitted by this isomer are shown by blue diamonds in figure 1 of 2012Di03.

^{69}Cu Levels

E(level)†	Jπ‡	$T_{1/2}$	Comments
1711	7/2$^-$		
1871	7/2$^-$		
2182	9/2$^-$		
2346			
2551	(9/2$^+$)		
2667	11/2$^-$		
2742	(13/2$^+$)	360 ns *20*	%IT=100 $T_{1/2}$: from γ(t) (2012Di03).

† From Adopted Levels, rounded to the nearest keV.
‡ From Adopted Levels.

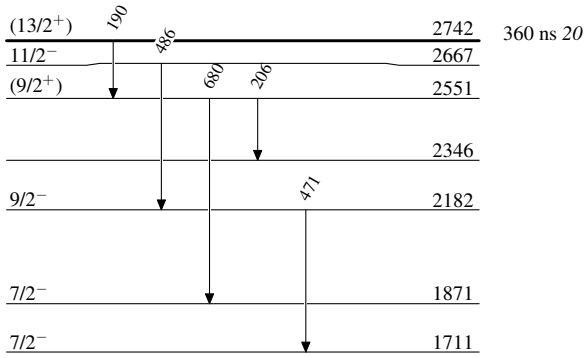
γ(^{69}Cu)

Eγ†	E_i(level)	J^π_i	E_f	J^π_f
190	2742	(13/2$^+$)	2551	(9/2$^+$)
206	2551	(9/2$^+$)	2346	
471	2182	9/2$^-$	1711	7/2$^-$
486	2667	11/2$^-$	2182	9/2$^-$
680	2551	(9/2$^+$)	1871	7/2$^-$

† Six delayed γ rays emitted by this isomer are shown by blue diamonds in Figure 1 of 2012Di03. The gamma energies rounded to the nearest keV given in this dataset by the evaluator are from the Adopted Gammas. The origin of one γ ray near 190 keV is not clear.

^{70}Zn(^{238}U,Xγ) 2012Di03

Level Scheme



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