^{64}Zn(^{40}Ca,2p2nγ) 1988Pi03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 172, 1 (2021)	31-Jan-2021

1988Pi03: E=167 MeV ^{40}Ca beam was produced from the Stony Brook Superconducting LINAC Facility. Target was 1.1 mg/cm^2 99.5% enriched ^{64}Zn on a 35 mg/cm^2 lead backing. γ rays were detected with BRO-shielded Ge detectors and neutrons were detected with an array of four liquid scintillators. Measured Eγ, Iγ, $\gamma\gamma$-coin, n$\gamma(\theta)$, γ(t). Deduced levels, J, π, $T_{1/2}$.

All data are from 1988Pi03, unless otherwise noted.

^{100}Cd Levels

E(level)†	J$^\pi$‡	$T_{1/2}$	Comments
0.0#	0^+		
1004.04# *17*	2^+		
1799.1# *3*	(4^+)		
2095.3# *4*	(6^+)		
2547.9# *4*	(8^+)	73 ns *5*	$T_{1/2}$: from average of results from γ(t) of 296γ, 795γ and 1004γ.

† From a least-squares fit to γ-ray energies.
‡ From Adopted Levels.
# Seq.(A): Yrast cascade.

γ(^{100}Cd)

E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
296.27 *17*	92 *9*	2095.3	(6^+)	1799.1	(4^+)	A_2=+0.5 *3*
452.56 *17*	36 *19*	2547.9	(8^+)	2095.3	(6^+)	A_2=+0.2 *4*
795.02 *21*	90 *22*	1799.1	(4^+)	1004.04	2^+	A_2=+0.5 *3*
1004.03 *17*	104 *90*	1004.04	2^+	0.0	0^+	A_2=+0.36 *17*

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Level Scheme

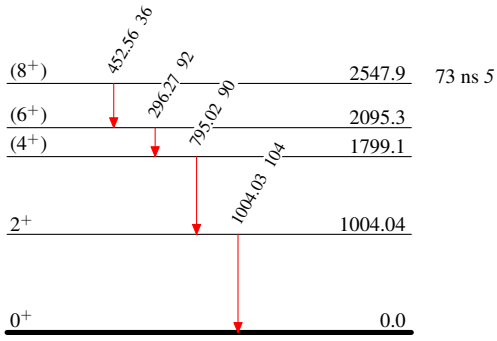
Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{100}_{48}Cd_{52}$

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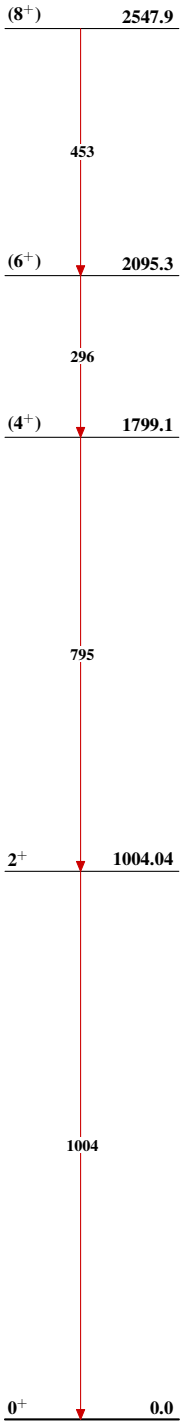
Seq.(A): Yrast cascade



$^{100}_{48}Cd_{52}$