^{45}Cl β^-n decay 2004Mr01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh	NDS 190,1 (2023)	20-Jun-2023

Parent: ^{45}Cl: E=0; J^π=(1/2$^+$); $T_{1/2}$=413 ms *25*; Q(β^-n)=6.34×10^3 *14*; %β^-n decay=24 *4*

^{45}Cl-J^π,$T_{1/2}$: From ^{45}Cl Adopted Levels in ENSDF database (2008 update).

^{45}Cl-Q(β^-n): From 2021Wa16.

Decay scheme of ^{45}Cl β^-n decay is not known.

2004Mr01: ^{45}Cl produced by E=60 MeV/nucleon ^{48}Ca beam fragmented on Be target and selected by the spectrometer LISE3 at GANIL. Isotopes implanted into double-sided Si detector surrounded by two coaxial HPGe and one EXOGAM four-fold clover detector; two plastic scintillators for detecting β radiation; The TONNERRE array for detecting neutrons. Measured Eγ, Iγ, nγ-coin. Deduced levels, branchings.

Others: 1993So06, 1995So03.

^{44}Ar Levels

E(level)	J^π[†]
0.0	0$^+$
1158.1	2$^+$
2011.3	(2$^+$)

[†] From the Adopted Levels.

γ(^{44}Ar)

Iγ normalization: Determined by the ratio of true β-n coincidences and the number of implanted nuclei corrected by the β-n detection efficiency (1993So06).

E$_\gamma$	I$_\gamma$[†]	E$_i$(level)	J_i^π	E$_f$	J_f^π
853.2	100	2011.3	(2$^+$)	1158.1	2$^+$
1158.1	140	1158.1	2$^+$	0.0	0$^+$
2010.6	60	2011.3	(2$^+$)	0.0	0$^+$

[†] Normalized to the 853 keV γ-ray.

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Decay Scheme

Intensities: Relative I_γ