^{47}Mn $\varepsilon+\beta^+$ decay 1996Fa03,2007Do17

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Ota and E. A. Mccutchan	NDS 203,1 (2025)	1-Apr-2025

Parent: ^{47}Mn: E=0; J^π=(5/2$^-$); $T_{1/2}$=88.0 ms *13*; Q($\varepsilon+\beta^+$)=12000 *40*; %$\varepsilon+\beta^+$ decay=100

^{47}Mn-Q($\varepsilon+\beta^+$): from 2021Wa16.

1996Fa03: ^{9}Be(^{58}Ni,X) E=650 MeV/nucleon. Measured projectile-like fragments at 0° using fragment recoil separator, magnetic spectrometer, and ΔE/E counter telescope (Si).

2007Do17: Ni(^{58}Ni,X) with E=74.5 MeV/nucleon at GANIL. Fragments separated with SISSE/LISE3 and identification by energy loss, residual energy and time-of-flight measurements using two micro-channel plate (MCP) detectors and Si detectors. Ions implanted into (DSSSD) and measured Ep, Ip, p(t) using Si(Li) detector.

^{47}Cr Levels

E(level)†	J^π‡	$T_{1/2}$‡	Comments
0.0	3/2$^-$	461 ms *2*	
98.2 *2*	(5/2$^-$)	≤2.1 ns	
173.2 *4*	(7/2$^-$)	≤2.1 ns	E(level): level not populated directly by $\varepsilon+\beta^+$ feeding.
4400	(5/2$^-$)		E(level): IAS in ^{47}Cr (2007Do17).

† From a least-squares fit to Eγ, except where noted.

‡ From the Adopted Levels.

γ(^{47}Cr)

E_γ	E_i(level)	J_i^π	E_f	J_f^π
74.7 *6*	173.2	(7/2$^-$)	98.2	(5/2$^-$)
98.2 *2*	98.2	(5/2$^-$)	0.0	3/2$^-$
173.4 *4*	173.2	(7/2$^-$)	0.0	3/2$^-$

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Decay Scheme