^{49}Mn β^+ decay 1989Ho13,1980Ha12

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	T. W. Burrows[a]	NDS 109, 1879 (2008)	14-Jul-2008

Parent: ^{49}Mn: E=0.0; $J^\pi=5/2^-$; $T_{1/2}$=382 ms *7*; Q(β^+)=7715 *24*; %β^+ decay=100.0

^{49}Mn-E,J^π,$T_{1/2}$: From ^{49}Mn Adopted Levels.

^{49}Mn-Q(β^+): From 2003Au03.

1980Ha12: produced by Mg(^{28}Si,X) E=95 MeV. Measured decay of g.s.; on-line isotope separator; tape-transport system.

1989Ho13: produced by ^{50}Cr(p,2n) E=30 MeV. Measured $\beta\gamma$-coin; Si(Au), Ge, He-jet transport system.

All information is from 1989Ho13, except As noted. See 1989Ho13, 1988HaZB, and 1987Mi18 for calculations of Gamow-Teller matrix elements.

^{49}Cr Levels

E(level)	J^π[†]	Comments
0.0	$5/2^-$	%ε+%β^+=100 %ε+%β^+: from the Adopted Levels.
272.4 *4*	$7/2^-$	
2504.4 *8*	$7/2^-$	

[†] From the Adopted Levels.

ε,β^+ radiations

E(decay)	E(level)	Iβ^+[‡]	Iε[‡]	Log *ft*	I($\varepsilon+\beta^+$)[†‡]	Comments
(5211 *24*)	2504.4	2.3 *9*	0.009 *4*	4.3 *2*	2.3 *9*	av Eβ=1919 *12*; εK=0.00355 *6*; εL=0.000369 *7*; εM+=6.39×10^{-5} *11*
(7443 *24*)	272.4	5.8 *26*	0.007 *3*	4.8 *2*	5.8 *26*	av Eβ=3010 *12*; εK=0.0001001 *12*; εM+=1.802×10^{-5} *20*
(7715 *24*)	0.0	91.8 *28*	0.091 *3*	3.68 *2*	91.9 *28*	av Eβ=3144 *12*; εK=0.000885 *10*; εL=9.20×10^{-5} *10*; εM+=1.594×10^{-5} *17*

[†] From 1989Ho13.

[‡] Absolute intensity per 100 decays.

γ(^{49}Cr)

Eγ	Iγ[†‡]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Comments
272.3 *4*	6.4 *26*	272.4	$7/2^-$	0.0	$5/2^-$	Eγ,Iγ: from 1980Ha12.
2231.5 *10*	0.6 *3*	2504.4	$7/2^-$	272.4	$7/2^-$	slightly contaminated by 2230.2γ from ^{32}S (1989Ho13).
2504.8 *10*	1.7 *7*	2504.4	$7/2^-$	0.0	$5/2^-$	

[†] Absolute intensity obtained from Iγ(272γ)/Iβ^+=6.4% *26* (1980Ha12).

[‡] Absolute intensity per 100 decays.

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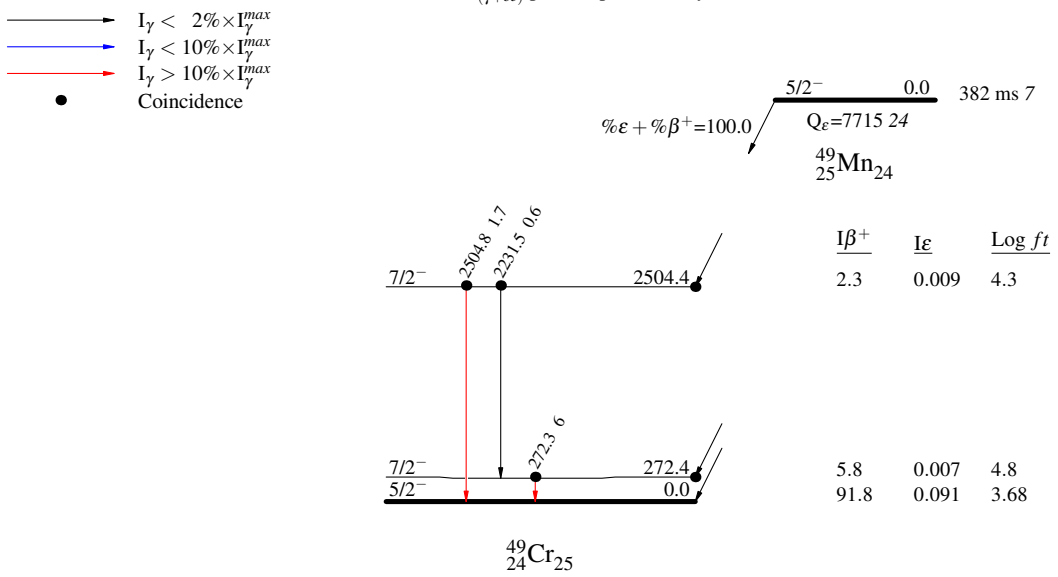
Decay Scheme

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



	Iβ+	Iε	Log *ft*
	2.3	0.009	4.3
	5.8	0.007	4.8
	91.8	0.091	3.68