^{67}Co β^- decay (0.425 s) 1999We07

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Huo Junde, Huang Xiaolong, J. K. Tuli	NDS 106, 159 (2005)	1-Apr-2005

Parent: ^{67}Co: E=0; J^π=(7/2$^-$); $T_{1/2}$=0.425 s *20*; Q(β^-)=8.68×10^3 *32*; %β^- decay=100.0

1999We07: isotopically pure source via 30 MeV p-induced Fission of ^{238}U, mass separated. Measured $\beta\gamma$, $\gamma\gamma$, $T_{1/2}$ (^{67}Co), present tentative decay scheme.

Others: 1985Bo49, 1988Bo06, 1999We09.

^{67}Ni Levels

E(level)	J^π[†]	$T_{1/2}$	Comments
0	(1/2$^-$)	21 s *1*	$T_{1/2}$: from decay of β^- activity (1983Ru06).
694.1	(5/2$^-$)	150 ps *4*	
1007.2	(9/2$^+$)	≥13.3 μs	$T_{1/2}$: from 1999We07.
2155	(5/2$^-$)		

[†] Suggested by 1999We07 based on estimated log *ft* values.

β^- radiations

E(decay)	E(level)	Iβ^-[†‡]	Log *ft*	Comments
(6.5×10^3 *3*)	2155	5.5 *2*	5.41 *11*	av Eβ=3.00×10^3 *16*
(7.7×10^3 *3*)	1007.2	3 *3*	6.0 *5*	av Eβ=3.55×10^3 *16*
(8.0×10^3 *3*)	694.1	91.5 *35*	4.59 *9*	av Eβ=3.71×10^3 *16*

[†] The g.s. β^- transition determined to be <1% consistent with the large ΔJ^π (1988Bo06). The values are the calculated values as given by 1999We07.

[‡] Absolute intensity per 100 decays.

γ(^{67}Ni)

E_γ	I_γ[†#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]
313.1	3	1007.2	(9/2$^+$)	694.1	(5/2$^-$)	(M2)
694.1	94.5	694.1	(5/2$^-$)	0	(1/2$^-$)	(E2)
2155	5.5	2155	(5/2$^-$)	0	(1/2$^-$)	

[†] Calculated from level scheme by evaluator.

[‡] From Adopted Levels.

[#] Absolute intensity per 100 decays.

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Decay Scheme

Intensities: I_γ per 100 parent decays