^{69}Ni β^- decay (3.5 s) 2001Fr21,1997Mu17

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 115, 1 (2014)	31-Jul-2013

Parent: ^{69}Ni: E=321 *2*; J^π=(1/2$^-$); $T_{1/2}$=3.5 s *4*; Q(β^-)=5758 *4*; %β^- decay=100.0

2001Fr21: ^{69}Ni produced from 30 MeV proton induced fission reaction on ^{238}U. Extracted selectively by resonant laser ionization and mass separator (LIGIS-LISOL) facility at Leuven. Measured $\beta\gamma$ and $\gamma\gamma$ coincidence spectra with high purity Ge detectors and plastic scintillators.

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1999Pr10: ^{69}Ni produced by fragmentation of 70 MeV/nucleon ^{76}Ge beam on Be target using the A1200 separator at NSCL, MSU. β delay γ measured with two thin plastic scintillators and two large-volume Ge detectors.

^{69}Cu Levels

E(level)[†]	J^π[#]	$T_{1/2}$	Comments
0	3/2$^-$	2.85 min *15*	$T_{1/2}$: From Adopted Levels.
1110[‡]	1/2$^-$		
1297.91 *10*	(1/2$^-$,3/2$^-$)		

[†] From least square fit of the γ-ray.
[‡] From 1999Mu17.
[#] From Adopted Levels.

β^- radiations

E(decay)	E(level)	Iβ^-[‡]	Log *ft*	Comments
(4781 *5*)	1297.91	74 *9*	4.59 *8*	av Eβ=2143.5 *22*
(4969 *5*)	1110	<3[†]	>6.1	av Eβ=2234.7 *22*
(6079 *5*)	0	26 *9*	5.52 *16*	av Eβ=2774.8 *22*

[†] From 1999Mu17.
[‡] Absolute intensity per 100 decays.

γ(^{69}Cu)

Iγ normalization: From ratio of Iγ(1298γ) to the sum for γ's feeding the E=321 parent in ^{69}Ni, the authors deduce Iγ(1298γ)=74 % *9*.

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π
1297.9 *1*	100	1297.91	(1/2$^-$,3/2$^-$)	0	3/2$^-$

[†] For absolute intensity per 100 decays, multiply by 0.74 *9*.

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Decay Scheme

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