^{85}Zr ε decay (10.9 s)   1976Ia01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 116, 1 (2014)	31-Dec-2013

Parent: ^{85}Zr: E=292.2 *3*; J$^{\pi}$=(1/2$^-$); T$_{1/2}$=10.9 s *3*; Q(ε)=4668 *20*; %ε+%β^+ decay>0.0

^{85}Zr-E,J$^{\pi}$,T$_{1/2}$: From ^{85}Zr Adopted Levels.

^{85}Zr-Q(ε): From 2012Wa38.

^{85}Zr-%ε+%β^+ decay: ε decay mode has been observed but branching ratio is unknown. From relative photon intensities of 416.5γ in ^{85}Y from ε decay and 292.2γ in ^{85}Zr from IT decay, it seems IT decay mode is dominant, but nothing more can be inferred from the available data.

Isotope produced by ^{89}Y(p,5n) reaction at 60 MeV. Yields at different bombarding energies and Sr targets were used to discriminate against other isotopes, Ge(Li) detectors.

^{85}Y Levels

E(level)	J$^{\pi\dagger}$	T$_{1/2}$†
0.0	(1/2)$^-$	2.68 h *5*
416.5 *3*	(3/2)$^-$	

† From Adopted Levels.

$\gamma(^{85}$Y)

E$_\gamma$	I$_\gamma$	E$_i$(level)	J$^{\pi}_i$	E$_f$	J$^{\pi}_f$	Comments
416.5 *3*	9	416.5	(3/2)$^-$	0.0	(1/2)$^-$	I$_\gamma$: relative to 100 for 292.2γ from ^{85}Zr IT decay.

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Decay Scheme

Intensities: Relative I$_\gamma$

(1/2$^-$)   292.2   10.9 s 3

%ε + %β^+>0   Q$_\varepsilon$=4668 20

${}^{85}_{40}$Zr$_{45}$

(3/2)$^-$ 416.5

416.5 9

(1/2)$^-$ 0.0   2.68 h 5

${}^{85}_{39}$Y$_{46}$