^{75}Sr ε decay (88 ms) 2003Hu01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Alexandru Negret, Balraj Singh	NDS 114, 841 (2013)	30-Jun-2013

Parent: ^{75}Sr: E=0; J^π=(3/2$^-$); $T_{1/2}$=88 ms *3*; Q(ε)=1.060×10^4 *22*; %ε+%$β^+$ decay=100.0

^{75}Sr-J^π,$T_{1/2}$: From ^{75}Sr Adopted Levels.

^{75}Sr-Q(ε): From 2012Wa38.

2003Hu01: ^{75}Sr produced by spallation in a Nb foil using pulsed 1 GeV and 1.4 GeV beam from the ps Booster and mass separated at ISOLDE (CERN). Average yield 5.4 ions/s (21 h measurement). The SrF+ beam was implanted in a moving tape. Used a plastic scintillator to detect $β$ particles, HPGe detectors for gammas and Si detectors for protons. Measured Q($β^-$), $β^-$delayed gamma and proton intensities, $T_{1/2}$.

^{75}Rb Levels

E(level)	J^π†	$T_{1/2}$†	Comments
0	3/2$^{(-)}$	19.0 s *12*	
144	(5/2$^-$)		
55×10^2 *23*	(1/2$^-$,3/2$^-$,5/2$^-$)		E(level): energy range=3200-7800 keV. J^π: allowed $β^+$ decay from (3/2$^-$) parent.

† From Adopted Levels, unless otherwise stated.

ε,$β^+$ radiations

E(decay)	E(level)	Iβ+ †	Iε†	Log *ft*	I(ε+β+)†	Comments
(5.1×10^3 *23*)	5500	5.1 *16*	0.1 *14*	3.2 *16*	5.2 *9*	av Eβ=1.9×10^3 *12*; εK=0.02 *19*; εL=0.002 *22*; εM+=0.000 *5* I(ε+$β^+$): from measured proton branching (2003Hu01).
(1.046×10^4 *22*)	144	5.2 *11*	0.010 *2*	4.9 *1*	5.2 *11*	av Eβ=4.49×10^3 *11*; εK=0.00173 *13*; εL=0.000200 *15*; εM+=4.2×10^{-5} *3*
(1.060×10^4 *22*)	0	89.4 *14*	0.169 *12*	3.7 *1*	89.6 *14*	av Eβ=4.56×10^3 *11*; εK=0.00165 *12*; εL=0.000191 *14*; εM+=4.0×10^{-5} *3* I(ε+$β^+$): 100−($β^+$ feeding to 144-keV level and proton-decaying levels)

† Absolute intensity per 100 decays.

γ(^{75}Rb)

E_γ	I_γ†	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α‡	$I_{(\gamma+ce)}$†	Comments
144	4.5 *9*	144	(5/2$^-$)	0	3/2$^{(-)}$	[M1,E2]	0.15 *10*	5.2 *11*	I_γ: weighted average of measured values: 4.6 *9* and 4.4 *13* by two different methods. $I_{(\gamma+ce)}$: 4.5 +*19*−*8* given in 2003Hu01 using a somewhat different approach for taking into account conversion coefficients.

† Absolute intensity per 100 decays.

‡ Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

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Decay Scheme

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