^{142}Pr IT decay 1967Ke05,1975Sc17

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	T. D. Johnson, D. Symochko(a), M. Fadil(b), and J. K. Tuli	NDS 112, 1949 (2011)	1-Jun-2010

Parent: ^{142}Pr: E=911.4 *13*; $J^\pi=(9^+)$; $T_{1/2}$=61 ns *6*; %IT decay=100.0
Measured: γ(t) (1967Ke05,1975Sc17), $\gamma\gamma$ (1975Sc17).

^{142}Pr Levels

E(level)	J^π†	$T_{1/2}$	Comments
0.0	2^-		
3.683 *4*	5^-	14.6 min *5*	E(level): from (n,γ) (1968Ke08). $T_{1/2}$: from growth and decay of 1570γ(t) in ^{142}Pr(g.s.) β^- decay. $T_{1/2}$(g.s.) was taken as 19.2 h (1967Ke05).
90.4 *10*	(6^-)		
358.6 *15*	(7^-)		
911.6 *18*	(9^+)	61 ns *6*	$T_{1/2}$: from (α,nγ) (1975Sc17).

† Adopted values.

$\gamma(^{142}Pr)$

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α†	Comments
(3.683 *4*)	3.683	5^-	0.0	2^-	M3	1.17×10^1	α(M1)=5.68×10^8; α(M2)=6.70×10^6; α(M3)=8.50×10^9; α(M4)=5.72×10^7; α(M5)=2.16×10^8 α(N1)=1.52×10^8; α(N2)=2.20×10^6; α(N3)=1.90×10^9; α(N4)=1.26×10^7; α(N5)=4.57×10^7 α(N6)=3.69×10^4 α(O1)=2.56×10^7; α(O2)=3.25×10^5; α(O3)=2.56×10^8; α(O4)=7.83×10^5 α(P1)=2.04×10^6 B(M3)(W.u.)=0.95 *5* α(M)=9.34×10^9 *15*; α(N+..)=2.39×10^9 *4* α(N)=2.10×10^9 *4*; α(O)=2.83×10^8 *5*; α(P)=2.04×10^6 *4* Mult.,α: from partial conversion coefficients (1991Ba63).
86.7	90.4	(6^-)	3.683	5^-			
268.2	358.6	(7^-)	90.4	(6^-)			
553.0	911.6	(9^+)	358.6	(7^-)	[M2]	0.0405	B(M2)(W.u.)=0.35 *4* α(K)=0.0342 *5*; α(L)=0.00503 *7*; α(M)=0.001070 *15*; α(N+..)=0.000281 *4* α(N)=0.000240 *4*; α(O)=3.85×10^{-5} *6*; α(P)=2.79×10^{-6} *4* Mult.: from RUL.

† Additional information 1.

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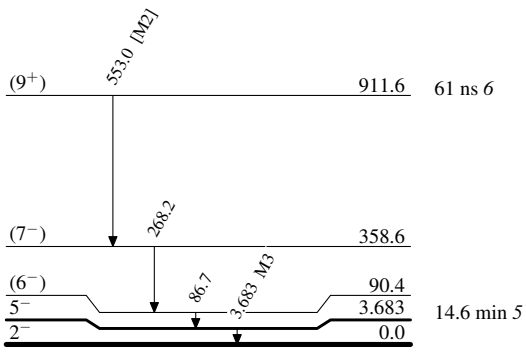
Legend

Decay Scheme

%IT=100.0

- - - - - - ► γ Decay (Uncertain)



$^{142}_{59}Pr_{83}$