^{143}Sm ε decay (66 s) 1970Fe01,1972De23

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 113, 715 (2012)	31-May-2011

Parent: ^{143}Sm: E=753.99 *16*; J^π=11/2$^-$; $T_{1/2}$=66 s *2*; Q(ε)=3443 *4*; %ε+%$β^+$ decay=0.24 *5*

^{143}Sm-%ε+%$β^+$ decay: From I(γ+ce)(689γ)/I(γ+ce)(754γ IT decay)=0.0020 *5* (1970Fe01) and I(963γ)/I(689γ)=0.20 *2* (α,2nγ) (1980Pr02).

Measured: γ (1970Fe01,1972De23), γγ± (1972De23).

^{143}Pm Levels

E(level)	J^π[†]
0.0	5/2$^+$
(271.8)	7/2$^+$
962	11/2$^-$

[†] From Adopted Levels.

ε,$β^+$ radiations

E(decay)	E(level)	I$β^+$ [†]	Iε[†]	Log *ft*	I(ε+$β^+$)[†]	Comments
(3235 *4*)	962	0.0960	0.144	6.5	0.24 *5*	av Eβ=998.3 *51*; εK=0.507 *4*; εL=0.0724 *5*; εM+=0.02075 *13*

[†] Absolute intensity per 100 decays.

γ(^{143}Pm)

E_γ	I_γ[‡@]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	α[†]	Comments
(271.8)		(271.8)	7/2$^+$	0.0	5/2$^+$			
689	0.22 *5*	962	11/2$^-$	271.8?	7/2$^+$	M2	0.0252 *4*	α(K)=0.0212 *3*; α(L)=0.00311 *5*; α(M)=0.000669 *10*; α(N+..)=0.0001752 *25* α(N)=0.0001510 *22*; α(O)=2.28×10^{-5} *4*; α(P)=1.431×10^{-6} *20*
963	0.043 *12*	962	11/2$^-$	0.0	5/2$^+$	E3	0.00552 *8*	α=0.00552 *8*; α(K)=0.00457 *7*; α(L)=0.000749 *11*; α(M)=0.0001626 *23*; α(N+..)=4.21×10^{-5} *6* α(N)=3.64×10^{-5} *5*; α(O)=5.35×10^{-6} *8*; α(P)=2.86×10^{-7} *4* I_γ: I(963γ)/I(689γ)=0.68 (1972De23) contradicts I(963)/I(689γ)=0.20 from (α,2nγ) (1980Pr02).

[†] Additional information 1.
[‡] Relative to Iγ(754γ)=100 with ^{143}Sm IT decay.
[#] From Adopted Gammas.
[@] For absolute intensity per 100 decays, multiply by 0.89 *19*.

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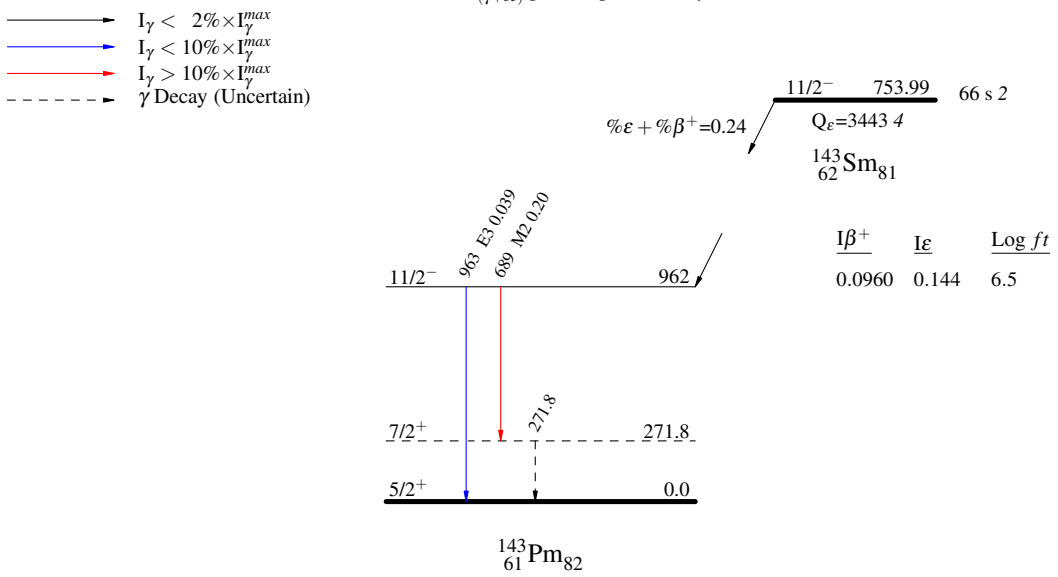
Decay Scheme

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



Iβ+	Iε	Log *ft*
0.0960	0.144	6.5