^{145}Ho ε decay 1989Vi02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 110, 507 (2009)	1-Oct-2008

Parent: ^{145}Ho: E=0.0; J^π=(11/2$^-$); $T_{1/2}$=2.4 s *1*; Q(ε)=9110 *SY*; %ε+%$β^+$ decay=100.0
^{145}Ho-Q(ε): From 2003Au03.
Measured: γ, γγ, (K x ray)γ, γ$^\pm$.
Iε(tot)/I$β^+$=0.21 *+14−6*; I$β^+$(from Iγ±)/I(339.8γ)=5.7 *15*.
No delayed protons (no p-K x ray(Dy), no p-γ(^{144}Tb)) were observed.
Because of very incomplete decay scheme Iε, I$β^+$, av Eβ are not given.
K$α_2$ x ray/339.8g=0.68 *5*, K$α_1$ x ray/339.8g=1.20 *10*.

^{145}Dy Levels

E(level)	J^π	E(level)	J^π	E(level)	J^π	E(level)
0.0	1/2$^+$	406.1	5/2$^+$	740.2	(7/2$^-$)	1283.4
66.3	3/2$^+$	431.1	(9/2$^-$)	818.7	(13/2$^-$)	1640.3
118.2	11/2$^-$	681.5	(15/2$^-$)	1142.0	(9/2$^-$)	

ε,$β^+$ radiations

E(decay)	E(level)	I$β^+$ †	Iε†	Log *ft*	I(ε+$β^+$)†	Comments
(7968 *SY*)	1142.0	≈10	≈1	≈5.2	≈11	av Eβ=3044; εK=0.070; εL=0.010; εM+=0.003
(8291 *SY*)	818.7	≈4.8	≈0.4	≈5.6	≈5.2	av Eβ=3199; εK=0.062; εL=0.009; εM+=0.003
(8678 *SY*)	431.1	≈7.7	≈0.5	≈5.5	≈8.3	av Eβ=3385 syst; εK=0.053; εL=0.008; εM+=0.002
(8991 *SY*)	118.2	<38	<2	>4.9	<40	av Eβ=3536 syst; εK=0.048; εL=0.007; εM+=0.002

† Absolute intensity per 100 decays.

γ(^{145}Dy)

Iγ normalization: From I(K x ray)/I(339γ)= 1.88 *11*, and I(γ$^\pm$)/I(339γ)=5.65 *15*.

E_γ	I_γ‡	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α†	Comments
66.3 *1*	15 *2*	66.3	3/2$^+$	0.0	1/2$^+$	M1	7.83	α(K)=6.58 *10*; α(L)=0.978 *15*; α(M)=0.215 *4*; α(N+..)=0.0574 *9* α(N)=0.0497 *8*; α(O)=0.00726 *11*; α(P)=0.000413 *6* Mult.: α(K)exp=6.5 *10* from (K x ray)γ/γγ.
x249.2 *2*	≈5							
309.1 *1*	25 *2*	740.2	(7/2$^-$)	431.1	(9/2$^-$)			
312.9 *1*	95 *5*	431.1	(9/2$^-$)	118.2	11/2$^-$			
x315.1 *2*	12 *2*							
x316.6 *2*	8 *2*							
334.1 *1*	90 *2*	740.2	(7/2$^-$)	406.1	5/2$^+$			
339.8 *1*	100	406.1	5/2$^+$	66.3	3/2$^+$			
387.6 *2*	15 *5*	818.7	(13/2$^-$)	431.1	(9/2$^-$)			
401.8 *1*	85 *5*	1142.0	(9/2$^-$)	740.2	(7/2$^-$)			
498.3 *2*	12 *3*	1640.3		1142.0	(9/2$^-$)			
543.2 *2*	20 *5*	1283.4		740.2	(7/2$^-$)			
563.3 *2*	15 *5*	681.5	(15/2$^-$)	118.2	11/2$^-$			
622.1 *2*	15 *5*	740.2	(7/2$^-$)	118.2	11/2$^-$			

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^{145}Ho ε decay 1989Vi02 (continued)

γ(^{145}Dy) (continued)

E_γ	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π
700.5 *3*	20 *5*	818.7	(13/2$^-$)	118.2	11/2$^-$
852.0 *5*	5 *2*	1283.4		431.1	(9/2$^-$)

† Additional information 1.
‡ For absolute intensity per 100 decays, multiply by 0.15.
^{x} γ ray not placed in level scheme.

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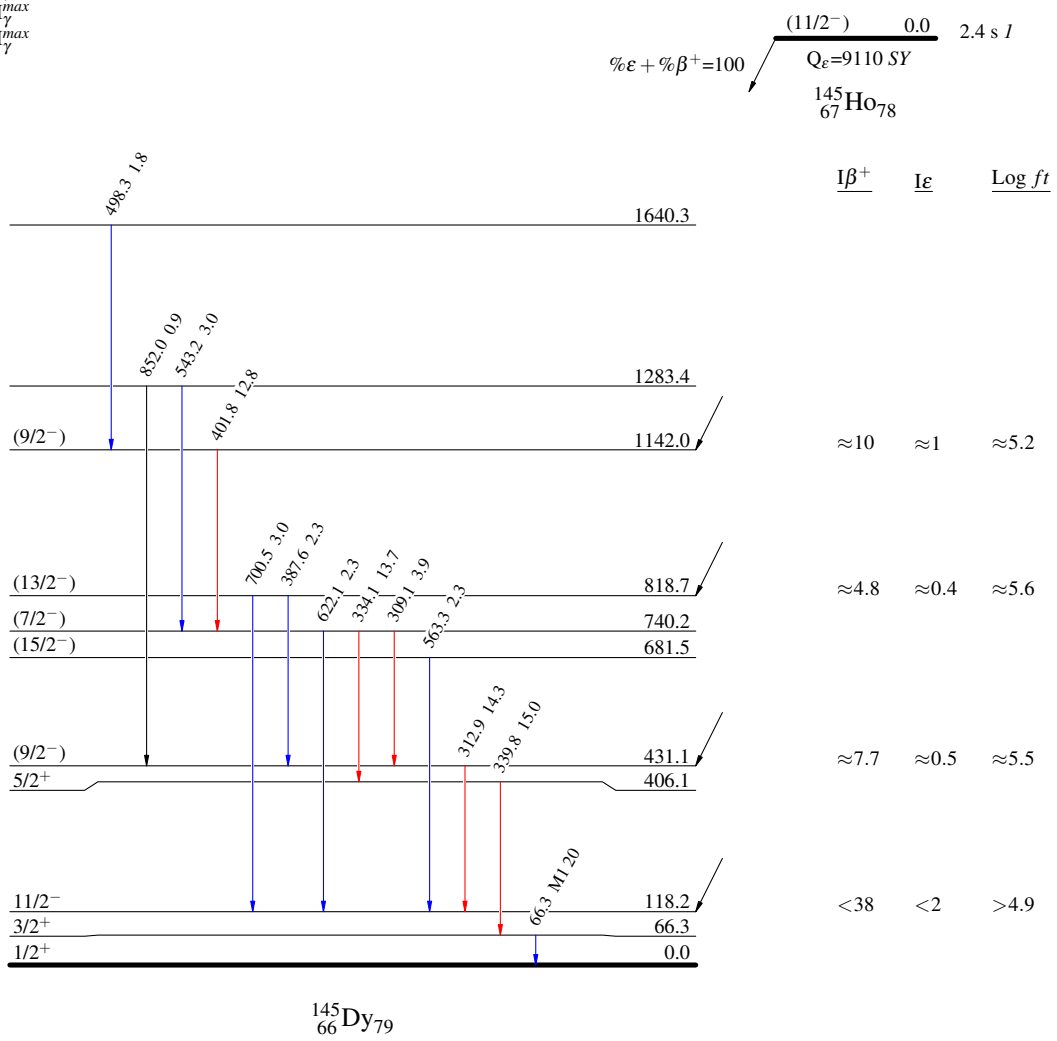
Decay Scheme

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

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$



$^{145}_{66}Dy_{79}$