

**<sup>149</sup>Er εp decay (8.9 s) 1989Fi01**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 117, 1 (2014)	1-Oct-2013

Parent: <sup>149</sup>Er: E=741.8 4; J<sup>π</sup>=(11/2<sup>-</sup>); T<sub>1/2</sub>=8.9 s 2; Q(εp)=6823 29; %εp decay=0.18 7

<sup>149</sup>Er-Q(εp): From 2012Wa38.

Measured p, γ, x, β<sup>+</sup> in singles and coin. FWHM for protons≈35 keV.

<sup>148</sup>Dy Levels

E(level)	J <sup>π</sup> †
0.0	0 <sup>+</sup>
1677.9	2 <sup>+</sup>
1688.4	3 <sup>-</sup>
2349.4	5 <sup>-</sup>
2427.6	4 <sup>+</sup>
2732.3	6 <sup>+</sup>
2739.3	7 <sup>-</sup>

† From Adopted Levels.

γ(<sup>148</sup>Dy)

E <sub>γ</sub>	I <sub>γ</sub> <sup>#</sup>	E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	Mult.‡	α <sup>†</sup>	I <sub>(γ+ce)</sub> <sup>#</sup>	Comments
10.5	0.2	1688.4	3 <sup>-</sup>	1677.9	2 <sup>+</sup>	[E1]	26.1	5	ce(L)/(γ+ce)=0.747 7; ce(M)/(γ+ce)=0.176 3; ce(N+)/(γ+ce)=0.0405 8 ce(N)/(γ+ce)=0.0370 7; ce(O)/(γ+ce)=0.00348 7; ce(P)/(γ+ce)=6.89×10 <sup>-5</sup> 14
304.6	2	2732.3	6 <sup>+</sup>	2427.6	4 <sup>+</sup>	E2	0.0616		α(K)=0.0463 7; α(L)=0.01187 17; α(M)=0.00273 4; α(N+..)=0.000705 10 α(N)=0.000621 9; α(O)=8.17×10 <sup>-5</sup> 12; α(P)=2.42×10 <sup>-6</sup> 4
382.9	3	2732.3	6 <sup>+</sup>	2349.4	5 <sup>-</sup>	E1	0.00950		α(K)=0.00806 12; α(L)=0.001124 16; α(M)=0.000245 4; α(N+..)=6.48×10 <sup>-5</sup> 9 α(N)=5.63×10 <sup>-5</sup> 8; α(O)=8.09×10 <sup>-6</sup> 12; α(P)=4.33×10 <sup>-7</sup> 6
389.9	3	2739.3	7 <sup>-</sup>	2349.4	5 <sup>-</sup>	E2	0.0298		α(K)=0.0233 4; α(L)=0.00504 7; α(M)=0.001147 16; α(N+..)=0.000298 5 α(N)=0.000262 4; α(O)=3.53×10 <sup>-5</sup> 5; α(P)=1.267×10 <sup>-6</sup> 18
661.0	14	2349.4	5 <sup>-</sup>	1688.4	3 <sup>-</sup>	E2	0.00759		α(K)=0.00625 9; α(L)=0.001046 15; α(M)=0.000233 4; α(N+..)=6.14×10 <sup>-5</sup> 9 α(N)=5.35×10 <sup>-5</sup> 8; α(O)=7.53×10 <sup>-6</sup> 11; α(P)=3.56×10 <sup>-7</sup> 5
739.2	6	2427.6	4 <sup>+</sup>	1688.4	3 <sup>-</sup>				
749.7	4	2427.6	4 <sup>+</sup>	1677.9	2 <sup>+</sup>	E2	0.00567		α(K)=0.00471 7; α(L)=0.000755 11; α(M)=0.0001674 24; α(N+..)=4.42×10 <sup>-5</sup> 7 α(N)=3.85×10 <sup>-5</sup> 6; α(O)=5.46×10 <sup>-6</sup> 8; α(P)=2.70×10 <sup>-7</sup> 4
1677.9	13	1677.9	2 <sup>+</sup>	0.0	0 <sup>+</sup>	E2	1.24×10 <sup>-3</sup>		α(K)=0.000938 14; α(L)=0.0001290 18;

Continued on next page (footnotes at end of table)

$^{149}\text{Er}$   $\varepsilon\text{p}$  decay (8.9 s) **1989Fi01** (continued) $\gamma(^{148}\text{Dy})$  (continued)

$E_\gamma$	$I_\gamma^\#$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult. $^\ddagger$	$\alpha^\dagger$	Comments
1688.4	24	1688.4	$3^-$	0.0	$0^+$	E3	0.00212	$\alpha(\text{M})=2.81\times 10^{-5}$ 4; $\alpha(\text{N+..})=0.0001475$ 21 $\alpha(\text{N})=6.49\times 10^{-6}$ 9; $\alpha(\text{O})=9.49\times 10^{-7}$ 14; $\alpha(\text{P})=5.42\times 10^{-8}$ 8; $\alpha(\text{IPF})=0.0001400$ 20 $\alpha(\text{K})=0.001724$ 25; $\alpha(\text{L})=0.000257$ 4; $\alpha(\text{M})=5.67\times 10^{-5}$ 8; $\alpha(\text{N+..})=8.62\times 10^{-5}$ 12 $\alpha(\text{N})=1.308\times 10^{-5}$ 19; $\alpha(\text{O})=1.90\times 10^{-6}$ 3; $\alpha(\text{P})=1.034\times 10^{-7}$ 15; $\alpha(\text{IPF})=7.11\times 10^{-5}$ 10

$^\dagger$  Additional information 1.

$^\ddagger$  From adopted gammas.

$^\#$  For absolute intensity per 100 decays, multiply by 0.0014 5.

Delayed Protons ( $^{148}\text{Dy}$ )

Particle normalization:  $\% \varepsilon + \% \beta^+ = 96.5$  7;  $\% \varepsilon\text{p} = 0.18$  7 (**1989Fi01**).

$E(^{148}\text{Dy})$	$I(\text{p})^\dagger$
0.0	72
1677.9	3
1688.4	7
2349.4	5
2427.6	6
2732.3	4
2739.3	3

$^\dagger$  For absolute intensity per 100 decays, multiply by 0.0018 7.

$^{149}\text{Er}$   $\epsilon p$  decay (8.9 s) 1989Fi01

## Decay Scheme

Legend

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

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

