¹⁴⁴Dy ε decay 1986Re11

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Full Evaluation A. A. Sonzogni NDS 93, 599 (2001) 1-Dec-2000

Parent: ¹⁴⁴Dy: E=0.0; $J^{\pi}=0^+$; $T_{1/2}=9.1$ s 4; $Q(\varepsilon)=6092$ SY; % $\varepsilon+\%\beta^+$ decay=100.0

Source: ³⁵Cl on ¹¹²Sn, ms. Measured (K x ray)G.

¹⁴⁴Tb Levels

 $\frac{\text{E(level)}^{\ddagger}}{0.0} \quad \frac{\text{J}^{\pi \dagger}}{1^{+}} \quad \frac{\text{T}_{1/2}}{\approx 1 \text{ s}}$ 196.5 (1⁺)
298.6 (1⁺)
475.5 (1⁺)

ε, β^+ radiations

E(decay)	E(level)	Log ft [‡]	$I(\varepsilon + \beta^+)^{\dagger \#}$
(5616 SY)	475.5	5.5	5
(5793 SY)	298.6	5.2	10
(5895 SY)	196.5	5.2	11
(6092 SY)	0.0	4.5	≈74

 $^{^{\}dagger}$ g.s. feeding deduced from relative Iy in $^{144}\text{Dy},~^{144}\text{Tb},~^{144}\text{Tb}$ (4.25 s).

$\gamma(^{144}\text{Tb})$

Iy normalization: the g.s. feeding has been estimated by 1986Re11 from the apparent half-life of 743 γ (>4.25 s) in ¹⁴⁴Tb decay, which is simultaneously produced from decay of ¹⁴⁴Tb (4.25 s) and ¹⁴⁴Dy.

E_{γ}	I_{γ}^{\dagger}	$E_i(level)$	\mathbf{J}_i^{π}	\mathbf{E}_f	\mathbf{J}_f^{π}
196.5 3	100 10	196.5	(1^{+})	0.0	1+
298.6 <i>3</i>	91 9	298.6	(1^{+})	0.0	1+
^x 321.5 3	20 2				
475.5 <i>3</i>	45 5	475.5	(1^+)	0.0	1+

[†] For absolute intensity per 100 decays, multiply by 0.11.

[†] From Adopted Levels.

[‡] As given by authors.

[‡] Calculated by the authors. Authors do not give Q value.

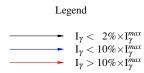
[#] Absolute intensity per 100 decays.

 $^{^{}x}$ γ ray not placed in level scheme.

144**Dy** ε decay 1986Re11

Decay Scheme

Intensities: I_{γ} per 100 parent decays



$$\%\varepsilon + \%\beta^{+} = 100 / \frac{0^{+} \quad 0.0}{Q_{\varepsilon} = 6092 \, SY}$$

$$144 \text{ Dy}_{78}$$

$$(1^{+}) \qquad \qquad 475.5 / \qquad \qquad \frac{\text{Log } ft}{5.5}$$

$$(1^{+}) \qquad \qquad 9.1 \, \text{s} \, 4$$

$$\frac{(1^{+})}{65} \qquad \qquad 5.2$$

$$(1^{+}) \qquad \qquad 9.1 \, \text{s} \, 4$$

$$5.2 \qquad \qquad 5.2$$

$$1^{+} \qquad \qquad 196.5 / \qquad \qquad 5.2$$

$$1^{+} \qquad \qquad 0.0 / \qquad \approx 1 \, \text{s} \quad 4.5$$

$$\frac{144}{65} \text{ Tb}_{79}$$