

^{143}Dy ε decay (5.6 s) [2003Xu04](#)

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

Parent: ^{143}Dy : $E=0.0$; $J^\pi=(1/2^+)$; $T_{1/2}=5.6$ s 10; $Q(\varepsilon)=8250$ 50; $\% \varepsilon + \% \beta^+$ decay=100.0

^{143}Dy - $\% \varepsilon + \% \beta^+$ decay: Decays by delayed protons also, but $\% \varepsilon \beta$ is unknown.

^{143}Dy isotope produced by $^{106}\text{Cd}(^{40}\text{Ca}, 2\text{pn})$ at $E=182$ MeV at target center. Measured E_γ , I_γ , $\gamma\gamma$, X_γ , delayed protons, (proton) γ coin, half-life using a tape-transport system, two coaxial HPGe detectors and an HPGe planar detector. For protons two Si detectors were used. Other: [2006Xu03](#).

 ^{143}Tb Levels

Many high-lying states are populated in ^{142}Gd through delayed proton decay.

E(level)	Comments
0+x?	$J^\pi: (5/2^+)$ from systematics (1997Au04).

 $\gamma(^{143}\text{Tb})$

E_γ	I_γ	$E_l(\text{level})$	Comments
$^{x113.7\ddagger}_3$	34 8		
$^{x177.4}_3$	62 7		In coin with 577.9 γ , 583.7 γ .
$^{x253.3\#}_3$	220 25		In coin with 113.7 γ , 428.2 γ , 440.3 γ , 533.3 γ .
$^{x428.2\ddagger}_4$	46 9		
$^{x440.3\ddagger}_4$	56 11		
$^{x533.5\ddagger\#}_4$	23 7		
$^{x577.9\ddagger}_4$	36 9		
$^{x583.7\ddagger}_4$	100 14		

\ddagger In coincidence with 177.4 γ .

\ddagger In coincidence with 253.3 γ .

$\#$ 253.3-533.5 cascade could possibly depopulate a $13/2^-$ state at 788 keV in ^{143}Tb known from in-beam γ ray studies.

x γ ray not placed in level scheme.