## $^{156}$Yb $\alpha$ decay

| History | | | |
|---|---|---|---|
| Type | Author | Citation | Literature Cutoff Date |
| Full Evaluation | M. J. Martin | NDS 114, 1497 (2013) | 31-Aug-2013 |

Parent: $^{156}$Yb: E=0.0; $J^\pi=0^+$; $T_{1/2}$=26.1 s *7*; Q($\alpha$)=4811 *4*; %$\alpha$ decay=10 *2*

$T_{1/2}$=26.1 s *7* as adopted in 1992He01 from the weighted average of the measured half-lives: 23.6 s *13* (1983Ml01), 26.7 s *6* (1980AfZZ) and 25.8 s *10* (1977Ha48).

$T_{1/2}(^{156}Yb)$=26 s *2* is used in calculations here; the uncertainty is increased to cover all measurements.

%$\alpha$=10 *2*, adopted in 1992He01 and used here, is the weighted average of the $\alpha$ branchings determined as 10% *+5−2* (1984GaZY), 9% *2* (1983Ml01) and 21% *6* (1979Ho10).

### $^{152}$Er Levels

| E(level) | $J^\pi$ |
|---|---|
| 0.0 | $0^+$ |

### $\alpha$ radiations

| E$\alpha$ | E(level) | I$\alpha$[†#] | HF[‡] | Comments |
|---|---|---|---|---|
| 4687 *4* | 0.0 | 100 | 1.0 | E$\alpha$: Weighted average of 4690 *10* (1977Ha48), 4686 *10* (1979Ho10), 4688 *10* (1980AfZZ), 4680 *10* (1983Ml01), and 4687 *4* (1996Pa01).<br>E$\alpha$: the measured $\alpha$ energies are 4690 *10* (1977Ha48), 4686 *10* (1979Ho10),4688 *10* (1980AfZZ), 4680 *10* (1983Ml01), and 4687 *4* (1996Pa01). E$\alpha$=4686 *10*, measured by 1979Ho10, was.<br>I$\alpha$: only one $\alpha$ group was observed. An upper limit of 0.0014% of $\alpha$ decay is calculated for an unobserved 3900-keV $\alpha$ to the $2^+$ state at 808.2 keV in $^{152}$Er by requiring HF(3900$\alpha$)>1. |

† $\alpha$ intensity per 100 $\alpha$ decays.

‡ $r_0(^{152}Er)$=1.595 *12* is calculated by requiring HF(4687$\alpha$)=1.0.

# For absolute intensity per 100 decays, multiply by 0.10 *2*.