

^{155}Yb α decay (1.793 s) **1996Pa01,1979Ho10,1991To08**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 110, 1 (2009)	20-Nov-2008

Parent: ^{155}Yb : $E=0.0$; $J^\pi=(7/2^-)$; $T_{1/2}=1.793$ s 19; $Q(\alpha)=5337.6$ 23; $\% \alpha$ decay=89 4

^{155}Yb - J^π , $T_{1/2}$ and related comments are mostly from A=155 evaluation by 2005Re01.

^{155}Yb - J^π : α transition, most probably favored, to ^{151}Er ($J^\pi=(7/2^-)$). The ^{155}Yb g.s. is expected to have configuration= $(\nu f_{7/2})$, since $f_{7/2}$, the first neutron orbital above the N=82 closed shell, accounts for the g.s. configurations of the even-Z, odd-N nuclides in this mass region.

^{155}Yb - $T_{1/2}$: weighted average of 1.75 s 5 (1991To08) and 1.800 s 20 (1996Pa01). Others: 1.7 s 2 (1982Bo04); 1.8 s 3 (1980Da09); 1.59 s 22 (1979Ho10); 1.9 s 2 (1977Ha48); and 1.65 s 15 (1964Ma45).

^{155}Yb - $\% \alpha$ decay: from weighted average of $\% \alpha=84$ 10 (1979Ho10) and 90 5 (1991To08). $\% \alpha$ deduced (1991To08) from a comparison of $\epsilon+\beta^+$ branch with that of the 5194 α group and from (1979Ho10) the intensities of parent and daughter α lines.

Others: 1982Bo04, 1980Da09, 1977Ha48, 1964Ma45.

Source produced in $^{109}, ^{107}\text{AgI}$ reaction.

The parent state $T_{1/2}$ is from 1996Pa01. Others: 1.75 s 5 (1991To08), 1.7 s 2 (1982Bo04), 1.59 s 22 (1979Ho10), 1.9 s 2 (1977Ha48), 1.8 s 3 (1980Da09), 1.65 s 15 (1964Ma45).

 ^{151}Er Levels

E(level)	J^π
0.0	(7/2 ⁻)

 α radiations

$E\alpha$	E(level)	$I\alpha^\dagger$	Comments
5200 3	0.0	(100)	$E\alpha$: weighted average of 5210 20 (1964Ma45), 5202 10 (1977Ha48), 5206 5 (1979Ho10), 5191 5 (1982Bo04), 5202 4 (1996Pa01). Other: 5194 (1991To08).

† For absolute intensity per 100 decays, multiply by 0.89 4.