

Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 114, 1041 (2013)	1-Mar-2012

$Q(\beta^-) = -4980$ SY; $S(n) = 8233$ SY; $S(p) = 1584$ SY; $Q(\alpha) = 8918$ 20 [2012Wa38](#)

[2012Wa38](#): $\Delta Q(\beta^-) = 457$ syst, $\Delta S(n) = 312$ syst, $\Delta S(p) = 202$ syst.

Calculations, compilations:

g.s. properties: [1997Mo25](#), [1995Mo29](#), [2004Pa40](#).

Single-particle Nilsson levels: [1994Cw02](#), [2004Pa40](#).

Half-lives for alpha and beta decay: [1997Mo25](#).

[1994Cw02](#) have calculated the following single-particle level sequence: g.s., $7/2[514]; 0.04$ MeV, $1/2[521]; 0.15$ MeV, $9/2[624]; 0.69$ MeV, $5/2[512]; 0.88$ MeV, $7/2[633]$.

[2004Pa40](#) have calculated following single-particle level sequence 0.09 MeV, $9/2[624]; 0.10$ MeV, $1/2[521]; 0.56$ MeV, $5/2[512]; 0.71$ MeV, $7/2[633]; 1.08$ MeV, $3/2[521]$.

Assignment:

$^{205}\text{Tl}(^{50}\text{Ti}, 2n)^{257}\text{Db}(\alpha)$, parent of ^{249}Md ([1985He22](#), [1986He28](#)) granddaughter of ^{261}Bh ([1989Mu09](#)).

 ^{253}Lr LevelsCross Reference (XREF) Flags

- A** ^{257}Db α decay (2.3 s)
B ^{257}Db α decay (0.67 s)

E(level)	J^π	$T_{1/2}$	XREF	Comments
0.0	$(7/2^-)$	0.57 s +7-6	A	$\% \alpha \approx 98.7$; $\% \text{SF} \approx 1.3$ $\% \alpha$: from $\% \text{SF} = 1.3 + 30 - 10$ (2001He35). J^π : configuration= $7/2^- [514]$ (2001He35 , 2005KuZZ) $T_{1/2}(\text{SF}) \geq 2.2$ min (2000Ho27). $T_{1/2}$: from 2001He35 , 1999He11 . $\% \alpha = 92.5$; $\% \text{SF} = 8.5$ $\% \alpha$: from measured $\% \text{SF} = 8.5$ (2001He35). J^π : configuration= $1/2^- [521]$ (2005KuZZ). $T_{1/2}$: from 2001He35 . Others: 1.3 s +6-3 (1985He22 , 1986He28), 1.7 s +20-6 (1989Mu09), 1.5 s +3-2 (1999He11).
0+y	$(1/2^-)$	1.49 s +30-21	B	J^π : from 2005KuZZ , $\pi = +$, configuration= $9/2^+ [624]$ in 2001He35 .
107 18	$(9/2^-)$		A	