

**Adopted Levels**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	A. M. Mattera, S. Zhu, A. B. Hayes, E. A. Mccutchan		NDS 172, 543 (2021)	1-Jan-2021

S(n)=7062 SY; S(p)=1401 SY; Q( $\alpha$ )=9164 17    [2017Wa10](#)

$\Delta S(n)=381$ ,  $\Delta S(p)=264$  ([2017Wa10](#) ).

All level information from  $^{256}\text{Db}$   $\alpha$  decay ([2001He35](#), [2008Ne01](#)).

 $^{252}\text{Lr}$  LevelsCross Reference (XREF) Flags

**A**     $^{256}\text{Db}$   $\alpha$  decay

E(level) <sup>†</sup>	T <sub>1/2</sub>	XREF	Comments
0.0	0.33 s +8-7	<b>A</b>	$\% \epsilon + \% \beta^+ = 60$ calc; $\% \alpha = 40$ calc; $\% \text{SF} < 2$ calc $\% \alpha, \% \epsilon + \% \beta^+, \% \text{SF}$ : not measured for this nucleus. The probability for spontaneous fission of $^{252}\text{Lr}$ was studied by <a href="#">1976Og02</a> through $^{203,205}\text{Tl}(^{50}\text{Ti}, \text{xn})$ reactions, and an upper limit of 2% was estimated for its spontaneous fission decay. The theoretical calculations of <a href="#">2019Mo01</a> give T <sub>1/2</sub> ( $\alpha$ )=5.50 s and the partial half-life for Gamow-Teller $\beta$ decay T <sub>1/2</sub> ( $\beta^+$ )=1.98 s, hence $\% \alpha \approx 40$ , $\% \epsilon + \% \beta^+ \approx 60$ , $\% \text{SF} < 2$ . T <sub>1/2</sub> : weighted average of 0.27 s +18 -8 ( <a href="#">2008Ne01</a> ) and 0.36 s +11 -7 ( <a href="#">2001He35</a> ).
120? 40		<b>A</b>	
180 40		<b>A</b>	
310? 40		<b>A</b>	

<sup>†</sup> From Q( $\alpha$ ) differences;  $\Delta E(\text{level})$  added quadratically.