Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Update	Balraj Singh	ENSDF	04-Jun-2020

Q(β^-)=−2480 *80*; S(n)=6270 *80*; S(p)=2350 *80*; Q(α)=8810 *SY* 2017Wa10
Estimated uncertainty=100 for Q(α) (2017Wa10).
S(2n)=14270 *310*, S(2p)=6280 *130* (syst,2017Wa10).
No new experimental references since the 2017 update (2017Si08) of ^{256}Lr. In the present update, an incorrect reference 2014Sa01 for the half-life of the g.s. of ^{256}Lr has been corrected to 2014Sa21, and some other very minor changes have been made.
1965Do10: ^{256}Lr produced and identified in ^{243}Am(^{18}O,5n), E=96 MeV reaction, followed by the measurement of an α-decay chain, and half-life.
Later studies of ^{256}Lr decay: 1968Fl08, 1970Dr08, 1971Es01, 1976BeZY, 2008An16, 2014Sa21.
2012Mi27: mass measurement by time-of-flight ion-cyclotron-resonance method using SHIPTRAP at GSI.
Theoretical calculations: consult the Nuclear Science References (NSR) database for 33 primary references, mostly dealing with half-life in α decay and cluster decays.
Additional information 1.

^{256}Lr Levels

Cross Reference (XREF) Flags

A ^{260}Db α decay (1.52 s)

E(level)[†]	$T_{1/2}$	XREF	Comments
0.0	27.9 s *10*		%α≈85 *10*; %ε≈15 *10*; %SF<0.03 $T_{1/2}$: weighted average of 28 s *1* (2014Sa21, earlier value was 25 s *2* in 2010SaZV), 25.9 s *17* (1976BeZY), 31 s *3* (1971Es01), 35 s *10* (1970Dr08), 45 s *10* (1965Do10). Other: 24 s (1968Fl08). The α decay/ε decay ratio has been estimated approximately only. The authors of 1968Fl08 deduced the ε branch as about 30%, if the 8.42-MeV α group in their spectrum is from the ε decay daughter, ^{256}No. Presumably, the 8.43-MeV α of ^{256}Lr was not considered; therefore, this branching should be an upper limit. In authors′ other paper, 1968Fl01, the authors stated that it was impossible to determine the branching from their data. The authors of 1971Es01 set an upper limit of 20% for an ε branch. It was established by 1976BeZY that ^{256}Lr does decay by electron capture; however, its branching was not determined. %ε=15 *10*, %α=85 *10* is recommended here.
236 *44*		A	
282 *42*		A	
317 *42*		A	

[†] From ^{260}Db α decay, deduced from measured α energies in ^{260}Db α decay and Q(α)(^{260}Db)=9500 *40* (syst,2017Wa10).