^{255}Lr IT decay (1.70 ms) 2008Ha31

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 114, 1041 (2013)	1-Nov-2011

Parent: ^{255}Lr: E=1408.6+y *10*; $J^{\pi}=(25/2^{+})$; $T_{1/2}$=1.70 ms *3*; %IT decay>99.9

^{255}Lr-$T_{1/2}$: From Adopted Levels, Gammas.

E=219 MeV beam provided by U400 cyclotron at Dubna. VASSILISSA fragment separator. Detected evaporation residues using GABRIELA array of 16 Si strips. Detected conversion electrons using four four-strip Si strips. Measured Eγ, Iγ, γ(ce) coin, recoil-ce correlations using seven Ge detectors for γ rays and Si detectors for electrons. Measured 2.54-s isomer half-life using time-of-flight method.

^{255}Lr Levels

E(level)	J^{π}	$T_{1/2}$	Comments
0	[1/2$^-$]	31.1 s *11*	$T_{1/2}$: From Adopted Levels, Gammas.
38 *10*	[7/2$^-$]	2.54 s *5*	%IT≈60 (2006Ch52) $T_{1/2}$: From Adopted Levels, Gammas.
1408.6+y *10*		1.70 ms *3*	E(level): From Adopted Levels. E>720 keV by 2008Ha31 based on 100-keV conversion electrons observed in coincidence with 588-keV γ-ray. Excitation energy of resultant level is >720 keV assuming M-conversion or >850 keV assuming K-conversion. This level may be the same reported at 1408+x keV (1.70 ms *3*) in the ^{209}Bi(^{48}Ca,2nγ) reaction (2009Je02), and at >1600 keV (1.81 ms *2*) in 2008An16. J^{π}: from systematics this isomer is expected to have a high K value. Additional information 1. $T_{1/2}$: from time difference between ^{255}Lr recoils and conversion electrons (<140 keV electrons); single decay component was assumed.

$\gamma(^{255}Lr)$

E_{γ}	E_i(level)	Comments
^{x}244†		
^{x}301†		
^{x}387†		
^{x}492†		
^{x}588†		E_{γ}: this γ ray was observed in coincidence with 100-keV electrons.

† The γ ray is uncertain due to low statistics.

^{x} γ ray not placed in level scheme.