

^{125}Sn IT decay (0.23 μs) 2008Lo07,2000Zh47

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	J. Katakura	NDS 112, 495 (2011)	1-Jan-2010

Parent: ^{125}Sn : E=2624; $J^\pi=(27/2^-)$; $T_{1/2}=0.23 \mu\text{s}$; %IT decay=?

2008Lo07: ^{125}Sn formed in relativistic fission reaction on ^{238}U on a ^9Be target at 750 A-MeV and by the fragmentation of ^{136}Xe at 600 A-MeV. Measured E_γ , I_γ , $\gamma\gamma$, lifetimes. Using eight Cluster detectors from the RISING array.

2000Zh47,2004Br19: Some of ^{125}Sn formed in the $^{124}\text{Sn}(^{136}\text{Xe},x\gamma)$, $^{124}\text{Sn}(^{238}\text{U},x\gamma)$ and $^{232}\text{Th}(^{136}\text{Xe},x\gamma)$ reactions at E=665, 1324 and 833 MeV, respectively. The first two reactions essentially involve the particle transfer of a proton from the beam nucleus, to the target nucleus, ^{124}Sn . The data of 2000Zh47 are also reported in 2004Br19 Measured E_γ , I_γ , $\gamma\gamma$, $\gamma\gamma(t)$, lifetimes. The detection system used was GAMMASPHERE array of 73 large-volume Compton-suppressed Ge detectors.

XUNDL data set compiled by J. Roediger and B. Singh (McMaster), August 31, 2004, is consulted.

 ^{125}Sn Levels

E(level)	J^π^\dagger	E(level)	J^π^\dagger	$T_{1/2}$	E(level)	J^π^\dagger	$T_{1/2}$
0.0	11/2 ⁻	1893.4 4	(19/2 ⁺)	6.2 μs 2	2308.7 4	(21/2 ⁺)	
1088.0 3	(15/2 ⁻)	2060.1 4	(23/2 ⁺)	0.6 μs 2	2462.8 4	(23/2 ⁻)	
1218.7 3	(13/2 ⁻)	2076.7 4	(19/2 ⁻)		2624.1 5	(27/2 ⁻)	0.23 μs 2
1879.9 3	(15/2 ⁺)	2136.2 4	(19/2 ⁻)				

[†] Spin-parity assignments are based on agreement between the experimental level energies and those predicted for $(\nu h_{11/2})^n$ $\nu=3$ states.

 $\gamma(^{125}\text{Sn})$

E_γ^\dagger	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ^\dagger	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π
154.0 3		2462.8	(23/2 ⁻)	2308.7	(21/2 ⁺)	661.5 3	29 3	1879.9	(15/2 ⁺)	1218.7	(13/2 ⁻)
161.3 3		2624.1	(27/2 ⁻)	2462.8	(23/2 ⁻)	791.6 3	55 6	1879.9	(15/2 ⁺)	1088.0	(15/2 ⁻)
167.0 3		2060.1	(23/2 ⁺)	1893.4	(19/2 ⁺)	805.5 3	45 5	1893.4	(19/2 ⁺)	1088.0	(15/2 ⁻)
326.7 3	9 1	2462.8	(23/2 ⁻)	2136.2	(19/2 ⁻)	988.4 3	45 5	2076.7	(19/2 ⁻)	1088.0	(15/2 ⁻)
385.9 3	46 5	2462.8	(23/2 ⁻)	2076.7	(19/2 ⁻)	1048.3 3	9 1	2136.2	(19/2 ⁻)	1088.0	(15/2 ⁻)
402.9 3	30 3	2462.8	(23/2 ⁻)	2060.1	(23/2 ⁺)	1087.7 3	100 10	1088.0	(15/2 ⁻)	0.0	11/2 ⁻
415.3 3	15 2	2308.7	(21/2 ⁺)	1893.4	(19/2 ⁺)	1219.0 3	25 3	1218.7	(13/2 ⁻)	0.0	11/2 ⁻




[†] From 2008Lo07.

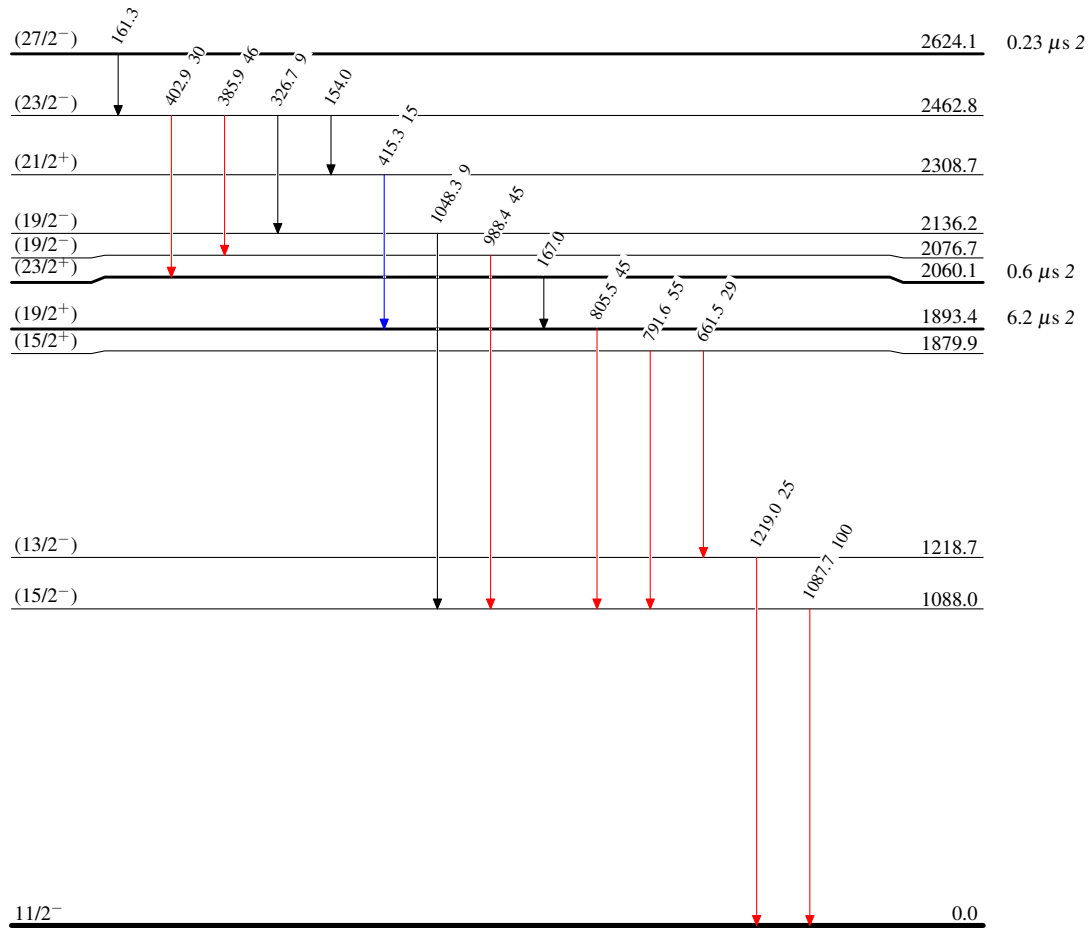
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Decay Scheme

Legend

Intensities: Relative I_γ
%IT=?

 $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
 $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
 $I_\gamma > 10\% \times I_\gamma^{\text{max}}$

 $^{125}_{50}\text{Sn}_{75}$