^{150}Sm(μ^-,2nγ) 2019Zi01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 208,1 (2026)	17-Jan-2026

2019Zi01 compiled for XUNDL database by J. Chen (NSCL, MSU).

2019Zi01, 2010Zi01: μ^- beam at Paul Scherrer Institute, Switzerland, on 320 mg/cm^2 Sm_2O_3 powder target 92.6% enriched in ^{150}Sm. Used HPGe detectors for υX rays and γ rays and measured Eγ, Iγ, E(μX ray), I(μX ray), γ(t). Deduced muon lifetime and partial capture rates to excited states.

^{148}Pm Levels

Muon disappearance lifeime=82.3 ns *5* (capture+decay), from which the total muon capture rate is deduced as λ_{cap}=11.75×10^6 s^{-1} *7* (2019Zi01).

E(level)†	J$^\pi$†	T$_{1/2}$†	Comments
0.0	1$^-$	5.368 d *7*	Capture rate to excited states (directly feeding g.s.)=0.77×10^6 s^{-1} *26*, corresponding to a percentage of 6.6% *22* per muon capture (2019Zi01).
75.7	1$^-$,2$^-$		
137.9	5$^-$,6$^-$	41.29 d *11*	%β^-=95.8 *6*; %IT=4.2 *6* Capture rate to this isomer=0.10×10^6 s^{-1} *2* (IT decay) and 0.21×10^6 s^{-1} *6* (β^- decay), corresponding to a percentage of 0.85% *17* and 1.79% *51* per muon capture, respectively (2019Zi01).
219.9			
308.9			

† From Adopted Levels (rounded energy values).

γ(^{148}Pm)

E$_\gamma$†	E$_i$(level)	E$_f$	J$_f^\pi$
219.8	219.9	0.0	1$^-$
233.0	308.9	75.7	1$^-$,2$^-$

† From 2019Zi01.

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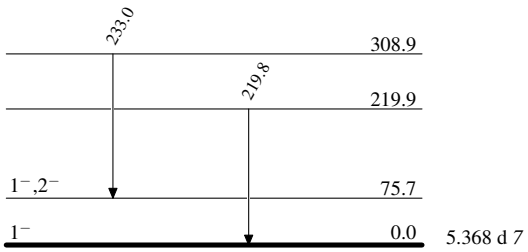
Level Scheme



$^{148}_{61}Pm_{87}$