

^{139}Ce IT decay (57.58 s) 1967Ge09,1967Yu01,2012To09

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	P. K. Joshi, B. Singh, S. Singh, A. K. Jain		NDS 138,1 (2016)	15-Oct-2016

Parent: ^{139}Ce : E=754.24 8; $J^\pi=11/2^-$; $T_{1/2}=57.58$ s 32; %IT decay=100

^{139}Ce - $J^\pi, T_{1/2}$: From ^{139}Ce Adopted Levels.

1967Yu01 measured $\gamma(t)$; NaI.

1967Ge09 measured $\gamma(t)$ (Ge(Li)) and ce's (mag spect, Si(Li)).

2012To09: measured half-life of isomer.

Others: 1960Ko02, 1960Ja06, 1969Ja02.

All data are from Adopted Levels unless stated otherwise.

 ^{139}Ce Levels

E(level)	J^π^\dagger	$T_{1/2}$	Comments
0.0	$3/2^+$		% ϵ +% β^+ =100
754.24 8	$11/2^-$	57.58 s 32	%IT=100

† From Adopted Levels.

 $\gamma(^{139}\text{Ce})$

E_γ	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	α^\ddagger	$I_{(\gamma+ce)}^\dagger$	Comments
754.24 8	92.6 <i>calc</i>	754.24	$11/2^-$	0.0	$3/2^+$	M4	0.0800	100	ce(K)/($\gamma+ce$)=0.0604 8; ce(L)/($\gamma+ce$)=0.01075 15; ce(M)/($\gamma+ce$)=0.00233 4; ce(N)/($\gamma+ce$)=0.000516 8 ce(O)/($\gamma+ce$)= 8.20×10^{-5} 12; ce(P)/($\gamma+ce$)= 5.52×10^{-6} 8; ce(N+)/($\gamma+ce$)=0.000604 9 I_γ : from I($\gamma+ce$) and α .

† Absolute intensity per 100 decays.

‡ Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

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Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
%IT=100

