^{138}Ce(n,γ) E=thermal 1969Gr31

History

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

Measured γ's. 12.5% ^{138}Ce. Decay scheme considered doubtful by evaluators due to the large uncertainty on S(n), lack of uncertainties on E_γ, and poor correspondence with known bound states.

^{139}Ce Levels

E(level)†	J$^\pi$‡	Comments
0.0	$3/2^+$	
1916?	$(3/2)^+$	
1980?	$(3/2,5/2^+)$	
2518?		
(7453 *12*)	$1/2^+$	E(level): from 2012Wa38. J$^\pi$: thermal capture on an even-even target.

† From S(n)-Eγ, except for g.s. and capture state. 1969Gr31 give 1941, 2005, and 2543.
‡ From the Adopted Levels.

γ(^{139}Ce)

E_γ	I_γ†	E_i(level)	J_i^π	E_f	J_f^π
4938‡	13	(7453)	$1/2^+$	2518?	
5476‡	25	(7453)	$1/2^+$	1980?	$(3/2,5/2^+)$
5540‡	3.5	(7453)	$1/2^+$	1916?	$(3/2)^+$

† Intensity per 100 neutron captures.
‡ Placement of transition in the level scheme is uncertain.

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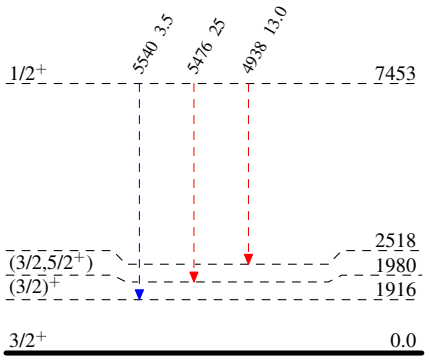
Level Scheme

Intensities: I_γ per 100 neutron captures



$^{139}_{58}Ce_{81}$

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)