

$^{140}\text{Ce}(\text{p},\text{p}')$ 1977Sh06,1969Wu01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 154, 1 (2018)	20-Nov-2018

E=9.40-11.65 MeV (1969Wu01).

E=30 MeV (1977Sh06).

Inelastic proton scattering *via* IAR with $J^\pi=7/2^-$, $3/2^-$, $1/2^-$ and $5/2^-$ in the $^{140}\text{Ce}+\text{p}$ system was measured (1969Wu01), and possible values of spins for some high levels (≥ 3400 keV) are proposed (1969He13,1970He05); see also 1968Vo01.

For cross sections, partial proton widths and spectroscopic factors see 1969Wu01, 1969He13, 1970He05.

For IAR data see 1973La09.

For deformation parameters and isoscalar transition rates for some levels (≤ 3264 keV) see 1977Sh06.

 ^{140}Ce Levels

E(level)	J^π [#]	L	E(level)	J^π [#]	E(level)	J^π [#]	E(level)	J^π [#]
0.0	0 ⁺	0	3792 4	3 ⁻ [‡]	4538 4	3 ⁻ [‡]	5000 15	
1589 10	2 ⁺	2	3912 4	2 ⁻ [‡]	4580 4	2 ⁻ [†]	5026 6	2 ⁻ ,3 ⁻ [†]
1900 [@] 10	0 ⁺		3956 4		4640 10		5050 15	
2094 10	4 ⁺	4	4000 4	4 ⁻ [‡]	4660 15		5100 15	
2469 10	3 ⁻	3	4158 4	2 ⁻ [†]	4700 10		5140 15	
2902 10	2 ⁺	2	4182 4	1 ⁻ [†]	4720 15		5160 15	
3130 10	2 ⁺	2	4208 6		4748 4	2 ⁻ [†]	5196 6	2 ⁻ ,3 ⁻ [†]
3264 10	5 ⁻	5	4296 6		4760 15		5230 15	
3402 4	4 ⁻ [‡]		4340 10	(1 ⁻) [†]	4770 10	1 ⁻ [†]	5424 6	2 ⁻ ,3 ⁻ [†]
3478 4	3 ⁻ [‡]		4364 4	1 ⁻ [†]	4790 15		5466 6	2 ⁻ ,3 ⁻ [†]
3565 10			4424 4		4860 10			
3655 4			4450 10		4880 15			
3710 4	5 ⁻ [‡]		4485 10		4910 15			

[†] From analysis of IAR (1970He05).

[‡] From analysis of IAR (1969He13).

[#] From L (1977Sh06), except where noted otherwise.

[@] Observed ce(K) of E0-transition 1900 keV 20; E(p)=12 MeV (1965Ch20).