Coulomb excitation

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

^{140}Ce(α,α') E=14-20 MeV (1963Ha20), 12.60 MeV (1978Ki09), ^{140}Ce(d,d′) E=26 MeV (1971Ra32), ^{140}Ce(^{16}O,^{16}O′) E=45 MeV (1966Ec02), ^{140}Ce(^{32}S,^{32}S′) E=110-116 MeV (1991Ba38).

^{140}Ce Levels

E(level)	$J^{\pi\dagger}$	$T_{1/2}$	Comments
0.0	0^+		
1596.0 10	2^+	0.0926 ps 13	B(E2)↑=0.295 4 (1978Ki09)
			g=0.97 9 (1991Ba38)
			$T_{1/2}$: from B(E2)↑; other: 90.1 fs 55 from half-life measurement (1991Ba38); Other measurements of B(E2)↑: 1960Na13, 1961An07, 1966Ec02, 1971Ra32.
2470	3^-	0.029 ps 15	B(E3)↑=0.76 38 (1963Ha20)
			$T_{1/2}$: calculated with B(E3)↑=0.76 38 (1963Ha20) and adopted Γ(3-0)/Γ(3-2)=0.00141 14. Note, however, that in (e,e′) $T_{1/2}$=0.10 ps $i.e.$ 3 times larger. It may indicate that B(E3)↑ from 1963Ha20 is 3 times too small. For similar problems with B(E3)↑ measurements in Cd with A=112-116 (1963Ha20) see 1965Mc05.

$\dagger$ Adopted values.

$\gamma(^{140}$Ce)

E_γ	E_i(level)	J_i^π	E_f	J_f^π
1596	1596.0	2^+	0.0	0^+

Coulomb excitation

Level Scheme

$^{140}_{58}$Ce$_{82}$