Coulomb excitation   1989Sp07,1970En01,1963Ha20

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	T. D. Johnson, D. Symochko(a), M. Fadil(b), and J. K. Tuli	NDS 112, 1949 (2011)	1-Jun-2010

α: E=10-12 MeV (1989Sp07), E=17 MeV (1963Ha20).
^{12}C: E=31-38 MeV (1989Sp07).
^{16}O: E=44-50 MeV (1989Sp07), E=36,39 MeV (1966Ec02), E=42 MeV (1970En01).
Other: 1961An07.
Measured: σ(E) (1989Sp07,1970En01), γ (1970En01,1961An07).

^{142}Ce Levels

E(level)	$J^{\pi\dagger}$	$T_{1/2}$	Comments
0.0	0^+		
640.3 *9*	2^+	5.56 ps *12*	Q=−0.16 *5* (1989Sp07)
			B(E2)↑=0.479 *4* (1989Sp07)
			Q: for destructive interference from 2004 level, for constructive interference Q=−0.37 *5* (1989Sp07); other: −0.12 *9* (1970En01).
			$T_{1/2}$: from B(E2).
			B(E2)↑: others: 0.459 *6* (1970En01), 0.42 *5* (1966Ec02), 0.41 *8* (1961An07).
1219	4^+	7.5 ps *7*	B(E4)↑<0.036 (1989Sp07)
			B(E2)↑: B(E2)(2^+ to 4^+)=0.211 *18*.
			$T_{1/2}$: from B(E2).
1534.3 *13*	2^+	<0.8 ps	B(E2)↑<0.008 (1989Sp07)
			B(E2)↑: B(E2)(640 to 1536)=0.16 *4*, <0.008 (1988Ve08).
			$T_{1/2}$: from B(E2).
1660 *4*	3^-		B(E3)↑=0.202 *13* (1989Sp07)
			B(E3)↑: for B(E3) see also 1963Ha20.
2003.7 *9*	2^+	0.037 ps *6*	B(E2)↑=0.070 *11* (1989Sp07)
			$T_{1/2}$: from B(E2) and adopted branching.

† Adopted values.

$\gamma(^{142}$Ce)

$E_\gamma^\dagger$	E_i(level)	J_i^π	E_f	J_f^π
640	640.3	2^+	0.0	0^+
894	1534.3	2^+	640.3	2^+
1020 *3*	1660	3^-	640.3	2^+
1363	2003.7	2^+	640.3	2^+
2004	2003.7	2^+	0.0	0^+

† Rounded adopted values.

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Level Scheme

$^{142}_{58}$Ce$_{84}$