Coulomb excitation 1984Dr05

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 108,2173 (2007)	1-Oct-2006

E(α)=9.6-12.2 MeV; E(^{14}N)=40 MeV; E(^{16}O)=35-45 MeV.
Measured: γ, $\gamma(\theta)$, yield.

^{137}Ba Levels

E(level)	J^{π} †	$T_{1/2}$	Comments
0.0	$3/2^+$		
280.0 *10*	$1/2^+$		B(E2)↑=0.025 *2*
1252.5 *10*	$7/2^+$	0.354 ps *24*	$T_{1/2}$: from B(E2)=0.104 *7*. J^{π}: consistent with 7/2 but not with 5/2.
1293.0 *10*	$5/2^+$		B(E2)≤0.019.

† Adopted Levels.

$\gamma(^{137}Ba)$

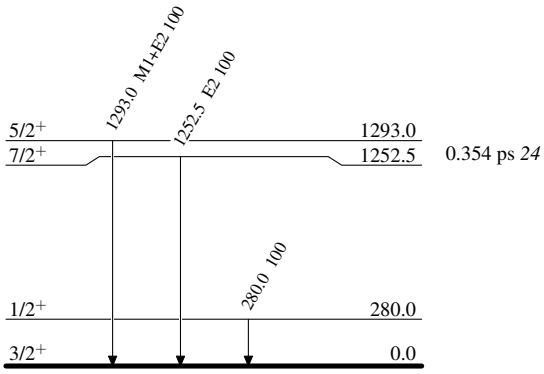
E_i(level)	J_i^{π}	E_{γ}	I_{γ}	E_f	J_f^{π}	Mult.	α †	Comments
280.0	$1/2^+$	280.0	100	0.0	$3/2^+$			
1252.5	$7/2^+$	1252.5	100	0.0	$3/2^+$	E2	1.14×10^{-3}	α(K)=0.000973 *14*; α(L)=0.0001244 *18*; α(M)=2.55×10^{-5} *4*; α(N+..)=1.99×10^{-5} *3* α(N)=5.50×10^{-6} *8*; α(O)=8.40×10^{-7} *12*; α(P)=6.05×10^{-8} *9*; α(IPF)=1.352×10^{-5} *19*
1293.0	$5/2^+$	1293.0	100	0.0	$3/2^+$	M1+E2	0.00124 *17*	α(K)=0.00106 *15*; α(L)=0.000133 *17*; α(M)=2.7×10^{-5} *4*; α(N+..)=2.69×10^{-5} *7* α(N)=5.9×10^{-6} *8*; α(O)=9.0×10^{-7} *12*; α(P)=6.7×10^{-8} *10*; α(IPF)=2.00×10^{-5} *5*

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

Coulomb excitation 1984Dr05

Level Scheme

Intensities: % photon branching from each level



$^{137}_{56}Ba_{81}$