Coulomb excitation

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 93, 33 (2001)	11-May-2001

1989Bu07: (α,α') E=10.8-11.8 MeV; (^{12}C,^{12}C′) E=32-38 MeV; (^{16}O,^{16}O′) E=43-49 MeV. Measured B(E2) and Q for first 2^+ state.
1980Br01: (^{32}S,^{32}S′γ) E=72-80 MeV. Measured μ by $\gamma(\theta$,H).
1974Ne15: (^{16}O,^{16}Oγ) E=40-60 MeV. Measured $\gamma(\theta)$. (d,d′) E=12 MeV. Measured cross section. Deduced Q.
1973ToXW: (^{32}S,^{32}S′γ) E=70 MeV; (^{40}Ca,^{40}Ca′) E=85 MeV. Measured γ, deduced Q.
1970Ku19: (^{16}O,^{16}Oγ). Measured $\gamma(\theta$,H,t). Deduced hyperfine fields.
1967Si03: (^{16}O,^{16}Oγ) E=20.7, 25.1 MeV; (^{32}S,^{32}S′) E=41.7, 49.4 MeV. Measured Q.
1958Fa01: (α,α') E≤5.6 MeV.

^{130}Ba Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	0^+		
357.3	2^+	40.7 ps *4*	B(E2)↑=1.163 *11* g=0.35 *3* (1980Br01) B(E2)↑: average of 1.167 *11* (constructive) and 1.159 *12* (destructive) (1989Bu07). Others: 1.21 *38* (destructive) (1973ToXW); 1.36 *14* (1967Si03); 0.75 *18* (1958Fa01). Q: reorientation method. −1.02 *16* (constructive), −0.09 *16* (destructive) (1989Bu07) assuming that γ from second 2^+ to first 2^+ is predominantly E2. Others: −0.33 *24* (1974Ne15), +0.37 *18* (destructive) (1973ToXW), −1.10 *34* (1967Si03). $T_{1/2}$: from B(E2).

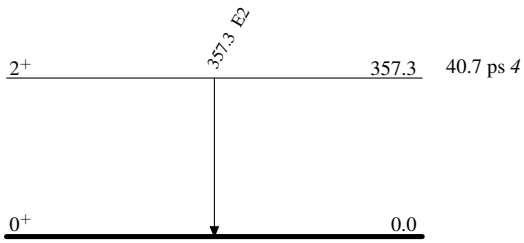
$\gamma(^{130}$Ba)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α[†]	Comments
357.3	357.3	2^+	0.0	0^+	E2	0.0263	α(K)=0.02165; α(L)=0.00365; α(M)=0.00076; α(N+..)=0.00020

[†] 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

Level Scheme



$^{130}_{56}Ba_{74}$