Coulomb excitation 2006Le24

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 111, 1093 (2010)	3-Mar-2009

Additional information 1.
Reaction: ^{12}C on ^{66}Zn.
Beam=^{66}Zn at 180 MeV, isotopically pure, as ZnO^- ions.
Target=Natural Carbon deposited on a Gd layer.
Measured g factors using projectile Coulomb excitation in inverse kinematics combined with transient magnetic fields. Lifetimes measured by Doppler-shift attenuation method. Particle-γ angular correlations. Others: 2003Ko51, 2002K202, 1998Si25, 1979Fa06, 1975Th01, 1973Fi15, 1962St02, 1960An07, 1956Te26.

^{66}Zn Levels

E(level)	J^π	$T_{1/2}$ †	Comments
0	0^+		
1039	2^+	1.68 ps *3*	g=+0.53 *5* (2006Le24); g=+0.40 *4* (2002Ke02) Q=+0.24 *8* (2003Ko51) B(E2)↑=0.139 *3* $T_{1/2}$: Weighted average of 1.73 ps *7* DSAM (2006Le24); 1.68 ps *3* DSAM (2002Ke02), and 1.61 ps *10* Coul. ex.. (2003Ko51). $T_{1/2}$=1.68 ps *4*, deduced by evaluators from B(E2)↑=0.139 *3*. Other value: 1.56 ps *10* DSAM (1973Fi15). Weighted average of B(E2)↑=0.1380 *25* (2006Le24), B(E2)↑=0.144 *9* (2003Ko51), B(E2)↑=0.135 *8* (1998Si25), B(E2)↑=0.154 *13* (1975Th01), and B(E2)↑=0.145 *13* (1962St02). Q: from Coulomb excitation (2003Ko51). Other: +0.24 *9* (2020Ro06, from Coul. ex., preliminary value as stated by authors). Comment added March 30, 2021 by B. Singh.
1873	2^+	1.7 ps *5*	$T_{1/2}$: Coul. ex. (2003Ko51).
2451	4^+	0.76 ps *14*	g=+0.65 *20* (2006Le24); μ=+2.6 *8* $T_{1/2}$: Other value: 0.35 ps *2* Coul. ex.. (2003Ko51). The g value agrees with +0.53 *16* for the first 4^+ state in ^{64}Zn but differs greatly from −0.37 *17* for the first 4^+ state in ^{68}Zn.
2765	4^+		
2826	3^-	0.180 ps *7*	g=+0.7 *3* (2006Le24); μ=+2.8 *12*
3077	4^+	1.04 ps *7*	

† From DSAM (2006Le24), unless otherwise noted.

$\gamma(^{66}Zn)$

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Comments
628	3077	4^+	2451	4^+	
834	1873	2^+	1039	2^+	B(E2)=0.065 *23* (2003Ko51).
893	2765	4^+	1873	2^+	
1039	1039	2^+	0	0^+	
1204	3077	4^+	1873	2^+	
1412	2451	4^+	1039	2^+	B(E2)=0.0133 *24* (2006Le24). B(E2)=0.0278 *11* from $T_{1/2}$(2451 level)=0.76 ps *14* (2003Ko51).
1726	2765	4^+	1039	2^+	
1787	2826	3^-	1039	2^+	

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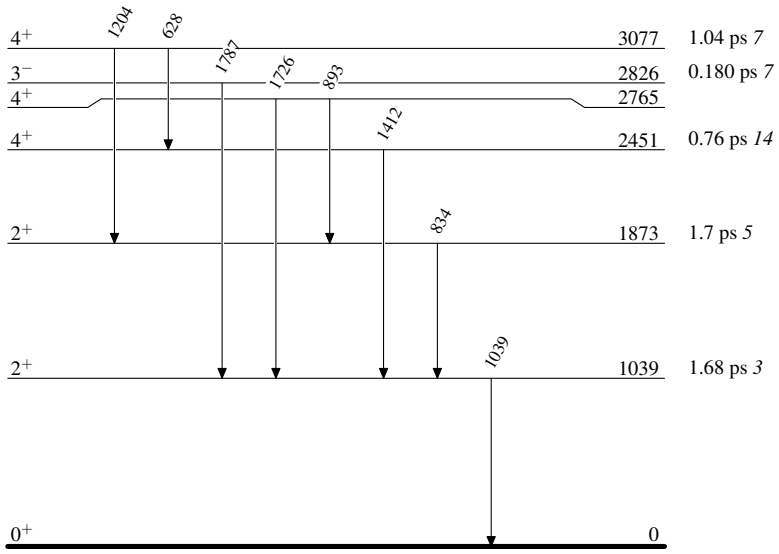
Level Scheme



$^{66}_{30}Zn_{36}$