Coulomb excitation: projectile 2010Mo14,2007Bo04,2004Ko03

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan	NDS 113, 1735 (2012)	1-Mar-2012

2010Mo14: C(^{68}Zn,^{68}Zn′γ), E(^{68}Zn)=180 MeV. Measured C-$\gamma(\theta$,H,t) using 4 Ge detectors and a Si detector and $T_{1/2}$ by DSAM using a Ge detector at 0° to beam direction. Includes a reanalysis of the data in 2005Le38 and 2005Le12.

2007Bo04: C(^{68}Zn,^{68}Zn′γ), E(^{68}Zn)=180 and 200 MeV. Measured C-$\gamma(\theta$,H,t) using 4 HPGe Clover detectors and a PIPS particle detector.

2005Le38: C(^{68}Zn,^{68}Zn′γ), E(^{68}Zn)=180 MeV. Measured C-$\gamma(\theta$,H,t) using 4 Ge detectors and a Si detector and $T_{1/2}$ by DSAM using a Ge detector at 0° to beam direction.

2005Le12: C(^{68}Zn,^{68}Zn′γ), E(^{68}Zn)=180 MeV. Measured C-$\gamma(\theta$,H,t) using 4 NaI(Tl) scintillators and a Si detector and $T_{1/2}$ by DSAM using a Ge(Li) detector at 0° to beam direction.

2004Ko03: Pb(^{68}Zn,^{68}Zn′γ), E(^{68}Zn)=276 MeV. Measured Eγ, Iγ, p-γ coincidence using GEMINI array consisting of 12 Compton-suppressed HPGe detectors and LUNA consisting of 4 position sensitive photomultiplier tubes. GOSIA analysis to extract matrix elements and quadrupole moments. Some known observables (branching ratios, mixing ratios and lifetimes) used as starting parameters in the analysis.

2002Ke02: C(^{68}Zn,^{68}Zn′γ), E(^{68}Zn)=160 MeV. Measured C-$\gamma(\theta$,H,t) using BaF_2 scintillators and a Si detector and $T_{1/2}$ by DSAM using a Ge detector at 0° to beam direction.

^{68}Zn Levels

E(level)†	J^{π}†	$T_{1/2}$	Comments
0.0	0^+		
1077	2^+	1.62 ps *2*	Q=+0.09 *3*; g=+0.54 *3* $T_{1/2}$: weighted average from DSAM of 1.61 ps *5* (2002Ke02), 1.61 ps *4* (2005Le12), 1.62 ps *3* (2005Le38). g: weighted average of +0.61 *6* (2010Mo14), +0.54 *6* (2007Bo04), +0.58 *6* (reanalysis of data from 2005Le38 by 2010Mo14), +0.51 *4* (reanalysis of data from 2005Le12 by 2010Mo14). Other: +0.44 *5* (2002Ke02). Q: from GOSIA analysis of γ-ray yields in 2004Ko03.
1656	0^+	103 ps *18*	B(E2)↑=0.0017 *3* $T_{1/2}$: deduced from B(E2) and adopted γ-ray properties. B(E2)↑: for 1077(2^+) to 1656(0^+) excitation (2004Ko03).
1883	2^+	1.01 ps *5*	B(E2)↑=0.0048 *4*; g=+0.56 *10* $T_{1/2}$: weighted average from DSAM of 0.97 ps *7* (2005Le12) and 1.04 ps *7* (2005Le38). Other: 1.47 ps *12* from B(E2)↑ (2004Ko03). g: weighted average of +0.54 *19* (2010Mo14), +0.6 *3* (2007Bo04), +0.56 *18* (reanalysis of data from 2005Le38 by 2010Mo14), +0.56 *18* (reanalysis of data from 2005Le12 by 2010Mo14). B(E2)↑: for g.s to 1883(2^+) excitation (2004Ko03). B(E2)(1077 to 1883)=0.030 *6* (2004Ko03).
2338	2^+	0.31 ps *3*	B(E2)↑=0.00115 *20* $T_{1/2}$: weighted average from DSAM of 0.31 ps *3* (2005Le12) and 0.32 ps *4* (2005Le38). Other: 0.043 ps *4* from B(E2)↑ (2004Ko03). B(E2)↑: for g.s to 2338(2^+) excitation (2004Ko03). B(E2)(1077 to 2338)=0.016 *5* (2004Ko03).
2417	4^+	0.73 ps *7*	B(E2)↑=0.0389 *13*; g=+0.14 *13* $T_{1/2}$: weighted average of 0.76 ps *6* from DSAM (2005Le12), 0.82 ps *6* from DSAM (2005Le38) and 0.60 ps *6* from B(E2)↑ (2004Ko03). g: weighted average of +0.23 *43* (2010Mo14), +0.6 *3* (2007Bo04), +0.15 *34* (reanalysis of data from 2005Le38 by 2010Mo14), −0.04 *18* (reanalysis of data from 2005Le12 by 2010Mo14). B(E2)↑: for 1077(2^+) to 2417(4^+) excitation (2004Ko03).
2751	3^-	0.257 ps *6*	g=+0.36 *24* $T_{1/2}$: weighted average from DSAM of 0.256 ps *7* (2005Le38) and 0.263 ps *14* (2005Le12). g: weighted average of +0.4 *3* (2005Le12) and +0.3 *4* (2007Bo04). Other: +0.3 *4* (2005Le38).

† From the Adopted Levels.