Coulomb excitation 2006Pe13,2009Va01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	31-Mar-2017

2006Pe13 (also 2004PeZW thesis): ^{74}Zn beam from ^{9}Be(^{76}Ge,X), E=60 MeV/nucleon, followed by mass separation of fragments using LISE3 spectrometer. Target=^{208}Pb. For Coulomb excitation, v/c ≈ 0.28. Gamma rays were measured using four segmented 'Clover' Ge detectors of the EXOGAM array, FWHM=75 keV. The emerging nuclei after the Coulomb interaction were detected in two drift chambers which allowed estimate of diameter of the beam spot at the target position. Two Si detectors were used to identify deflected nuclei. Measured γ, (particle)γ coin following Coulomb excitation of the projectile. Deduced B(E2) for the first excited 2^+ state. See also 2008AzZZ.

2009Va01 (also 2007Va20): E=2.87 MeV/nucleon ^{74}Zn beam produced at Radioactive Ion Beam facility REX-ISOLDE (CERN). Target=^{120}Sn. The Zn beams were produced using protons at E=1.4 GeV impinging UC_x target. The mass-separated Zn beam was accumulated and bunched in a Penning Trap. Measured Eγ, Iγ using MINIBALL array of 24 HPGe detectors. Charged particles were measured with a double-sided silicon strip detector. Comparisons with collective model predictions and large-scale shell-model calculations. Experimental results analyzed using GOSIA2 code.

^{74}Zn Levels

E(level)	J^π	$T_{1/2}$	Comments
0	0^+		
605.9	2^+	17.2 ps *14*	B(E2)↑=0.204 *15* (2006Pe13) E(level),J^π: from Adopted Levels. BE2=0.201 *16* (2007Va20). $T_{1/2}$: from 2009Va01, deduced from B(E2)↓. B(E2)↑: in 2006Pe13, value is relative to B(E2)↑=0.268 *8* for the first 2^+ state of ^{76}Ge.
1419	4^+	3.1 ps *4*	$T_{1/2}$: deduced by evaluator from B(E2)↓=0.051 *7* (2009Va01). B(E2)↑=0.092 *13* (deduced from B(E2)↓ in 2009Va01).

$\gamma(^{74}Zn)$

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Comments
605.9	605.9	2^+	0	0^+	B(E2)↓=0.0401 *32* (2009Va01). This value is about the same as corresponding B(E2)↑ listed in 2007Va20.
813	1419	4^+	605.9	2^+	B(E2)↓=0.051 *7* (2009Va01).

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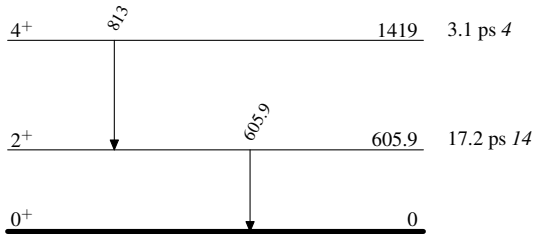
Level Scheme



$^{74}_{30}Zn_{44}$