Coulomb excitation 2009Ek01

History

Type	Author	Citation	Literature Cutoff Date
Update	Balraj Singh and Jun Chen	ENSDF	15-Sep-2021

2009Ek01: ^{109}Ag(^{100}Cd,^{100}Cd′) E=287 MeV ^{100}Cd beam was produced by a 1.4 GeV proton primary beam from the CERN PS-Booster bombarding a 27 g/cm^2 LaC_x target. The secondary target was 1.9 mg/cm^2 ^{109}Ag. The Cd atoms were ionized using resonant laser ionization and mass was selected by a high-resolution separator at CERN-ISOLDE. Ejectiles and recoils were detected by a circular double- sided silicon strip detector (DSSSD) and γ rays were detected with the Miniball array of 21 six-fold segmented Ge detectors. Measured Eγ, particles-γ-coin, γ-ray yields and cross sections. Deduced B(E2), quadrupole moment. Maximum likelihood method used in analysis. Comparison of energy of first 2^+ state and B(E2) with various model calculations (see figures 10 and 11 and text of 2009Ek01 for details).

Following levels in ^{109}Ag, excited in the experiment in 2009Ek01, were used in the analysis: g.s., $1/2^-$; 88.0, $7/2^+$; 132.7, $9/2^+$; 311.4, $3/2^-$, 415.2, $5/2^-$ and 701.9, $3/2^-$.

^{100}Cd Levels

B(E2) and comment edited, $T_{1/2}$ revised, B. Singh, Sept 15, 2021, in response to e-mail query of Aug 18, 2021 from Dr. M.L. Cortes (T.U. Darmstadt).

E(level)	J^π	$T_{1/2}$	Comments
0.0	0^+		
1004.1	2^+	>1.0 ps	B(E2)↑≤0.21 *7* (2009Ek01) B(E2)↑: Q_0 fixed as 0 to deduce B(E2) value. $T_{1/2}$: deduced from B(E2)≤0.21 *7*. σ=0.20 b *6* (2009Ek01).

γ(^{100}Cd)

E_γ	E_i(level)	J_i^π	E_f	J_f^π
1004.1	1004.1	2^+	0.0	0^+

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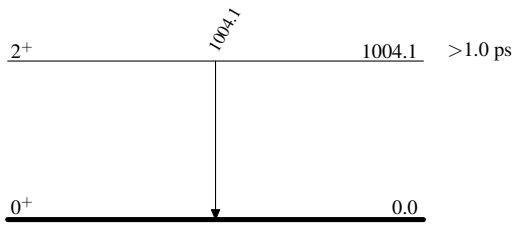
Level Scheme



$^{100}_{48}Cd_{52}$