Coulomb excitation 2005Ga22

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	D. Abriola(a), A. A. Sonzogni	NDS 111,1 (2010)	1-May-2009

Beam=^{72}Kr, target=^{197}Au.

Secondary beam cocktail containing ^{72}Kr produced by fragmentation of E=140 MeV/nucleon ^{78}Kr primary beam on a ^{9}Be fragmentation target. A1900 fragment separator. ^{72}Kr beam incident on ^{197}Au target at target position of S800 magnetic spectrograph.

E=69.3 MeV/nucleon (mid-target). Measured Eγ, Iγ, $\gamma(\theta)$, lifetimes, time-of-flight and energy loss with the SeGA array of 16 *32*-fold segmented HPGe detectors and two scintillators. Particle identification and scattering angle measured with focal-plane detector system of S800 spectrograph.

^{72}Kr Levels

E(level)	J$^\pi$	$T_{1/2}$	Comments
0.0	0^+		2005Ga22 suggest soft oblate deformation for the g.s. based upon agreement between theoretical values of β_2 and that determined by the authors from B(E2) strength and $\geq 1\sigma$ discrepancy between experimental and theoretical β_2 for multiple models used in 2005Ga22. The oblate g.s. can be due to the occupation of the 9/2[404] orbit by two protons and neutrons.
709 *4*	2^+	3.1 ps *4*	B(E2)↑=0.50 *6* $T_{1/2}$: from B(E2). B(E2)↑: deduced from angle-integrated cross section at $\theta_{lab}\leq 3.0°$. Other: 0.52 *8* at $\theta_{lab}\leq 2.5°$.

$\gamma(^{72}Kr)$

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
709 *4*	709	2^+	0.0	0^+

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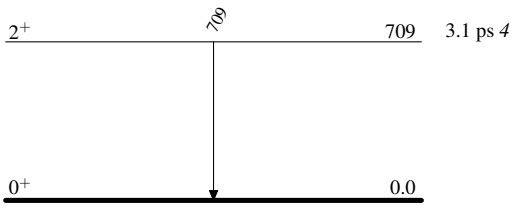
Level Scheme



$^{72}_{36}Kr_{36}$