Coulomb excitation 2012Al03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Boris Pritychenko	ENSDF	10-May-2012

Beam=radioactive ^{96}Kr. Targets=enriched ^{194}Pt and ^{196}Pt.

2012Al03: ^{96}Kr beam at 2.85 MeV/nucleon produced in bombardment of UC_x target with 1.4 GeV protons followed by acceleration of Kr ions by REX-ISOLDE facility at CERN. The enriched ^{194}Pt or ^{196}Pt targets were 2 mg/cm^2 thick. The energies of scattered particles of Kr and Pt were measured with a DSSD detector. The γ-ray spectra were measured using MINIBALL array with 24 six-fold segmented HPGe detectors. Measured particle spectra, Eγ, Iγ, (particle)γ coin. Coulomb excitation cross sections of the Kr projectiles were determined by normalizing to known Coulomb excitation cross sections for the Pt targets. The E2 matrix elements were determined for 0^+ to 2^+ and for 2^+ to 2^+ (diagonal) using GOSIA2 computer code. Comparison with IBM predictions.

^{96}Kr Levels

E(level)	J$^\pi$	T$_{1/2}$	Comments
0.0	0^+		
554.1 *5*	(2^+)	12.4 ps *+31−23*	Q=+0.26 *92* (2012Al03) T$_{1/2}$: from E2 matrix element obtained from cross section measurements in projectile Coulomb excitation (2012Al03). Q: from E2 diagonal matrix element=+0.2 eb *7* (2012Al03).

$\gamma(^{96}Kr)$

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.	Comments
554.1 *5*	554.1	(2^+)	0.0	0^+	(E2)	B(E2)↓=0.087 *+20−18* B(E2)(W.u.)=33.4 *+74−67* (2012Al03) B(E2) from E2 matrix element=+0.66 eb *7* (2012Al03) obtained from measured Coulomb-excitation cross section. E$_\gamma$: a 241-keV γ ray assigned by 2009Ma47 to deexcite the first 2^+ state in ^{96}Kr was not seen by 2012Al03. Instead 2012Al03 find a 554-keV γ ray. From its time distribution and other details specified in 2012Al03, this γ ray is assigned to ^{96}Kr rather than ^{96}Rb.

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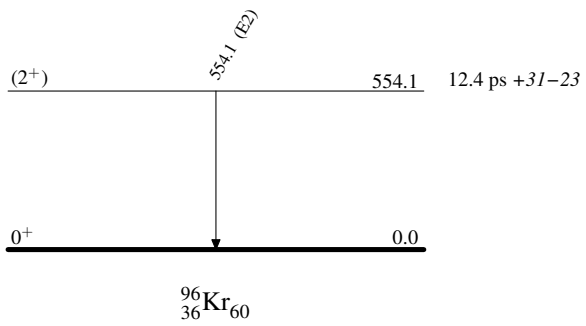
Level Scheme



$^{96}_{36}Kr_{60}$