Coulomb excitation **2014Ku10,2001Me20,1981Ji03**

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Alexandru Negret, Balraj Singh	NDS 124, 1 (2015)	30-Nov-2014

2014Ku10: the g-factors of excited states measured using the transient- field (TF) technique in Coulomb Excitation in inverse kinematics with perturbed angular correlation (PAC) method. Isotopically pure ^{86}Kr beams with energy of 3.0, 3.1 and 3.2 MeV/nucleon and average intensity of ≈1 pnA were delivered by the K500 Texas A&M University (TAMU) cyclotron. The multilayered target consisted of C, Gd, Ta, and Cu with the coulomb excitation occurring in the carbon layer. Additional copper foils of 5.6 mg/cm^2 were placed behind the target and in front of the particle detector to prevent the beam from reaching the detector. The target was mounted on the tip of a Displex Closed Cycle refrigerator, which serves as one pole piece of an electromagnet with an external magnetic field of 0.07 T with field direction reversed every 130 s. The target was kept at approximately 50° Kelvin. The detection system consisted of four Clover HPGe γ detectors, and a PIPS Canberra Si surface barrier particle detector. Measured α, γ, $\alpha\gamma$ coin, (particle)$\gamma(\theta)$, and g-factors.

2001Me20: ^{26}Mg(^{86}Kr,^{86}Kr′) E=220-261 MeV. Measured g factor of first 2$^+$ state using transient-field technique and lifetime by Doppler-shift attenuation method.

1981Ji03: (^{16}O,^{16}O′) E=42-52 MeV. Enriched target. FWHM=550 keV.

1981Ca01: (α,$\alpha'\gamma$) E=6-8 MeV, natural target.

^{86}Kr Levels

E(level)†	J$^\pi$	T$_{1/2}$	Comments
0	0$^+$		
1564	2$^+$	0.308 ps *17*	B(E2)↑=0.128 *10* g=+1.10 *5* (2014Ku10) The g factor is weighted average of g=+1.03 *6*, +1.11 *10*, and +1.19 *8* measured at E(^{86}Kr)=3.2, 3.1 and 3.0 MeV/nucleon, respectively (2014Ku10). Other: +1.12 *14* (2001ME20). B(E2)↑: from 1981Ji03, value is not corrected for reorientation. The authors also give B(E2)=0.136 *11* assuming Q=−0.33. Other: B(E2)=0.11 *3* (1981Ca01). T$_{1/2}$: from DSA (2001Me20).
2250.1	4$^+$	3.1 ns *6*	g=+1.03 *14* (2014Ku10) The g factor is weighted average of g=+0.91 *22*, +1.24 *27*, and +1.00 *27* measured at E(^{86}Kr)=3.2, 3.1 and 3.0 MeV/nucleon, respectively (2014Ku10).

† From Adopted Levels.

γ(^{86}Kr)

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
685.3	2250.1	4$^+$	1564	2$^+$
1564	1564	2$^+$	0	0$^+$

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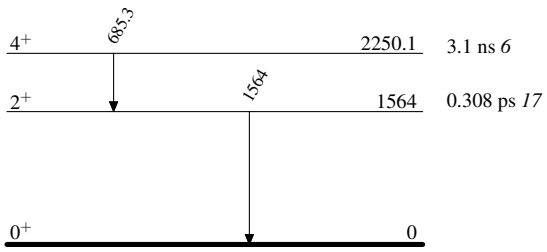
Level Scheme



$^{86}_{36}Kr_{50}$