^{4}He(^{39}K,$\alpha\gamma$) 1991Al06

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 149, 1 (2018)	1-Jan-2018

1991Al06: E=100 MeV ^{39}K beam was produced from the McMaster University FN tandem accelerator. Target was a 25 μm thick ^{4}He-implanted Ta foil. γ rays were detected with a Ge spectrometer and alpha particles were detected with a ΔE-E silicon surface-barrier detector telescope. Measured Eγ, $\alpha\gamma$-coin, Doppler-shift attenuation. Deduced $T_{1/2}$, transition strengths. Comparisons with theoretical calculations.

^{39}K Levels

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	Γ (meV)
0	$3/2^+$		
2523	$1/2^+$	64 fs *9*	3.36 *15*
2814	$7/2^-$		
3019	$3/2^-$	14 fs *3*	
3883	$5/2^-$	8 fs *4*	

[†] Rounded-off values from Adopted Levels.
[‡] From Adopted Levels.
[#] Weighted average of values determined from Doppler-broadened lineshape method and centroid-shift method in 1991Al06.

γ(^{39}K)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Comments
2523	2523	$1/2^+$	0	$3/2^+$	l-forbidden M1 transition from $1s_{1/2}$ to $0d_{3/2}$.
2814	2814	$7/2^-$	0	$3/2^+$	
3019	3019	$3/2^-$	0	$3/2^+$	
3883	3883	$5/2^-$	0	$3/2^+$	

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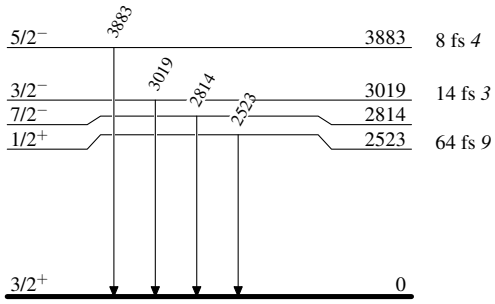
Level Scheme



$^{39}_{19}K_{20}$