^{40}Ca(μ^-,ν2nγ) 2006Me08

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 152, 1 (2018)	30-Sep-2017

2006Me08: the μ^- beam was obtained from decay of π^- beam at 90 MeV/c provided by the beamline M9B at TRIUMF. Targets were pure natural calcium turnings with some oxide on the surface. γ rays were detected with two HPGe detectors. Measured Eγ, Iγ, E(x ray), I(x ray), $\gamma\gamma$-coin,. Deduced levels, muon capture yields.

Muonic Lyman series for natural Calcium

μ x ray	Energy	Intensity in percent
2p-1s	783.659 *25*	83.8 *10*
3p-1s	940.63 *10*	6.2 *2*
4p-1s	995.48 *10*	2.0 *1*
5p-1s	1020.81 *10*	2.0 *1*
6p-1s	1034.62 *10*	1.8 *1*
7p-1s	1042.71 *20*	1.4 *1*
(8-∞)p-1s	1046-1063	2.8 *4*

Muonic Balmer series for natural Calcium

μ x ray	Energy	Intensity in percent
3d-2p	157.35 *13*	64.5 *9*
4d-2p	212.03 *10*	8.85 *20*
5d-2p	237.31 *10*	4.34 *20*
6d-2p	251.06 *10*	3.29 *20*
7d-2p	259.45 *10*	1.37 *20*
(8-∞)d-2p	261-277	1.4 *3*

^{38}K Levels

E(level)†	J$^\pi$†
0	3^+
130.2	0^+
458.5	1^+
1697.7	1^+
2401.1	2^+
2613.0	3^-
2646.1	$(4)^-$

† From Adopted Levels. Energies are round-off values.

γ(^{38}K)

E$_\gamma$†	Percent γ-ray yield	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
328.1	0.5 *1*	458.5	1^+	130.2	0^+
1567.4	<0.2	1697.7	1^+	130.2	0^+
1942.5	0.15 *10*	2401.1	2^+	458.5	1^+
2613.0	<0.3	2613.0	3^-	0	3^+
2646.0	<0.25	2646.1	$(4)^-$	0	3^+

† Round-off values from Adopted Gammas.

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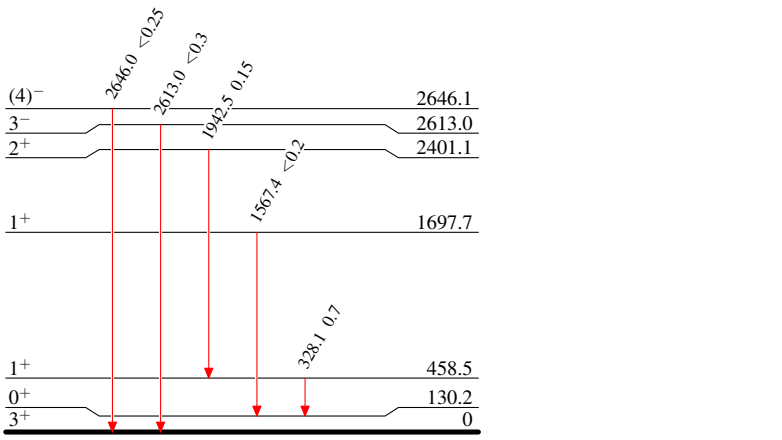
Level Scheme

Intensities: Percent γ-ray yield/muon capture



$^{38}_{19}K_{19}$