^{40}Ca(μ^-,ν2npγ) 2006Me08

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	John Cameron, Jun Chen and Balraj Singh, Ninel Nica	NDS 113, 365 (2012)	15-Jan-2012

2006Me08: the muon beam obtained from decay of π^- beam at 90 MeV/c produced at the M9B beamline at TRIUMF. Two HPGe detectors for detecting γ-rays with resolutions of 3 keV at 1.2 MeV, 10 keV at 6.1 MeV. Measured Iγ, $\gamma\gamma$, γ-p. Deduced levels.

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*

^{37}Cl Levels

E(level)	J$^\pi$[†]
0	3/2$^+$
1727	1/2$^+$
3086	5/2$^+$
3103	7/2$^-$
3627	3/2$^{(+)}$

[†] From Adopted Levels.

γ(^{37}Cl)

E$_\gamma$	Percent γ-ray yield per muon capture	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
1727	<0.15	1727	1/2$^+$	0	3/2$^+$
1900	<0.2	3627	3/2$^{(+)}$	1727	1/2$^+$
3086	<0.3	3086	5/2$^+$	0	3/2$^+$
3103	0.2 *2*	3103	7/2$^-$	0	3/2$^+$
3627	<0.2	3627	3/2$^{(+)}$	0	3/2$^+$

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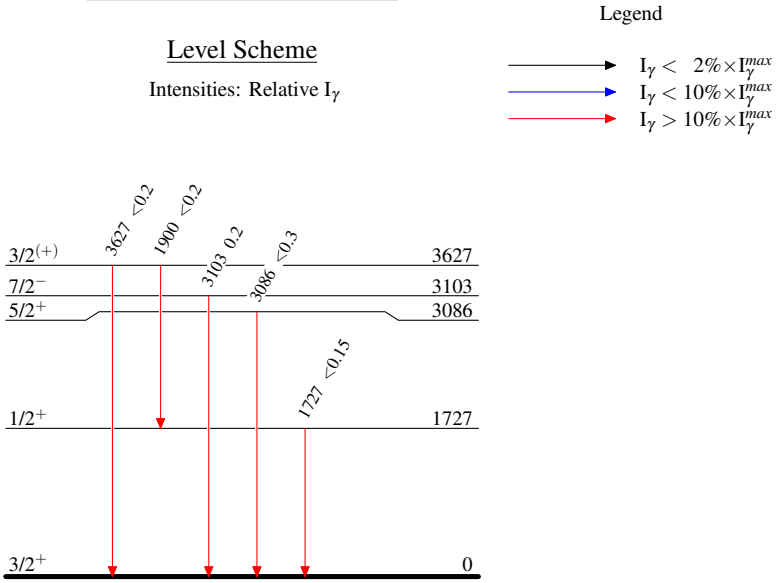
Level Scheme

Intensities: Relative I_γ



$^{37}_{17}Cl_{20}$